Appendix A
Notice of Preparation

NOTICE OF PREPARATION OF
DRAFT TRIBAL ENVIRONMENTAL IMPACT REPORT

Date: November 7, 2017

To: State Clearinghouse, City of San Bernardino, City of Highland, County of San Bernardino, Interested Parties

Comment Period from November 7, 2017 to December 7, 2017

The San Manuel Band of Mission Indians (Tribe), as the Lead Agency, hereby gives Notice of the Preparation (NOP) of a Draft Tribal Environmental Impact Report (Draft TEIR) to assess the potential off-Reservation environmental impacts of the proposed Hotel & Casino Expansion Project (Project). The Project will be connected to the existing San Manuel Casino on the Tribe's Reservation in San Bernardino County, California. The TEIR is being developed in accordance with the requirements of the Tribal-State Compact (Compact) between the Tribe and the State of California.

The Project is designed to enhance and support the Tribe's existing gaming facility and will be located on the Tribe's Reservation within a previously disturbed approximately 70-acre area that is part of or adjacent to the Tribe's existing gaming facility. The Project includes the development of approximately 795,000 square feet of new entertainment and hospitality facilities, including a hotel, performance venue, additional gaming area, restaurants and other guest amenities, back of house and administrative facilities, an approximately 2,200 stall parking structure and additional power utility infrastructure. The Project is anticipated to provide approximately 1,400 jobs during the construction phase and approximately 1,200 jobs during operation. Further information regarding the Project description and location is included within the attached materials.

The Tribe is hereby requesting comments regarding the scope and content of the TEIR, including probable off-Reservation environmental effects and reasonable mitigation measures to address such effects, be sent at the earliest possible date, and postmarked no later than December 7, 2017 to the following address:

Jennifer Wade
Environmental Science Associates
2600 Capitol Ave, Suite 200
Sacramento, CA 95816
jwade@esassoc.com

The TEIR will consider the potentially significant off-Reservation impacts to the resource areas listed in the attached information. The NOP and future documents will be available on the Tribe's website: www.SanManuelTEIR.com.

Project Title

Hotel & Casino Expansion Project

Lead Agency

San Manuel Band of Mission Indians

Contact Person for the Environmental Document (TEIR)

Jennifer Wade, Environmental Science Associates (916) 564-4500

Project Location

The Project is located near the cities of Highland and San Bernardino, within and adjacent to the existing San Manuel Casino on the Tribe's Reservation in San Bernardino County (Figure 1). All proposed development is located within a 70+/- acre Project site which has been previously disturbed (Figure 2). Regional access to the Project site is provided by Interstate 210. Local access is provided by Highland Avenue and Victoria Avenue.

Project Description

The Project involves construction of additional new hospitality and entertainment facilities and the expansion of the Tribe's existing gaming facilities as follows:

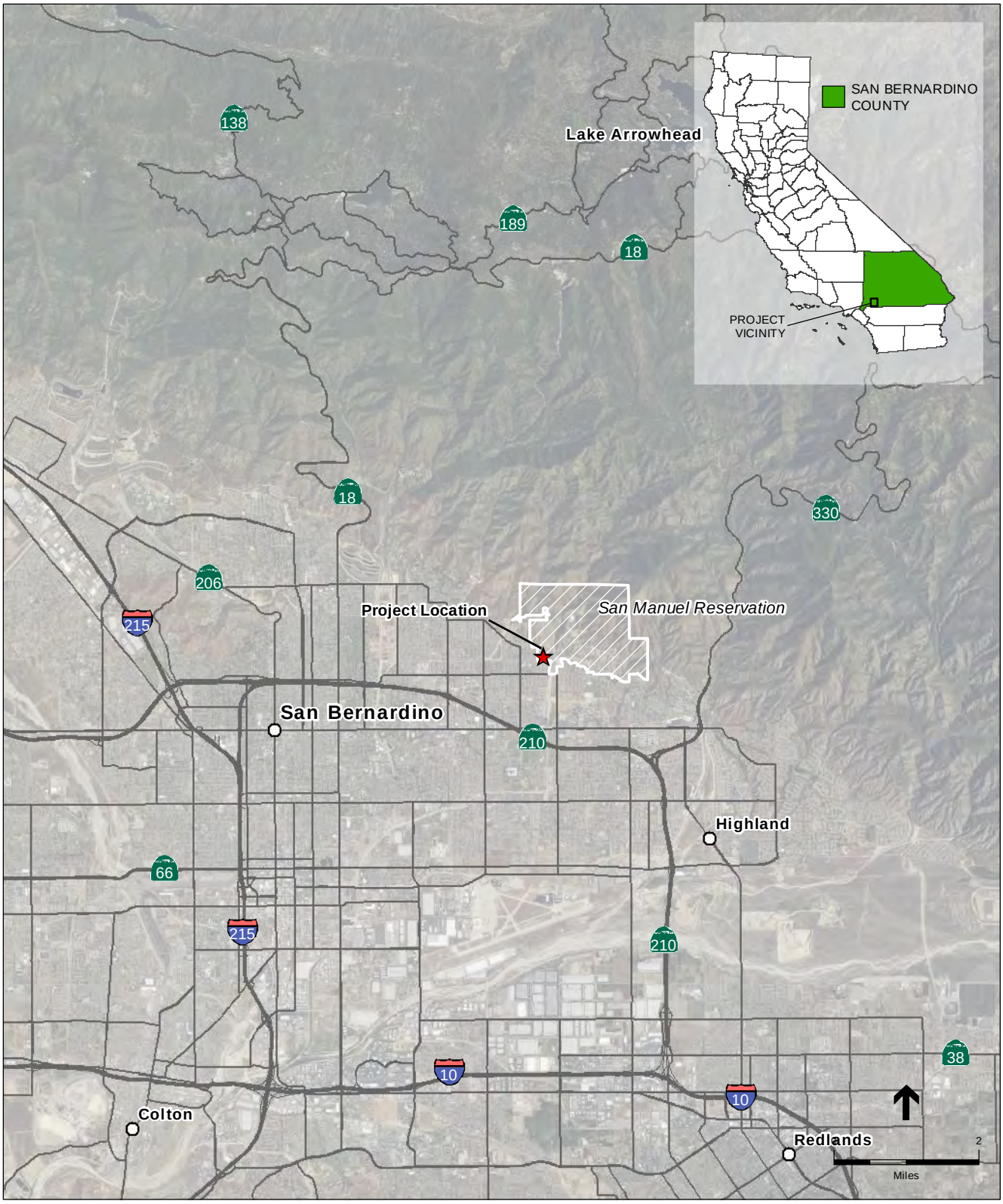
- **Hotel** – approximately 500 hotel rooms, retail elements, pool, spa and underground parking
- **Meeting and Event Space** – approximately 35,000 square feet of meeting and event space located on the lower floors of the hotel that may be converted to gaming space in the future
- **Performance Venue** – approximately 58,000 square foot performance venue with a capacity of up to 4,000 seats
- **Additional Gaming Area** – approximately 55,000 square feet of expanded gaming area with the potential for an additional 35,000 square feet if the meeting and event space is converted to gaming
- **Restaurants** – new restaurants to be located in the hotel and gaming area
- **Administrative Facilities** – administrative offices, guest and support services and other back of house for the hotel and casino
- **Parking Structure** – new on-site parking structure to accommodate approximately 2,200 vehicles and pedestrian bridge
- **Improvements to Existing Facilities and Infrastructure** – reconfiguration of internal access roads and pedestrian walkways and other existing facilities and infrastructure
- **Site Utilities** – The Project is expected to continue to use the existing utility providers, including obtaining power from Southern California Edison via existing lines and/or development of a customer dedicated substation and requisite transmission lines. In addition, the Project may connect to a future Tribal owned combined heat and power cogeneration facility and/or a fuel cell power facility the Tribe is considering building on the Reservation.

Total indoor building floor area for all new and expanded uses (excluding the parking structure and infrastructure facilities) is approximately 795,000 square feet. The Project is anticipated to provide approximately 1,400 jobs during the construction phase and approximately 1,200 jobs during operation. The above information is preliminary and subject to refinement prior to release of the Draft TEIR.

Potential Off-Reservation Environmental Effects

The TEIR will consider the potentially significant off-Reservation impacts set forth in the Off-Reservation Environmental Impact Analysis Checklist attached to the Compact, including cumulative impacts, associated with the Project for the following resource areas:

- **Aesthetics**. The TEIR will evaluate potential effects to scenic resources and the potential for the Project to create new sources of light or glare.
- **Agricultural and Forest Resources**. As the Project construction is limited to disturbed portions of the Reservation, the Project is not anticipated to result in the conversion of off-Reservation agricultural or forest resources.
- **Air Quality**. The TEIR will evaluate short-term air quality impacts from construction, and long-term air quality impacts from operations, including increased vehicular traffic associated with the Project.
- **Biological Resources**. The TEIR will evaluate the potential for off-Reservation impacts such as downstream water quality degradation and indirect effects from lighting. Compliance with the National Pollutant Discharge Elimination System (NPDES) General Construction Permit standards is anticipated to reduce impacts to downstream water quality degradation.
- **Cultural Resources**. Project ground disturbance would be limited to the Reservation and thus no impacts to off-Reservation cultural or paleontological resources would occur.
- **Geology and Soils**. The TEIR will discuss the potential for off-Reservation impacts related to seismic events and soil erosion. Compliance with building standards and the NPDES General Construction Permit standards is anticipated to reduce any potential impacts.
- **Hazards and Hazardous Materials**. The TEIR will evaluate potential off-Reservation impacts associated with hazards and hazardous materials resulting from the Project.
- **Land Use**. The TEIR will include an analysis of the Project's potential to conflict with off-Reservation land use plans and policies.
- **Mineral Resources**. Project ground disturbance would be limited to the Reservation and thus the Project is not anticipated to result in the loss of important off-Reservation mineral resources.
- **Noise**. The TEIR will evaluate noise associated with construction and operation of the Project, including increased traffic noise.
- **Population and Housing**. The Project is not anticipated to induce substantial off-Reservation population growth. The Project would not displace existing housing.
- **Public Services**. The TEIR will discuss potential impacts to public service providers, including law enforcement, fire protection, and solid waste services. The Project is not anticipated to create additional demands on schools or parks.
- **Recreation**. The Project is not anticipated to increase the use of existing off-Reservation recreational facilities such that substantial physical deterioration would occur or be accelerated.
- **Transportation and Traffic**. The TEIR will evaluate the Project's impact on off-Reservation roadways and will discuss potential mitigation measures for any significant impacts.
- **Utilities and Service Systems**. The TEIR will evaluate the potential for the Project to impact off-Reservation storm water and water and sewer utility systems.
- **Water Resources**. The TEIR will evaluate the potential for the Project to impact off-Reservation water quality, drainage patterns, or storm water drainage. Compliance with the NPDES General Construction Permit standards is anticipated to reduce potential impacts related to storm water quality.



SOURCE: USDA, 2016; ESRI, 2012; ESA, 2017

San Manuel Band of Mission Indians Notice of Preparation

Figure 1

Regional Location

SOURCE: WATG, 2017

San Manuel Band of Mission Indians Notice of Preparation

Figure 2

Project Site with Existing Facilities and New Facilities

Appendix B
Scoping Comment Letters

Edmund G. Brown Jr.
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Ken Alex
Director

Notice of Preparation

November 7, 2017

To: Reviewing Agencies

Re: San Manuel Hotel and Casino Expansion Project
SCH# 2017111018

Attached for your review and comment is the Notice of Preparation (NOP) for the San Manuel Hotel and Casino Expansion Project draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Michelle Hickey
San Manuel Band of Mission Indians
26569 Community Center Dr
Highland, CA 92346

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2017111018
Project Title San Manuel Hotel and Casino Expansion Project
Lead Agency San Manuel Band of Mission Indians

Type NOP Notice of Preparation

Description The project includes the development of approx. 795,000 square feet of new entertainment and hospitality facilities, including a hotel, performance venue, additional gaming area, restaurants, and other guest amenities, back of house, and administrative facilities, an approx. 2,200 stall parking structure and additional power utility infrastructure (substation and/or transmission lines). In addition, the Project may connect to a future tribal owned combined heat and power cogeneration facility and/or a fuel cell power facility on the Reservation.

Lead Agency Contact

Name Michelle Hickey
Agency San Manuel Band of Mission Indians
Phone 909-864-8933 **Fax**
email
Address 26569 Community Center Dr
City Highland **State** CA **Zip** 92346

Project Location

County San Bernardino
City Highland, San Bernardino
Region
Cross Streets North Victoria Ave and Lynwood Drive
Lat / Long 34° 9' 4" N / 117° 13' 41" W
Parcel No.
Township 1N **Range** 3W **Section** 19 **Base** SBBM

Proximity to:

Highways 210
Airports
Railways
Waterways Sand Creek, Little Sand Creek
Schools
Land Use tribal lands

Project Issues

Reviewing Agencies Resources Agency; Cal Fire; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Wildlife, Region 6; Office of Emergency Services, California; California Energy Commission; Native American Heritage Commission; Public Utilities Commission; California Highway Patrol; Caltrans, District 8; State Water Resources Control Board, Division of Drinking Water; California Department of Justice, Attorney General's Office

Date Received 11/07/2017 **Start of Review** 11/07/2017 **End of Review** 12/06/2017

Note: Blanks in data fields result from insufficient information provided by lead agency.

Print Form

Appendix C

2017111018

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #

Project Title: San Manuel Hotel and Casino Expansion Project

Lead Agency: San Manuel Band of Mission Indians — Contact Person: Michelle Hickey

Mailing Address: 26569 Community Center Dr. — Phone: (909) 864-8933

City: Highland — Zip: 92346 — County: San Bernardino

Project Location: County: San Bernardino — City/Nearest Community: San Bernardino and Highland

Cross Streets: North Victoria Ave and Lynwood Drive — Zip Code: 92346

Longitude/Latitude (degrees, minutes and seconds): 34 ° 9 ′ 4 ″ N / 117 ° 13 ′ 41 ″ W Total Acres: 70

Assessor's Parcel No.: — Section: 19 Twp.: 1N Range: 3W Base: SBBM

Within 2 Miles: State Hwy #: 210 — Waterways: Sand Creek, Little Sand Creek

Airports: — Railways: — Schools:

Document Type:

CEQA: ☐ NOP ☐ Early Cons ☐ Neg Dec ☐ Mit Neg Dec ☐ Draft EIR ☐ Supplement/Subsequent EIR (Prior SCH No.) ☐ Other:

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☒ Other: TEIR NOP

Governor's Office of Planning & Research
NOV 06 2017
AFTER 12PM
STATE CLEARINGHOUSE

Local Action Type:

☐ General Plan Update ☐ General Plan Amendment ☐ General Plan Element ☐ Community Plan
☐ Specific Plan ☐ Master Plan ☐ Planned Unit Development ☐ Site Plan
☐ Rezone ☐ Prezone ☐ Use Permit ☐ Land Division (Subdivision, etc.)
☐ Annexation ☐ Redevelopment ☐ Coastal Permit ☒ Other: TEIR Approval

Development Type:

☐ Residential: Units ____ Acres ____
☐ Office: Sq.ft. ____ Acres ____ Employees ____
☒ Commercial: Sq.ft. 795,000 Acres 70 Employees 1,200
☐ Industrial: Sq.ft. ____ Acres ____ Employees ____
☐ Educational: ____
☐ Recreational: ____
☐ Water Facilities: Type ____ MGD ____
☐ Transportation: Type ____
☐ Mining: Mineral ____
☐ Power: Type ____ MW ____
☐ Waste Treatment: Type ____ MGD ____
☐ Hazardous Waste: Type ____
☒ Other: Alternative Power Sources Cogen/Fuel Cell 5-6MW

Project Issues Discussed in Document:

☒ Aesthetic/Visual ☒ Agricultural Land ☒ Air Quality ☒ Archeological/Historical ☒ Biological Resources ☐ Coastal Zone ☒ Drainage/Absorption ☒ Economic/Jobs
☐ Fiscal ☒ Flood Plain/Flooding ☒ Forest Land/Fire Hazard ☒ Geologic/Seismic ☒ Minerals ☒ Noise ☒ Population/Housing Balance ☒ Public Services/Facilities
☒ Recreation/Parks ☒ Schools/Universities ☐ Septic Systems ☒ Sewer Capacity ☒ Soil Erosion/Compaction/Grading ☒ Solid Waste ☒ Toxic/Hazardous ☒ Traffic/Circulation
☒ Vegetation ☒ Water Quality ☒ Water Supply/Groundwater ☒ Wetland/Riparian ☒ Growth Inducement ☒ Land Use ☒ Cumulative Effects ☐ Other: ____

Present Land Use/Zoning/General Plan Designation:

Tribal Lands

Project Description: *(please use a separate page if necessary)*

The Project includes the development of approximately 795,000 square feet of new entertainment and hospitality facilities, including a hotel, performance venue, additional gaming area, restaurants and other guest amenities, back of house and administrative facilities, an approximately 2,200 stall parking structure and additional power utility infrastructure (substation and/or transmission lines). In addition, the Project may connect to a future Tribal owned combined heat and power cogeneration facility and/or a fuel cell power facility on the Reservation.

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

OP Distribution List S.G.

County: San Bernardino

SCH# 2017111018

ources Agency

Resources Agency
Nadell Gayou

- ☐ **Dept. of Boating & Waterways**
  Denise Peterson
- ☐ **California Coastal Commission**
  Allyson Hitt
- ☐ **Colorado River Board**
  Lisa Johansen
- ☐ **Dept. of Conservation**
  Crina Chan
- ☒ **Cal Fire**
  Dan Foster
- ☐ **Central Valley Flood Protection Board**
  James Herota
- ☐ **Office of Historic Preservation**
  Ron Parsons
- ☐ **Dept of Parks & Recreation**
  Environmental Stewardship Section
- ☐ **S.F. Bay Conservation & Dev't. Comm.**
  Steve Goldbeck
- ☒ **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou

ish and Game

- ☐ **Depart. of Fish & Wildlife**
  Scott Flint
  Environmental Services Division
- ☐ **Fish & Wildlife Region 1**
  Curt Babcock
- ☐ **Fish & Wildlife Region 1E**
  Laurie Harnsberger
- ☐ **Fish & Wildlife Region 2**
  Jeff Drongesen
- ☐ **Fish & Wildlife Region 3**
  Craig Weightman
- ☐ **Fish & Wildlife Region 4**
  Julie Vance
- ☐ **Fish & Wildlife Region 5**
  Leslie Newton-Reed
  Habitat Conservation Program
- ☒ **Fish & Wildlife Region 6**
  Tiffany Ellis
  Habitat Conservation Program
- ☐ **Fish & Wildlife Region 6 I/M**
  Heidi Calvert
  Inyo/Mono, Habitat Conservation Program
- ☐ **Dept. of Fish & Wildlife M**
  William Paznokas
  Marine Region

Other Departments

- ☐ **California Department of Education**
  Lesley Taylor
- ☒ **OES (Office of Emergency Services)**
  Monique Wilber
- ☐ **Food & Agriculture**
  Sandra Schubert
  Dept. of Food and Agriculture
- ☐ **Dept. of General Services**
  Cathy Buck
  Environmental Services Section
- ☐ **Housing & Comm. Dev.**
  CEQA Coordinator
  Housing Policy Division

Independent Commissions,Boards

- ☐ **Delta Protection Commission**
  Erik Vink
- ☐ **Delta Stewardship Council**
  Kevan Samsam
- ☒ **California Energy Commission**
  Eric Knight
- ☒ **Native American Heritage Comm.**
  Debbie Treadway
- ☒ **Public Utilities Commission**
  Supervisor
- ☐ **Santa Monica Bay Restoration**
  Guangyu Wang
- ☐ **State Lands Commission**
  Jennifer Deleong
- ☐ **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Cal State Transportation Agency CalSTA

- ☐ **Caltrans - Division of Aeronautics**
  Philip Crimmins
- ☐ **Caltrans – Planning HQ LD-IGR**
  Christian Bushong
- ☒ **California Highway Patrol**
  Suzann Ikeuchi
  Office of Special Projects

Dept. of Transportation

- ☐ **Caltrans, District 1**
  Rex Jackman
- ☐ **Caltrans, District 2**
  Marcelino Gonzalez
- ☐ **Caltrans, District 3**
  Eric Federicks – South
  Susan Zanchi - North
- ☐ **Caltrans, District 4**
  Patricia Maurice
- ☐ **Caltrans, District 5**
  Larry Newland
- ☐ **Caltrans, District 6**
  Michael Navarro
- ☐ **Caltrans, District 7**
  Dianna Watson
- ☒ **Caltrans, District 8**
  Mark Roberts
- ☐ **Caltrans, District 9**
  Gayle Rosander
- ☐ **Caltrans, District 10**
  Tom Dumas
- ☐ **Caltrans, District 11**
  Jacob Armstrong
- ☐ **Caltrans, District 12**
  Maureen El Harake

Cal EPA

Air Resources Board

- ☐ **Airport & Freight**
  Jack Wursten
  - ☐ **Transportation Projects**
    Nesamani Kalandiyur
  - ☐ **Industrial/Energy Projects**
    Mike Tollstrup
- ☐ **California Department of Resources, Recycling & Recovery**
  Sue O'Leary
- ☐ **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- ☒ **State Water Resources Control Board**
  Cindy Forbes – Asst Deputy
  Division of Drinking Water
- ☐ **State Water Resources Control Board**
  Div. Drinking Water #_____
- ☐ **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- ☐ **State Water Resouces Control Board**
  Phil Crader
  Division of Water Rights
- ☐ **Dept. of Toxic Substances Control**
  CEQA Tracking Center
- ☐ **Department of Pesticide Regulation**
  CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- ☐ **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- ☐ **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- ☐ **RWQCB 3**
  Central Coast Region (3)
- ☐ **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- ☐ **RWQCB 5S**
  Central Valley Region (5)
  - ☐ **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - ☐ **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- ☒ **RWQCB 6**
  Lahontan Region (6)
  - ☐ **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- ☐ **RWQCB 7**
  Colorado River Basin Region (7)
- ☐ **RWQCB 8**
  Santa Ana Region (8)
- ☐ **RWQCB 9**
  San Diego Region (9)

☒ **Other** Attorney General's office

☐ _____
Conservancy

Last Updated 8/3/17

State of California
Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
1400 Tenth Street
Sacramento, California 95812-3044

SACRAMENTO
CA 957
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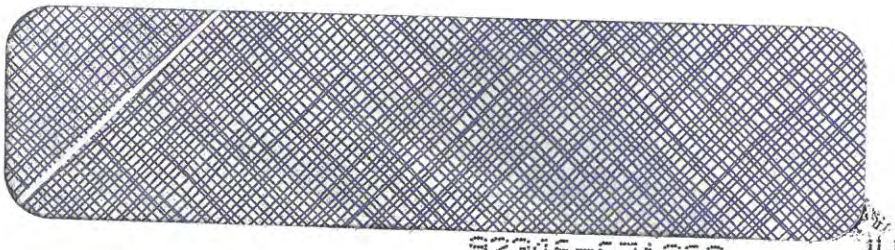

92346-671263

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
PLANNING (MS 725)
464 WEST 4th STREET, 6th FLOOR
SAN BERNARDINO, CA 92401-1400
PHONE (909) 388-7017
FAX (909) 383-5936
TTY 711
www.dot.ca.gov/dist8

Making Conservation a California Way of Life.

November 16, 2017

File: 08-SBd-210-PM R27.022

Michelle Hickey
San Manuel Band of Mission Indians
26569 Community Center Drive
Highland, CA 92345

Subject: San Manuel Hotel & Casino Expansion – Notice of Preparation of Draft Environmental Impact Report

Dear Ms. Hickey:

Thank you for providing the California Department of Transportation (Caltrans) the opportunity to review and comment on the Notice of Preparation of Draft Environmental Impact Report for the San Manuel Hotel and Casino Expansion (Project), located near the cities of Highland and San Bernardino, within and adjacent to the existing San Manuel Casino on the Tribe's Reservation in San Bernardino County. The project involves construction of an additional 795,000 square feet of hospitality and entertainment facilities and the expansion of the Tribe's existing gaming facilities. The proposal also include an approximate 2,200 stall parking structure.

Caltrans believes that the project will impact existing highway facilities and other transportation facilities in the vicinity of the proposed project site, particularly with regard to increased traffic impacts to the Highland Avenue Interchange. Please notify the Department when the Traffic Impact Analysis (TIA) has been prepared for the project so that potential impacts to the State Highway System can be assessed.

Please provide two hard copies and one electronic file of all TIA documents for review. This will assist the Department to recommend mitigation measures to provide a reliable, safe and efficient transportation network for the traveling public.

These recommendations are preliminary and summarize our review of materials provided for our evaluation. If you have any questions regarding this letter, please contact Jacob Mathew (909) 806-3928 or myself at (909) 383-4557.

Sincerely,

MARK ROBERTS
Office Chief, AICP
Intergovernmental Review, Community and Regional Planning

Cc: Jennifer Wade, Environmental Science Associates
Larry Mainez, Community Development Director, City of Highland
Lorna Foster, Caltrans District 8 Tribal Liaison
Mark Persico, Community Development Director, City of San Bernardino

City of HIGHLAND Inc. 1987

December 7, 2017

Jennifer Wade
Environmental Science Associates (ESA)
2600 Capital Ave, Suite 200
Sacramento, CA 95816

Subject: Notice of Preparation (NOP) of a draft Tribal Environmental Impact Report (Draft TEIR) for a proposed Hotel Casino Expansion Project

Dear Jennifer:

The City of Highland is in receipt of the subject NOP. We have completed our review of the NOP and have the following comment regarding the scope and content of the Draft TEIR for the San Manuel Band of Mission Indians consideration.

1. Economic Impact Analysis.
The Draft TEIR should include an Economic Impact Analysis concerning existing and planned businesses off-reservation.

The City appreciates the opportunity to review and comment on the subject NOP and we look forward to receiving the Draft TEIR once it is complete for public review.

Should you have any questions, please contact me at (909) 864-8732, Ext. 215.

Sincerely,

Lawrence A. Mainez
Community Development Director

Cc: Joseph A. Hughes, City Manager
Kim Stater, Assistant Community Development Director
Ernie Wong, City Engineer/Public Works Director

Mayor Penny Lilburn | Mayor Pro Tem Larry McCallon | City Council Jesse Chavez | City Council Anaeli Solano | City Council John P. Timmer | City Manager Joseph A. Hughes

27215 Base Line, Highland, CA 92346
Tel: (909) 864-6861 • Fax: (909) 862-3180 • Web: www.cityofhighland.org

City of San Bernardino

Community Development Department | Planning Division

November 27, 2017

Jennifer Wade
Environmental Science Associates
2600 Capital Avenue, Suite 200
Sacramento, CA 95816

Subject: San Manuel Hotel and Casino Expansion – Notice of Preparation of Draft Tribal Environmental Impact Report

Dear Ms. Wade:

Thank you for providing the City of San Bernardino the opportunity to review and comment on the Notice of Preparation of the Draft Tribal Environmental Impact Report for the San Manuel Hotel and Casino Expansion project, located near the cities of San Bernardino and Highland, within and adjacent to the existing San Manuel Casino on the San Manuel Band of Mission Indians Tribal Reservation within San Bernardino County. The project involves the construction of approximately 795,000 square feet of hospitality and entertainment facilities, the expansion of existing gaming facilities, and the construction of an approximately 2,200 stall parking structure.

The City of San Bernardino has no comments or recommendations at this time. Please provide one (1) hard copy of the Draft Tribal Environmental Impact Report and one (1) electronic file of all studies and appendices.

Respectfully,

Chantal Power
Associate Planner
City of San Bernardino
Office: 201 North E St, 3rd Floor
Mail: 290 North D St
San Bernardino, CA 92401
O: 909-384-7272 x 3328
power_ch@sbcity.org
www.SBCity.org

cc: Mark Persico, AICP, Community Development Director, City of San Bernardino

STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710

November 13, 2017

Michelle Hickey
San Manuel Band of Mission Indians
26569 Community Center Drive
Highland, CA 92346

Sent via e-mail: jwade@esassoc.com

RE: SCH# 2017111018; San Manuel Hotel and Casino Expansion Project; San Bernardino County, California

Dear Ms. Hickey:

The Native American Heritage Commission has received the Notice of Preparation (NOP) for Draft Environmental Impact Report for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd. (a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a **separate category of cultural resources**, "tribal cultural resources" (Pub. Resources Code § 21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment (Pub. Resources Code § 21084.2). Please reference California Natural Resources Agency (2016) "Final Text for tribal cultural resources update to Appendix G: Environmental Checklist Form," http://resources.ca.gov/ceqa/docs/ab52/Clean-final-AB-52-App-G-text-Submitted.pdf. Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. § 800 et seq.) may also apply.

The NAHC recommends **lead agencies consult with all California Native American tribes** that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments. **Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws**.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a **lead agency** shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
    a. A brief description of the project.
    b. The lead agency contact information.
    c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code § 21080.3.1 (d)).
    d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code § 21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A **lead agency** shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code § 21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).
    a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code § 21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
    a. Alternatives to the project.
    b. Recommended mitigation measures.
    c. Significant effects. (Pub. Resources Code § 21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
    a. Type of environmental review necessary.
    b. Significance of the tribal cultural resources.
    c. Significance of the project's impacts on tribal cultural resources.
    d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code § 21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
    a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
    b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code § 21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
    a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
    b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code § 21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.
        ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
        i. Protecting the cultural character and integrity of the resource.
        ii. Protecting the traditional use of the resource.
        iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code § 21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a nonfederally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code § 815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

    This process should be documented in the Cultural Resources section of your environmental document.

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires **local governments** to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code § 65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code § 65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction. (Gov. Code § 65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have been already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.

b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

Please contact me if you need any additional information at gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst
(916) 373-3714

cc: State Clearinghouse

OmniTrans
Connecting Our Community.

1700 W. Fifth St.
San Bernardino, CA 92411
909-379-7100
www.omnitrans.org

Jennifer Wade
Environmental Science Associates
2600 Capitol Ave, Suite 200
Sacramento CA 95816
jwade@esassoc.com

November 28, 2017

Subject: NOP for Draft TEIR for San Manuel Hotel & Casino Expansion Project

Ms. Wade,

Thank you for providing Omnitrans the opportunity to comment on the Notice of Preparation for the Draft Tribal Environmental Impact Report for the San Manuel Hotel & Casino Expansion Project.

Omnitrans is the public transportation provider for the San Bernardino Valley. Omnitrans' Route 1 currently provides service to the casino every 15 minutes at Lynwood and Victoria. There is a high level of activity at this bus stop, with an average of 277 passenger boardings and alighting per day.

Due to the size of the complex which is proposed to be expanded, it would be more convenient for customers to be able to board and alight from the bus in a central location in the development with easy in-and-out access for buses. It is also important to consider pedestrian access from the bus stop into the development. We would like to discuss further with you as the plans are developed.

Omnitrans has guidelines for bus stop placement and bus stop design, which can be accessed online at http://design.omnitrans.org/. I am happy to meet or review plans; I can be contacted at (909) 379-7256 or anna.jaiswal@omnitrans.org.

I look forward to providing any assistance I can with this project.

Sincerely,

Anna Jaiswal
Development Planning Manager

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SENT VIA USPS AND E-MAIL:
jwade@esassoc.com
Jennifer Wade
Environmental Science Associates
2600 Capitol Avenue, Suite 200
Sacramento, CA 95816

December 5, 2017

Notice of Preparation of Draft Tribal Environmental Impact Report for the Hotel & Casino Expansion Project

The South Coast Air Quality Management District (SCAQMD) staff appreciates the opportunity to comment on the above-mentioned document. SCAQMD staff's comments are recommendations regarding the analysis of potential air quality impacts from the Proposed Project that should be included in the Draft Tribal Environmental Impact Report (EIR). Please send SCAQMD a copy of the Draft Tribal EIR upon its completion. Note that copies of the Draft Tribal EIR that are submitted to the State Clearinghouse are not forwarded to SCAQMD. Please forward a copy of the Draft Tribal EIR directly to SCAQMD at the address shown in the letterhead. **In addition, please send with the Draft Tribal EIR all appendices or technical documents related to the air quality, health risk, and greenhouse gas analyses and electronic versions of all air quality modeling and health risk assessment files[1]. These include emission calculation spreadsheets and modeling input and output files (not PDF files). Without all files and supporting documentation, SCAQMD staff will be unable to complete our review of the air quality analyses in a timely manner. Any delays in providing all supporting documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis

SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from SCAQMD's Subscription Services Department by calling (909) 396-3720. More guidance developed since this Handbook is also available on SCAQMD's website at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993). SCAQMD staff also recommends that the Lead Agency use the CalEEMod land use emissions software. This software has recently been updated to incorporate up-to-date state and locally approved emission factors and methodologies for estimating pollutant emissions from typical land use development. CalEEMod is the only software model maintained by the California Air Pollution Control Officers Association (CAPCOA) and replaces the now outdated URBEMIS. This model is available free of charge at: www.caleemod.com.

SCAQMD has also developed both regional and localized significance thresholds. SCAQMD staff requests that the Lead Agency quantify criteria pollutant emissions and compare the results to SCAQMD's CEQA regional pollutant emissions significance thresholds to determine air quality impacts.

[1] Pursuant to the CEQA Guidelines Section 15174, the information contained in an EIR shall include summarized technical data, maps, plot plans, diagrams, and similar relevant information sufficient to permit full assessment of significant environmental impacts by reviewing agencies and members of the public. Placement of highly technical and specialized analysis and data in the body of an EIR should be avoided through inclusion of supporting information and analyses as appendices to the main body of the EIR. Appendices to the EIR may be prepared in volumes separate from the basic EIR document, but shall be readily available for public examination and shall be submitted to all clearinghouses which assist in public review.

SCAQMD's CEQA regional pollutant emissions significance thresholds can be found here: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf. In addition to analyzing regional air quality impacts, SCAQMD staff recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LSTs can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts when preparing a CEQA document. Therefore, when preparing the air quality analysis for the Proposed Project, it is recommended that the Lead Agency perform a localized analysis by either using the LSTs developed by SCAQMD staff or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the Proposed Project and all air pollutant sources related to the Proposed Project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, such as sources that generate or attract vehicular trips, should be included in the analysis.

In the event that the Proposed Project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the Lead Agency perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("*Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis*") can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis. An analysis of all toxic air contaminant impacts due to the use of equipment potentially generating such air pollutants should also be included.

In addition, guidance on siting incompatible land uses (such as placing homes near freeways) can be found in the California Air Resources Board's *Air Quality and Land Use Handbook: A Community Health Perspective*, which can be found at: http://www.arb.ca.gov/ch/handbook.pdf. CARB's Land Use Handbook is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. Guidance[2] on strategies to reduce air pollution exposure near high-volume roadways can be found at: https://www.arb.ca.gov/ch/rd_technical_advisory_final.PDF.

Mitigation Measures

In the event that the Proposed Project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize these impacts. Pursuant to CEQA Guidelines Section 15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed. Several resources are available to assist the Lead Agency with identifying potential mitigation measures for the Proposed Project, including:

[2] In April 2017, CARB published a technical advisory, *Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways: Technical Advisory*, to supplement CARB's Air Quality and Land Use Handbook: A Community Health Perspective. This technical advisory is intended to provide information on strategies to reduce exposures to traffic emissions near high-volume roadways to assist land use planning and decision-making in order to protect public health and promote equity and environmental justice. The technical advisory is available at: https://www.arb.ca.gov/ch/landuse.htm.

- Chapter 11 of SCAQMD's CEQA Air Quality Handbook
- SCAQMD's CEQA web pages available here: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies
- SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook for controlling construction-related emissions and Rule 1403 – Asbestos Emissions from Demolition/Renovation Activities
- SCAQMD's Mitigation Monitoring and Reporting Plan (MMRP) for the 2016 Air Quality Management Plan (2016 AQMP) available here (starting on page 86): http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2017/2017-mar3-035.pdf
- CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* available here: http://www.capcoa.org/wp-content/uploads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf

Alternatives

In the event that the Proposed Project generates significant adverse air quality impacts, CEQA requires the consideration and discussion of alternatives to the project or its location which are capable of avoiding or substantially lessening any of the significant effects of the project. The discussion of a reasonable range of potentially feasible alternatives, including a "no project" alternative, is intended to foster informed decision-making and public participation. Pursuant to CEQA Guidelines Section 15126.6(d), the Draft Tribal EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the Proposed Project.

Permits

In the event that the Proposed Project requires a permit from SCAQMD, SCAQMD should be identified as a responsible agency for the Proposed Project. For more information on permits, please visit SCAQMD webpage at: http://www.aqmd.gov/home/permits. Questions on permits can be directed to SCAQMD's Engineering and Permitting staff at (909) 396-3385.

Data Sources

SCAQMD rules and relevant air quality reports and data are available by calling SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available at SCAQMD's webpage at: http://www.aqmd.gov.

SCAQMD staff is available to work with the Lead Agency to ensure that project air quality impacts are accurately evaluated and any significant impacts are mitigated where feasible. If you have any questions regarding this letter, please contact me at lsun@aqmd.gov or call me at (909) 396-3308.

Sincerely,

Lijin Sun

Lijin Sun, J.D.
Program Supervisor, CEQA IGR
Planning, Rule Development & Area Sources

LS
SBC171110-05
Control Number

From: latayna3171@gmail.com
To: Jennifer Wade
Subject: San Manuel Project
Date: Tuesday, November 7, 2017 8:53:32 PM

I have concerns about the potential noise level, traffic, and potential for increased public criminal traffic. I hope these issues are being considered and the increase in police control will be immediate, swift, and protective if needed. Also, will there be a potential negative impact on property value? Or is it an anticipated increase in surrounding property value? Overall, my family supports the extension and the ability to create more opportunity for worthy and willing members of the community.
Sent from my iPhone

From: Rosy Personal
To: Jennifer Wade
Subject: New San Manuel Expansion TEIR
Date: Tuesday, November 7, 2017 9:21:41 PM

Good Evening,

I received your bulletin this morning at 6091 Arden Ave Highland. We always receive the bulletins from San Manuel which is a very nice gesture.

I do have a few comments in regards to the new expansion. Although it is great for the County of San Bernardino by creating thousands of job, it is great that you will take comments from nearby neighbors.

Here are my comments/concerns.
My first concern is the following the Highland exit coming from Los Angeles towards San Bernardino is horrible due to traffic coming to the casino. It makes it nearly impossible for us residents to not have to wait long to exit there when it is conveniently located close to our homes. As you have expanded we have noticed that there is an over abundance of overflow of traffic on Highland Ave going towards Victoria. The traffic lights there do not help either. Is San Manuel considering looking into a better exit for the casino? Having a hotel and many other amenities will only make this traffic worse.

My second comment/concern with the expansion & construction is the following. We live on Arden a street where there normally should not be that much traffic for it is not a major big street. Since people know that there is a back way to get to the casino there is alot of traffic on a small 2 lane residential road. Most of these people who go around the back way tend to be on such a hurry to get to the casino that not only are they speeding on a street where it's 35mph people go 60mph & above, as well as not respecting crosswalks. Is there something that San Manuel is planning to do so that all the traffic heading towards San Manuel will not divert into residential streets?

Thank you for letting the community comment or express their concerns with this expansion.
Have a wonderful night.
Hope to hear from you soon.

From:	Doris Stoltenberg
To:	Jennifer Wade
Subject:	Fwd: New hotel etc. on San Manuel Reservation
Date:	Thursday, November 9, 2017 10:30:58 AM

From: Doris Stoltenberg <ronndoris@aol.com>
Subject: New hotel etc. on San Manuel Reservation
Date: November 8, 2017 at 3:40:43 PM PST
To: jwade@esassoc.com

Dear Ms. Wade
My wife and I have read what is being proposed for The hotel and casino expansion near their present casino. The picture of this proposed development posted on line looked attractive. My concerns are not about that. We do appreciate that the tribe is donating several million dollars to the San Bernardino police department to provide extra security for the neighborhoods around the casino. We live in a neighborhood near the casino. The addition of a five hundred room hotel, a 2,200 vehicle parking structure and a 4,000 seat performance center next to our homes raises some concerns. How can this not have an adverse effect on our air quality, noise levels and traffic in our neighborhood and the streets that we need to use. I don,t know how these things can be addressed other than our selling the house we have lived in for 36 years and is paid for. We are not the only ones in this position. We do not want to do this because at this time owing no money on a house allows us to have reasonably comfortable retirement. The presence of the casino as it is has had a very negative effect on property values on neighborhoods near the casino.
This development in the middle of residential neighborhoods will no doubt have more of that effect. We and our neighbors are faced with the dilemma of selling and going through the problems associated with moving as well as getting a house that isn't up to what we presently have or
living with the problems mentioned above.
Ron and Doris Stoltenberg
ronndoris@aol.com
3185 Cactus Circle
Highland, CA 92346
909-862-8008

--
Doris Stoltenberg
ronndoris@aol.com

From:	JON RITTENHOUSE
To:	Jennifer Wade
Subject:	San Manuel Expansion
Date:	Thursday, November 9, 2017 7:46:01 PM

Dear Jennifer,

I am a home owner two blocks from the gambling casino (San Manuel). Often times it is difficult to use the streets in my area and to be able to safely and efficiently arrive at my house. Drivers make illegal u-turns and frequently speed. On more than one occasion I have been close to being hit (in my car) by many unsafe drivers.The 20,000 or so daily car crossings on Victoria which is the access street to my house is VERY busy and an expansion of the casino will only make it worse. The expansion of San Manuel is not good news to me but rather depressing. I have lived in the same neighborhood for 21 years and it is getting more and more difficult to have easy access to my residence.

I am surprised that the casino was ever allowed to be built in the middle of a previously quiet residential neighborhood. If I want to build something on my property I face severe restrictions but the casino has an unlimited green light. I guess money talks.

So, I am STRONGLY opposed to the expansion of San Manuel Casino. I do not like it nor want it in my backyard. I can see the storied parking structure from my driveway. The traffic is bad and will get worse. I get to hear emergency cars numerous times in any given week. And I highly doubt that the expansion will have a favorable effect on property values for local home owners.

As a concerned home owner and resident of the area I ask you to oppose this expansion.

Concerned for the future,
Jon Rittenhouse

2895 Piedmont Dr.
Hiughland, CA 92346
(900) 534-9474 (c)

From: Christina Gomez
To: Jennifer Wade
Subject: Re: Notice of Preparation of Draft Tribal Environmental Impact Report - San Manuel Casino
Date: Sunday, November 12, 2017 10:55:01 AM

Original Will Be Sent Via U.S. First Class Mail

Dear Ms. Wade,

I am writing this letter in response to the Notice of Preparation of Draft Tribal Environmental Impact Report with respect to the Hotel and Casino Expansion dated November 7, 2017. As a resident in the immediate area of San Manuel (Lynwood and Victoria) I'd like to first express my displeasure as neighbors of San Manuel we were not provided a more intimate advisal of the Expansion Project. I was made aware of the expansion via the San Bernardino Sun newspaper.

I have been a neighbor of San Manuel since 1998 at which time the Bingo Hall and Casino were both located on the east side of Victoria. When I purchased my home, I recall having hesitations fearing the noise would be an everyday issue. I must admit after purchasing my home the noise was minimal and did not have a major effect on my day to day living. However, after the expansion of the existing Casino and parking lots, the noise level has significantly increased and become a daily nuisance. My house is located at the corner of Lynwood Avenue and Victoria Avenue. Initially, I had to deal with the noise from the construction of the existing building and parking lots which often times began early in the morning affecting my sleep. Since that expansion, myself and the other neighbors are dealing with quality of life issues caused by Casino business:

1. Enormous amounts of vehicular and pedestrian traffic.
2. Sirens from ambulances and other emergency vehicles and law enforcement helicopters circling at late hours of the night dealing with illegal activity occurring on San Manuel property or by patrons of the Casino.
3. Semi-trucks driving the wrong way on Lynwood Avenue to either visit or conduct business at San Manuel and getting stuck at the intersection which is noisy and often times affects us being able to get home.
4. Vehicular alarms blaring in the parking lots
5. Drunk and disorderly patrons yelling or arguing in the parking lots and the sidewalks adjacent to my house or on Lynwood or Victoria.
6. Pedestrian noise, bus noise and the automated voice alerts at the bus stop which start at approximately 5:00 AM.
7. Trash, narcotics paraphernalia and empty alcoholic beverage containers thrown over my wall onto my yard routinely where my toddler aged daughter plays.
8. Due to the traffic control design at the intersection of Victoria Avenue and Lynwood Avenue, heavy vehicular traffic uses Citrus Avenue and Los Feliz Drive to make illegal U-turns to fulfill their desire to get to the Casino. Not only does this traffic noise effect us residents, but your patrons also take advantage of our streets to discard trash onto the street from their vehicles.
9. Vehicular traffic either going to the Casino or leaving the Casino frequently utilize Los Feliz Drive for a variety of activities, such as leaving stolen cars attempting to avoid detection, narcotics use, prostitution (which the female prostitutes frequently stand at the corner of Lynwood Avenue and Citrus Avenue waiting for a client), sleep off their intoxication. It is not pleasurable or a safe feeling to walk down "our" street to find used condoms, restaurant trash, empty alcohol containers, narcotics paraphernalia to include hypodermic syringes or glass smoking pipes, or persons engages in sexual activity in their vehicles.

10. Three times in the past recent months, I have had unwanted criminal activity at my residence. On the first occasion a vehicle occupied by a male and female parked in front of my residence. The male knocked on the door loudly scaring my fiancé and my daughter enough to call me at work. The male occupant had warrants for his arrest, narcotics on his person, stolen credit cards, and claimed he and friends walked the night prior from the Casino and threw their wallet into my yard. No items were located and he was arrested. The second event occurred as my family and I returned home from Disneyland to a male subject knocking on the front door. I contacted the subject who informed me he must have the wrong house and stated he had just left the Casino and was looking for a friend. This subject was wearing a back pack and appeared to be casing homes. The third event occurred as I exited my garage to leave for work. I noticed two male subjects knocking on my neighbors front door. They saw me and immediately walked away. I called for law enforcement response and both were taken to jail for narcotics violations and warrants with no legitimate reason for being in the area other than they were leaving the Casino.
11. An increase in transients pan handling in the area. The obnoxious signs they hold asking for money frequently refer to the Casino.

During the construction of the water fountain feature on Lynwood and Victoria in mid 2014, my newborn daughter and fiancé, whom was on maternity leave, were disrupted daily with the noise and ongoing construction. At times the construction would commence at 5am and wake both of them up. This was supposed to be a time for our family to bond and spend quality time together and we had to find places to go to or family houses to spend time at because the noise level was so high it disrupted my newborns daughters sleeping schedule. My fiancé even went back to work sooner than planned because she couldn't sleep due to the noise and the construction. We cannot fathom what the noise level would be with the upcoming construction and how it is going to interrupt our daughters sleeping schedule.

I have no doubt the planned expansion will multiply the existing quality of life issues I have addressed, which as a neighbor and a father of a toddler aged daughter who will start school this next year, is concerning to me. As a law enforcement officer who works in this community, I am familiar with the criminal element who frequent the Casino and the calls for service as a result of Casino business. I am, however, also a supporter of the employment opportunities the Casino offers and hope the staff responsible for answering and addressing the neighbors issues have a solution to these issues and are willing to work with us in addressing our quality of life.

Thank you in advance,

Mike Martinez
(951) 314-3719

From: richard farquhar
To: Jennifer Wade
Subject: Re: Casino Expansion
Date: Wednesday, November 15, 2017 3:12:37 PM

Thank you Jennifer,

I will be a little more specific on my concerns, and I hope you can also forward this email to public affairs.

My address is 3709 Hemlock Dr. My home has about 50% glass walls. I have a view that runs from Mentone in the east to the at least Fontana in the west. I can barely see the roof of the Casino behind the hills that contain the upper parking lots. I am hoping the new hotel will for the most part be obscured by the hills that have contain the upper parking lots. If not it will take away a major portion of my view and my neighbors views. The San Manuel Band has been a very considerate neighbor, and I appreciate that .

It is my understanding that San Manuel owns several houses on my street and I hope they take the view into consideration when they plan the hotel. If some one could please let me know how many floors of the hotel , if any, will be exposed over the upper parking lots.

I am also concerned if the project is going to expand or build a new parking structure on the hills outside my home. As currently the parking lots lights being on 24 hours a day can be disturbing . And I hope it does not get worse.

I look forward to a thoughtful expansion. I do enjoy visiting the casino.

Thank you for being a good neighbor.

Richard Farquhar

On Wed, Nov 15, 2017 at 12:24 PM, Jennifer Wade <JWade@esassoc.com> wrote:

> Thank you Richard. Your comment has been received for the TEIR. The public affairs office is handling direct inquiries and I have cc:ed them on this email.
>
> Jacob Coin, Executive Director of Public Affairs SMBMI
> Jcoin@sanmanuel-nsn.gov
>
> Jennifer Wade Robertson
>
> ESA | Environmental Science Associates
>
> 916.564.4500 main
>
> jwade@esassoc.com | www.esassoc.com

From: richard farquhar [mailto:farquharlaw@gmail.com]
Sent: Monday, November 13, 2017 10:00 PM
To: Jennifer Wade <JWade@esassoc.com>
Subject: Casino Expansion

Hello,

My name is Richard Farquhar I live on Hemlock Dr in San Bernardino . The side and rear portion of my house face in the direction of the upper parking lots . I am curious as to how the expansion could affect my views. I am also concerned about noise levels . Who can I talk to about this project?

Thank you ,

Richard Farquhar

Sent from Mail for Windows 10

From:	Michelle Conner
To:	Jennifer Wade
Cc:	Michelle Conner; A Husband
Subject:	Expansion Project Concerns
Date:	Tuesday, November 14, 2017 2:08:58 PM

Good Afternoon,

We live on Mirada Road just south of the San Manuel Casino. There are currently several issues relating to the Casino as is it now, even without another huge influx of people/traffic that the expansion will bring. Here is a list of things that local residents, like ourselves, are currently dealing with:

Traffic on Victoria Street- The casino traffic is so extremely heavy (even more so during events) that we are forced to use the only other way out of this area, Orange Street. People rushing to the casino up Victoria consistently speed, tailgate, and run red lights. The large bus traffic on this narrow street also causes concern. I know you are aware of the frequency of accidents on this street from Highland Ave. to Lynwood Drive and the numerous holes created in the sound walls lining Victoria from accidents. We do not use Victoria (even to walk on) due to the safety concerns.

Traffic on Orange Street- because most all of the residents are forced to use Orange Street, including San Manuel residents, we are seeing the same problems and safety concerns arise on Orange. Speeding is a big issue. It is upsetting that we only have two ways to exit our community and the Main Street, Victoria, is designated for Casino Traffic. In the event of a major catastrophe or even a street closure, residents have and can be, trapped. Orange Street is also used heavily for school traffic to Serrano Middle school.

Traffic on Mirada Road- Mirada Road is one of two main ways into this community from Victoria Ave. and it is also used for Serrano Middle School buses and car traffic. Cars race up and down this street (as do people fleeing the police) at all hours of the day and night. Students walking to and from school are at risk, as well as the young children and adults of all ages that live on Mirada and surrounding areas.

Criminal Element- as documented by the local police department, the news, and the Nextdoor App, the casino draws a criminal crowd along with the law-abiding citizens. There have been drug deals, car thefts, destruction of property, prostitution, home invasion, home break-ins, assaults, assaults with deadly weapons, street closures, police helicopters, and constant mail theft just on our street and adjoining streets alone.

These are a few of the issues we currently have living near the casino. We have had to install security and cameras just to feel somewhat safe. Building a hotel and casino expansion will only INCREASE these problems to the point of being forced to sell homes. I have not heard any discussion on addressing these areas of concern by the developers.

Please re-consider this expansion as the community surrounding the casino will only suffer further.

Thank you for your consideration,

Michelle & Mike Conner
3075 Mirada Rd
Highland, CA 92346
Pookbrat@live.com, godandharleys@yahoo.com
Sent from my iPad

From:	susan stoltenberg
To:	Jennifer Wade
Subject:	Comments on the San Manuel Draft TEIR - Casino Expansion Project
Date:	Wednesday, November 15, 2017 11:15:51 AM
Attachments:	San Manuel Expansion 2017.docx

Ms. Wade,

Please find our attached document with our comments regarding the San Manuel DRAFT TEIR for their proposed casino expansion which includes, a hotel, event center and expanded parking.

Keep us informed of the status of the project as it moves forward.

Thank you,
Mr. and Mrs. J. Williams

November 13, 2017

Environmental Science Associates
c/o Jennifer Wade
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

To Whom It May Concern:

RE: *San Manuel Expansion Project- Hotel, Event Center & Parking Garage TDEIR Comments*

My family has owned our house since it was built and has watched the neighborhood including the tribal lands around us grow over the last 30+ years.

We do not think the expansion of more commercial uses in a residential area is a good thing; we are against it at this location.

The appropriate location would be on the tribal owned land down by the San Bernardino Airport or by the Glen Helen Amphitheatre, where the increased traffic, increase air pollution, increased noise and increase in need for emergency services would be less obtrusive and allow for better and safer access.

TRAFFIC:

Building in the proposed location will not only further impact the traffic on Victoria, Lynwood and Highland Avenue but, make it almost impossible for emergency responders to reach the area in or implement an emergency evacuation of residents and casino/hotel/event guests in case of a major fire, earthquake, or other disaster. It is pretty much a dead-end road, only one way in and one way out for the Casino/Hotel/Event Center, the majority of the traffic utilizing Victoria Avenue. They need to find a way to add another major roadway to the Casino complex from Highland Avenue to accommodate the additional traffic. Not only will there be an increase in daily traffic upon completion of the project there will be additional traffic of construction equipment and construction crews during the project's construction adding to the delivery truck, bus and other traffic currently impacting the roadways. There needs to be traffic control in place before and after events to make sure traffic moves and the public is safe, the increase in traffic for events will gridlock the surrounding circulation system of roadways including the 210/215 freeways. The residents will be forced to use the only other connecting road to Highland Avenue which is Orange Street. Orange Street will have more traffic from the residents that currently use Victoria, but is not designed to handle the increased traffic. Orange Street is already full of deep pot holes and is only two lanes wide (one in each direction.) For pedestrian and bicycle safety a bridge for pedestrians and bicyclists should be built crossing the future "Victoria Freeway", children cross this street to go to and from school and need to do so safely. Increasing the number of cars and buses traveling so close to residential neighbors will increase the air pollution, further decreasing the quality of life for the surrounding residents.

HOTEL/PARKING GARAGE HEIGHT:

The proposed 15 story tall hotel will be one of the tallest buildings in the entire Inland Empire, there are few buildings even in the downtown areas that are 15 stories or higher. This will tower 3 times as high as the existing casino and parking structure. Will the hotel guests be looking into the surrounding resident's yards and into bedroom windows? We need to assure that does not happen; this is a privacy and security issue. The hotel and parking structure need to make sure they have no surfaces that produce glare or reflection into or onto residential areas creating nuisances to the neighbors. How many stories high is the parking structure proposed to be? Do not allow banners, bright signs or other manner of advertising to be placed on the outside of the new parking structure or the hotel, similar to what they hang on the current parking structure. Currently sirens are heard 24 hours a day going to and from the San Manuel Casino and the horns and alarms from cars in the parking structure are a noise nuisance already. Make the parking areas and event center so that the sounds that happen within them do not travel off-site into the surrounding residential neighborhoods. Make sure the roofs of the hotel and parking structure are built to prevent jumpers attempting suicide or vantage point for active shooters.

AIR QUALITY:

With a lot more cars comes a lot more air pollution from the cars, delivery trucks, buses, emergency vehicles etc... Also, the cigarette smoke adds toxins to the air and the additional smokers that come to the project site will add those toxins to the air as well. During construction the heavy equipment and delivery trucks and well as chemicals or other materials used on site may contribute to additional pollutants in the air.

NON-SMOKING FACILITIES:

- The Casino/Hotel/Event Center and Parking areas should all be smoke free, reducing the amount of toxins in the air and on the ground (cigarette butts.) Who wants to go to an event that is filled with cigarette smoke or eat at a restaurant in a smoky environment?

WATER AND SEWER CAPCITIES:

Do the Water and Sewer lines and systems have enough capacity to accommodate this huge increase in load that this development will require? Who is paying to upgrade these facilities the tribe or the adjacent jurisdictions that surround the tribal lands?

WATER QUALITY/STORM WATER:

The project needs to maintain all areas on-site and within the vicinity of the project (i.e. along Lynwood/Victoria) trash free and cigarette butt free. The trash and cigarette butts dumped by casino/event/hotel patrons can not only make the area look bad but, the items can end up in the water ways, by getting into the storm drains and the adjacent flood control facilities polluting our water and our oceans. The casino/hotel should have daily cleanup of the parking areas and the streets leading to their facilities to help prevent this additional pollution and water quality issue.

EMERGENCY SERVICES:

Additional emergency personnel will be needed such as fire, paramedic and police to be able to cover the future expansions. Need to address traffic gridlock that is expected to allow emergency responders in to the area not just for the casino/hotel/event center but surrounding neighborhoods as well and allow residents and guests out safely. An emergency evacuation plan needs to be developed for the residential neighborhoods and the Casino/Hotel/Event center guests and employees.

PUBLIC SAFETY:

They need to find an alternative way to get their guests and employees to the property, Lynwood and Victoria are already severely impacted and with the future expansion will be constant gridlock. As mentioned before a Pedestrian and Bicycle (handicap accessible) bridge needs to be constructed to cross Victoria near Lynwood drive and/or Citrus Street. Increase police presence in the surrounding neighborhoods, Police units should cruise the neighborhoods multiple times a day, to prevent the potential increase in robberies and break-ins due to the increased number of people (*Many of whom may have lost their paycheck at the casino and now need to pay bills or buy groceries*.) in the area.

CONSTRUCTION NOISE/LIGHTING/VIBRATIONS/DUST:

Restrict the hours of construction: Monday – Friday 8 am to 5pm. Keep all construction related noises, and dust on-site as low as possible to AQMD standards. Do not allow construction lighting to shine off-site, into the surrounding neighborhoods and/or houses. Do not allow vibrations from construction such as pile driving to vibrate, shake or jolt the neighboring areas, like it did during previous construction projects for the casino.

SEISMICITY:

The San Andreas Fault runs through the general area – Therefore, if an active fault runs under this location the project cannot be built. If it is close to the fault it needs to be built to strict earthquake construction standards so that when there is an earthquake it does not topple onto the roadways impeding resident's or guests/staff evacuation or onto residential properties causing damage, injury or even death. Tribal buildings must be engineered to withstand earthquakes and be in compliance with State and local building codes.

AESTHETICS:

The height of the hotel is excessive for the area and will tower over everything in the vicinity, causing shadows over people's homes and blocking views. Who wants to look out the window at a 15 story building or up at a hotel?

LAND USE COMPATIBILITY:

This project is not compatible with the surrounding residential neighborhoods that have existed for over 30 years. All the houses in the area are one or two stories tall; this proposed 15 story tall hotel will be at

least 7 times taller than the surrounding uses, other than the casino and parking. How is this logical progression of land uses? The hotel will be at least 150' tall that is higher than most buildings in the downtowns of San Bernardino, Highland, Riverside or Redlands. This is not a commercial area or even a non-developed area this is a RESIDENTIAL neighborhood and this is NOT compatible in any meaning of the word.

PROPERTY VALUES:

Property values were impacted in a negative way due to the original bingo parlor/casino being built in our residential neighborhood and more commercial land uses in our neighborhood will likely decrease values even more.

It seems as though the tribe wants to drive all the residents out within a ½ to 1 mile radius of the current casino by making the residents lives miserable, fighting traffic, noise pollution, air pollution and the aesthetics of what a 15 story hotel may impose on the views.

We do not mind progress but, we would like it to be in the appropriate location, No more commercial in our once quiet residential area please. Build this project where it belongs; away from residential neighborhoods and where the roads can accommodate the traffic, such as near the San Bernardino Airport or Glen Helen Amphitheater.

Thank you,

Mr. & Mrs. J. Williams
3134 Cactus Circle, Highland, CA 92346

From:	Jeanne Aranda
To:	Jennifer Wade
Cc:	jcoin@sanmanuel-nsn.gov
Subject:	San Manuel Casino and Hotel Expansion
Date:	Friday, November 17, 2017 6:12:57 PM

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i am writing about my concerns regarding the proposed expansion. We have lived here in Amber Hills since 2004. Over the past 13 years, we have noticed a marked increase in crime in our area. Our mailboxes are broken into, people run the red lights on Victoria - causing accidents - also as evidenced by the unsightly holes in the supposed sound wall on Victoria. We have more transient traffic on our street. Several times we found people approaching our house and I can not count the number of times I've found litter in our yard - the litter composed of receipts from the casino. One day a woman approached us as she was leaving the casino. she was either drunk or on drugs - don't know which. but she asked our help because the security people at the casino would not let her have her car. that is great on the part of security, but that woman was then unleashed on our neighborhood in her condition and we were forced to deal with her. Now we have installed security cameras and increased our wrought iron fencing around the patio.

I do not begrudge the tribe for wanting to expand, however, their expansion means increased crime, traffic and litter in our neighborhoods. Further, we believe that the expansion will be built directly upon the San Andreas Fault line. Why would the tribe want to build directly upon the fault line? And why would they be allowed to build on that fault line?

Lastly, I have heard rumors that the tribe is negotiating with the State of California to acquire the existing site of Patton Hospital. The story I was told includes provisions to place the current prisoners/patients at Patton into neighborhood group homes. This is totally unacceptable. I do not know if this rumor is true or not but we will not tolerate having those patients/prisoners in group homes. If necessary, I will organize a protest of this acquisition. My question is: is this rumor true? is any part of it true? which part? I have not shared my concerns about the Patton story with our neighbors because i need to know how much of the story is true.

thank you for addressing my concerns about this matter.

Jeanne Aranda

From: Bud Harroun
To: Jennifer Wade
Subject: Traffic flow
Date: Saturday, November 25, 2017 1:44:39 PM

I would request that the traffic light at Victoria and Lynwood be changed to allow for a left turn from Lynwood into the casino property. This would eliminate traffic from coming into existing neighborhoods to make U turns to get to the casino. Many drivers are currently making illegal U turns on Citrus to get back to Victoria to enter the casino. Other drivers are using homeowners driveways to turn around in. This causes an inconvenience to residents as well as the possibility of children being injured.

Thanks,

Harold D. Harroun, Jr.

Sent from my iPhone

From: Frank
To: Jennifer Wade
Subject: Traffic
Date: Sunday, November 26, 2017 3:38:07 PM

Hello Miss Wade,

I live on the corner of Citrus and Havasu where there is a faded sign indicating no u-turns. As of right now without the proposed project many drivers compete illegal u-turns and causing sometimes accidents and traffic congestion. I have witnessed San Manuel Safety patrol vehicles and other San Manuel vehicles make the same illegal u-turn with no disregard of who is watching them or not. The street I live on especially my driveway receives a lot traffic. I cannot allow my kids to play outside without worrying about a car hitting them again because of the traffic.

I have seen the increase of officers but not addressing the illegal u-turns. A new sign is needed maybe one that runs off solar that can be seen with the no u-turn flashing and maybe a divider of some kind to discourage the u-turns.

Thank you,

Frank Hernandez
PTS, Inc.
Payroll/Recruiter Manager
Cell: (909) 296-2483

From: evelyn karotick
To: Jennifer Wade
Date: Sunday, November 26, 2017 11:14:12 AM

Really great you are starting new hotel project. We are handicap people and the hotel will be great for us to be able to stay. Looks grest. Can hardly wait for the new. Get going. We need more fun.

November 16, 2017

Ms. Jennifer Wade
Environmental Science Associates
2600 Capital Avenue, Suite 200
Sacramento, CA 95816

RE: San Manuel TEIR Expansion

To Whom It May Concern:

I have reviewed the proposed project for the new hotel, parking structure and performance venue. I understand that the proposed additions will be on tribal land and not much anyone can do about that. I enjoy the casino and all that they do for the community. My only concerns are as follows:

1. I own a home 500 feet to the east of the proposed new parking structure and currently have a good view to the west. I hope that the structure will be limited to not exceed 40 feet in height and that some kind of noise control will be put in place especially in the upper levels where the noise travels.
2. How will Victoria Avenue handle the increased volume of traffic generated by the expansion? Many people are concerned that one of the two Piedmont gates will be open causing traffic in the residential areas. Possible solution may be to make an entrance from Lynwood Avenue. This would allow two ways to get to the Casino from the freeway off ramp.

Please keep us residents informed as to the final plans and details. I'm sure you're also aware that this may cause a decrease in our property values as to the added noise, pollution and traffic.

Thank you.

Gary Quiel
2875 Piedmont Drive
Highland, CA 92346

From: Guido Pieri
To: Jennifer Wade
Subject: CASINO EXPANSION
Date: Thursday, November 30, 2017 4:13:50 PM

AS A LONG TIME REDLANDS RESIDENT IVE BEEN ABLE TO WITNESS ALL THE WONDERFUL THINGS SAN MANUAL CONTRIBUTES TO LOCAL COMMUNITIES, CHARITIES AND OTHER ORGANIZATIONS, THE NEW JOBS WOULD ALSO HELP THE LOCAL ECONOMY. IFULLY SUPPORT THIS PROJECT. THANK YOU FOR THE OPPERTUNITY TO COMMENT.

From:	Zoomaround
To:	Jennifer Wade
Subject:	Comments on Environmental Effects of San Manuel Casino Expansion
Date:	Thursday, December 7, 2017 11:58:55 AM

I write this email as a neighbor of the San Manuel casino with a few concerns regarding the expansion:

- I drive north on Arden Avenue at least four times a week and have continuously observed water runoff coming from east Piedmont and running south on Arden Avenue. During the rainy season, it becomes dirt/ mud runoff that ends up collecting everything in its path on the way to the gutter on the corner of Arden Avenue & E. Lynwood Drive. Moreover, when this corner gets flooded due to the water runoff coming from the north end of Arden Avenue as well as the east end of E. Lynwood Drive, it becomes very dangerous at the 4-way stop sign.

- Due to there only being one visitors' street entrance in and out of the casino, there have been occasions whereas casino traffic had to be diverted for one reason or another via E. Lynwood Drive. On these occasions, the traffic congestion is not only having to deal with the many cars passing through the neighborhood but the excessive honking, running of the stop signs, vehicle exhaust odors, unruly passengers/drivers, etc. Unfortunately, there is no traffic officer ever assigned to expedite casino traffic through the neighborhood in an safe and orderly fashion.

- I previously attended a PPV event at San Manuel a few years back and was extremely disappointed with the hour and a half it took to exit the parking garage. Again, there is no traffic officers/employees assigned to monitor and safely disperse traffic from the parking garage or on Victoria & Highland were all the traffic gets congested. NOTE: I felt very unsafe in the parking garage with so many of the impatient drivers that became aggressive with their vehicles that I have not returned.

- I would also like to add that the "NO TURNS" signage at the exit corner of Victoria and E. Lynwood is very confusing to drivers. Perhaps posting a "NO RIGHT TURN" sign prior to the street it applies to would be best suited since it's a more common city street sign.

Although I do have the concerns listed above, I am extremely excited about expansion of the casino and look forward to revisiting the casino and all the new entertainment and restaurants coming our way.

Respectfully,

Frances Hernandez
5887 Arden Avenue
Highland, CA 92346
(909) 553-7203

From: Jacob Coin <jcoin@SanManuel-NSN.Gov>
Sent: Sunday, December 3, 2017 5:40 PM
To: Jennifer Wade
Cc: Jacob Coin
Subject: FW: Inquiries about the San Manuel Expansion Project
Attachments: imageef4e35.PNG
Importance: High

Please see email inquiry below from grad student.

From: Milena Martinez [milenam@csu.fullerton.edu]
Sent: Sunday, December 03, 2017 4:28 PM
To: Jacob Coin
Subject: Inquiries about the San Manuel Expansion Project

Good evening Jacob,

My name is Milena, I am a graduate student at Cal State Fullerton working on a project for my Environmental Impact assessment course based on the San Manuel Expansion Project. I was hoping you could answer a few questions for me to help me with my Constraints Analysis Assesment.

1.) What permits/future actions or approvals are going to be required for this expansion?
2.) When looking for the probable environmental effects of this project what are some of the more significant effects that are being discussed?
3.) What steps have you taken to reach the public and stakeholders during the environmental process?

Thank you for your time, I look forward to your reply.

--

Milena Martinez, B.S.
Master's Candidate, Environmental Studies
Inland Empire Utilities Agency, Lab Assistant
California State University - Fullerton
milenam@csu.fullerton.edu
(909)524-2697

From:	Doris Stoltenberg
To:	Jennifer Wade
Subject:	Fwd: San Manuel expansion
Date:	Wednesday, November 29, 2017 4:16:03 PM

Begin forwarded message:

From: Doris Stoltenberg <ronndoris@aol.com>
Subject: San Manuel expansion
Date: November 29, 2017 at 4:12:35 PM PST
To: Jennifer Wade

Dear Ms. Wade,
I had written earlier about my concerns about the San Manuel construction plans. I am especially concerned about the increase in noise, air pollution and traffic in our residential neighborhoods. I feel there could be a win-win way this could be avoided. The tribe has a large land area between Third and Fifth Streets Near the San Bernardino Airport. This is an area that is already commercial and has many streets in and out unlike our residential areas where in a number of cases residents only have one way or two ways out which are already often clogged by Casino traffic. An event center, hotel, casino complex would be a plus for that area. I can think of a number of paths that patrons could take to reach that area. Another plus is the proximity to the airport which in the future could bring people to such a complex. I would urge the tribe to consider this before adding the problems associated with the huge increase in traffic affecting residential neighborhoods.

Ron Stoltenberg
--

ronndoris@aol.com

--
Doris Stoltenberg
ronndoris@aol.com

From: Cruz, Cynthia (CeCe)
To: Jennifer Wade
Subject: San Manuel Hotel and Casino Expansion
Date: Thursday, November 30, 2017 7:53:01 AM

Good morning,

As a resident who live close by San Manuel, I am opposed to the Tribe's expansion plans, reason being, reason being is I have lived in my home for the pas 26 years, and I live on the opposite side of the wash on Citrus St which only has 6 houses, but even though our street does not go straight thru, we still get traffic and people walking in our neighborhood going thru the wash to reach the Casino.

When we go to the market we have to go thru Lynwood to Victoria and Highland to reach the Food 4 Less, which is ok, but coming home there is a lot of traffic, because people are in a hurry to get to the casino. It was just the other day coming home that it took is 14 minutes just to get home, to where is use to take 2 minutes. If the traffic is this bad now, I hate to see what it's going to be once they do there expansion. And the off ramp is out of control, I have to get off on Del Rosa and take the back streets home, makes no sense. Again with the expansion, it's going to be worse. How can more traffic be safe for our community? And what about the children going to school and have to cross the cross walk on Victoria and Lynwood, just to get to Belvedere Elementary or Serrano Junior High?

An on another note, how the heck is the additional traffic going to exit? We were approached by a person who walks in the wash and the rumor is they are going to clear out the wash and build a bridge having the traffic come out thru our street. Is there any truth to that? (and we have had tremendous work being done in the wash to where they already have damaged our street but they have been clearing out the wash) That would be the last thing that we need, just to accommodate the expansion of the casino. This is not LAS VEGAS, this is the city of Highland/ San Bernardino, we didn't ask for this. And yes I do understand that the land belongs to the San Manuel Indians, but not the existing community.

So know my question is, to accommodate all this what does the existing community get out of it? Beside the increase traffic, pollution, headaches and noise level?

Is San Manuel going to pay us for the pain and suffering that we are going to incur? Or are they going to buy up all the land that we live on to accommodate there expansion? You may suggest for us to move, but why should we? To accommodate San Manuel? It's not fair. What do the elected officials in the cities of San Bernardino and Highland going to do for our community? Or is San Manuel going to give monetary amounts to the city of San Bernardino and Highland to build back up the cities? Either way I feel that we are screwed.

CeCe Cruz
Highland Resident

Appendix C
Revised Air Quality Data

C-1 Construction AQ Emissions

- Construction CalEEMod Output (Summer)
- Construction CalEEMod Output (Winter)
- Construction Air Quality Summary with PDFs

Construction Phases 1,2, and 3 represent the construction related to the parking structure, performance venue, and the hotel tower/casino expansion, respectively. They shall not be confused with the traffic scenarios' phase 1 and 2.

San Manuel Casino Expansion and Hotel

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	16.50	1000sqft	0.40	16,500.00	0
Other Asphalt Surfaces	104.90	1000sqft	2.41	104,898.00	0
Unenclosed Parking with Elevator	2,200.00	Space	2.86	880,000.00	0
Arena	55.00	1000sqft	1.78	55,000.00	0
Arena	58.00	1000sqft	1.11	58,000.00	0
City Park	1.39	Acre	1.39	60,617.00	0
Hotel	500.00	Room	0.99	682,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Specific Information

Construction Phase - Project Specific Information

Off-road Equipment - Project Specific Information
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Off-road Equipment - Project Specific Information
Trips and VMT - Project Specific Information
Demolition - Project Specific Information
Grading - Project Specific Information
Architectural Coating - Project Specific Information
Construction Off-road Equipment Mitigation - Project Specific Information

Table Name	Column Name	Default Value	New Value
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2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	14.2445	154.0175	88.3273	0.1941	23.3696	7.4111	29.7529	11.7633	6.8907	17.6746	0.0000	19,556.6871	19,556.6871	4.8719	0.0000	19,656.0187
2019	31.5315	121.8557	103.1892	0.2262	14.3859	5.9557	20.3085	6.5998	5.6312	12.1368	0.0000	22,357.1187	22,357.1187	3.9298	0.0000	22,451.3470
2020	44.5361	68.4016	74.7350	0.1427	3.6327	3.7616	7.3943	0.9634	3.6382	4.6016	0.0000	13,673.3480	13,673.3480	1.8001	0.0000	13,718.3497
Maximum	**44.5361**	**154.0175**	**103.1892**	**0.2262**	**23.3696**	**7.4111**	**29.7529**	**11.7633**	**6.8907**	**17.6746**	**0.0000**	**22,357.1187**	**22,357.1187**	**4.8719**	**0.0000**	**22,451.3470**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	5.0568	83.7341	99.8269	0.1941	11.3939	3.8445	14.6071	5.1968	3.8435	8.4050	0.0000	19,556.6871	19,556.6871	4.8719	0.0000	19,656.0187
2019	27.3740	91.4656	115.3611	0.2262	8.3856	4.5642	12.1811	3.3152	4.5571	7.1059	0.0000	22,357.1187	22,357.1187	3.9298	0.0000	22,451.3470
2020	39.8224	52.9080	80.1976	0.1427	3.6327	3.3039	6.9367	0.9634	3.3018	4.2652	0.0000	13,673.3480	13,673.3480	1.8001	0.0000	13,718.3497
Maximum	**39.8224**	**91.4656**	**115.3611**	**0.2262**	**11.3939**	**4.5642**	**14.6071**	**5.1968**	**4.5571**	**8.4050**	**0.0000**	**22,357.1187**	**22,357.1187**	**4.8719**	**0.0000**	**22,451.3470**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e

Percent Reduction	20.00	33.74	-10.94	0.00	43.43	31.62	41.30	50.97	27.59	42.53	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 1 Demo	Demolition	4/1/2018	4/21/2018	6	18	11
2	Phase 1 Grading	Grading	4/23/2018	9/23/2018	6	132	12
3	Phase 2 Demo	Demolition	7/2/2018	7/15/2018	6	12	18
4	Phase 2 Grading	Grading	7/16/2018	12/12/2018	6	129	19
5	Phase 1 Drainage/Utils	Trenching	9/24/2018	11/1/2018	6	34	13
6	Phase 3 Demo	Demolition	10/1/2018	11/11/2018	6	36	24
7	Phase 1 Foundation	Building Construction	11/2/2018	11/30/2018	6	25	14
8	Phase 3 Grading	Grading	11/12/2018	4/12/2019	6	131	25
9	Phase 1 Building Construction	Building Construction	12/1/2018	6/1/2019	6	157	15
10	Phase 2 Drainage/Utils	Trenching	12/13/2018	12/26/2018	6	12	20
11	Phase 2 Foundation	Building Construction	12/27/2018	2/1/2019	6	32	21
12	Phase 2 Building Construction	Building Construction	2/2/2019	6/1/2019	6	103	22
13	Phase 3 Drainage/Utils	Trenching	4/13/2019	5/13/2019	6	26	26
14	Phase 3 Foundation	Building Construction	5/14/2019	8/12/2019	6	78	27
15	Phase 1 Paving	Paving	6/2/2019	6/16/2019	6	12	16
16	Phase 2 Architectural Coating	Architectural Coating	6/2/2019	8/1/2019	6	52	23
17	Phase 1 Architectural Coating	Architectural Coating	6/17/2019	7/1/2019	6	13	17
18	Phase 3 Building Construction	Building Construction	8/13/2019	4/15/2020	6	212	28
19	Phase 3 Architectural Coating	Architectural Coating	2/1/2020	6/1/2020	6	104	31
20	Phase 3 Paving	Paving	4/16/2020	6/1/2020	6	40	29
21	Phase 3 Landscaping	Building Construction	4/30/2020	6/1/2020	6	28	30

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 5.27

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 87,000; Non-Residential Outdoor: 29,000; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 1 Demo	Off-Highway Trucks	1	13.00	402	0.38
Phase 1 Demo	Rubber Tired Dozers	1	13.00	247	0.40
Phase 1 Demo	Sweepers/Scrubbers	1	13.00	64	0.46
Phase 1 Demo	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 1 Grading	Excavators	1	13.00	158	0.38
Phase 1 Grading	Graders	1	13.00	187	0.41
Phase 1 Grading	Rubber Tired Dozers	1	13.00	247	0.40
Phase 1 Grading	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 2 Demo	Off-Highway Trucks	1	13.00	402	0.38
Phase 2 Demo	Rubber Tired Dozers	1	13.00	247	0.40
Phase 2 Demo	Sweepers/Scrubbers	1	13.00	64	0.46
Phase 2 Demo	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 2 Grading	Excavators	1	13.00	158	0.38
Phase 2 Grading	Graders	1	13.00	187	0.41
Phase 2 Grading	Rubber Tired Dozers	1	13.00	247	0.40
Phase 2 Grading	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 1 Drainage/Utils	Excavators	1	13.00	158	0.38
Phase 1 Drainage/Utils	Rough Terrain Forklifts	2	13.00	100	0.40
Phase 1 Drainage/Utils	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 1 Drainage/Utils	Trenchers	1	13.00	367	0.48
Phase 3 Demo	Off-Highway Trucks	1	13.00	402	0.38
Phase 3 Demo	Rubber Tired Dozers	2	13.00	247	0.40
Phase 3 Demo	Sweepers/Scrubbers	1	13.00	64	0.46
Phase 3 Demo	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 1 Foundation	Bore/Drill Rigs	1	13.00	221	0.50

Phase 1 Foundation	Cranes	1	13.00	231	0.29
Phase 1 Foundation	Pumps	2	13.00	84	0.74
Phase 1 Foundation	Rough Terrain Forklifts	1	13.00	100	0.40
Phase 1 Foundation	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 3 Grading	Excavators	1	13.00	158	0.38
Phase 3 Grading	Graders	1	13.00	187	0.41
Phase 3 Grading	Rubber Tired Dozers	1	13.00	247	0.40
Phase 3 Grading	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 1 Building Construction	Cranes	1	13.00	231	0.29
Phase 1 Building Construction	Forklifts	2	13.00	89	0.20
Phase 1 Building Construction	Paving Equipment	1	13.00	132	0.36
Phase 1 Building Construction	Pumps	1	13.00	84	0.74
Phase 1 Building Construction	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 2 Drainage/Utils	Excavators	1	13.00	158	0.38
Phase 2 Drainage/Utils	Rough Terrain Forklifts	1	13.00	100	0.40
Phase 2 Drainage/Utils	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 2 Drainage/Utils	Trenchers	1	13.00	367	0.48
Phase 2 Foundation	Bore/Drill Rigs	1	13.00	221	0.50
Phase 2 Foundation	Cranes	1	13.00	231	0.29
Phase 2 Foundation	Pumps	1	13.00	84	0.74
Phase 2 Foundation	Rough Terrain Forklifts	1	13.00	100	0.40
Phase 2 Foundation	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 2 Building Construction	Cranes	1	13.00	231	0.29
Phase 2 Building Construction	Forklifts	2	13.00	89	0.20
Phase 2 Building Construction	Generator Sets	1	13.00	84	0.74
Phase 2 Building Construction	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 2 Building Construction	Welders	2	13.00	46	0.45
Phase 3 Drainage/Utils	Excavators	1	13.00	158	0.38
Phase 3 Drainage/Utils	Rough Terrain Forklifts	2	13.00	100	0.40
Phase 3 Drainage/Utils	Tractors/Loaders/Backhoes	2	13.00	97	0.37

Phase 3 Drainage/Utils	Trenchers	1	13.00	367	0.48
Phase 3 Foundation	Bore/Drill Rigs	1	13.00	221	0.50
Phase 3 Foundation	Cranes	1	13.00	231	0.29
Phase 3 Foundation	Pumps	2	13.00	84	0.74
Phase 3 Foundation	Rough Terrain Forklifts	1	13.00	100	0.40
Phase 3 Foundation	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 1 Paving	Pavers	1	13.00	130	0.42
Phase 1 Paving	Paving Equipment	1	13.00	132	0.36
Phase 1 Paving	Rollers	1	13.00	80	0.38
Phase 2 Architectural Coating	Aerial Lifts	2	13.00	63	0.31
Phase 2 Architectural Coating	Air Compressors	2	13.00	78	0.48
Phase 1 Architectural Coating	Aerial Lifts	2	13.00	63	0.31
Phase 1 Architectural Coating	Air Compressors	2	13.00	78	0.48
Phase 3 Building Construction	Air Compressors	2	13.00	78	0.48
Phase 3 Building Construction	Cranes	2	13.00	231	0.29
Phase 3 Building Construction	Forklifts	2	13.00	89	0.20
Phase 3 Building Construction	Generator Sets	2	13.00	84	0.74
Phase 3 Building Construction	Pumps	1	13.00	84	0.74
Phase 3 Building Construction	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 3 Building Construction	Welders	2	13.00	46	0.45
Phase 3 Architectural Coating	Aerial Lifts	2	13.00	63	0.31
Phase 3 Architectural Coating	Air Compressors	2	13.00	78	0.48
Phase 3 Paving	Pavers	1	13.00	130	0.42
Phase 3 Paving	Paving Equipment	1	13.00	132	0.36
Phase 3 Paving	Rollers	1	13.00	80	0.38
Phase 3 Landscaping	Forklifts	1	13.00	89	0.20
Phase 3 Landscaping	Sweepers/Scrubbers	1	13.00	64	0.46
Phase 3 Landscaping	Tractors/Loaders/Backhoes	1	13.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Phase 1 Demo	4	10.00	6.00	307.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 1 Grading	5	10.00	6.00	6,926.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 2 Demo	4	5.00	6.00	123.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 2 Grading	4	8.00	6.00	2,691.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 1 Drainage/Utils	6	15.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Demo	5	13.00	6.00	605.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 1 Foundation	7	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Grading	5	10.00	6.00	6,712.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 1 Building Construction	7	250.00	52.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Drainage/Utils	4	10.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Foundation	5	13.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Building Construction	8	100.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Drainage/Utils	6	15.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Foundation	7	15.00	87.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Paving	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Architectural Coating	4	75.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Architectural Coating	4	158.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Building Construction	13	250.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Architectural Coating	4	75.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Paving	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Landscaping	3	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Phase 1 Demo - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.5047	0.0000	3.5047	0.5306	0.0000	0.5306			0.0000			0.0000
Off-Road	4.0898	42.5449	21.0119	0.0445		2.1501	2.1501		1.9781	1.9781		4,482.2624	4,482.2624	1.3954		4,517.1471
Total	**4.0898**	**42.5449**	**21.0119**	**0.0445**	**3.5047**	**2.1501**	**5.6548**	**0.5306**	**1.9781**	**2.5087**		**4,482.2624**	**4,482.2624**	**1.3954**		**4,517.1471**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0492	2.2163	0.3120	3.3700e-003	0.0376	3.5900e-003	0.0412	0.0103	3.4400e-003	0.0138		362.9340	362.9340	0.0442		364.0390
Vendor	0.0255	0.7271	0.1811	1.5700e-003	0.0384	5.3100e-003	0.0437	0.0111	5.0800e-003	0.0161		167.1948	167.1948	0.0114		167.4793
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391
Total	**0.1286**	**2.9821**	**0.9948**	**6.1700e-003**	**0.1878**	**9.7900e-003**	**0.1976**	**0.0510**	**9.3400e-003**	**0.0604**		**652.0640**	**652.0640**	**0.0597**		**653.5574**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Fugitive Dust					1.3668	0.0000	1.3668	0.2070	0.0000	0.2070			0.0000			0.0000
Off-Road	1.0899	21.8569	25.6731	0.0445		0.9940	0.9940		0.9940	0.9940	0.0000	4,482.2624	4,482.2624	1.3954		4,517.1471
Total	**1.0899**	**21.8569**	**25.6731**	**0.0445**	**1.3668**	**0.9940**	**2.3608**	**0.2070**	**0.9940**	**1.2009**	**0.0000**	**4,482.2624**	**4,482.2624**	**1.3954**		**4,517.1471**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0492	2.2163	0.3120	3.3700e-003	0.0376	3.5900e-003	0.0412	0.0103	3.4400e-003	0.0138		362.9340	362.9340	0.0442		364.0390
Vendor	0.0255	0.7271	0.1811	1.5700e-003	0.0384	5.3100e-003	0.0437	0.0111	5.0800e-003	0.0161		167.1948	167.1948	0.0114		167.4793
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391
Total	**0.1286**	**2.9821**	**0.9948**	**6.1700e-003**	**0.1878**	**9.7900e-003**	**0.1976**	**0.0510**	**9.3400e-003**	**0.0604**		**652.0640**	**652.0640**	**0.0597**		**653.5574**

3.3 Phase 1 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.8140	0.0000	9.8140	5.3822	0.0000	5.3822			0.0000			0.0000
Off-Road	4.0741	45.5695	23.1404	0.0432		2.2182	2.2182		2.0407	2.0407		4,347.2742	4,347.2742	1.3534		4,381.1083
Total	**4.0741**	**45.5695**	**23.1404**	**0.0432**	**9.8140**	**2.2182**	**12.0322**	**5.3822**	**2.0407**	**7.4229**		**4,347.2742**	**4,347.2742**	**1.3534**		**4,381.1083**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1513	6.8183	0.9598	0.0104	0.1156	0.0111	0.1266	0.0318	0.0106	0.0423		1,116.5300	1,116.5300	0.1360		1,119.9292
Vendor	0.0255	0.7271	0.1811	1.5700e-003	0.0384	5.3100e-003	0.0437	0.0111	5.0800e-003	0.0161		167.1948	167.1948	0.0114		167.4793
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391
Total	**0.2307**	**7.5841**	**1.6426**	**0.0132**	**0.2658**	**0.0173**	**0.2830**	**0.0725**	**0.0165**	**0.0889**		**1,405.6600**	**1,405.6600**	**0.1515**		**1,409.4476**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.8275	0.0000	3.8275	2.0990	0.0000	2.0990			0.0000			0.0000
Off-Road	1.0568	21.2962	27.0539	0.0432		1.0303	1.0303		1.0303	1.0303	0.0000	4,347.2742	4,347.2742	1.3534		4,381.1083
Total	**1.0568**	**21.2962**	**27.0539**	**0.0432**	**3.8275**	**1.0303**	**4.8577**	**2.0990**	**1.0303**	**3.1293**	**0.0000**	**4,347.2742**	**4,347.2742**	**1.3534**		**4,381.1083**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.1513	6.8183	0.9598	0.0104	0.1156	0.0111	0.1266	0.0318	0.0106	0.0423		1,116.5300	1,116.5300	0.1360		1,119.9292
Vendor	0.0255	0.7271	0.1811	1.5700e-003	0.0384	5.3100e-003	0.0437	0.0111	5.0800e-003	0.0161		167.1948	167.1948	0.0114		167.4793
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391
Total	**0.2307**	**7.5841**	**1.6426**	**0.0132**	**0.2658**	**0.0173**	**0.2830**	**0.0725**	**0.0165**	**0.0889**		**1,405.6600**	**1,405.6600**	**0.1515**		**1,409.4476**

3.4 Phase 2 Demo - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Fugitive Dust					2.1060	0.0000	2.1060	0.3189	0.0000	0.3189			0.0000			0.0000
Off-Road	4.0898	42.5449	21.0119	0.0445		2.1501	2.1501		1.9781	1.9781		4,482.2624	4,482.2624	1.3954		4,517.1471
Total	**4.0898**	**42.5449**	**21.0119**	**0.0445**	**2.1060**	**2.1501**	**4.2561**	**0.3189**	**1.9781**	**2.2970**		**4,482.2624**	**4,482.2624**	**1.3954**		**4,517.1471**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.0296	1.3320	0.1875	2.0300e-003	0.0226	2.1600e-003	0.0247	6.2000e-003	2.0700e-003	8.2700e-003		218.1151	218.1151	0.0266		218.7791
Vendor	0.0255	0.7271	0.1811	1.5700e-003	0.0384	5.3100e-003	0.0437	0.0111	5.0800e-003	0.0161		167.1948	167.1948	0.0114		167.4793
Worker	0.0269	0.0193	0.2509	6.1000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.1000e-004	0.0152		60.9676	60.9676	2.0800e-003		61.0196

Total	**0.0820**	**2.0784**	**0.6195**	**4.2100e-003**	**0.1169**	**7.9200e-003**	**0.1248**	**0.0321**	**7.5600e-003**	**0.0396**		**446.2775**	**446.2775**	**0.0400**		**447.2780**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8214	0.0000	0.8214	0.1244	0.0000	0.1244			0.0000			0.0000
Off-Road	1.0899	21.8569	25.6731	0.0445		0.9940	0.9940		0.9940	0.9940	0.0000	4,482.2624	4,482.2624	1.3954		4,517.1471
Total	**1.0899**	**21.8569**	**25.6731**	**0.0445**	**0.8214**	**0.9940**	**1.8153**	**0.1244**	**0.9940**	**1.1183**	**0.0000**	**4,482.2624**	**4,482.2624**	**1.3954**		**4,517.1471**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0296	1.3320	0.1875	2.0300e-003	0.0226	2.1600e-003	0.0247	6.2000e-003	2.0700e-003	8.2700e-003		218.1151	218.1151	0.0266		218.7791
Vendor	0.0255	0.7271	0.1811	1.5700e-003	0.0384	5.3100e-003	0.0437	0.0111	5.0800e-003	0.0161		167.1948	167.1948	0.0114		167.4793
Worker	0.0269	0.0193	0.2509	6.1000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.1000e-004	0.0152		60.9676	60.9676	2.0800e-003		61.0196
Total	**0.0820**	**2.0784**	**0.6195**	**4.2100e-003**	**0.1169**	**7.9200e-003**	**0.1248**	**0.0321**	**7.5600e-003**	**0.0396**		**446.2775**	**446.2775**	**0.0400**		**447.2780**

3.5 Phase 2 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.7958	0.0000	9.7958	5.3802	0.0000	5.3802			0.0000			0.0000
Off-Road	3.6417	41.2962	19.3433	0.0381		1.9154	1.9154		1.7622	1.7622		3,839.0132	3,839.0132	1.1951		3,868.8917
Total	**3.6417**	**41.2962**	**19.3433**	**0.0381**	**9.7958**	**1.9154**	**11.7112**	**5.3802**	**1.7622**	**7.1424**		**3,839.0132**	**3,839.0132**	**1.1951**		**3,868.8917**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0602	2.7108	0.3816	4.1200e-003	0.0460	4.4000e-003	0.0504	0.0126	4.2100e-003	0.0168		443.9007	443.9007	0.0541		445.2521
Vendor	0.0255	0.7271	0.1811	1.5700e-003	0.0384	5.3100e-003	0.0437	0.0111	5.0800e-003	0.0161		167.1948	167.1948	0.0114		167.4793
Worker	0.0431	0.0309	0.4014	9.8000e-004	0.0894	7.1000e-004	0.0901	0.0237	6.6000e-004	0.0244		97.5481	97.5481	3.3300e-003		97.6313
Total	**0.1288**	**3.4688**	**0.9641**	**6.6700e-003**	**0.1738**	**0.0104**	**0.1842**	**0.0474**	**9.9500e-003**	**0.0573**		**708.6437**	**708.6437**	**0.0688**		**710.3627**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Fugitive Dust					3.8203	0.0000	3.8203	2.0983	0.0000	2.0983			0.0000			0.0000
Off-Road	0.9334	18.4778	23.2480	0.0381		0.8328	0.8328		0.8328	0.8328	0.0000	3,839.0132	3,839.0132	1.1951		3,868.8917
Total	**0.9334**	**18.4778**	**23.2480**	**0.0381**	**3.8203**	**0.8328**	**4.6531**	**2.0983**	**0.8328**	**2.9310**	**0.0000**	**3,839.0132**	**3,839.0132**	**1.1951**		**3,868.8917**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0602	2.7108	0.3816	4.1200e-003	0.0460	4.4000e-003	0.0504	0.0126	4.2100e-003	0.0168		443.9007	443.9007	0.0541		445.2521
Vendor	0.0255	0.7271	0.1811	1.5700e-003	0.0384	5.3100e-003	0.0437	0.0111	5.0800e-003	0.0161		167.1948	167.1948	0.0114		167.4793
Worker	0.0431	0.0309	0.4014	9.8000e-004	0.0894	7.1000e-004	0.0901	0.0237	6.6000e-004	0.0244		97.5481	97.5481	3.3300e-003		97.6313
Total	**0.1288**	**3.4688**	**0.9641**	**6.6700e-003**	**0.1738**	**0.0104**	**0.1842**	**0.0474**	**9.9500e-003**	**0.0573**		**708.6437**	**708.6437**	**0.0688**		**710.3627**

3.6 Phase 1 Drainage/Utils - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1365	36.3126	30.3827	0.0543		1.7733	1.7733		1.6314	1.6314		5,459.1152	5,459.1152	1.6995		5,501.6026
Total	**3.1365**	**36.3126**	**30.3827**	**0.0543**		**1.7733**	**1.7733**		**1.6314**	**1.6314**		**5,459.1152**	**5,459.1152**	**1.6995**		**5,501.6026**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0255	0.7271	0.1811	1.5700e-003	0.0384	5.3100e-003	0.0437	0.0111	5.0800e-003	0.0161		167.1948	167.1948	0.0114		167.4793
Worker	0.0808	0.0580	0.7526	1.8400e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2300e-003	0.0457		182.9028	182.9028	6.2400e-003		183.0587
Total	**0.1064**	**0.7851**	**0.9337**	**3.4100e-003**	**0.2061**	**6.6500e-003**	**0.2127**	**0.0555**	**6.3100e-003**	**0.0618**		**350.0976**	**350.0976**	**0.0176**		**350.5380**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3344	27.6244	35.5887	0.0543		1.4722	1.4722		1.4722	1.4722	0.0000	5,459.1152	5,459.1152	1.6995		5,501.6026
Total	**1.3344**	**27.6244**	**35.5887**	**0.0543**		**1.4722**	**1.4722**		**1.4722**	**1.4722**	**0.0000**	**5,459.1152**	**5,459.1152**	**1.6995**		**5,501.6026**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0255	0.7271	0.1811	1.5700e-003	0.0384	5.3100e-003	0.0437	0.0111	5.0800e-003	0.0161		167.1948	167.1948	0.0114		167.4793
Worker	0.0808	0.0580	0.7526	1.8400e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2300e-003	0.0457		182.9028	182.9028	6.2400e-003		183.0587
Total	**0.1064**	**0.7851**	**0.9337**	**3.4100e-003**	**0.2061**	**6.6500e-003**	**0.2127**	**0.0555**	**6.3100e-003**	**0.0618**		**350.0976**	**350.0976**	**0.0176**		**350.5380**

3.7 Phase 3 Demo - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Fugitive Dust					3.4524	0.0000	3.4524	0.5227	0.0000	0.5227			0.0000			0.0000
Off-Road	5.9847	62.9548	28.1236	0.0584		3.1423	3.1423		2.8909	2.8909		5,880.0441	5,880.0441	1.8305		5,925.8075
Total	**5.9847**	**62.9548**	**28.1236**	**0.0584**	**3.4524**	**3.1423**	**6.5946**	**0.5227**	**2.8909**	**3.4136**		**5,880.0441**	**5,880.0441**	**1.8305**		**5,925.8075**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.0485	2.1838	0.3074	3.3200e-003	0.0370	3.5400e-003	0.0406	0.0102	3.3900e-003	0.0136		357.6142	357.6142	0.0436		358.7029
Vendor	0.0255	0.7271	0.1811	1.5700e-003	0.0384	5.3100e-003	0.0437	0.0111	5.0800e-003	0.0161		167.1948	167.1948	0.0114		167.4793
Worker	0.0701	0.0502	0.6523	1.5900e-003	0.1453	1.1600e-003	0.1465	0.0385	1.0700e-003	0.0396		158.5157	158.5157	5.4100e-003		158.6508

Total	**0.1440**	**2.9612**	**1.1408**	**6.4800e-003**	**0.2207**	**0.0100**	**0.2307**	**0.0598**	**9.5400e-003**	**0.0693**		**683.3247**	**683.3247**	**0.0603**		**684.8330**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.3464	0.0000	1.3464	0.2039	0.0000	0.2039			0.0000			0.0000
Off-Road	1.4297	28.4262	33.0353	0.0584		1.2431	1.2431		1.2431	1.2431	0.0000	5,880.0441	5,880.0441	1.8305		5,925.8075
Total	**1.4297**	**28.4262**	**33.0353**	**0.0584**	**1.3464**	**1.2431**	**2.5896**	**0.2039**	**1.2431**	**1.4470**	**0.0000**	**5,880.0441**	**5,880.0441**	**1.8305**		**5,925.8075**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0485	2.1838	0.3074	3.3200e-003	0.0370	3.5400e-003	0.0406	0.0102	3.3900e-003	0.0136		357.6142	357.6142	0.0436		358.7029
Vendor	0.0255	0.7271	0.1811	1.5700e-003	0.0384	5.3100e-003	0.0437	0.0111	5.0800e-003	0.0161		167.1948	167.1948	0.0114		167.4793
Worker	0.0701	0.0502	0.6523	1.5900e-003	0.1453	1.1600e-003	0.1465	0.0385	1.0700e-003	0.0396		158.5157	158.5157	5.4100e-003		158.6508
Total	**0.1440**	**2.9612**	**1.1408**	**6.4800e-003**	**0.2207**	**0.0100**	**0.2307**	**0.0598**	**9.5400e-003**	**0.0693**		**683.3247**	**683.3247**	**0.0603**		**684.8330**

3.8 Phase 1 Foundation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.2645	43.2785	31.2071	0.0617		2.3317	2.3317		2.2170	2.2170		6,082.5560	6,082.5560	1.4164		6,117.9666
Total	**4.2645**	**43.2785**	**31.2071**	**0.0617**		**2.3317**	**2.3317**		**2.2170**	**2.2170**		**6,082.5560**	**6,082.5560**	**1.4164**		**6,117.9666**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0808	0.0580	0.7526	1.8400e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2300e-003	0.0457		182.9028	182.9028	6.2400e-003		183.0587
Total	**0.0808**	**0.0580**	**0.7526**	**1.8400e-003**	**0.1677**	**1.3400e-003**	**0.1690**	**0.0445**	**1.2300e-003**	**0.0457**		**182.9028**	**182.9028**	**6.2400e-003**		**183.0587**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	1.4224	30.3422	38.2625	0.0617		1.7468	1.7468		1.7468	1.7468	0.0000	6,082.5560	6,082.5560	1.4164		6,117.9666
Total	**1.4224**	**30.3422**	**38.2625**	**0.0617**		**1.7468**	**1.7468**		**1.7468**	**1.7468**	**0.0000**	**6,082.5560**	**6,082.5560**	**1.4164**		**6,117.9666**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0808	0.0580	0.7526	1.8400e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2300e-003	0.0457		182.9028	182.9028	6.2400e-003		183.0587
Total	**0.0808**	**0.0580**	**0.7526**	**1.8400e-003**	**0.1677**	**1.3400e-003**	**0.1690**	**0.0445**	**1.2300e-003**	**0.0457**		**182.9028**	**182.9028**	**6.2400e-003**		**183.0587**

3.9 Phase 3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.8365	0.0000	9.8365	5.3846	0.0000	5.3846			0.0000			0.0000
Off-Road	4.0741	45.5695	23.1404	0.0432		2.2182	2.2182		2.0407	2.0407		4,347.2742	4,347.2742	1.3534		4,381.1083
Total	**4.0741**	**45.5695**	**23.1404**	**0.0432**	**9.8365**	**2.2182**	**12.0546**	**5.3846**	**2.0407**	**7.4253**		**4,347.2742**	**4,347.2742**	**1.3534**		**4,381.1083**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1477	6.6581	0.9372	0.0101	0.2862	0.0108	0.2970	0.0736	0.0103	0.0839		1,090.2912	1,090.2912	0.1328		1,093.6105
Vendor	0.0255	0.7271	0.1811	1.5700e-003	0.0384	5.3100e-003	0.0437	0.0111	5.0800e-003	0.0161		167.1948	167.1948	0.0114		167.4793
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391
Total	**0.2272**	**7.4238**	**1.6200**	**0.0129**	**0.4363**	**0.0170**	**0.4533**	**0.1143**	**0.0162**	**0.1305**		**1,379.4212**	**1,379.4212**	**0.1483**		**1,383.1289**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.8362	0.0000	3.8362	2.1000	0.0000	2.1000			0.0000			0.0000
Off-Road	1.0568	21.2962	27.0539	0.0432		1.0303	1.0303		1.0303	1.0303	0.0000	4,347.2742	4,347.2742	1.3534		4,381.1083
Total	**1.0568**	**21.2962**	**27.0539**	**0.0432**	**3.8362**	**1.0303**	**4.8665**	**2.1000**	**1.0303**	**3.1303**	**0.0000**	**4,347.2742**	**4,347.2742**	**1.3534**		**4,381.1083**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.1477	6.6581	0.9372	0.0101	0.2862	0.0108	0.2970	0.0736	0.0103	0.0839		1,090.2912	1,090.2912	0.1328		1,093.6105
Vendor	0.0255	0.7271	0.1811	1.5700e-003	0.0384	5.3100e-003	0.0437	0.0111	5.0800e-003	0.0161		167.1948	167.1948	0.0114		167.4793
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391
Total	**0.2272**	**7.4238**	**1.6200**	**0.0129**	**0.4363**	**0.0170**	**0.4533**	**0.1143**	**0.0162**	**0.1305**		**1,379.4212**	**1,379.4212**	**0.1483**		**1,383.1289**

3.9 Phase 3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Fugitive Dust					9.8365	0.0000	9.8365	5.3846	0.0000	5.3846			0.0000			0.0000
Off-Road	3.8149	42.2673	22.7349	0.0431		2.0171	2.0171		1.8558	1.8558		4,272.5555	4,272.5555	1.3518		4,306.3503
Total	**3.8149**	**42.2673**	**22.7349**	**0.0431**	**9.8365**	**2.0171**	**11.8536**	**5.3846**	**1.8558**	**7.2404**		**4,272.5555**	**4,272.5555**	**1.3518**		**4,306.3503**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.1385	6.4106	0.8923	0.0100	0.1542	9.7300e-003	0.1640	0.0412	9.3100e-003	0.0505		1,082.0124	1,082.0124	0.1280		1,085.2119
Vendor	0.0231	0.6865	0.1660	1.5600e-003	0.0384	4.5500e-003	0.0430	0.0111	4.3500e-003	0.0154		165.7318	165.7318	0.0110		166.0060
Worker	0.0490	0.0341	0.4493	1.1900e-003	0.1118	8.7000e-004	0.1127	0.0296	8.0000e-004	0.0305		118.0989	118.0989	3.6900e-003		118.1912

Total	**0.2106**	**7.1312**	**1.5076**	**0.0128**	**0.3044**	**0.0152**	**0.3196**	**0.0819**	**0.0145**	**0.0963**		**1,365.8432**	**1,365.8432**	**0.1426**		**1,369.4091**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.8362	0.0000	3.8362	2.1000	0.0000	2.1000			0.0000			0.0000
Off-Road	1.0568	21.2962	27.0539	0.0431		1.0303	1.0303		1.0303	1.0303	0.0000	4,272.5555	4,272.5555	1.3518		4,306.3503
Total	**1.0568**	**21.2962**	**27.0539**	**0.0431**	**3.8362**	**1.0303**	**4.8665**	**2.1000**	**1.0303**	**3.1303**	**0.0000**	**4,272.5555**	**4,272.5555**	**1.3518**		**4,306.3503**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1385	6.4106	0.8923	0.0100	0.1542	9.7300e-003	0.1640	0.0412	9.3100e-003	0.0505		1,082.0124	1,082.0124	0.1280		1,085.2119
Vendor	0.0231	0.6865	0.1660	1.5600e-003	0.0384	4.5500e-003	0.0430	0.0111	4.3500e-003	0.0154		165.7318	165.7318	0.0110		166.0060
Worker	0.0490	0.0341	0.4493	1.1900e-003	0.1118	8.7000e-004	0.1127	0.0296	8.0000e-004	0.0305		118.0989	118.0989	3.6900e-003		118.1912
Total	**0.2106**	**7.1312**	**1.5076**	**0.0128**	**0.3044**	**0.0152**	**0.3196**	**0.0819**	**0.0145**	**0.0963**		**1,365.8432**	**1,365.8432**	**0.1426**		**1,369.4091**

3.10 Phase 1 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6216	35.8516	25.9337	0.0417		2.1540	2.1540		2.0176	2.0176		4,138.4926	4,138.4926	1.0498		4,164.7374
Total	**3.6216**	**35.8516**	**25.9337**	**0.0417**		**2.1540**	**2.1540**		**2.0176**	**2.0176**		**4,138.4926**	**4,138.4926**	**1.0498**		**4,164.7374**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2213	6.3016	1.5693	0.0136	0.3328	0.0460	0.3789	0.0958	0.0441	0.1399		1,449.0218	1,449.0218	0.0986		1,451.4873
Worker	1.3471	0.9658	12.5439	0.0306	2.7944	0.0223	2.8167	0.7411	0.0205	0.7616		3,048.3792	3,048.3792	0.1039		3,050.9777
Total	**1.5683**	**7.2674**	**14.1133**	**0.0442**	**3.1272**	**0.0683**	**3.1956**	**0.8369**	**0.0646**	**0.9015**		**4,497.4009**	**4,497.4009**	**0.2026**		**4,502.4650**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	0.9769	20.9277	28.0094	0.0417		1.2544	1.2544		1.2544	1.2544	0.0000	4,138.4926	4,138.4926	1.0498		4,164.7374
Total	**0.9769**	**20.9277**	**28.0094**	**0.0417**		**1.2544**	**1.2544**		**1.2544**	**1.2544**	**0.0000**	**4,138.4926**	**4,138.4926**	**1.0498**		**4,164.7374**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2213	6.3016	1.5693	0.0136	0.3328	0.0460	0.3789	0.0958	0.0441	0.1399		1,449.0218	1,449.0218	0.0986		1,451.4873
Worker	1.3471	0.9658	12.5439	0.0306	2.7944	0.0223	2.8167	0.7411	0.0205	0.7616		3,048.3792	3,048.3792	0.1039		3,050.9777
Total	**1.5683**	**7.2674**	**14.1133**	**0.0442**	**3.1272**	**0.0683**	**3.1956**	**0.8369**	**0.0646**	**0.9015**		**4,497.4009**	**4,497.4009**	**0.2026**		**4,502.4650**

3.10 Phase 1 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.2058	31.8966	25.3361	0.0417		1.8490	1.8490		1.7320	1.7320		4,087.3446	4,087.3446	1.0406		4,113.3588
Total	**3.2058**	**31.8966**	**25.3361**	**0.0417**		**1.8490**	**1.8490**		**1.7320**	**1.7320**		**4,087.3446**	**4,087.3446**	**1.0406**		**4,113.3588**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2005	5.9500	1.4384	0.0135	0.3328	0.0394	0.3722	0.0958	0.0377	0.1335		1,436.3425	1,436.3425	0.0950		1,438.7184
Worker	1.2244	0.8520	11.2334	0.0297	2.7944	0.0218	2.8162	0.7411	0.0200	0.7611		2,952.4726	2,952.4726	0.0923		2,954.7810
Total	**1.4248**	**6.8021**	**12.6718**	**0.0431**	**3.1272**	**0.0612**	**3.1884**	**0.8369**	**0.0577**	**0.8947**		**4,388.8150**	**4,388.8150**	**0.1874**		**4,393.4994**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9769	20.9277	28.0094	0.0417		1.2544	1.2544		1.2544	1.2544	0.0000	4,087.3446	4,087.3446	1.0406		4,113.3588
Total	**0.9769**	**20.9277**	**28.0094**	**0.0417**		**1.2544**	**1.2544**		**1.2544**	**1.2544**	**0.0000**	**4,087.3446**	**4,087.3446**	**1.0406**		**4,113.3588**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2005	5.9500	1.4384	0.0135	0.3328	0.0394	0.3722	0.0958	0.0377	0.1335		1,436.3425	1,436.3425	0.0950		1,438.7184
Worker	1.2244	0.8520	11.2334	0.0297	2.7944	0.0218	2.8162	0.7411	0.0200	0.7611		2,952.4726	2,952.4726	0.0923		2,954.7810
Total	**1.4248**	**6.8021**	**12.6718**	**0.0431**	**3.1272**	**0.0612**	**3.1884**	**0.8369**	**0.0577**	**0.8947**		**4,388.8150**	**4,388.8150**	**0.1874**		**4,393.4994**

3.11 Phase 2 Drainage/Utils - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Off-Road	2.4494	28.7779	22.8371	0.0436		1.3146	1.3146		1.2094	1.2094		4,387.7284	4,387.7284	1.3660		4,421.8774
Total	**2.4494**	**28.7779**	**22.8371**	**0.0436**		**1.3146**	**1.3146**		**1.2094**	**1.2094**		**4,387.7284**	**4,387.7284**	**1.3660**		**4,421.8774**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0255	0.7271	0.1811	1.5700e-003	0.0384	5.3100e-003	0.0437	0.0111	5.0800e-003	0.0161		167.1948	167.1948	0.0114		167.4793
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391

Total	**0.0794**	**0.7657**	**0.6828**	**2.8000e-003**	**0.1502**	**6.2000e-003**	**0.1564**	**0.0407**	**5.9000e-003**	**0.0466**		**289.1300**	**289.1300**	**0.0155**		**289.5184**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0733	21.6648	27.5411	0.0436		1.0546	1.0546		1.0546	1.0546	0.0000	4,387.7284	4,387.7284	1.3660		4,421.8774
Total	**1.0733**	**21.6648**	**27.5411**	**0.0436**		**1.0546**	**1.0546**		**1.0546**	**1.0546**	**0.0000**	**4,387.7284**	**4,387.7284**	**1.3660**		**4,421.8774**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0255	0.7271	0.1811	1.5700e-003	0.0384	5.3100e-003	0.0437	0.0111	5.0800e-003	0.0161		167.1948	167.1948	0.0114		167.4793
Worker	0.0539	0.0386	0.5018	1.2300e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		121.9352	121.9352	4.1600e-003		122.0391
Total	**0.0794**	**0.7657**	**0.6828**	**2.8000e-003**	**0.1502**	**6.2000e-003**	**0.1564**	**0.0407**	**5.9000e-003**	**0.0466**		**289.1300**	**289.1300**	**0.0155**		**289.5184**

3.12 Phase 2 Foundation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9681	32.2212	21.2263	0.0460		1.5800	1.5800		1.4895	1.4895		4,561.8639	4,561.8639	1.1816		4,591.4037
Total	**2.9681**	**32.2212**	**21.2263**	**0.0460**		**1.5800**	**1.5800**		**1.4895**	**1.4895**		**4,561.8639**	**4,561.8639**	**1.1816**		**4,591.4037**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0723	2.0601	0.5131	4.4500e-003	0.1088	0.0151	0.1239	0.0313	0.0144	0.0457		473.7187	473.7187	0.0322		474.5247
Worker	0.0701	0.0502	0.6523	1.5900e-003	0.1453	1.1600e-003	0.1465	0.0385	1.0700e-003	0.0396		158.5157	158.5157	5.4100e-003		158.6508
Total	**0.1424**	**2.1104**	**1.1653**	**6.0400e-003**	**0.2541**	**0.0162**	**0.2703**	**0.0699**	**0.0155**	**0.0853**		**632.2344**	**632.2344**	**0.0377**		**633.1755**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	1.0852	22.6424	27.8650	0.0460		1.2073	1.2073		1.2073	1.2073	0.0000	4,561.8639	4,561.8639	1.1816		4,591.4037
Total	**1.0852**	**22.6424**	**27.8650**	**0.0460**		**1.2073**	**1.2073**		**1.2073**	**1.2073**	**0.0000**	**4,561.8639**	**4,561.8639**	**1.1816**		**4,591.4037**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0723	2.0601	0.5131	4.4500e-003	0.1088	0.0151	0.1239	0.0313	0.0144	0.0457		473.7187	473.7187	0.0322		474.5247
Worker	0.0701	0.0502	0.6523	1.5900e-003	0.1453	1.1600e-003	0.1465	0.0385	1.0700e-003	0.0396		158.5157	158.5157	5.4100e-003		158.6508
Total	**0.1424**	**2.1104**	**1.1653**	**6.0400e-003**	**0.2541**	**0.0162**	**0.2703**	**0.0699**	**0.0155**	**0.0853**		**632.2344**	**632.2344**	**0.0377**		**633.1755**

3.12 Phase 2 Foundation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6471	28.7948	20.7068	0.0459		1.3580	1.3580		1.2803	1.2803		4,501.2702	4,501.2702	1.1715		4,530.5585
Total	**2.6471**	**28.7948**	**20.7068**	**0.0459**		**1.3580**	**1.3580**		**1.2803**	**1.2803**		**4,501.2702**	**4,501.2702**	**1.1715**		**4,530.5585**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0655	1.9452	0.4702	4.4100e-003	0.1088	0.0129	0.1217	0.0313	0.0123	0.0437		469.5735	469.5735	0.0311		470.3503
Worker	0.0637	0.0443	0.5841	1.5400e-003	0.1453	1.1300e-003	0.1464	0.0385	1.0400e-003	0.0396		153.5286	153.5286	4.8000e-003		153.6486
Total	**0.1292**	**1.9895**	**1.0544**	**5.9500e-003**	**0.2541**	**0.0140**	**0.2681**	**0.0699**	**0.0134**	**0.0832**		**623.1021**	**623.1021**	**0.0359**		**623.9989**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0852	22.6424	27.8650	0.0459		1.2073	1.2073		1.2073	1.2073	0.0000	4,501.2702	4,501.2702	1.1715		4,530.5585
Total	**1.0852**	**22.6424**	**27.8650**	**0.0459**		**1.2073**	**1.2073**		**1.2073**	**1.2073**	**0.0000**	**4,501.2702**	**4,501.2702**	**1.1715**		**4,530.5585**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0655	1.9452	0.4702	4.4100e-003	0.1088	0.0129	0.1217	0.0313	0.0123	0.0437		469.5735	469.5735	0.0311		470.3503
Worker	0.0637	0.0443	0.5841	1.5400e-003	0.1453	1.1300e-003	0.1464	0.0385	1.0400e-003	0.0396		153.5286	153.5286	4.8000e-003		153.6486
Total	**0.1292**	**1.9895**	**1.0544**	**5.9500e-003**	**0.2541**	**0.0140**	**0.2681**	**0.0699**	**0.0134**	**0.0832**		**623.1021**	**623.1021**	**0.0359**		**623.9989**

3.13 Phase 2 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Off-Road	4.0688	33.4178	27.0144	0.0434		1.9714	1.9714		1.8690	1.8690		4,106.2534	4,106.2534	0.9424		4,129.8125
Total	**4.0688**	**33.4178**	**27.0144**	**0.0434**		**1.9714**	**1.9714**		**1.8690**	**1.8690**		**4,106.2534**	**4,106.2534**	**0.9424**		**4,129.8125**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4897	0.3408	4.4934	0.0119	1.1178	8.7000e-003	1.1265	0.2964	8.0100e-003	0.3045		1,180.9890	1,180.9890	0.0369		1,181.9124

Total	**0.4897**	**0.3408**	**4.4934**	**0.0119**	**1.1178**	**8.7000e-003**	**1.1265**	**0.2964**	**8.0100e-003**	**0.3045**		**1,180.9890**	**1,180.9890**	**0.0369**		**1,181.9124**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0653	23.0469	28.8436	0.0434		1.4258	1.4258		1.4258	1.4258	0.0000	4,106.2533	4,106.2533	0.9424		4,129.8125
Total	**2.0653**	**23.0469**	**28.8436**	**0.0434**		**1.4258**	**1.4258**		**1.4258**	**1.4258**	**0.0000**	**4,106.2533**	**4,106.2533**	**0.9424**		**4,129.8125**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4897	0.3408	4.4934	0.0119	1.1178	8.7000e-003	1.1265	0.2964	8.0100e-003	0.3045		1,180.9890	1,180.9890	0.0369		1,181.9124
Total	**0.4897**	**0.3408**	**4.4934**	**0.0119**	**1.1178**	**8.7000e-003**	**1.1265**	**0.2964**	**8.0100e-003**	**0.3045**		**1,180.9890**	**1,180.9890**	**0.0369**		**1,181.9124**

3.14 Phase 3 Drainage/Utils - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9278	33.7604	30.2888	0.0543		1.5814	1.5814		1.4549	1.4549		5,372.5633	5,372.5633	1.6998		5,415.0588
Total	**2.9278**	**33.7604**	**30.2888**	**0.0543**		**1.5814**	**1.5814**		**1.4549**	**1.4549**		**5,372.5633**	**5,372.5633**	**1.6998**		**5,415.0588**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0231	0.6865	0.1660	1.5600e-003	0.0384	4.5500e-003	0.0430	0.0111	4.3500e-003	0.0154		165.7318	165.7318	0.0110		166.0060
Worker	0.0735	0.0511	0.6740	1.7800e-003	0.1677	1.3000e-003	0.1690	0.0445	1.2000e-003	0.0457		177.1484	177.1484	5.5400e-003		177.2869
Total	**0.0966**	**0.7377**	**0.8400**	**3.3400e-003**	**0.2061**	**5.8500e-003**	**0.2119**	**0.0555**	**5.5500e-003**	**0.0611**		**342.8802**	**342.8802**	**0.0165**		**343.2928**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	1.3344	27.6244	35.5887	0.0543		1.4722	1.4722		1.4722	1.4722	0.0000	5,372.5633	5,372.5633	1.6998		5,415.0588
Total	**1.3344**	**27.6244**	**35.5887**	**0.0543**		**1.4722**	**1.4722**		**1.4722**	**1.4722**	**0.0000**	**5,372.5633**	**5,372.5633**	**1.6998**		**5,415.0588**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0231	0.6865	0.1660	1.5600e-003	0.0384	4.5500e-003	0.0430	0.0111	4.3500e-003	0.0154		165.7318	165.7318	0.0110		166.0060
Worker	0.0735	0.0511	0.6740	1.7800e-003	0.1677	1.3000e-003	0.1690	0.0445	1.2000e-003	0.0457		177.1484	177.1484	5.5400e-003		177.2869
Total	**0.0966**	**0.7377**	**0.8400**	**3.3400e-003**	**0.2061**	**5.8500e-003**	**0.2119**	**0.0555**	**5.5500e-003**	**0.0611**		**342.8802**	**342.8802**	**0.0165**		**343.2928**

3.15 Phase 3 Foundation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.7897	38.8229	30.5931	0.0617		1.9982	1.9982		1.9002	1.9002		6,013.4569	6,013.4569	1.3973		6,048.3905
Total	**3.7897**	**38.8229**	**30.5931**	**0.0617**		**1.9982**	**1.9982**		**1.9002**	**1.9002**		**6,013.4569**	**6,013.4569**	**1.3973**		**6,048.3905**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3354	9.9549	2.4065	0.0226	0.5568	0.0659	0.6228	0.1603	0.0631	0.2234		2,403.1114	2,403.1114	0.1590		2,407.0866
Worker	0.0735	0.0511	0.6740	1.7800e-003	0.1677	1.3000e-003	0.1690	0.0445	1.2000e-003	0.0457		177.1484	177.1484	5.5400e-003		177.2869
Total	**0.4089**	**10.0060**	**3.0805**	**0.0243**	**0.7245**	**0.0672**	**0.7917**	**0.2048**	**0.0643**	**0.2691**		**2,580.2598**	**2,580.2598**	**0.1646**		**2,584.3734**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4224	30.3422	38.2625	0.0617		1.7468	1.7468		1.7468	1.7468	0.0000	6,013.4569	6,013.4569	1.3973		6,048.3905
Total	**1.4224**	**30.3422**	**38.2625**	**0.0617**		**1.7468**	**1.7468**		**1.7468**	**1.7468**	**0.0000**	**6,013.4569**	**6,013.4569**	**1.3973**		**6,048.3905**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3354	9.9549	2.4065	0.0226	0.5568	0.0659	0.6228	0.1603	0.0631	0.2234		2,403.1114	2,403.1114	0.1590		2,407.0866
Worker	0.0735	0.0511	0.6740	1.7800e-003	0.1677	1.3000e-003	0.1690	0.0445	1.2000e-003	0.0457		177.1484	177.1484	5.5400e-003		177.2869
Total	**0.4089**	**10.0060**	**3.0805**	**0.0243**	**0.7245**	**0.0672**	**0.7917**	**0.2048**	**0.0643**	**0.2691**		**2,580.2598**	**2,580.2598**	**0.1646**		**2,584.3734**

3.16 Phase 1 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Off-Road	1.1817	12.3858	11.9152	0.0185		0.6700	0.6700		0.6164	0.6164		1,833.8145	1,833.8145	0.5802		1,848.3195
Paving	0.5262					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7079**	**12.3858**	**11.9152**	**0.0185**		**0.6700**	**0.6700**		**0.6164**	**0.6164**		**1,833.8145**	**1,833.8145**	**0.5802**		**1,848.3195**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0392	0.0273	0.3595	9.5000e-004	0.0894	7.0000e-004	0.0901	0.0237	6.4000e-004	0.0244		94.4791	94.4791	2.9500e-003		94.5530

Total	**0.0392**	**0.0273**	**0.3595**	**9.5000e-004**	**0.0894**	**7.0000e-004**	**0.0901**	**0.0237**	**6.4000e-004**	**0.0244**		**94.4791**	**94.4791**	**2.9500e-003**		**94.5530**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4558	9.1774	14.0527	0.0185		0.4951	0.4951		0.4951	0.4951	0.0000	1,833.8145	1,833.8145	0.5802		1,848.3195
Paving	0.5262					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9819**	**9.1774**	**14.0527**	**0.0185**		**0.4951**	**0.4951**		**0.4951**	**0.4951**	**0.0000**	**1,833.8145**	**1,833.8145**	**0.5802**		**1,848.3195**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0392	0.0273	0.3595	9.5000e-004	0.0894	7.0000e-004	0.0901	0.0237	6.4000e-004	0.0244		94.4791	94.4791	2.9500e-003		94.5530
Total	**0.0392**	**0.0273**	**0.3595**	**9.5000e-004**	**0.0894**	**7.0000e-004**	**0.0901**	**0.0237**	**6.4000e-004**	**0.0244**		**94.4791**	**94.4791**	**2.9500e-003**		**94.5530**

3.17 Phase 2 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.4202					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.2870	10.1660	11.5306	0.0183		0.6123	0.6123		0.6080	0.6080		1,759.8675	1,759.8675	0.2739		1,766.7161
Total	**6.7071**	**10.1660**	**11.5306**	**0.0183**		**0.6123**	**0.6123**		**0.6080**	**0.6080**		**1,759.8675**	**1,759.8675**	**0.2739**		**1,766.7161**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3673	0.2556	3.3700	8.9000e-003	0.8383	6.5200e-003	0.8449	0.2223	6.0100e-003	0.2283		885.7418	885.7418	0.0277		886.4343
Total	**0.3673**	**0.2556**	**3.3700**	**8.9000e-003**	**0.8383**	**6.5200e-003**	**0.8449**	**0.2223**	**6.0100e-003**	**0.2283**		**885.7418**	**885.7418**	**0.0277**		**886.4343**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Archit. Coating	5.4202					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3919	8.9476	12.0825	0.0183		0.6270	0.6270		0.6270	0.6270	0.0000	1,759.8675	1,759.8675	0.2739		1,766.7161
Total	**5.8121**	**8.9476**	**12.0825**	**0.0183**		**0.6270**	**0.6270**		**0.6270**	**0.6270**	**0.0000**	**1,759.8675**	**1,759.8675**	**0.2739**		**1,766.7161**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3673	0.2556	3.3700	8.9000e-003	0.8383	6.5200e-003	0.8449	0.2223	6.0100e-003	0.2283		885.7418	885.7418	0.0277		886.4343
Total	**0.3673**	**0.2556**	**3.3700**	**8.9000e-003**	**0.8383**	**6.5200e-003**	**0.8449**	**0.2223**	**6.0100e-003**	**0.2283**		**885.7418**	**885.7418**	**0.0277**		**886.4343**

3.18 Phase 1 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.1977					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.2870	10.1660	11.5306	0.0183		0.6123	0.6123		0.6080	0.6080		1,759.8675	1,759.8675	0.2739		1,766.7161
Total	**19.4847**	**10.1660**	**11.5306**	**0.0183**		**0.6123**	**0.6123**		**0.6080**	**0.6080**		**1,759.8675**	**1,759.8675**	**0.2739**		**1,766.7161**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.7738	0.5385	7.0995	0.0187	1.7661	0.0138	1.7798	0.4684	0.0127	0.4810		1,865.9627	1,865.9627	0.0584		1,867.4216
Total	**0.7738**	**0.5385**	**7.0995**	**0.0187**	**1.7661**	**0.0138**	**1.7798**	**0.4684**	**0.0127**	**0.4810**		**1,865.9627**	**1,865.9627**	**0.0584**		**1,867.4216**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.1977					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3919	8.9476	12.0825	0.0183		0.6270	0.6270		0.6270	0.6270	0.0000	1,759.8675	1,759.8675	0.2739		1,766.7161
Total	**18.5896**	**8.9476**	**12.0825**	**0.0183**		**0.6270**	**0.6270**		**0.6270**	**0.6270**	**0.0000**	**1,759.8675**	**1,759.8675**	**0.2739**		**1,766.7161**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.7738	0.5385	7.0995	0.0187	1.7661	0.0138	1.7798	0.4684	0.0127	0.4810		1,865.9627	1,865.9627	0.0584		1,867.4216
Total	**0.7738**	**0.5385**	**7.0995**	**0.0187**	**1.7661**	**0.0138**	**1.7798**	**0.4684**	**0.0127**	**0.4810**		**1,865.9627**	**1,865.9627**	**0.0584**		**1,867.4216**

3.19 Phase 3 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Off-Road	7.5282	63.5015	50.9141	0.0871		3.6968	3.6968		3.5612	3.5612		8,278.9411	8,278.9411	1.4709		8,315.7133
Total	**7.5282**	**63.5015**	**50.9141**	**0.0871**		**3.6968**	**3.6968**		**3.5612**	**3.5612**		**8,278.9411**	**8,278.9411**	**1.4709**		**8,315.7133**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.2244	0.8520	11.2334	0.0297	2.7944	0.0218	2.8162	0.7411	0.0200	0.7611		2,952.4726	2,952.4726	0.0923		2,954.7810

Total	**1.2244**	**0.8520**	**11.2334**	**0.0297**	**2.7944**	**0.0218**	**2.8162**	**0.7411**	**0.0200**	**0.7611**		**2,952.4726**	**2,952.4726**	**0.0923**		**2,954.7810**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9808	43.1440	54.9591	0.0871		2.6909	2.6909		2.6909	2.6909	0.0000	8,278.9411	8,278.9411	1.4709		8,315.7133
Total	**2.9808**	**43.1440**	**54.9591**	**0.0871**		**2.6909**	**2.6909**		**2.6909**	**2.6909**	**0.0000**	**8,278.9411**	**8,278.9411**	**1.4709**		**8,315.7133**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.2244	0.8520	11.2334	0.0297	2.7944	0.0218	2.8162	0.7411	0.0200	0.7611		2,952.4726	2,952.4726	0.0923		2,954.7810
Total	**1.2244**	**0.8520**	**11.2334**	**0.0297**	**2.7944**	**0.0218**	**2.8162**	**0.7411**	**0.0200**	**0.7611**		**2,952.4726**	**2,952.4726**	**0.0923**		**2,954.7810**

3.19 Phase 3 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.7683	58.0247	49.9559	0.0871		3.2068	3.2068		3.0892	3.0892		8,205.8685	8,205.8685	1.4278		8,241.5629
Total	**6.7683**	**58.0247**	**49.9559**	**0.0871**		**3.2068**	**3.2068**		**3.0892**	**3.0892**		**8,205.8685**	**8,205.8685**	**1.4278**		**8,241.5629**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.1311	0.7603	10.2205	0.0287	2.7944	0.0212	2.8156	0.7411	0.0195	0.7606		2,861.0436	2,861.0436	0.0823		2,863.1001
Total	**1.1311**	**0.7603**	**10.2205**	**0.0287**	**2.7944**	**0.0212**	**2.8156**	**0.7411**	**0.0195**	**0.7606**		**2,861.0436**	**2,861.0436**	**0.0823**		**2,863.1001**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	2.8407	42.9720	54.8285	0.0871		2.6494	2.6494		2.6494	2.6494	0.0000	8,205.8685	8,205.8685	1.4278		8,241.5629
Total	**2.8407**	**42.9720**	**54.8285**	**0.0871**		**2.6494**	**2.6494**		**2.6494**	**2.6494**	**0.0000**	**8,205.8685**	**8,205.8685**	**1.4278**		**8,241.5629**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.1311	0.7603	10.2205	0.0287	2.7944	0.0212	2.8156	0.7411	0.0195	0.7606		2,861.0436	2,861.0436	0.0823		2,863.1001
Total	**1.1311**	**0.7603**	**10.2205**	**0.0287**	**2.7944**	**0.0212**	**2.8156**	**0.7411**	**0.0195**	**0.7606**		**2,861.0436**	**2,861.0436**	**0.0823**		**2,863.1001**

3.20 Phase 3 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	35.1194					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.1781	9.3885	11.4925	0.0183		0.5273	0.5273		0.5235	0.5235		1,748.1227	1,748.1227	0.2654		1,754.7567
Total	**36.2974**	**9.3885**	**11.4925**	**0.0183**		**0.5273**	**0.5273**		**0.5235**	**0.5235**		**1,748.1227**	**1,748.1227**	**0.2654**		**1,754.7567**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3393	0.2281	3.0661	8.6200e-003	0.8383	6.3600e-003	0.8447	0.2223	5.8600e-003	0.2282		858.3131	858.3131	0.0247		858.9300
Total	**0.3393**	**0.2281**	**3.0661**	**8.6200e-003**	**0.8383**	**6.3600e-003**	**0.8447**	**0.2223**	**5.8600e-003**	**0.2282**		**858.3131**	**858.3131**	**0.0247**		**858.9300**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	35.1194					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3919	8.9476	12.0825	0.0183		0.6270	0.6270		0.6270	0.6270	0.0000	1,748.1227	1,748.1227	0.2654		1,754.7567
Total	**35.5112**	**8.9476**	**12.0825**	**0.0183**		**0.6270**	**0.6270**		**0.6270**	**0.6270**	**0.0000**	**1,748.1227**	**1,748.1227**	**0.2654**		**1,754.7567**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3393	0.2281	3.0661	8.6200e-003	0.8383	6.3600e-003	0.8447	0.2223	5.8600e-003	0.2282		858.3131	858.3131	0.0247		858.9300
Total	**0.3393**	**0.2281**	**3.0661**	**8.6200e-003**	**0.8383**	**6.3600e-003**	**0.8447**	**0.2223**	**5.8600e-003**	**0.2282**		**858.3131**	**858.3131**	**0.0247**		**858.9300**

3.21 Phase 3 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Off-Road	1.1022	11.4283	11.9048	0.0185		0.6116	0.6116		0.5627	0.5627		1,793.7834	1,793.7834	0.5802		1,808.2871
Paving	0.1579					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2601**	**11.4283**	**11.9048**	**0.0185**		**0.6116**	**0.6116**		**0.5627**	**0.5627**		**1,793.7834**	**1,793.7834**	**0.5802**		**1,808.2871**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0362	0.0243	0.3271	9.2000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		91.5534	91.5534	2.6300e-003		91.6192

Total	**0.0362**	**0.0243**	**0.3271**	**9.2000e-004**	**0.0894**	**6.8000e-004**	**0.0901**	**0.0237**	**6.2000e-004**	**0.0243**		**91.5534**	**91.5534**	**2.6300e-003**		**91.6192**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4558	9.1774	14.0527	0.0185		0.4951	0.4951		0.4951	0.4951	0.0000	1,793.7834	1,793.7834	0.5802		1,808.2871
Paving	0.1579					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6136**	**9.1774**	**14.0527**	**0.0185**		**0.4951**	**0.4951**		**0.4951**	**0.4951**	**0.0000**	**1,793.7834**	**1,793.7834**	**0.5802**		**1,808.2871**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0362	0.0243	0.3271	9.2000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		91.5534	91.5534	2.6300e-003		91.6192
Total	**0.0362**	**0.0243**	**0.3271**	**9.2000e-004**	**0.0894**	**6.8000e-004**	**0.0901**	**0.0237**	**6.2000e-004**	**0.0243**		**91.5534**	**91.5534**	**2.6300e-003**		**91.6192**

3.22 Phase 3 Landscaping - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0132	9.3111	8.8519	0.0117		0.6772	0.6772		0.6230	0.6230		1,129.3356	1,129.3356	0.3653		1,138.4668
Total	**1.0132**	**9.3111**	**8.8519**	**0.0117**		**0.6772**	**0.6772**		**0.6230**	**0.6230**		**1,129.3356**	**1,129.3356**	**0.3653**		**1,138.4668**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0452	0.0304	0.4088	1.1500e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304		114.4418	114.4418	3.2900e-003		114.5240
Total	**0.0452**	**0.0304**	**0.4088**	**1.1500e-003**	**0.1118**	**8.5000e-004**	**0.1126**	**0.0296**	**7.8000e-004**	**0.0304**		**114.4418**	**114.4418**	**3.2900e-003**		**114.5240**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	0.2859	6.5281	8.8153	0.0117		0.4574	0.4574		0.4574	0.4574	0.0000	1,129.3356	1,129.3356	0.3653		1,138.4668
Total	**0.2859**	**6.5281**	**8.8153**	**0.0117**		**0.4574**	**0.4574**		**0.4574**	**0.4574**	**0.0000**	**1,129.3356**	**1,129.3356**	**0.3653**		**1,138.4668**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0452	0.0304	0.4088	1.1500e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304		114.4418	114.4418	3.2900e-003		114.5240
Total	**0.0452**	**0.0304**	**0.4088**	**1.1500e-003**	**0.1118**	**8.5000e-004**	**0.1126**	**0.0296**	**7.8000e-004**	**0.0304**		**114.4418**	**114.4418**	**3.2900e-003**		**114.5240**

San Manuel Casino Expansion and Hotel - South Coast AQMD Air District, Winter

San Manuel Casino Expansion and Hotel

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	16.50	1000sqft	0.40	16,500.00	0
Other Asphalt Surfaces	104.90	1000sqft	2.41	104,898.00	0
Unenclosed Parking with Elevator	2,200.00	Space	2.86	880,000.00	0
Arena	55.00	1000sqft	1.78	55,000.00	0
Arena	58.00	1000sqft	1.11	58,000.00	0
City Park	1.39	Acre	1.39	60,617.00	0
Hotel	500.00	Room	0.99	682,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Specific Information

Construction Phase - Project Specific Information

Off-road Equipment - Project Specific Information
Off-road Equipment - Project Specific Information
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Off-road Equipment - Project Specific Information
Off-road Equipment - Project Specific Information
Trips and VMT - Project Specific Information
Demolition - Project Specific Information
Grading - Project Specific Information
Architectural Coating - Project Specific Information
Construction Off-road Equipment Mitigation - Project Specific Information

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	405,750.00	390,500.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	405,750.00	29,000.00

tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	405,750.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,217,250.00	1,171,500.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,217,250.00	87,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,217,250.00	0.00
tblArchitecturalCoating	ConstArea_Parking	59,094.00	7,007.00
tblArchitecturalCoating	ConstArea_Parking	59,094.00	2,809.00
tblArchitecturalCoating	ConstArea_Parking	59,094.00	51,040.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblAreaCoating	Area_Nonresidential_Exterior	405750	419500
tblAreaCoating	Area_Nonresidential_Interior	1217250	1258500
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	25.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstructionPhase	NumDays	300.00	32.00
tblConstructionPhase	NumDays	300.00	103.00
tblConstructionPhase	NumDays	300.00	78.00
tblConstructionPhase	NumDays	300.00	212.00
tblConstructionPhase	NumDays	300.00	28.00

tblConstructionPhase	NumDays	300.00	25.00
tblConstructionPhase	NumDays	300.00	157.00
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	20.00	36.00
tblConstructionPhase	NumDays	30.00	132.00
tblConstructionPhase	NumDays	30.00	129.00
tblConstructionPhase	NumDays	30.00	131.00
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tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00
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tblConstructionPhase	NumDaysWeek	5.00	6.00
tblConstructionPhase	NumDaysWeek	5.00	6.00

tblConstructionPhase	NumDaysWeek	5.00	6.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	2.0370e-003	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblGrading	AcresOfGrading	107.25	3.50
tblGrading	AcresOfGrading	104.81	1.20
tblGrading	AcresOfGrading	106.44	6.25
tblLandUse	LandUseSquareFeet	104,900.00	104,898.00
tblLandUse	LandUseSquareFeet	60,548.40	60,617.00
tblLandUse	LandUseSquareFeet	726,000.00	682,000.00
tblLandUse	LotAcreage	0.38	0.40
tblLandUse	LotAcreage	19.80	2.86
tblLandUse	LotAcreage	17.68	1.78
tblLandUse	LotAcreage	18.64	1.11
tblLandUse	LotAcreage	16.67	0.99
tblOffRoadEquipment	HorsePower	78.00	367.00
tblOffRoadEquipment	HorsePower	78.00	367.00
tblOffRoadEquipment	HorsePower	78.00	367.00
tblOffRoadEquipment	LoadFactor	0.50	0.48
tblOffRoadEquipment	LoadFactor	0.50	0.48

tblOffRoadEquipment	LoadFactor	0.50	0.48
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	13.00
tblOffRoadEquipment	UsageHours	6.00	13.00
tblOffRoadEquipment	UsageHours	6.00	13.00
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tblOffRoadEquipment	UsageHours	7.00	13.00
tblOffRoadEquipment	UsageHours	7.00	13.00
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tblOffRoadEquipment	UsageHours	8.00	13.00
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tblOffRoadEquipment	UsageHours	8.00	13.00
tblOffRoadEquipment	UsageHours	8.00	13.00
tblOffRoadEquipment	UsageHours	8.00	13.00
tblSolidWaste	SolidWasteGenerationRate	20.46	6.50
tblTripsAndVMT	HaulingTripLength	20.00	2.50
tblTripsAndVMT	HaulingTripLength	20.00	2.50
tblTripsAndVMT	HaulingTripLength	20.00	2.50
tblTripsAndVMT	HaulingTripLength	20.00	2.50
tblTripsAndVMT	HaulingTripLength	20.00	2.50
tblTripsAndVMT	HaulingTripLength	20.00	2.50
tblTripsAndVMT	HaulingTripNumber	291.00	307.00
tblTripsAndVMT	HaulingTripNumber	0.00	6,926.00
tblTripsAndVMT	HaulingTripNumber	117.00	123.00
tblTripsAndVMT	HaulingTripNumber	0.00	2,691.00
tblTripsAndVMT	HaulingTripNumber	574.00	605.00
tblTripsAndVMT	HaulingTripNumber	0.00	6,712.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00

tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	304.00	17.00
tblTripsAndVMT	VendorTripNumber	304.00	0.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	304.00	87.00
tblTripsAndVMT	VendorTripNumber	304.00	0.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	304.00	0.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	304.00	0.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	304.00	52.00
tblTripsAndVMT	WorkerTripNumber	780.00	13.00
tblTripsAndVMT	WorkerTripNumber	780.00	100.00
tblTripsAndVMT	WorkerTripNumber	780.00	15.00
tblTripsAndVMT	WorkerTripNumber	156.00	75.00
tblTripsAndVMT	WorkerTripNumber	156.00	158.00
tblTripsAndVMT	WorkerTripNumber	780.00	250.00
tblTripsAndVMT	WorkerTripNumber	156.00	75.00
tblTripsAndVMT	WorkerTripNumber	13.00	10.00
tblTripsAndVMT	WorkerTripNumber	780.00	10.00
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tblTripsAndVMT	WorkerTripNumber	10.00	8.00
tblTripsAndVMT	WorkerTripNumber	780.00	15.00
tblTripsAndVMT	WorkerTripNumber	13.00	10.00
tblTripsAndVMT	WorkerTripNumber	780.00	250.00
tblWater	IndoorWaterUseRate	3,815,625.00	1,211,750.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	14.2735	153.9115	87.5121	0.1907	23.3696	7.4122	29.7555	11.7633	6.8917	17.6770	0.0000	19,203.9042	19,203.9042	4.8837	0.0000	19,303.6679
2019	31.6543	121.8187	102.0221	0.2223	14.3859	5.9574	20.3103	6.5998	5.6328	12.1385	0.0000	21,968.6445	21,968.6445	3.9469	0.0000	22,063.1254
2020	44.6695	68.4954	73.4112	0.1403	3.6327	3.7616	7.3943	0.9634	3.6382	4.6016	0.0000	13,432.6773	13,432.6773	1.7929	0.0000	13,477.4998
Maximum	**44.6695**	**153.9115**	**102.0221**	**0.2223**	**23.3696**	**7.4122**	**29.7555**	**11.7633**	**6.8917**	**17.6770**	**0.0000**	**21,968.6445**	**21,968.6445**	**4.8837**	**0.0000**	**22,063.1254**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	5.2124	83.6282	99.0339	0.1907	11.3939	3.8456	14.6097	5.1968	3.8445	8.4075	0.0000	19,203.9042	19,203.9042	4.8837	0.0000	19,303.6679
2019	27.4968	91.5953	114.1940	0.2223	8.3856	4.5658	12.1829	3.3152	4.5587	7.1076	0.0000	21,968.6445	21,968.6445	3.9469	0.0000	22,063.1254
2020	39.9557	53.0018	78.8739	0.1403	3.6327	3.3039	6.9367	0.9634	3.3018	4.2652	0.0000	13,432.6773	13,432.6773	1.7929	0.0000	13,477.4998
Maximum	**39.9557**	**91.5953**	**114.1940**	**0.2223**	**11.3939**	**4.5658**	**14.6097**	**5.1968**	**4.5587**	**8.4075**	**0.0000**	**21,968.6445**	**21,968.6445**	**4.8837**	**0.0000**	**22,063.1254**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e

Percent Reduction	**19.79**	**33.70**	**-11.09**	**0.00**	**43.43**	**31.61**	**41.30**	**50.97**	**27.58**	**42.53**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 1 Demo	Demolition	4/1/2018	4/21/2018	6	18	11
2	Phase 1 Grading	Grading	4/23/2018	9/23/2018	6	132	12
3	Phase 2 Demo	Demolition	7/2/2018	7/15/2018	6	12	18
4	Phase 2 Grading	Grading	7/16/2018	12/12/2018	6	129	19
5	Phase 1 Drainage/Utils	Trenching	9/24/2018	11/1/2018	6	34	13
6	Phase 3 Demo	Demolition	10/1/2018	11/11/2018	6	36	24
7	Phase 1 Foundation	Building Construction	11/2/2018	11/30/2018	6	25	14
8	Phase 3 Grading	Grading	11/12/2018	4/12/2019	6	131	25
9	Phase 1 Building Construction	Building Construction	12/1/2018	6/1/2019	6	157	15
10	Phase 2 Drainage/Utils	Trenching	12/13/2018	12/26/2018	6	12	20
11	Phase 2 Foundation	Building Construction	12/27/2018	2/1/2019	6	32	21
12	Phase 2 Building Construction	Building Construction	2/2/2019	6/1/2019	6	103	22
13	Phase 3 Drainage/Utils	Trenching	4/13/2019	5/13/2019	6	26	26
14	Phase 3 Foundation	Building Construction	5/14/2019	8/12/2019	6	78	27
15	Phase 1 Paving	Paving	6/2/2019	6/16/2019	6	12	16
16	Phase 2 Architectural Coating	Architectural Coating	6/2/2019	8/1/2019	6	52	23
17	Phase 1 Architectural Coating	Architectural Coating	6/17/2019	7/1/2019	6	13	17
18	Phase 3 Building Construction	Building Construction	8/13/2019	4/15/2020	6	212	28
19	Phase 3 Architectural Coating	Architectural Coating	2/1/2020	6/1/2020	6	104	31
20	Phase 3 Paving	Paving	4/16/2020	6/1/2020	6	40	29
21	Phase 3 Landscaping	Building Construction	4/30/2020	6/1/2020	6	28	30

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 5.27

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 87,000; Non-Residential Outdoor: 29,000; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 1 Demo	Off-Highway Trucks	1	13.00	402	0.38
Phase 1 Demo	Rubber Tired Dozers	1	13.00	247	0.40
Phase 1 Demo	Sweepers/Scrubbers	1	13.00	64	0.46
Phase 1 Demo	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 1 Grading	Excavators	1	13.00	158	0.38
Phase 1 Grading	Graders	1	13.00	187	0.41
Phase 1 Grading	Rubber Tired Dozers	1	13.00	247	0.40
Phase 1 Grading	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 2 Demo	Off-Highway Trucks	1	13.00	402	0.38
Phase 2 Demo	Rubber Tired Dozers	1	13.00	247	0.40
Phase 2 Demo	Sweepers/Scrubbers	1	13.00	64	0.46
Phase 2 Demo	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 2 Grading	Excavators	1	13.00	158	0.38
Phase 2 Grading	Graders	1	13.00	187	0.41
Phase 2 Grading	Rubber Tired Dozers	1	13.00	247	0.40
Phase 2 Grading	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 1 Drainage/Utils	Excavators	1	13.00	158	0.38
Phase 1 Drainage/Utils	Rough Terrain Forklifts	2	13.00	100	0.40
Phase 1 Drainage/Utils	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 1 Drainage/Utils	Trenchers	1	13.00	367	0.48
Phase 3 Demo	Off-Highway Trucks	1	13.00	402	0.38
Phase 3 Demo	Rubber Tired Dozers	2	13.00	247	0.40
Phase 3 Demo	Sweepers/Scrubbers	1	13.00	64	0.46
Phase 3 Demo	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 1 Foundation	Bore/Drill Rigs	1	13.00	221	0.50

Phase 1 Foundation	Cranes	1	13.00	231	0.29
Phase 1 Foundation	Pumps	2	13.00	84	0.74
Phase 1 Foundation	Rough Terrain Forklifts	1	13.00	100	0.40
Phase 1 Foundation	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 3 Grading	Excavators	1	13.00	158	0.38
Phase 3 Grading	Graders	1	13.00	187	0.41
Phase 3 Grading	Rubber Tired Dozers	1	13.00	247	0.40
Phase 3 Grading	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 1 Building Construction	Cranes	1	13.00	231	0.29
Phase 1 Building Construction	Forklifts	2	13.00	89	0.20
Phase 1 Building Construction	Paving Equipment	1	13.00	132	0.36
Phase 1 Building Construction	Pumps	1	13.00	84	0.74
Phase 1 Building Construction	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 2 Drainage/Utils	Excavators	1	13.00	158	0.38
Phase 2 Drainage/Utils	Rough Terrain Forklifts	1	13.00	100	0.40
Phase 2 Drainage/Utils	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 2 Drainage/Utils	Trenchers	1	13.00	367	0.48
Phase 2 Foundation	Bore/Drill Rigs	1	13.00	221	0.50
Phase 2 Foundation	Cranes	1	13.00	231	0.29
Phase 2 Foundation	Pumps	1	13.00	84	0.74
Phase 2 Foundation	Rough Terrain Forklifts	1	13.00	100	0.40
Phase 2 Foundation	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 2 Building Construction	Cranes	1	13.00	231	0.29
Phase 2 Building Construction	Forklifts	2	13.00	89	0.20
Phase 2 Building Construction	Generator Sets	1	13.00	84	0.74
Phase 2 Building Construction	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 2 Building Construction	Welders	2	13.00	46	0.45
Phase 3 Drainage/Utils	Excavators	1	13.00	158	0.38
Phase 3 Drainage/Utils	Rough Terrain Forklifts	2	13.00	100	0.40
Phase 3 Drainage/Utils	Tractors/Loaders/Backhoes	2	13.00	97	0.37

Phase 3 Drainage/Utils	Trenchers	1	13.00	367	0.48
Phase 3 Foundation	Bore/Drill Rigs	1	13.00	221	0.50
Phase 3 Foundation	Cranes	1	13.00	231	0.29
Phase 3 Foundation	Pumps	2	13.00	84	0.74
Phase 3 Foundation	Rough Terrain Forklifts	1	13.00	100	0.40
Phase 3 Foundation	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 1 Paving	Pavers	1	13.00	130	0.42
Phase 1 Paving	Paving Equipment	1	13.00	132	0.36
Phase 1 Paving	Rollers	1	13.00	80	0.38
Phase 2 Architectural Coating	Aerial Lifts	2	13.00	63	0.31
Phase 2 Architectural Coating	Air Compressors	2	13.00	78	0.48
Phase 1 Architectural Coating	Aerial Lifts	2	13.00	63	0.31
Phase 1 Architectural Coating	Air Compressors	2	13.00	78	0.48
Phase 3 Building Construction	Air Compressors	2	13.00	78	0.48
Phase 3 Building Construction	Cranes	2	13.00	231	0.29
Phase 3 Building Construction	Forklifts	2	13.00	89	0.20
Phase 3 Building Construction	Generator Sets	2	13.00	84	0.74
Phase 3 Building Construction	Pumps	1	13.00	84	0.74
Phase 3 Building Construction	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 3 Building Construction	Welders	2	13.00	46	0.45
Phase 3 Architectural Coating	Aerial Lifts	2	13.00	63	0.31
Phase 3 Architectural Coating	Air Compressors	2	13.00	78	0.48
Phase 3 Paving	Pavers	1	13.00	130	0.42
Phase 3 Paving	Paving Equipment	1	13.00	132	0.36
Phase 3 Paving	Rollers	1	13.00	80	0.38
Phase 3 Landscaping	Forklifts	1	13.00	89	0.20
Phase 3 Landscaping	Sweepers/Scrubbers	1	13.00	64	0.46
Phase 3 Landscaping	Tractors/Loaders/Backhoes	1	13.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Phase 1 Demo	4	10.00	6.00	307.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 1 Grading	5	10.00	6.00	6,926.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 2 Demo	4	5.00	6.00	123.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 2 Grading	4	8.00	6.00	2,691.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 1 Drainage/Utils	6	15.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Demo	5	13.00	6.00	605.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 1 Foundation	7	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Grading	5	10.00	6.00	6,712.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 1 Building Construction	7	250.00	52.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Drainage/Utils	4	10.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Foundation	5	13.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Building Construction	8	100.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Drainage/Utils	6	15.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Foundation	7	15.00	87.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Paving	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Architectural Coating	4	75.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Architectural Coating	4	158.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Building Construction	13	250.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Architectural Coating	4	75.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Paving	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Landscaping	3	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Phase 1 Demo - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.5047	0.0000	3.5047	0.5306	0.0000	0.5306			0.0000			0.0000
Off-Road	4.0898	42.5449	21.0119	0.0445		2.1501	2.1501		1.9781	1.9781		4,482.2624	4,482.2624	1.3954		4,517.1471
Total	**4.0898**	**42.5449**	**21.0119**	**0.0445**	**3.5047**	**2.1501**	**5.6548**	**0.5306**	**1.9781**	**2.5087**		**4,482.2624**	**4,482.2624**	**1.3954**		**4,517.1471**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0536	2.1613	0.3982	3.1300e-003	0.0376	3.9900e-003	0.0416	0.0103	3.8200e-003	0.0141		336.7215	336.7215	0.0488		337.9426
Vendor	0.0267	0.7283	0.2010	1.5300e-003	0.0384	5.3900e-003	0.0438	0.0111	5.1600e-003	0.0162		162.4539	162.4539	0.0122		162.7595
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652
Total	**0.1388**	**2.9319**	**1.0533**	**5.8100e-003**	**0.1878**	**0.0103**	**0.1980**	**0.0510**	**9.8000e-003**	**0.0608**		**613.2433**	**613.2433**	**0.0650**		**614.8673**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Fugitive Dust					1.3668	0.0000	1.3668	0.2070	0.0000	0.2070			0.0000			0.0000
Off-Road	1.0899	21.8569	25.6731	0.0445		0.9940	0.9940		0.9940	0.9940	0.0000	4,482.2624	4,482.2624	1.3954		4,517.1471
Total	**1.0899**	**21.8569**	**25.6731**	**0.0445**	**1.3668**	**0.9940**	**2.3608**	**0.2070**	**0.9940**	**1.2009**	**0.0000**	**4,482.2624**	**4,482.2624**	**1.3954**		**4,517.1471**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0536	2.1613	0.3982	3.1300e-003	0.0376	3.9900e-003	0.0416	0.0103	3.8200e-003	0.0141		336.7215	336.7215	0.0488		337.9426
Vendor	0.0267	0.7283	0.2010	1.5300e-003	0.0384	5.3900e-003	0.0438	0.0111	5.1600e-003	0.0162		162.4539	162.4539	0.0122		162.7595
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652
Total	**0.1388**	**2.9319**	**1.0533**	**5.8100e-003**	**0.1878**	**0.0103**	**0.1980**	**0.0510**	**9.8000e-003**	**0.0608**		**613.2433**	**613.2433**	**0.0650**		**614.8673**

3.3 Phase 1 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.8140	0.0000	9.8140	5.3822	0.0000	5.3822			0.0000			0.0000
Off-Road	4.0741	45.5695	23.1404	0.0432		2.2182	2.2182		2.0407	2.0407		4,347.2742	4,347.2742	1.3534		4,381.1083
Total	**4.0741**	**45.5695**	**23.1404**	**0.0432**	**9.8140**	**2.2182**	**12.0322**	**5.3822**	**2.0407**	**7.4229**		**4,347.2742**	**4,347.2742**	**1.3534**		**4,381.1083**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1649	6.6489	1.2251	9.6300e-003	0.1156	0.0123	0.1279	0.0318	0.0117	0.0435		1,035.8898	1,035.8898	0.1503		1,039.6462
Vendor	0.0267	0.7283	0.2010	1.5300e-003	0.0384	5.3900e-003	0.0438	0.0111	5.1600e-003	0.0162		162.4539	162.4539	0.0122		162.7595
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652
Total	**0.2501**	**7.4195**	**1.8802**	**0.0123**	**0.2658**	**0.0186**	**0.2843**	**0.0725**	**0.0177**	**0.0902**		**1,312.4116**	**1,312.4116**	**0.1664**		**1,316.5709**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.8275	0.0000	3.8275	2.0990	0.0000	2.0990			0.0000			0.0000
Off-Road	1.0568	21.2962	27.0539	0.0432		1.0303	1.0303		1.0303	1.0303	0.0000	4,347.2742	4,347.2742	1.3534		4,381.1083
Total	**1.0568**	**21.2962**	**27.0539**	**0.0432**	**3.8275**	**1.0303**	**4.8577**	**2.0990**	**1.0303**	**3.1293**	**0.0000**	**4,347.2742**	**4,347.2742**	**1.3534**		**4,381.1083**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.1649	6.6489	1.2251	9.6300e-003	0.1156	0.0123	0.1279	0.0318	0.0117	0.0435		1,035.8898	1,035.8898	0.1503		1,039.6462
Vendor	0.0267	0.7283	0.2010	1.5300e-003	0.0384	5.3900e-003	0.0438	0.0111	5.1600e-003	0.0162		162.4539	162.4539	0.0122		162.7595
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652
Total	**0.2501**	**7.4195**	**1.8802**	**0.0123**	**0.2658**	**0.0186**	**0.2843**	**0.0725**	**0.0177**	**0.0902**		**1,312.4116**	**1,312.4116**	**0.1664**		**1,316.5709**

3.4 Phase 2 Demo - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Fugitive Dust					2.1060	0.0000	2.1060	0.3189	0.0000	0.3189			0.0000			0.0000
Off-Road	4.0898	42.5449	21.0119	0.0445		2.1501	2.1501		1.9781	1.9781		4,482.2624	4,482.2624	1.3954		4,517.1471
Total	**4.0898**	**42.5449**	**21.0119**	**0.0445**	**2.1060**	**2.1501**	**4.2561**	**0.3189**	**1.9781**	**2.2970**		**4,482.2624**	**4,482.2624**	**1.3954**		**4,517.1471**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.0322	1.2989	0.2393	1.8800e-003	0.0226	2.4000e-003	0.0250	6.2000e-003	2.2900e-003	8.5000e-003		202.3620	202.3620	0.0294		203.0958
Vendor	0.0267	0.7283	0.2010	1.5300e-003	0.0384	5.3900e-003	0.0438	0.0111	5.1600e-003	0.0162		162.4539	162.4539	0.0122		162.7595
Worker	0.0293	0.0212	0.2271	5.7000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.1000e-004	0.0152		57.0340	57.0340	1.9500e-003		57.0826

Total	**0.0882**	**2.0483**	**0.6674**	**3.9800e-003**	**0.1169**	**8.2400e-003**	**0.1251**	**0.0321**	**7.8600e-003**	**0.0400**		**421.8498**	**421.8498**	**0.0435**		**422.9379**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8214	0.0000	0.8214	0.1244	0.0000	0.1244			0.0000			0.0000
Off-Road	1.0899	21.8569	25.6731	0.0445		0.9940	0.9940		0.9940	0.9940	0.0000	4,482.2624	4,482.2624	1.3954		4,517.1471
Total	**1.0899**	**21.8569**	**25.6731**	**0.0445**	**0.8214**	**0.9940**	**1.8153**	**0.1244**	**0.9940**	**1.1183**	**0.0000**	**4,482.2624**	**4,482.2624**	**1.3954**		**4,517.1471**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0322	1.2989	0.2393	1.8800e-003	0.0226	2.4000e-003	0.0250	6.2000e-003	2.2900e-003	8.5000e-003		202.3620	202.3620	0.0294		203.0958
Vendor	0.0267	0.7283	0.2010	1.5300e-003	0.0384	5.3900e-003	0.0438	0.0111	5.1600e-003	0.0162		162.4539	162.4539	0.0122		162.7595
Worker	0.0293	0.0212	0.2271	5.7000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.1000e-004	0.0152		57.0340	57.0340	1.9500e-003		57.0826
Total	**0.0882**	**2.0483**	**0.6674**	**3.9800e-003**	**0.1169**	**8.2400e-003**	**0.1251**	**0.0321**	**7.8600e-003**	**0.0400**		**421.8498**	**421.8498**	**0.0435**		**422.9379**

3.5 Phase 2 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.7958	0.0000	9.7958	5.3802	0.0000	5.3802			0.0000			0.0000
Off-Road	3.6417	41.2962	19.3433	0.0381		1.9154	1.9154		1.7622	1.7622		3,839.0132	3,839.0132	1.1951		3,868.8917
Total	**3.6417**	**41.2962**	**19.3433**	**0.0381**	**9.7958**	**1.9154**	**11.7112**	**5.3802**	**1.7622**	**7.1424**		**3,839.0132**	**3,839.0132**	**1.1951**		**3,868.8917**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0656	2.6434	0.4871	3.8300e-003	0.0460	4.8800e-003	0.0508	0.0126	4.6700e-003	0.0173		411.8404	411.8404	0.0597		413.3339
Vendor	0.0267	0.7283	0.2010	1.5300e-003	0.0384	5.3900e-003	0.0438	0.0111	5.1600e-003	0.0162		162.4539	162.4539	0.0122		162.7595
Worker	0.0469	0.0339	0.3633	9.2000e-004	0.0894	7.1000e-004	0.0901	0.0237	6.6000e-004	0.0244		91.2543	91.2543	3.1100e-003		91.3322
Total	**0.1391**	**3.4056**	**1.0513**	**6.2800e-003**	**0.1738**	**0.0110**	**0.1848**	**0.0474**	**0.0105**	**0.0579**		**665.5486**	**665.5486**	**0.0751**		**667.4256**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Fugitive Dust					3.8203	0.0000	3.8203	2.0983	0.0000	2.0983			0.0000			0.0000
Off-Road	0.9334	18.4778	23.2480	0.0381		0.8328	0.8328		0.8328	0.8328	0.0000	3,839.0132	3,839.0132	1.1951		3,868.8917
Total	**0.9334**	**18.4778**	**23.2480**	**0.0381**	**3.8203**	**0.8328**	**4.6531**	**2.0983**	**0.8328**	**2.9310**	**0.0000**	**3,839.0132**	**3,839.0132**	**1.1951**		**3,868.8917**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0656	2.6434	0.4871	3.8300e-003	0.0460	4.8800e-003	0.0508	0.0126	4.6700e-003	0.0173		411.8404	411.8404	0.0597		413.3339
Vendor	0.0267	0.7283	0.2010	1.5300e-003	0.0384	5.3900e-003	0.0438	0.0111	5.1600e-003	0.0162		162.4539	162.4539	0.0122		162.7595
Worker	0.0469	0.0339	0.3633	9.2000e-004	0.0894	7.1000e-004	0.0901	0.0237	6.6000e-004	0.0244		91.2543	91.2543	3.1100e-003		91.3322
Total	**0.1391**	**3.4056**	**1.0513**	**6.2800e-003**	**0.1738**	**0.0110**	**0.1848**	**0.0474**	**0.0105**	**0.0579**		**665.5486**	**665.5486**	**0.0751**		**667.4256**

3.6 Phase 1 Drainage/Utils - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.1365	36.3126	30.3827	0.0543		1.7733	1.7733		1.6314	1.6314		5,459.1152	5,459.1152	1.6995		5,501.6026
Total	**3.1365**	**36.3126**	**30.3827**	**0.0543**		**1.7733**	**1.7733**		**1.6314**	**1.6314**		**5,459.1152**	**5,459.1152**	**1.6995**		**5,501.6026**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0267	0.7283	0.2010	1.5300e-003	0.0384	5.3900e-003	0.0438	0.0111	5.1600e-003	0.0162		162.4539	162.4539	0.0122		162.7595
Worker	0.0879	0.0635	0.6811	1.7200e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2300e-003	0.0457		171.1019	171.1019	5.8400e-003		171.2479
Total	**0.1145**	**0.7918**	**0.8822**	**3.2500e-003**	**0.2061**	**6.7300e-003**	**0.2128**	**0.0555**	**6.3900e-003**	**0.0619**		**333.5557**	**333.5557**	**0.0181**		**334.0073**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3344	27.6244	35.5887	0.0543		1.4722	1.4722		1.4722	1.4722	0.0000	5,459.1152	5,459.1152	1.6995		5,501.6026
Total	**1.3344**	**27.6244**	**35.5887**	**0.0543**		**1.4722**	**1.4722**		**1.4722**	**1.4722**	**0.0000**	**5,459.1152**	**5,459.1152**	**1.6995**		**5,501.6026**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0267	0.7283	0.2010	1.5300e-003	0.0384	5.3900e-003	0.0438	0.0111	5.1600e-003	0.0162		162.4539	162.4539	0.0122		162.7595
Worker	0.0879	0.0635	0.6811	1.7200e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2300e-003	0.0457		171.1019	171.1019	5.8400e-003		171.2479
Total	**0.1145**	**0.7918**	**0.8822**	**3.2500e-003**	**0.2061**	**6.7300e-003**	**0.2128**	**0.0555**	**6.3900e-003**	**0.0619**		**333.5557**	**333.5557**	**0.0181**		**334.0073**

3.7 Phase 3 Demo - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Fugitive Dust					3.4524	0.0000	3.4524	0.5227	0.0000	0.5227			0.0000			0.0000
Off-Road	5.9847	62.9548	28.1236	0.0584		3.1423	3.1423		2.8909	2.8909		5,880.0441	5,880.0441	1.8305		5,925.8075
Total	**5.9847**	**62.9548**	**28.1236**	**0.0584**	**3.4524**	**3.1423**	**6.5946**	**0.5227**	**2.8909**	**3.4136**		**5,880.0441**	**5,880.0441**	**1.8305**		**5,925.8075**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.0528	2.1296	0.3924	3.0800e-003	0.0370	3.9300e-003	0.0410	0.0102	3.7600e-003	0.0139		331.7859	331.7859	0.0481		332.9890
Vendor	0.0267	0.7283	0.2010	1.5300e-003	0.0384	5.3900e-003	0.0438	0.0111	5.1600e-003	0.0162		162.4539	162.4539	0.0122		162.7595
Worker	0.0762	0.0550	0.5903	1.4900e-003	0.1453	1.1600e-003	0.1465	0.0385	1.0700e-003	0.0396		148.2883	148.2883	5.0600e-003		148.4148

Total	**0.1556**	**2.9129**	**1.1837**	**6.1000e-003**	**0.2207**	**0.0105**	**0.2312**	**0.0598**	**9.9900e-003**	**0.0698**		**642.5280**	**642.5280**	**0.0654**		**644.1633**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.3464	0.0000	1.3464	0.2039	0.0000	0.2039			0.0000			0.0000
Off-Road	1.4297	28.4262	33.0353	0.0584		1.2431	1.2431		1.2431	1.2431	0.0000	5,880.0441	5,880.0441	1.8305		5,925.8075
Total	**1.4297**	**28.4262**	**33.0353**	**0.0584**	**1.3464**	**1.2431**	**2.5896**	**0.2039**	**1.2431**	**1.4470**	**0.0000**	**5,880.0441**	**5,880.0441**	**1.8305**		**5,925.8075**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0528	2.1296	0.3924	3.0800e-003	0.0370	3.9300e-003	0.0410	0.0102	3.7600e-003	0.0139		331.7859	331.7859	0.0481		332.9890
Vendor	0.0267	0.7283	0.2010	1.5300e-003	0.0384	5.3900e-003	0.0438	0.0111	5.1600e-003	0.0162		162.4539	162.4539	0.0122		162.7595
Worker	0.0762	0.0550	0.5903	1.4900e-003	0.1453	1.1600e-003	0.1465	0.0385	1.0700e-003	0.0396		148.2883	148.2883	5.0600e-003		148.4148
Total	**0.1556**	**2.9129**	**1.1837**	**6.1000e-003**	**0.2207**	**0.0105**	**0.2312**	**0.0598**	**9.9900e-003**	**0.0698**		**642.5280**	**642.5280**	**0.0654**		**644.1633**

3.8 Phase 1 Foundation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.2645	43.2785	31.2071	0.0617		2.3317	2.3317		2.2170	2.2170		6,082.5560	6,082.5560	1.4164		6,117.9666
Total	**4.2645**	**43.2785**	**31.2071**	**0.0617**		**2.3317**	**2.3317**		**2.2170**	**2.2170**		**6,082.5560**	**6,082.5560**	**1.4164**		**6,117.9666**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0879	0.0635	0.6811	1.7200e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2300e-003	0.0457		171.1019	171.1019	5.8400e-003		171.2479
Total	**0.0879**	**0.0635**	**0.6811**	**1.7200e-003**	**0.1677**	**1.3400e-003**	**0.1690**	**0.0445**	**1.2300e-003**	**0.0457**		**171.1019**	**171.1019**	**5.8400e-003**		**171.2479**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	1.4224	30.3422	38.2625	0.0617		1.7468	1.7468		1.7468	1.7468	0.0000	6,082.5560	6,082.5560	1.4164		6,117.9666
Total	**1.4224**	**30.3422**	**38.2625**	**0.0617**		**1.7468**	**1.7468**		**1.7468**	**1.7468**	**0.0000**	**6,082.5560**	**6,082.5560**	**1.4164**		**6,117.9666**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0879	0.0635	0.6811	1.7200e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2300e-003	0.0457		171.1019	171.1019	5.8400e-003		171.2479
Total	**0.0879**	**0.0635**	**0.6811**	**1.7200e-003**	**0.1677**	**1.3400e-003**	**0.1690**	**0.0445**	**1.2300e-003**	**0.0457**		**171.1019**	**171.1019**	**5.8400e-003**		**171.2479**

3.9 Phase 3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.8365	0.0000	9.8365	5.3846	0.0000	5.3846			0.0000			0.0000
Off-Road	4.0741	45.5695	23.1404	0.0432		2.2182	2.2182		2.0407	2.0407		4,347.2742	4,347.2742	1.3534		4,381.1083
Total	**4.0741**	**45.5695**	**23.1404**	**0.0432**	**9.8365**	**2.2182**	**12.0546**	**5.3846**	**2.0407**	**7.4253**		**4,347.2742**	**4,347.2742**	**1.3534**		**4,381.1083**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1610	6.4926	1.1963	9.4000e-003	0.2862	0.0120	0.2981	0.0736	0.0115	0.0850		1,011.5460	1,011.5460	0.1467		1,015.2142
Vendor	0.0267	0.7283	0.2010	1.5300e-003	0.0384	5.3900e-003	0.0438	0.0111	5.1600e-003	0.0162		162.4539	162.4539	0.0122		162.7595
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652
Total	**0.2463**	**7.2633**	**1.8514**	**0.0121**	**0.4363**	**0.0183**	**0.4546**	**0.1143**	**0.0174**	**0.1317**		**1,288.0678**	**1,288.0678**	**0.1628**		**1,292.1389**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.8362	0.0000	3.8362	2.1000	0.0000	2.1000			0.0000			0.0000
Off-Road	1.0568	21.2962	27.0539	0.0432		1.0303	1.0303		1.0303	1.0303	0.0000	4,347.2742	4,347.2742	1.3534		4,381.1083
Total	**1.0568**	**21.2962**	**27.0539**	**0.0432**	**3.8362**	**1.0303**	**4.8665**	**2.1000**	**1.0303**	**3.1303**	**0.0000**	**4,347.2742**	**4,347.2742**	**1.3534**		**4,381.1083**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.1610	6.4926	1.1963	9.4000e-003	0.2862	0.0120	0.2981	0.0736	0.0115	0.0850		1,011.5460	1,011.5460	0.1467		1,015.2142
Vendor	0.0267	0.7283	0.2010	1.5300e-003	0.0384	5.3900e-003	0.0438	0.0111	5.1600e-003	0.0162		162.4539	162.4539	0.0122		162.7595
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652
Total	**0.2463**	**7.2633**	**1.8514**	**0.0121**	**0.4363**	**0.0183**	**0.4546**	**0.1143**	**0.0174**	**0.1317**		**1,288.0678**	**1,288.0678**	**0.1628**		**1,292.1389**

3.9 Phase 3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Fugitive Dust					9.8365	0.0000	9.8365	5.3846	0.0000	5.3846			0.0000			0.0000
Off-Road	3.8149	42.2673	22.7349	0.0431		2.0171	2.0171		1.8558	1.8558		4,272.5555	4,272.5555	1.3518		4,306.3503
Total	**3.8149**	**42.2673**	**22.7349**	**0.0431**	**9.8365**	**2.0171**	**11.8536**	**5.3846**	**1.8558**	**7.2404**		**4,272.5555**	**4,272.5555**	**1.3518**		**4,306.3503**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.1510	6.2520	1.1385	9.3100e-003	0.1542	0.0108	0.1650	0.0412	0.0103	0.0515		1,003.2759	1,003.2759	0.1415		1,006.8125
Vendor	0.0242	0.6870	0.1848	1.5100e-003	0.0384	4.6200e-003	0.0430	0.0111	4.4200e-003	0.0155		160.9898	160.9898	0.0118		161.2844
Worker	0.0533	0.0373	0.4054	1.1100e-003	0.1118	8.7000e-004	0.1127	0.0296	8.0000e-004	0.0305		110.4656	110.4656	3.4500e-003		110.5519

Total	**0.2285**	**6.9764**	**1.7287**	**0.0119**	**0.3044**	**0.0163**	**0.3207**	**0.0819**	**0.0155**	**0.0974**		**1,274.7313**	**1,274.7313**	**0.1567**		**1,278.6488**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.8362	0.0000	3.8362	2.1000	0.0000	2.1000			0.0000			0.0000
Off-Road	1.0568	21.2962	27.0539	0.0431		1.0303	1.0303		1.0303	1.0303	0.0000	4,272.5555	4,272.5555	1.3518		4,306.3503
Total	**1.0568**	**21.2962**	**27.0539**	**0.0431**	**3.8362**	**1.0303**	**4.8665**	**2.1000**	**1.0303**	**3.1303**	**0.0000**	**4,272.5555**	**4,272.5555**	**1.3518**		**4,306.3503**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1510	6.2520	1.1385	9.3100e-003	0.1542	0.0108	0.1650	0.0412	0.0103	0.0515		1,003.2759	1,003.2759	0.1415		1,006.8125
Vendor	0.0242	0.6870	0.1848	1.5100e-003	0.0384	4.6200e-003	0.0430	0.0111	4.4200e-003	0.0155		160.9898	160.9898	0.0118		161.2844
Worker	0.0533	0.0373	0.4054	1.1100e-003	0.1118	8.7000e-004	0.1127	0.0296	8.0000e-004	0.0305		110.4656	110.4656	3.4500e-003		110.5519
Total	**0.2285**	**6.9764**	**1.7287**	**0.0119**	**0.3044**	**0.0163**	**0.3207**	**0.0819**	**0.0155**	**0.0974**		**1,274.7313**	**1,274.7313**	**0.1567**		**1,278.6488**

3.10 Phase 1 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6216	35.8516	25.9337	0.0417		2.1540	2.1540		2.0176	2.0176		4,138.4926	4,138.4926	1.0498		4,164.7374
Total	**3.6216**	**35.8516**	**25.9337**	**0.0417**		**2.1540**	**2.1540**		**2.0176**	**2.0176**		**4,138.4926**	**4,138.4926**	**1.0498**		**4,164.7374**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2309	6.3121	1.7421	0.0132	0.3328	0.0468	0.3796	0.0958	0.0447	0.1405		1,407.9335	1,407.9335	0.1060		1,410.5822
Worker	1.4646	1.0580	11.3524	0.0287	2.7944	0.0223	2.8167	0.7411	0.0205	0.7616		2,851.6980	2,851.6980	0.0973		2,854.1308
Total	**1.6956**	**7.3701**	**13.0944**	**0.0419**	**3.1272**	**0.0690**	**3.1963**	**0.8369**	**0.0653**	**0.9022**		**4,259.6315**	**4,259.6315**	**0.2033**		**4,264.7130**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	0.9769	20.9277	28.0094	0.0417		1.2544	1.2544		1.2544	1.2544	0.0000	4,138.4926	4,138.4926	1.0498		4,164.7374
Total	**0.9769**	**20.9277**	**28.0094**	**0.0417**		**1.2544**	**1.2544**		**1.2544**	**1.2544**	**0.0000**	**4,138.4926**	**4,138.4926**	**1.0498**		**4,164.7374**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2309	6.3121	1.7421	0.0132	0.3328	0.0468	0.3796	0.0958	0.0447	0.1405		1,407.9335	1,407.9335	0.1060		1,410.5822
Worker	1.4646	1.0580	11.3524	0.0287	2.7944	0.0223	2.8167	0.7411	0.0205	0.7616		2,851.6980	2,851.6980	0.0973		2,854.1308
Total	**1.6956**	**7.3701**	**13.0944**	**0.0419**	**3.1272**	**0.0690**	**3.1963**	**0.8369**	**0.0653**	**0.9022**		**4,259.6315**	**4,259.6315**	**0.2033**		**4,264.7130**

3.10 Phase 1 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.2058	31.8966	25.3361	0.0417		1.8490	1.8490		1.7320	1.7320		4,087.3446	4,087.3446	1.0406		4,113.3588
Total	**3.2058**	**31.8966**	**25.3361**	**0.0417**		**1.8490**	**1.8490**		**1.7320**	**1.7320**		**4,087.3446**	**4,087.3446**	**1.0406**		**4,113.3588**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2094	5.9542	1.6019	0.0131	0.3328	0.0400	0.3729	0.0958	0.0383	0.1341		1,395.2446	1,395.2446	0.1021		1,397.7977
Worker	1.3331	0.9332	10.1346	0.0277	2.7944	0.0218	2.8162	0.7411	0.0200	0.7611		2,761.6394	2,761.6394	0.0863		2,763.7964
Total	**1.5425**	**6.8875**	**11.7365**	**0.0408**	**3.1272**	**0.0618**	**3.1890**	**0.8369**	**0.0583**	**0.8952**		**4,156.8840**	**4,156.8840**	**0.1884**		**4,161.5941**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9769	20.9277	28.0094	0.0417		1.2544	1.2544		1.2544	1.2544	0.0000	4,087.3446	4,087.3446	1.0406		4,113.3588
Total	**0.9769**	**20.9277**	**28.0094**	**0.0417**		**1.2544**	**1.2544**		**1.2544**	**1.2544**	**0.0000**	**4,087.3446**	**4,087.3446**	**1.0406**		**4,113.3588**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2094	5.9542	1.6019	0.0131	0.3328	0.0400	0.3729	0.0958	0.0383	0.1341		1,395.2446	1,395.2446	0.1021		1,397.7977
Worker	1.3331	0.9332	10.1346	0.0277	2.7944	0.0218	2.8162	0.7411	0.0200	0.7611		2,761.6394	2,761.6394	0.0863		2,763.7964
Total	**1.5425**	**6.8875**	**11.7365**	**0.0408**	**3.1272**	**0.0618**	**3.1890**	**0.8369**	**0.0583**	**0.8952**		**4,156.8840**	**4,156.8840**	**0.1884**		**4,161.5941**

3.11 Phase 2 Drainage/Utils - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Off-Road	2.4494	28.7779	22.8371	0.0436		1.3146	1.3146		1.2094	1.2094		4,387.7284	4,387.7284	1.3660		4,421.8774
Total	**2.4494**	**28.7779**	**22.8371**	**0.0436**		**1.3146**	**1.3146**		**1.2094**	**1.2094**		**4,387.7284**	**4,387.7284**	**1.3660**		**4,421.8774**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0267	0.7283	0.2010	1.5300e-003	0.0384	5.3900e-003	0.0438	0.0111	5.1600e-003	0.0162		162.4539	162.4539	0.0122		162.7595
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652

Total	**0.0852**	**0.7706**	**0.6551**	**2.6800e-003**	**0.1502**	**6.2800e-003**	**0.1565**	**0.0407**	**5.9800e-003**	**0.0467**		**276.5218**	**276.5218**	**0.0161**		**276.9247**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0733	21.6648	27.5411	0.0436		1.0546	1.0546		1.0546	1.0546	0.0000	4,387.7284	4,387.7284	1.3660		4,421.8774
Total	**1.0733**	**21.6648**	**27.5411**	**0.0436**		**1.0546**	**1.0546**		**1.0546**	**1.0546**	**0.0000**	**4,387.7284**	**4,387.7284**	**1.3660**		**4,421.8774**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0267	0.7283	0.2010	1.5300e-003	0.0384	5.3900e-003	0.0438	0.0111	5.1600e-003	0.0162		162.4539	162.4539	0.0122		162.7595
Worker	0.0586	0.0423	0.4541	1.1500e-003	0.1118	8.9000e-004	0.1127	0.0296	8.2000e-004	0.0305		114.0679	114.0679	3.8900e-003		114.1652
Total	**0.0852**	**0.7706**	**0.6551**	**2.6800e-003**	**0.1502**	**6.2800e-003**	**0.1565**	**0.0407**	**5.9800e-003**	**0.0467**		**276.5218**	**276.5218**	**0.0161**		**276.9247**

3.12 Phase 2 Foundation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9681	32.2212	21.2263	0.0460		1.5800	1.5800		1.4895	1.4895		4,561.8639	4,561.8639	1.1816		4,591.4037
Total	**2.9681**	**32.2212**	**21.2263**	**0.0460**		**1.5800**	**1.5800**		**1.4895**	**1.4895**		**4,561.8639**	**4,561.8639**	**1.1816**		**4,591.4037**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0755	2.0636	0.5695	4.3300e-003	0.1088	0.0153	0.1241	0.0313	0.0146	0.0459		460.2860	460.2860	0.0346		461.1519
Worker	0.0762	0.0550	0.5903	1.4900e-003	0.1453	1.1600e-003	0.1465	0.0385	1.0700e-003	0.0396		148.2883	148.2883	5.0600e-003		148.4148
Total	**0.1517**	**2.1186**	**1.1598**	**5.8200e-003**	**0.2541**	**0.0164**	**0.2706**	**0.0699**	**0.0157**	**0.0855**		**608.5743**	**608.5743**	**0.0397**		**609.5667**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	1.0852	22.6424	27.8650	0.0460		1.2073	1.2073		1.2073	1.2073	0.0000	4,561.8639	4,561.8639	1.1816		4,591.4037
Total	**1.0852**	**22.6424**	**27.8650**	**0.0460**		**1.2073**	**1.2073**		**1.2073**	**1.2073**	**0.0000**	**4,561.8639**	**4,561.8639**	**1.1816**		**4,591.4037**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0755	2.0636	0.5695	4.3300e-003	0.1088	0.0153	0.1241	0.0313	0.0146	0.0459		460.2860	460.2860	0.0346		461.1519
Worker	0.0762	0.0550	0.5903	1.4900e-003	0.1453	1.1600e-003	0.1465	0.0385	1.0700e-003	0.0396		148.2883	148.2883	5.0600e-003		148.4148
Total	**0.1517**	**2.1186**	**1.1598**	**5.8200e-003**	**0.2541**	**0.0164**	**0.2706**	**0.0699**	**0.0157**	**0.0855**		**608.5743**	**608.5743**	**0.0397**		**609.5667**

3.12 Phase 2 Foundation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.6471	28.7948	20.7068	0.0459		1.3580	1.3580		1.2803	1.2803		4,501.2702	4,501.2702	1.1715		4,530.5585
Total	**2.6471**	**28.7948**	**20.7068**	**0.0459**		**1.3580**	**1.3580**		**1.2803**	**1.2803**		**4,501.2702**	**4,501.2702**	**1.1715**		**4,530.5585**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0685	1.9466	0.5237	4.2800e-003	0.1088	0.0131	0.1219	0.0313	0.0125	0.0438		456.1377	456.1377	0.0334		456.9723
Worker	0.0693	0.0485	0.5270	1.4400e-003	0.1453	1.1300e-003	0.1464	0.0385	1.0400e-003	0.0396		143.6053	143.6053	4.4900e-003		143.7174
Total	**0.1378**	**1.9951**	**1.0507**	**5.7200e-003**	**0.2541**	**0.0142**	**0.2683**	**0.0699**	**0.0136**	**0.0834**		**599.7429**	**599.7429**	**0.0379**		**600.6898**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0852	22.6424	27.8650	0.0459		1.2073	1.2073		1.2073	1.2073	0.0000	4,501.2702	4,501.2702	1.1715		4,530.5585
Total	**1.0852**	**22.6424**	**27.8650**	**0.0459**		**1.2073**	**1.2073**		**1.2073**	**1.2073**	**0.0000**	**4,501.2702**	**4,501.2702**	**1.1715**		**4,530.5585**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0685	1.9466	0.5237	4.2800e-003	0.1088	0.0131	0.1219	0.0313	0.0125	0.0438		456.1377	456.1377	0.0334		456.9723
Worker	0.0693	0.0485	0.5270	1.4400e-003	0.1453	1.1300e-003	0.1464	0.0385	1.0400e-003	0.0396		143.6053	143.6053	4.4900e-003		143.7174
Total	**0.1378**	**1.9951**	**1.0507**	**5.7200e-003**	**0.2541**	**0.0142**	**0.2683**	**0.0699**	**0.0136**	**0.0834**		**599.7429**	**599.7429**	**0.0379**		**600.6898**

3.13 Phase 2 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Off-Road	4.0688	33.4178	27.0144	0.0434		1.9714	1.9714		1.8690	1.8690		4,106.2534	4,106.2534	0.9424		4,129.8125
Total	**4.0688**	**33.4178**	**27.0144**	**0.0434**		**1.9714**	**1.9714**		**1.8690**	**1.8690**		**4,106.2534**	**4,106.2534**	**0.9424**		**4,129.8125**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5332	0.3733	4.0538	0.0111	1.1178	8.7000e-003	1.1265	0.2964	8.0100e-003	0.3045		1,104.6557	1,104.6557	0.0345		1,105.5186

Total	**0.5332**	**0.3733**	**4.0538**	**0.0111**	**1.1178**	**8.7000e-003**	**1.1265**	**0.2964**	**8.0100e-003**	**0.3045**		**1,104.6557**	**1,104.6557**	**0.0345**		**1,105.5186**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0653	23.0469	28.8436	0.0434		1.4258	1.4258		1.4258	1.4258	0.0000	4,106.2533	4,106.2533	0.9424		4,129.8125
Total	**2.0653**	**23.0469**	**28.8436**	**0.0434**		**1.4258**	**1.4258**		**1.4258**	**1.4258**	**0.0000**	**4,106.2533**	**4,106.2533**	**0.9424**		**4,129.8125**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5332	0.3733	4.0538	0.0111	1.1178	8.7000e-003	1.1265	0.2964	8.0100e-003	0.3045		1,104.6557	1,104.6557	0.0345		1,105.5186
Total	**0.5332**	**0.3733**	**4.0538**	**0.0111**	**1.1178**	**8.7000e-003**	**1.1265**	**0.2964**	**8.0100e-003**	**0.3045**		**1,104.6557**	**1,104.6557**	**0.0345**		**1,105.5186**

3.14 Phase 3 Drainage/Utils - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9278	33.7604	30.2888	0.0543		1.5814	1.5814		1.4549	1.4549		5,372.5633	5,372.5633	1.6998		5,415.0588
Total	**2.9278**	**33.7604**	**30.2888**	**0.0543**		**1.5814**	**1.5814**		**1.4549**	**1.4549**		**5,372.5633**	**5,372.5633**	**1.6998**		**5,415.0588**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0242	0.6870	0.1848	1.5100e-003	0.0384	4.6200e-003	0.0430	0.0111	4.4200e-003	0.0155		160.9898	160.9898	0.0118		161.2844
Worker	0.0800	0.0560	0.6081	1.6600e-003	0.1677	1.3000e-003	0.1690	0.0445	1.2000e-003	0.0457		165.6984	165.6984	5.1800e-003		165.8278
Total	**0.1041**	**0.7430**	**0.7929**	**3.1700e-003**	**0.2061**	**5.9200e-003**	**0.2120**	**0.0555**	**5.6200e-003**	**0.0611**		**326.6881**	**326.6881**	**0.0170**		**327.1121**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	1.3344	27.6244	35.5887	0.0543		1.4722	1.4722		1.4722	1.4722	0.0000	5,372.5633	5,372.5633	1.6998		5,415.0588
Total	**1.3344**	**27.6244**	**35.5887**	**0.0543**		**1.4722**	**1.4722**		**1.4722**	**1.4722**	**0.0000**	**5,372.5633**	**5,372.5633**	**1.6998**		**5,415.0588**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0242	0.6870	0.1848	1.5100e-003	0.0384	4.6200e-003	0.0430	0.0111	4.4200e-003	0.0155		160.9898	160.9898	0.0118		161.2844
Worker	0.0800	0.0560	0.6081	1.6600e-003	0.1677	1.3000e-003	0.1690	0.0445	1.2000e-003	0.0457		165.6984	165.6984	5.1800e-003		165.8278
Total	**0.1041**	**0.7430**	**0.7929**	**3.1700e-003**	**0.2061**	**5.9200e-003**	**0.2120**	**0.0555**	**5.6200e-003**	**0.0611**		**326.6881**	**326.6881**	**0.0170**		**327.1121**

3.15 Phase 3 Foundation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.7897	38.8229	30.5931	0.0617		1.9982	1.9982		1.9002	1.9002		6,013.4569	6,013.4569	1.3973		6,048.3905
Total	**3.7897**	**38.8229**	**30.5931**	**0.0617**		**1.9982**	**1.9982**		**1.9002**	**1.9002**		**6,013.4569**	**6,013.4569**	**1.3973**		**6,048.3905**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3504	9.9619	2.6801	0.0219	0.5568	0.0670	0.6238	0.1603	0.0641	0.2244		2,334.3516	2,334.3516	0.1709		2,338.6232
Worker	0.0800	0.0560	0.6081	1.6600e-003	0.1677	1.3000e-003	0.1690	0.0445	1.2000e-003	0.0457		165.6984	165.6984	5.1800e-003		165.8278
Total	**0.4304**	**10.0179**	**3.2882**	**0.0236**	**0.7245**	**0.0683**	**0.7928**	**0.2048**	**0.0653**	**0.2701**		**2,500.0499**	**2,500.0499**	**0.1760**		**2,504.4509**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4224	30.3422	38.2625	0.0617		1.7468	1.7468		1.7468	1.7468	0.0000	6,013.4569	6,013.4569	1.3973		6,048.3905
Total	**1.4224**	**30.3422**	**38.2625**	**0.0617**		**1.7468**	**1.7468**		**1.7468**	**1.7468**	**0.0000**	**6,013.4569**	**6,013.4569**	**1.3973**		**6,048.3905**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3504	9.9619	2.6801	0.0219	0.5568	0.0670	0.6238	0.1603	0.0641	0.2244		2,334.3516	2,334.3516	0.1709		2,338.6232
Worker	0.0800	0.0560	0.6081	1.6600e-003	0.1677	1.3000e-003	0.1690	0.0445	1.2000e-003	0.0457		165.6984	165.6984	5.1800e-003		165.8278
Total	**0.4304**	**10.0179**	**3.2882**	**0.0236**	**0.7245**	**0.0683**	**0.7928**	**0.2048**	**0.0653**	**0.2701**		**2,500.0499**	**2,500.0499**	**0.1760**		**2,504.4509**

3.16 Phase 1 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Off-Road	1.1817	12.3858	11.9152	0.0185		0.6700	0.6700		0.6164	0.6164		1,833.8145	1,833.8145	0.5802		1,848.3195
Paving	0.5262					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.7079**	**12.3858**	**11.9152**	**0.0185**		**0.6700**	**0.6700**		**0.6164**	**0.6164**		**1,833.8145**	**1,833.8145**	**0.5802**		**1,848.3195**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0427	0.0299	0.3243	8.9000e-004	0.0894	7.0000e-004	0.0901	0.0237	6.4000e-004	0.0244		88.3725	88.3725	2.7600e-003		88.4415

Total	**0.0427**	**0.0299**	**0.3243**	**8.9000e-004**	**0.0894**	**7.0000e-004**	**0.0901**	**0.0237**	**6.4000e-004**	**0.0244**		**88.3725**	**88.3725**	**2.7600e-003**		**88.4415**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4558	9.1774	14.0527	0.0185		0.4951	0.4951		0.4951	0.4951	0.0000	1,833.8145	1,833.8145	0.5802		1,848.3195
Paving	0.5262					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9819**	**9.1774**	**14.0527**	**0.0185**		**0.4951**	**0.4951**		**0.4951**	**0.4951**	**0.0000**	**1,833.8145**	**1,833.8145**	**0.5802**		**1,848.3195**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0427	0.0299	0.3243	8.9000e-004	0.0894	7.0000e-004	0.0901	0.0237	6.4000e-004	0.0244		88.3725	88.3725	2.7600e-003		88.4415
Total	**0.0427**	**0.0299**	**0.3243**	**8.9000e-004**	**0.0894**	**7.0000e-004**	**0.0901**	**0.0237**	**6.4000e-004**	**0.0244**		**88.3725**	**88.3725**	**2.7600e-003**		**88.4415**

3.17 Phase 2 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	5.4202					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.2870	10.1660	11.5306	0.0183		0.6123	0.6123		0.6080	0.6080		1,759.8675	1,759.8675	0.2739		1,766.7161
Total	**6.7071**	**10.1660**	**11.5306**	**0.0183**		**0.6123**	**0.6123**		**0.6080**	**0.6080**		**1,759.8675**	**1,759.8675**	**0.2739**		**1,766.7161**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3999	0.2800	3.0404	8.3200e-003	0.8383	6.5200e-003	0.8449	0.2223	6.0100e-003	0.2283		828.4918	828.4918	0.0259		829.1389
Total	**0.3999**	**0.2800**	**3.0404**	**8.3200e-003**	**0.8383**	**6.5200e-003**	**0.8449**	**0.2223**	**6.0100e-003**	**0.2283**		**828.4918**	**828.4918**	**0.0259**		**829.1389**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Archit. Coating	5.4202					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3919	8.9476	12.0825	0.0183		0.6270	0.6270		0.6270	0.6270	0.0000	1,759.8675	1,759.8675	0.2739		1,766.7161
Total	**5.8121**	**8.9476**	**12.0825**	**0.0183**		**0.6270**	**0.6270**		**0.6270**	**0.6270**	**0.0000**	**1,759.8675**	**1,759.8675**	**0.2739**		**1,766.7161**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3999	0.2800	3.0404	8.3200e-003	0.8383	6.5200e-003	0.8449	0.2223	6.0100e-003	0.2283		828.4918	828.4918	0.0259		829.1389
Total	**0.3999**	**0.2800**	**3.0404**	**8.3200e-003**	**0.8383**	**6.5200e-003**	**0.8449**	**0.2223**	**6.0100e-003**	**0.2283**		**828.4918**	**828.4918**	**0.0259**		**829.1389**

3.18 Phase 1 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.1977					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.2870	10.1660	11.5306	0.0183		0.6123	0.6123		0.6080	0.6080		1,759.8675	1,759.8675	0.2739		1,766.7161
Total	**19.4847**	**10.1660**	**11.5306**	**0.0183**		**0.6123**	**0.6123**		**0.6080**	**0.6080**		**1,759.8675**	**1,759.8675**	**0.2739**		**1,766.7161**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.8425	0.5898	6.4051	0.0175	1.7661	0.0138	1.7798	0.4684	0.0127	0.4810		1,745.3561	1,745.3561	0.0545		1,746.7193
Total	**0.8425**	**0.5898**	**6.4051**	**0.0175**	**1.7661**	**0.0138**	**1.7798**	**0.4684**	**0.0127**	**0.4810**		**1,745.3561**	**1,745.3561**	**0.0545**		**1,746.7193**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	18.1977					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3919	8.9476	12.0825	0.0183		0.6270	0.6270		0.6270	0.6270	0.0000	1,759.8675	1,759.8675	0.2739		1,766.7161
Total	**18.5896**	**8.9476**	**12.0825**	**0.0183**		**0.6270**	**0.6270**		**0.6270**	**0.6270**	**0.0000**	**1,759.8675**	**1,759.8675**	**0.2739**		**1,766.7161**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.8425	0.5898	6.4051	0.0175	1.7661	0.0138	1.7798	0.4684	0.0127	0.4810		1,745.3561	1,745.3561	0.0545		1,746.7193
Total	**0.8425**	**0.5898**	**6.4051**	**0.0175**	**1.7661**	**0.0138**	**1.7798**	**0.4684**	**0.0127**	**0.4810**		**1,745.3561**	**1,745.3561**	**0.0545**		**1,746.7193**

3.19 Phase 3 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Off-Road	7.5282	63.5015	50.9141	0.0871		3.6968	3.6968		3.5612	3.5612		8,278.9411	8,278.9411	1.4709		8,315.7133
Total	**7.5282**	**63.5015**	**50.9141**	**0.0871**		**3.6968**	**3.6968**		**3.5612**	**3.5612**		**8,278.9411**	**8,278.9411**	**1.4709**		**8,315.7133**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.3331	0.9332	10.1346	0.0277	2.7944	0.0218	2.8162	0.7411	0.0200	0.7611		2,761.6394	2,761.6394	0.0863		2,763.7964

Total	**1.3331**	**0.9332**	**10.1346**	**0.0277**	**2.7944**	**0.0218**	**2.8162**	**0.7411**	**0.0200**	**0.7611**		**2,761.6394**	**2,761.6394**	**0.0863**		**2,763.7964**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.9808	43.1440	54.9591	0.0871		2.6909	2.6909		2.6909	2.6909	0.0000	8,278.9411	8,278.9411	1.4709		8,315.7133
Total	**2.9808**	**43.1440**	**54.9591**	**0.0871**		**2.6909**	**2.6909**		**2.6909**	**2.6909**	**0.0000**	**8,278.9411**	**8,278.9411**	**1.4709**		**8,315.7133**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.3331	0.9332	10.1346	0.0277	2.7944	0.0218	2.8162	0.7411	0.0200	0.7611		2,761.6394	2,761.6394	0.0863		2,763.7964
Total	**1.3331**	**0.9332**	**10.1346**	**0.0277**	**2.7944**	**0.0218**	**2.8162**	**0.7411**	**0.0200**	**0.7611**		**2,761.6394**	**2,761.6394**	**0.0863**		**2,763.7964**

3.19 Phase 3 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.7683	58.0247	49.9559	0.0871		3.2068	3.2068		3.0892	3.0892		8,205.8685	8,205.8685	1.4278		8,241.5629
Total	**6.7683**	**58.0247**	**49.9559**	**0.0871**		**3.2068**	**3.2068**		**3.0892**	**3.0892**		**8,205.8685**	**8,205.8685**	**1.4278**		**8,241.5629**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.2337	0.8325	9.2022	0.0269	2.7944	0.0212	2.8156	0.7411	0.0195	0.7606		2,675.9124	2,675.9124	0.0767		2,677.8309
Total	**1.2337**	**0.8325**	**9.2022**	**0.0269**	**2.7944**	**0.0212**	**2.8156**	**0.7411**	**0.0195**	**0.7606**		**2,675.9124**	**2,675.9124**	**0.0767**		**2,677.8309**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	2.8407	42.9720	54.8285	0.0871		2.6494	2.6494		2.6494	2.6494	0.0000	8,205.8685	8,205.8685	1.4278		8,241.5629
Total	**2.8407**	**42.9720**	**54.8285**	**0.0871**		**2.6494**	**2.6494**		**2.6494**	**2.6494**	**0.0000**	**8,205.8685**	**8,205.8685**	**1.4278**		**8,241.5629**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	1.2337	0.8325	9.2022	0.0269	2.7944	0.0212	2.8156	0.7411	0.0195	0.7606		2,675.9124	2,675.9124	0.0767		2,677.8309
Total	**1.2337**	**0.8325**	**9.2022**	**0.0269**	**2.7944**	**0.0212**	**2.8156**	**0.7411**	**0.0195**	**0.7606**		**2,675.9124**	**2,675.9124**	**0.0767**		**2,677.8309**

3.20 Phase 3 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	35.1194					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	1.1781	9.3885	11.4925	0.0183		0.5273	0.5273		0.5235	0.5235		1,748.1227	1,748.1227	0.2654		1,754.7567
Total	**36.2974**	**9.3885**	**11.4925**	**0.0183**		**0.5273**	**0.5273**		**0.5235**	**0.5235**		**1,748.1227**	**1,748.1227**	**0.2654**		**1,754.7567**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3701	0.2498	2.7607	8.0600e-003	0.8383	6.3600e-003	0.8447	0.2223	5.8600e-003	0.2282		802.7737	802.7737	0.0230		803.3493
Total	**0.3701**	**0.2498**	**2.7607**	**8.0600e-003**	**0.8383**	**6.3600e-003**	**0.8447**	**0.2223**	**5.8600e-003**	**0.2282**		**802.7737**	**802.7737**	**0.0230**		**803.3493**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	35.1194					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3919	8.9476	12.0825	0.0183		0.6270	0.6270		0.6270	0.6270	0.0000	1,748.1227	1,748.1227	0.2654		1,754.7567
Total	**35.5112**	**8.9476**	**12.0825**	**0.0183**		**0.6270**	**0.6270**		**0.6270**	**0.6270**	**0.0000**	**1,748.1227**	**1,748.1227**	**0.2654**		**1,754.7567**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3701	0.2498	2.7607	8.0600e-003	0.8383	6.3600e-003	0.8447	0.2223	5.8600e-003	0.2282		802.7737	802.7737	0.0230		803.3493
Total	**0.3701**	**0.2498**	**2.7607**	**8.0600e-003**	**0.8383**	**6.3600e-003**	**0.8447**	**0.2223**	**5.8600e-003**	**0.2282**		**802.7737**	**802.7737**	**0.0230**		**803.3493**

3.21 Phase 3 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Off-Road	1.1022	11.4283	11.9048	0.0185		0.6116	0.6116		0.5627	0.5627		1,793.7834	1,793.7834	0.5802		1,808.2871
Paving	0.1579					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2601**	**11.4283**	**11.9048**	**0.0185**		**0.6116**	**0.6116**		**0.5627**	**0.5627**		**1,793.7834**	**1,793.7834**	**0.5802**		**1,808.2871**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day											lb/day				
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0395	0.0266	0.2945	8.6000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		85.6292	85.6292	2.4600e-003		85.6906

Total	**0.0395**	**0.0266**	**0.2945**	**8.6000e-004**	**0.0894**	**6.8000e-004**	**0.0901**	**0.0237**	**6.2000e-004**	**0.0243**		**85.6292**	**85.6292**	**2.4600e-003**		**85.6906**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4558	9.1774	14.0527	0.0185		0.4951	0.4951		0.4951	0.4951	0.0000	1,793.7834	1,793.7834	0.5802		1,808.2871
Paving	0.1579					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.6136**	**9.1774**	**14.0527**	**0.0185**		**0.4951**	**0.4951**		**0.4951**	**0.4951**	**0.0000**	**1,793.7834**	**1,793.7834**	**0.5802**		**1,808.2871**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0395	0.0266	0.2945	8.6000e-004	0.0894	6.8000e-004	0.0901	0.0237	6.2000e-004	0.0243		85.6292	85.6292	2.4600e-003		85.6906
Total	**0.0395**	**0.0266**	**0.2945**	**8.6000e-004**	**0.0894**	**6.8000e-004**	**0.0901**	**0.0237**	**6.2000e-004**	**0.0243**		**85.6292**	**85.6292**	**2.4600e-003**		**85.6906**

3.22 Phase 3 Landscaping - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0132	9.3111	8.8519	0.0117		0.6772	0.6772		0.6230	0.6230		1,129.3356	1,129.3356	0.3653		1,138.4668
Total	**1.0132**	**9.3111**	**8.8519**	**0.0117**		**0.6772**	**0.6772**		**0.6230**	**0.6230**		**1,129.3356**	**1,129.3356**	**0.3653**		**1,138.4668**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0494	0.0333	0.3681	1.0700e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304		107.0365	107.0365	3.0700e-003		107.1132
Total	**0.0494**	**0.0333**	**0.3681**	**1.0700e-003**	**0.1118**	**8.5000e-004**	**0.1126**	**0.0296**	**7.8000e-004**	**0.0304**		**107.0365**	**107.0365**	**3.0700e-003**		**107.1132**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	0.2859	6.5281	8.8153	0.0117		0.4574	0.4574		0.4574	0.4574	0.0000	1,129.3356	1,129.3356	0.3653		1,138.4668
Total	**0.2859**	**6.5281**	**8.8153**	**0.0117**		**0.4574**	**0.4574**		**0.4574**	**0.4574**	**0.0000**	**1,129.3356**	**1,129.3356**	**0.3653**		**1,138.4668**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0494	0.0333	0.3681	1.0700e-003	0.1118	8.5000e-004	0.1126	0.0296	7.8000e-004	0.0304		107.0365	107.0365	3.0700e-003		107.1132
Total	**0.0494**	**0.0333**	**0.3681**	**1.0700e-003**	**0.1118**	**8.5000e-004**	**0.1126**	**0.0296**	**7.8000e-004**	**0.0304**		**107.0365**	**107.0365**	**3.0700e-003**		**107.1132**

San Manuel Casino Expansion and Hotel
Air Quality Construction Analysis

Year	ROG	NOX	CO	SO2	PM10 Total	Total PM2.5
	tons/year					
2018	0.31	6.29	6.97	0.01	0.97	0.61
2019	1.00	9.61	12.63	0.02	1.17	0.73
2020	2.06	2.75	4.12	0.01	0.34	0.22

San Manuel Casino Expansion and Hotel
Air Quality Construction Analysis

Construction Phases 1,2, and 3 represent the construction related to the parking structure, performance venue, and the hotel tower/casino expansion, respectively. They shall not be confused with the traffic scenarios' phase 1 and 2.

Regional Summary Source	ROG	NOX	CO	SO2	PM10 Total	Total PM2.5
				lb/day		
Phase 1 Demo-2018	1.23	24.84	26.73	0.05	2.56	1.26
Phase 1 Grading-2018	1.31	28.88	28.93	0.06	5.14	3.22
Phase 1 Drainage/Utils-2018	1.45	28.42	36.52	0.06	1.69	1.53
Phase 1 Foundation-2018	1.51	30.41	39.02	0.06	1.92	1.79
Phase 1 Building Construction-2018	2.67	28.30	42.12	0.09	4.45	2.16
Phase 1 Building Construction-2019	2.52	27.82	40.68	0.08	4.44	2.15
Phase 1 Paving-2019	1.02	9.21	14.41	0.02	0.59	0.52
Phase 1 Architectural Coating-2019	19.43	9.54	19.18	0.04	2.41	1.11
Phase 2 Demo-2018	1.18	23.94	26.34	0.05	1.94	1.16
Phase 2 Grading-2018	1.07	21.95	24.30	0.04	4.84	2.99
Phase 2 Drainage/Utils-2018	1.16	22.44	28.22	0.05	1.21	1.10
Phase 2 Foundation-2018	1.24	24.76	29.03	0.05	1.48	1.29
Phase 2 Foundation-2019	1.22	24.64	28.92	0.05	1.48	1.29
Phase 2 Building Construction -2019	2.60	23.42	33.34	0.06	2.55	1.73
Phase 2 Architectural Coating-2019	6.21	9.23	15.45	0.03	1.47	0.86
Phase 3 Demo-2018	1.59	31.39	34.22	0.06	2.82	1.52
Phase 3 Grading-2018	1.30	28.72	28.91	0.06	5.32	3.26
Phase 3 Grading-2019	1.29	28.43	28.78	0.06	5.19	3.23
Phase 3 Drainage/Utils-2019	1.44	28.37	36.43	0.06	1.68	1.53
Phase 3 Foundation-2019	1.85	40.36	41.55	0.09	2.54	2.02
Phase 3 Building Construction-2019	4.31	44.08	66.19	0.12	5.51	3.45
Phase 3 Building Construction-2020	4.07	43.80	65.05	0.12	5.47	3.41
Phase 3 Paving-2020	0.34	6.56	9.22	0.01	0.57	0.49
Phase 3 Landscaping-2020	0.65	9.20	14.38	0.02	0.59	0.52
Phase 3 Architectural Coating-2020	35.88	9.20	15.15	0.03	1.47	0.86

Overlapping Phases	ROG	NOX	CO	SO2	PM10 Total	Total PM2.5
				lb/day		
2018 - Max Daily	**5.2**	**83.7**	**99.8**	**0.2**	**14.6**	**8.4**
Phase 1 Grading+Phase 2 Demo	2.5	52.8	55.3	0.1	7.1	4.4
Phase 1 Grading+Phase 2 Grading	2.4	50.8	53.2	0.1	10.0	6.2
Phase 1 Drainage+Phase 2 Grading+Phase 3 Demo	4.1	81.7	95.0	0.2	9.3	6.0
Phase 1 Foundation+Phase 2 Grading+Phase 3 Demo	4.2	83.7	97.5	0.2	9.6	6.3
Phase 1 Foundation+Phase 2 Grading+Phase 3 Grading	3.9	81.1	92.1	0.2	12.1	8.0
Phase 1 Buidling Construction+Phase 2 Grading+Phase 3 Grading	5.0	78.9	95.0	0.2	14.6	8.4
Phase 1 Building Construction+Phase 2 Drainage+Phase 3 Grading	5.1	79.3	99.0	0.2	11.0	6.5
Phase 1 Building Construction+Phase 2 Foundation+Phase 3 Grading	5.2	81.7	99.8	0.2	11.2	6.7
2019 - Max Daily	**27.5**	**91.6**	**115.4**	**0.2**	**12.2**	**7.1**
Phase 1 Building Construction+Phase 2 Foundation+Phase 3 Grading	5.0	80.8	98.2	0.2	11.1	6.7
Phase 1 Building Construction+Phase 2 Building Construction+Phase 3 Grading	6.4	79.5	102.6	0.2	12.2	7.1
Phase 1 Building Construction+Phase 2 Building Construction+Phase 3 Drainage/Utils	6.6	79.6	110.4	0.2	8.7	5.4
Phase 1 Building Construction+Phase 2 Building Construction+Phase 3 Foundation	7.0	91.6	115.4	0.2	9.5	5.9
Phase 1 Paving+Phase 2 Architectural Coating+Phase 3 Foundation	9.1	58.8	71.2	0.1	4.6	3.4
Phase 1 Architectural Coating+Phase 2 Architectural Coating+Phase 3 Foundation	27.5	59.1	76.0	0.2	6.4	4.0
2020 - Max Daily	**40.0**	**53.0**	**80.2**	**0.1**	**6.9**	**4.3**
Phase 3 Buiding Construction + Phase 3 Architectural Coating	40.0	53.0	80.2	0.1	6.9	4.3
Phase 3 Paving+Phase 3 Architectural Coating+Phase 3 Landscaping	36.9	25.0	38.8	0.1	2.6	1.9
Daily Maximum Emissions	**40.0**	**91.6**	**115.4**	**0.2**	**14.6**	**8.4**

San Manuel Casino Expansion and Hotel

Air Quality Construction Analysis

Construction Phases 1,2, and 3 represent the construction related to the parking structure, performance venue, and the hotel tower/casino expansion, respectively. They shall not be confused with the traffic scenarios' phase 1 and 2.

Summer	Onsite Emissions						Off Site Emissions					
Source	ROG	NOX	CO	SO2	PM10 Total	Total PM2.5	ROG	NOX	CO	SO2	PM10 Total	Total PM2.5
	lb/day						lb/day					
Phase 1 Demo-2018	1.0899	21.8569	25.6731	0.0445	2.3608	1.2009	0.1286	2.9821	0.9948	6.1700e-003	0.1976	0.0604
Phase 1 Grading-2018	1.0568	21.2962	27.0539	0.0432	4.8577	3.1293	0.2307	7.5841	1.6426	0.0132	0.2830	0.0889
Phase 1 Drainage/Utils-2018	1.3344	27.6244	35.5887	0.0543	1.4722	1.4722	0.1064	0.7851	0.9337	3.4100e-003	0.2127	0.0618
Phase 1 Foundation-2018	1.4224	30.3422	38.2625	0.0617	1.7468	1.7468	0.0808	0.0580	0.7526	1.8400e-003	0.1690	0.0457
Phase 1 Building Construction-2018	0.9769	20.9277	28.0094	0.0417	1.2544	1.2544	1.5683	7.2674	14.1133	0.0442	3.1956	0.9015
Phase 1 Building Construction-2019	0.9769	20.9277	28.0094	0.0417	1.2544	1.2544	1.4248	6.8021	12.6718	0.0431	3.1884	0.8947
Phase 1 Paving-2019	0.9819	9.1774	14.0527	0.0185	0.4951	0.4951	0.0392	0.0273	0.3595	9.5000e-004	0.0901	0.0244
Phase 1 Architectural Coating-2019	18.5896	8.9476	12.0825	0.0183	0.6270	0.6270	0.7738	0.5385	7.0995	0.0187	1.7798	0.4810
Phase 2 Demo-2018	1.0899	21.8569	25.6731	0.0445	1.8153	1.1183	0.0820	2.0784	0.6195	4.2100e-003	0.1248	0.0396
Phase 2 Grading-2018	0.9334	18.4778	23.2480	0.0381	4.6531	2.9310	0.1288	3.4688	0.9641	6.6700e-003	0.1842	0.0573
Phase 2 Drainage/Utils-2018	1.0733	21.6648	27.5411	0.0436	1.0546	1.0546	0.0794	0.7657	0.6828	2.8000e-003	0.1564	0.0466
Phase 2 Foundation-2018	1.0852	22.6424	27.8650	0.0460	1.2073	1.2073	0.1424	2.1104	1.1653	6.0400e-003	0.2703	0.0853
Phase 2 Foundation-2019	1.0852	22.6424	27.8650	0.0459	1.2073	1.2073	0.1292	1.9895	1.0544	5.9500e-003	0.2681	0.0832
Phase 2 Building Construction -2019	2.0653	23.0469	28.8436	0.0434	1.4258	1.4258	0.4897	0.3408	4.4934	0.0119	1.1265	0.3045
Phase 2 Architectural Coating-2019	5.8121	8.9476	12.0825	0.0183	0.6270	0.6270	0.3673	0.2556	3.3700	8.9000e-003	0.8449	0.2283
Phase 3 Demo-2018	1.4297	28.4262	33.0353	0.0584	2.5896	1.4470	0.1440	2.9612	1.1408	6.4800e-003	0.2307	0.0693
Phase 3 Grading-2018	1.0568	21.2962	27.0539	0.0432	4.8665	3.1303	0.2272	7.4238	1.6200	0.0129	0.4533	0.1305
Phase 3 Grading-2019	1.0568	21.2962	27.0539	0.0431	4.8665	3.1303	0.2106	7.1312	1.5076	0.0128	0.3196	0.0963
Phase 3 Drainage/Utils-2019	1.3344	27.6244	35.5887	0.0543	1.4722	1.4722	0.0966	0.7377	0.8400	3.3400e-003	0.2119	0.0611
Phase 3 Foundation-2019	1.4224	30.3422	38.2625	0.0617	1.7468	1.7468	0.4089	10.0060	3.0805	0.0243	0.7917	0.2691
Phase 3 Building Construction-2019	2.9808	43.1440	54.9591	0.0871	2.6909	2.6909	1.2244	0.8520	11.2334	0.0297	2.8162	0.7611
Phase 3 Building Construction-2020	2.8407	42.9720	54.8285	0.0871	2.6494	2.6494	1.1311	0.7603	10.2205	0.0287	2.8156	0.7606
Phase 3 Paving-2020	0.6136	9.1774	14.0527	0.0185	0.4951	0.4951	0.0362	0.0243	0.3271	9.2000e-004	0.0901	0.0243
Phase 3 Landscaping-2020	0.2859	6.5281	8.8153	0.0117	0.4574	0.4574	0.0452	0.0304	0.4088	1.1500e-003	0.1126	0.0304
Phase 3 Architectural Coating-2020	35.5112	8.9476	12.0825	0.0183	0.6270	0.6270	0.3393	0.2281	3.0661	8.6200e-003	0.8447	0.2282

Regional Emissions	ROG	NOX	CO	SO2	PM10 Total	Total PM2.5
			lb/day			
Phase 1 Demo-2018	1.2	24.8	26.7	0.1	2.6	1.3
Phase 1 Grading-2018	1.3	28.9	28.7	0.1	5.1	3.2
Phase 1 Drainage/Utils-2018	1.4	28.4	36.5	0.1	1.7	1.5
Phase 1 Foundation-2018	1.5	30.4	39.0	0.1	1.9	1.8
Phase 1 Building Construction-2018	2.5	28.2	42.1	0.1	4.5	2.2
Phase 1 Building Construction-2019	2.4	27.7	40.7	0.1	4.4	2.1
Phase 1 Paving-2019	1.0	9.2	14.4	0.0	0.6	0.5
Phase 1 Architectural Coating-2019	19.4	9.5	19.2	0.0	2.4	1.1
Phase 2 Demo-2018	1.2	23.9	26.3	0.0	1.9	1.2
Phase 2 Grading-2018	1.1	21.9	24.2	0.0	4.8	3.0
Phase 2 Drainage/Utils-2018	1.2	22.4	28.2	0.0	1.2	1.1
Phase 2 Foundation-2018	1.2	24.8	29.0	0.1	1.5	1.3
Phase 2 Foundation-2019	1.2	24.6	28.9	0.1	1.5	1.3
Phase 2 Building Construction -2019	2.6	23.4	33.3	0.1	2.6	1.7
Phase 2 Architectural Coating-2019	6.2	9.2	15.5	0.0	1.5	0.9
Phase 3 Demo-2018	1.6	31.4	34.2	0.1	2.8	1.5
Phase 3 Grading-2018	1.3	28.7	28.7	0.1	5.3	3.3
Phase 3 Grading-2019	1.3	28.4	28.6	0.1	5.2	3.2
Phase 3 Drainage/Utils-2019	1.4	28.4	36.4	0.1	1.7	1.5
Phase 3 Foundation-2019	1.8	40.3	41.3	0.1	2.5	2.0
Phase 3 Building Construction-2019	4.2	44.0	66.2	0.1	5.5	3.5
Phase 3 Building Construction-2020	4.0	43.7	65.0	0.1	5.5	3.4
Phase 3 Paving-2020	0.3	6.6	9.2	0.0	0.6	0.5
Phase 3 Landscaping-2020	0.6	9.2	14.4	0.0	0.6	0.5
Phase 3 Architectural Coating-2020	35.9	9.2	15.1	0.0	1.5	0.9
Overlapping Phase						
2018						
Phase 1 Grading+Phase 2 Demo	2.5	52.8	55.0	0.1	7.1	4.4
Phase 1 Grading+Phase 2 Grading	2.3	50.8	52.9	0.1	10.0	6.2
Phase 1 Drainage+Phase 2 Grading+Phase 3 Demo	4.1	81.7	94.9	0.2	9.3	6.0
Phase 1 Foundation+Phase 2 Grading+Phase 3 Demo	4.1	83.7	97.4	0.2	9.6	6.3
Phase 1 Foundation+Phase 2 Grading+Phase 3 Grading	3.8	81.1	91.9	0.2	12.1	8.0
Phase 1 Buidling Construction+Phase 2 Grading+Phase 3 Grading	4.9	78.9	95.0	0.2	14.6	8.4
Phase 1 Building Construction+Phase 2 Drainage+Phase 3 Grading	5.0	79.3	99.0	0.2	11.0	6.5
Phase 1 Building Construction+Phase 2 Foundation+Phase 3 Grading	5.1	81.7	99.8	0.2	11.2	6.7
2019						
Phase 1 Building Construction+Phase 2 Foundation+Phase 3 Grading	4.9	80.8	98.2	0.2	11.1	6.7
Phase 1 Building Construction+Phase 2 Building Construction+Phase 3 Grading	6.2	79.5	102.6	0.2	12.2	7.1
Phase 1 Building Construction+Phase 2 Building Construction+Phase 3 Drainage/Utils	6.4	79.5	110.4	0.2	8.7	5.4
Phase 1 Building Construction+Phase 2 Building Construction+Phase 3 Foundation	6.8	91.5	115.4	0.2	9.5	5.9
Phase 1 Paving+Phase 2 Architectural Coating+Phase 3 Foundation	9.0	58.8	71.2	0.1	4.6	3.4
Phase 1 Architectural Coating+Phase 2 Architectural Coating+Phase 3 Foundation	27.4	59.0	76.0	0.2	6.4	4.0
2020						
Phase 3 Buiding Construction + Phase 3 Architectural Coating	39.8	52.9	80.2	0.1	6.9	4.3
Phase 3 Paving+Phase 3 Architectural Coating+Phase 3 Landscaping	36.8	24.9	38.8	0.1	2.6	1.9
Daily Maximum Emissions	**39.8**	**91.5**	**115.4**	**0.2**	**14.6**	**8.4**

San Manuel Casino Expansion and Hotel
Air Quality Construction Analysis

Construction Phases 1,2, and 3 represent the construction related to the parking structure, performance venue, and the hotel tower/casino expansion, respectively. They shall not be confused with the traffic scenarios' phase 1 and 2.

	Onsite Emissions						Off Site Emissions					
Winter Source	ROG	NOX	CO	SO2	PM10 Total	Total PM2.5	ROG	NOX	CO	SO2	PM10 Total	Total PM2.5
	lb/day						lb/day					
Phase 1 Demo-2018	1.0899	21.8569	25.6731	0.0445	2.3608	1.2009	0.1388	2.9319	1.0533	5.8100e-003	0.1980	0.0608
Phase 1 Grading-2018	1.0568	21.2962	27.0539	0.0432	4.8577	3.1293	0.2501	7.4195	1.8802	0.0123	0.2843	0.0902
Phase 1 Drainage/Utils-2018	1.3344	27.6244	35.5887	0.0543	1.4722	1.4722	0.1145	0.7918	0.8822	3.2500e-003	0.2128	0.0619
Phase 1 Foundation-2018	1.4224	30.3422	38.2625	0.0617	1.7468	1.7468	0.0879	0.0635	0.6811	1.7200e-003	0.1690	0.0457
Phase 1 Building Construction-2018	0.9769	20.9277	28.0094	0.0417	1.2544	1.2544	1.6956	7.3701	13.0944	0.0419	3.1963	0.9022
Phase 1 Building Construction-2019	0.9769	20.9277	28.0094	0.0417	1.2544	1.2544	1.5425	6.8875	11.7365	0.0408	3.1890	0.8952
Phase 1 Paving-2019	0.9819	9.1774	14.0527	0.0185	0.4951	0.4951	0.0427	0.0299	0.3243	8.9000e-004	0.0901	0.0244
Phase 1 Architectural Coating-2019	18.5896	8.9476	12.0825	0.0183	0.6270	0.6270	0.8425	0.5898	6.4051	0.0175	1.7798	0.4810
Phase 2 Demo-2018	1.0899	21.8569	25.6731	0.0445	1.8153	1.1183	0.0882	2.0483	0.6674	3.9800e-003	0.1251	0.0400
Phase 2 Grading-2018	0.9334	18.4778	23.2480	0.0381	4.6531	2.9310	0.1391	3.4056	1.0513	6.2800e-003	0.1848	0.0579
Phase 2 Drainage/Utils-2018	1.0733	21.6648	27.5411	0.0436	1.0546	1.0546	0.0852	0.7706	0.6551	2.6800e-003	0.1565	0.0467
Phase 2 Foundation-2018	1.0852	22.6424	27.8650	0.0460	1.2073	1.2073	0.1517	2.1186	1.1598	5.8200e-003	0.2706	0.0855
Phase 2 Foundation-2019	1.0852	22.6424	27.8650	0.0459	1.2073	1.2073	0.1378	1.9951	1.0507	5.7200e-003	0.2683	0.0834
Phase 2 Building Construction -2019	2.0653	23.0469	28.8436	0.0434	1.4258	1.4258	0.5332	0.3733	4.0538	0.0111	1.1265	0.3045
Phase 2 Architectural Coating-2019	5.8121	8.9476	12.0825	0.0183	0.6270	0.6270	0.3999	0.2800	3.0404	8.3200e-003	0.8449	0.2283
Phase 3 Demo-2018	1.4297	28.4262	33.0353	0.0584	2.5896	1.4470	0.1556	2.9129	1.1837	6.1000e-003	0.2312	0.0698
Phase 3 Grading-2018	1.0568	21.2962	27.0539	0.0432	4.8665	3.1303	0.2463	7.2633	1.8514	0.0121	0.4546	0.1317
Phase 3 Grading-2019	1.0568	21.2962	27.0539	0.0431	4.8665	3.1303	0.2285	6.9764	1.7287	0.0119	0.3207	0.0974
Phase 3 Drainage/Utils-2019	1.3344	27.6244	35.5887	0.0543	1.4722	1.4722	0.1041	0.7430	0.7929	3.1700e-003	0.2120	0.0611
Phase 3 Foundation-2019	1.4224	30.3422	38.2625	0.0617	1.7468	1.7468	0.4304	10.0179	3.2882	0.0236	0.7928	0.2701
Phase 3 Building Construction-2019	2.9808	43.1440	54.9591	0.0871	2.6909	2.6909	1.3331	0.9332	10.1346	0.0277	2.8162	0.7611
Phase 3 Building Construction-2020	2.8407	42.9720	54.8285	0.0871	2.6494	2.6494	1.2337	0.8325	9.2022	0.0269	2.8156	0.7606
Phase 3 Paving-2020	0.6136	9.1774	14.0527	0.0185	0.4951	0.4951	0.0395	0.0266	0.2945	8.6000e-004	0.0901	0.0243
Phase 3 Landscaping-2020	0.2859	6.5281	8.8153	0.0117	0.4574	0.4574	0.0494	0.0333	0.3681	1.0700e-003	0.1126	0.0304
Phase 3 Architectural Coating-2020	35.5112	8.9476	12.0825	0.0183	0.6270	0.6270	0.3701	0.2498	2.7607	8.0600e-003	0.8447	0.2282

Regional Emissions	ROG	NOX	CO	SO2	PM10 Total	Total PM2.5
			lb/day			
Phase 1 Demo-2018	1.2	24.8	26.7	0.1	2.6	1.3
Phase 1 Grading-2018	1.3	28.7	28.9	0.1	5.1	3.2
Phase 1 Drainage/Utils-2018	1.4	28.4	36.5	0.1	1.7	1.5
Phase 1 Foundation-2018	1.5	30.4	38.9	0.1	1.9	1.8
Phase 1 Building Construction-2018	2.7	28.3	41.1	0.1	4.5	2.2
Phase 1 Building Construction-2019	2.5	27.8	39.7	0.1	4.4	2.1
Phase 1 Paving-2019	1.0	9.2	14.4	0.0	0.6	0.5
Phase 1 Architectural Coating-2019	19.4	9.5	18.5	0.0	2.4	1.1
Phase 2 Demo-2018	1.2	23.9	26.3	0.0	1.9	1.2
Phase 2 Grading-2018	1.1	21.9	24.3	0.0	4.8	3.0
Phase 2 Drainage/Utils-2018	1.2	22.4	28.2	0.0	1.2	1.1
Phase 2 Foundation-2018	1.2	24.8	29.0	0.1	1.5	1.3
Phase 2 Foundation-2019	1.2	24.6	28.9	0.1	1.5	1.3
Phase 2 Building Construction -2019	2.6	23.4	32.9	0.1	2.6	1.7
Phase 2 Architectural Coating-2019	6.2	9.2	15.1	0.0	1.5	0.9
Phase 3 Demo-2018	1.6	31.3	34.2	0.1	2.8	1.5
Phase 3 Grading-2018	1.3	28.6	28.9	0.1	5.3	3.3
Phase 3 Grading-2019	1.3	28.3	28.8	0.1	5.2	3.2
Phase 3 Drainage/Utils-2019	1.4	28.4	36.4	0.1	1.7	1.5
Phase 3 Foundation-2019	1.9	40.4	41.6	0.1	2.5	2.0
Phase 3 Building Construction-2019	4.3	44.1	65.1	0.1	5.5	3.5
Phase 3 Building Construction-2020	4.1	43.8	64.0	0.1	5.5	3.4
Phase 3 Paving-2020	0.3	6.6	9.2	0.0	0.6	0.5
Phase 3 Landscaping-2020	0.7	9.2	14.3	0.0	0.6	0.5
Phase 3 Architectural Coating-2020	35.9	9.2	14.8	0.0	1.5	0.9
Overlapping Phase						
2018						
Phase 1 Grading+Phase 2 Demo	2.5	52.6	55.3	0.1	7.1	4.4
Phase 1 Grading+Phase 2 Grading	2.4	50.6	53.2	0.1	10.0	6.2
Phase 1 Drainage+Phase 2 Grading+Phase 3 Demo	4.1	81.6	95.0	0.2	9.3	6.0
Phase 1 Foundation+Phase 2 Grading+Phase 3 Demo	4.2	83.6	97.5	0.2	9.6	6.3
Phase 1 Foundation+Phase 2 Grading+Phase 3 Grading	3.9	80.8	92.1	0.2	12.1	8.0
Phase 1 Buidling Construction+Phase 2 Grading+Phase 3 Grading	5.0	78.7	94.3	0.2	14.6	8.4
Phase 1 Building Construction+Phase 2 Drainage+Phase 3 Grading	5.1	79.3	98.2	0.2	11.0	6.5
Phase 1 Building Construction+Phase 2 Foundation+Phase 3 Grading	5.2	81.6	99.0	0.2	11.2	6.7
2019						
Phase 1 Building Construction+Phase 2 Foundation+Phase 3 Grading	5.0	80.7	97.4	0.2	11.1	6.7
Phase 1 Building Construction+Phase 2 Building Construction+Phase 3 Grading	6.4	79.5	101.4	0.2	12.2	7.1
Phase 1 Building Construction+Phase 2 Building Construction+Phase 3 Drainage/Utils	6.6	79.6	109.0	0.2	8.7	5.4
Phase 1 Building Construction+Phase 2 Building Construction+Phase 3 Foundation	7.0	91.6	114.2	0.2	9.5	5.9
Phase 1 Paving+Phase 2 Architectural Coating+Phase 3 Foundation	9.1	58.8	71.1	0.1	4.6	3.4
Phase 1 Architectural Coating+Phase 2 Architectural Coating+Phase 3 Foundation	27.5	59.1	75.2	0.1	6.4	4.0
2020						
Phase 3 Buiding Construction + Phase 3 Architectural Coating	40.0	53.0	78.9	0.1	6.9	4.3
Phase 3 Paving+Phase 3 Architectural Coating+Phase 3 Landscaping	36.9	25.0	38.4	0.1	2.6	1.9
Daily Maximum Emissions	**40.0**	**91.6**	**114.2**	**0.2**	**14.6**	**8.4**

San Manuel Casino Expansion and Hotel
Air Quality Construction Analysis

Construction Phases 1,2, and 3 represent the construction related to the parking structure, performance venue, and the hotel tower/casino expansion, respectively. They shall not be confused with the traffic scenarios' phase 1 and 2.

	Onsite Emissions from CALEEMOD				Vendor/Haul Truck Idling Emissions			
Localized Emissions Summary Source	**NOX**	**CO**	**PM10 Total**	**Total PM2.5**	**NOX**	**CO**	**PM10**	**PM2.5**
			lb/day					
Phase 1 Demo-2018	21.9	25.7	2.4	1.2	4.63E-01	7.71E-02	1.73E-03	1.65E-03
Phase 1 Grading-2018	21.3	27.1	4.9	3.1	1.16E+00	1.94E-01	4.35E-03	4.16E-03
Phase 1 Drainage/Utils-2018	27.6	35.6	1.5	1.5	1.20E-01	2.01E-02	4.50E-04	4.30E-04
Phase 1 Foundation-2018	30.3	38.3	1.7	1.7	1.04E+00	1.74E-01	3.90E-03	3.73E-03
Phase 1 Building Construction-2018	20.9	28.0	1.3	1.3				
Phase 1 Building Construction-2019	20.9	28.0	1.3	1.3				
Phase 1 Paving-2019	9.2	14.1	0.5	0.5				
Phase 1 Architectural Coating-2019	8.9	12.1	0.6	0.6				
Phase 2 Demo-2018	21.9	25.7	1.8	1.1	3.26E-01	5.43E-02	1.22E-03	1.17E-03
Phase 2 Grading-2018	18.5	23.2	4.7	2.9	5.62E-01	9.36E-02	2.10E-03	2.01E-03
Phase 2 Drainage/Utils-2018	21.7	27.5	1.1	1.1	1.20E-01	2.01E-02	4.50E-04	4.30E-04
Phase 2 Foundation-2018	22.6	27.9	1.2	1.2	3.37E-01	5.61E-02	1.26E-03	1.20E-03
Phase 2 Foundation-2019	22.6	27.9	1.2	1.2				
Phase 2 Building Construction -2019	23.0	28.8	1.4	1.4				
Phase 2 Architectural Coating-2019	8.9	12.1	0.6	0.6				
Phase 3 Demo-2018	28.4	33.0	2.6	1.4	4.58E-01	7.62E-02	1.71E-03	1.64E-03
Phase 3 Grading-2018	21.3	27.1	4.9	3.1	1.16E+00	1.94E-01	4.35E-03	4.16E-03
Phase 3 Grading-2019	21.3	27.1	4.9	3.1	1.16384412	0.1938417	0.0043485	0.004160412
Phase 3 Drainage/Utils-2019	27.6	35.6	1.5	1.5	1.16E-01	1.89E-02	4.01E-04	3.84E-04
Phase 3 Foundation-2019	30.3	38.3	1.7	1.7	1.69E+00	2.75E-01	5.85E-03	5.60E-03
Phase 3 Building Construction-2019	43.1	55.0	2.7	2.7				
Phase 3 Building Construction-2020	43.0	54.8	2.6	2.6				
Phase 3 Paving-2020	9.2	14.1	0.5	0.5				
Phase 3 Landscaping-2020	6.5	8.8	0.5	0.5				
Phase 3 Architectural Coating-2020	8.9	12.1	0.6	0.6				

Localized Emissions	NOX	CO	PM10 Total	Total PM2.5
			lb/day	
Phase 1 Demo-2018	22.3	25.8	2.4	1.2
Phase 1 Grading-2018	22.5	27.2	4.9	3.1
Phase 1 Drainage/Utils-2018	27.7	35.6	1.5	1.5
Phase 1 Foundation-2018	31.4	38.4	1.8	1.8
Phase 1 Building Construction-2018	20.9	28.0	1.3	1.3
Phase 1 Building Construction-2019	20.9	28.0	1.3	1.3
Phase 1 Paving-2019	9.2	14.1	0.5	0.5
Phase 1 Architectural Coating-2019	8.9	12.1	0.6	0.6
Phase 2 Demo-2018	22.2	25.7	1.8	1.1
Phase 2 Grading-2018	19.0	23.3	4.7	2.9
Phase 2 Drainage/Utils-2018	21.8	27.6	1.1	1.1
Phase 2 Foundation-2018	23.0	27.9	1.2	1.2
Phase 2 Foundation-2019	22.6	27.9	1.2	1.2
Phase 2 Building Construction -2019	23.0	28.8	1.4	1.4
Phase 2 Architectural Coating-2019	8.9	12.1	0.6	0.6
Phase 3 Demo-2018	28.9	33.1	2.6	1.4
Phase 3 Grading-2018	22.5	27.2	4.9	3.1
Phase 3 Grading-2019	22.5	27.2	4.9	3.1
Phase 3 Drainage/Utils-2019	27.7	35.6	1.5	1.5
Phase 3 Foundation-2019	32.0	38.5	1.8	1.8
Phase 3 Building Construction-2019	43.1	55.0	2.7	2.7
Phase 3 Building Construction-2020	43.0	54.8	2.6	2.6
Phase 3 Paving-2020	9.2	14.1	0.5	0.5
Phase 3 Landscaping-2020	6.5	8.8	0.5	0.5
Phase 3 Architectural Coating-2020	8.9	12.1	0.6	0.6
Overlapping Phases				
2018 - Max Daily	**79.3**	**94.9**	**11.3**	**7.8**
Phase 1 Grading+Phase 2 Demo	44.6	53.0	6.7	4.3
Phase 1 Grading+Phase 2 Grading	41.5	50.6	9.5	6.1
Phase 1 Drainage+Phase 2 Grading+Phase 3 Demo	75.7	92.1	8.7	5.9
Phase 1 Foundation+Phase 2 Grading+Phase 3 Demo	79.3	94.9	9.0	6.1
Phase 1 Foundation+Phase 2 Grading+Phase 3 Grading	72.9	89.0	11.3	7.8
Phase 1 Buidling Construction+Phase 2 Grading+Phase 3 Grading	62.4	78.6	10.8	7.3
Phase 1 Building Construction+Phase 2 Drainage+Phase 3 Grading	65.2	82.8	7.2	5.4
Phase 1 Building Construction+Phase 2 Foundation+Phase 3 Grading	66.4	83.2	7.3	5.6
2019 - Max Daily	**76.0**	**95.4**	**7.6**	**5.8**
Phase 1 Building Construction+Phase 2 Foundation+Phase 3 Grading	66.0	83.1	7.3	5.6
Construction+Phase 3 Grading	66.4	84.1	7.6	5.8
Construction+Phase 3 Drainage/Utils	71.7	92.5	4.2	4.2
Construction+Phase 3 Foundation	76.0	95.4	4.4	4.4
Phase 1 Paving+Phase 2 Architectural Coating+Phase 3 Foundation	50.2	64.7	2.9	2.9
Coating+Phase 3 Foundation	49.9	62.7	3.0	3.0
2020 - Max Daily	**51.9**	**66.9**	**3.3**	**3.3**
Phase 3 Buiding Construction + Phase 3 Architectural Coating	51.9	66.9	3.3	3.3
Phase 3 Paving+Phase 3 Architectural Coating+Phase 3 Landscaping	24.7	35.0	1.6	1.6
Daily Maximum Emissions	**79.3**	**95.4**	**11.3**	**7.8**

C-2 Operational AQ Emissions

- Phase 1 Operational CalEEMod Output (Summer)
- Phase 1 Operational CalEEMod Output (Winter)
- Phase 2 Operational CalEEMod Output (Summer)
- Phase 2 Operational CalEEMod Output (Winter)
- Operational Air Quality Summary
- Carbon Monoxide Hot Spot Analysis
- Operational PM10 and PM2.5 Dispersion Modeling (Localized)
- Operational NO_2 Dispersion Modeling (Regional)

Operational Phase 1 and Phase 2 correspond to Traffic Study Phase 1 and Phase 2

San Manuel Casino Expansion and Hotel-Phase 1

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	55.00	1000sqft	1.79	55,000.00	0
Hotel	500.00	Room	0.99	682,000.00	0
Arena	58.00	1000sqft	1.11	58,000.00	0
Unenclosed Parking with Elevator	2,200.00	Space	2.86	880,000.00	0
Industrial Park	5.24	1000sqft	0.12	5,238.00	0
Other Asphalt Surfaces	104.90	1000sqft	2.41	104,898.00	0
City Park	1.39	Acre	1.39	60,635.52	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Specific Information

Vehicle Trips - Project Specific Information

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	726,000.00	682,000.00
tblLandUse	LotAcreage	17.68	1.79
tblLandUse	LotAcreage	16.67	0.99
tblLandUse	LotAcreage	18.64	1.11
tblLandUse	LotAcreage	19.80	2.86
tblVehicleTrips	ST_TR	10.71	72.57
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	8.19	7.60
tblVehicleTrips	ST_TR	2.49	0.00
tblVehicleTrips	SU_TR	10.71	72.57
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	5.95	7.60
tblVehicleTrips	SU_TR	0.73	0.00
tblVehicleTrips	WD_TR	10.71	55.75
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	8.17	5.00
tblVehicleTrips	WD_TR	6.83	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	18.3324	2.7700e-003	0.3005	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6400	0.6400	1.7200e-003		0.6830
Mobile	20.7110	97.3256	230.5688	0.7529	56.9151	0.7400	57.6551	15.2294	0.6945	15.9239		76,559.1634	76,559.1634	4.0276		76,659.8542

Total	**40.3616**	**109.3123**	**240.9358**	**0.8249**	**56.9151**	**1.6519**	**58.5670**	**15.2294**	**1.6063**	**16.8357**		**90,940.5822**	**90,940.5822**	**4.3050**	**0.2637**	**91,126.7736**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	18.3324	2.7700e-003	0.3005	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6400	0.6400	1.7200e-003		0.6830
Mobile	20.7110	97.3256	230.5688	0.7529	56.9151	0.7400	57.6551	15.2294	0.6945	15.9239		76,559.1634	76,559.1634	4.0276		76,659.8542
Total	**40.3616**	**109.3123**	**240.9358**	**0.8249**	**56.9151**	**1.6519**	**58.5670**	**15.2294**	**1.6063**	**16.8357**		**90,940.5822**	**90,940.5822**	**4.3050**	**0.2637**	**91,126.7736**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	20.7110	97.3256	230.5688	0.7529	56.9151	0.7400	57.6551	15.2294	0.6945	15.9239		76,559.1634	76,559.1634	4.0276		76,659.8542
Unmitigated	20.7110	97.3256	230.5688	0.7529	56.9151	0.7400	57.6551	15.2294	0.6945	15.9239		76,559.1634	76,559.1634	4.0276		76,659.8542

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	3,066.36	3,991.13	3991.13	7,189,063	7,189,063
Arena	3,233.62	4,208.83	4208.83	7,581,194	7,581,194
City Park	0.00	0.00	0.00		
Hotel	2,500.00	3,800.00	3800.00	6,851,720	6,851,720
Industrial Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	8,799.98	11,999.96	11,999.96	21,621,976	21,621,976

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	79	19	2
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unenclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
City Park	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Hotel	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Industrial Park	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Other Asphalt Surfaces	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Unenclosed Parking with Elevator	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Mitigated	18.3324	2.7700e-003	0.3005	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6400	0.6400	1.7200e-003		0.6830
Unmitigated	18.3324	2.7700e-003	0.3005	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6400	0.6400	1.7200e-003		0.6830

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1074					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.1967					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0283	2.7700e-003	0.3005	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6400	0.6400	1.7200e-003		0.6830
Total	**18.3324**	**2.7700e-003**	**0.3005**	**2.0000e-005**		**1.0800e-003**	**1.0800e-003**		**1.0800e-003**	**1.0800e-003**		**0.6400**	**0.6400**	**1.7200e-003**		**0.6830**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1074					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.1967					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0283	2.7700e-003	0.3005	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6400	0.6400	1.7200e-003		0.6830

Total	**18.3324**	**2.7700e-003**	**0.3005**	**2.0000e-005**		**1.0800e-003**	**1.0800e-003**		**1.0800e-003**	**1.0800e-003**		**0.6400**	**0.6400**	**1.7200e-003**		**0.6830**

San Manuel Casino Expansion and Hotel-Phase 1

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	55.00	1000sqft	1.79	55,000.00	0
Hotel	500.00	Room	0.99	682,000.00	0
Arena	58.00	1000sqft	1.11	58,000.00	0
Unenclosed Parking with Elevator	2,200.00	Space	2.86	880,000.00	0
Industrial Park	5.24	1000sqft	0.12	5,238.00	0
Other Asphalt Surfaces	104.90	1000sqft	2.41	104,898.00	0
City Park	1.39	Acre	1.39	60,635.52	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Specific Information

Vehicle Trips - Project Specific Information

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	726,000.00	682,000.00
tblLandUse	LotAcreage	17.68	1.79
tblLandUse	LotAcreage	16.67	0.99
tblLandUse	LotAcreage	18.64	1.11
tblLandUse	LotAcreage	19.80	2.86
tblVehicleTrips	ST_TR	10.71	72.57
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	8.19	7.60
tblVehicleTrips	ST_TR	2.49	0.00
tblVehicleTrips	SU_TR	10.71	72.57
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	5.95	7.60
tblVehicleTrips	SU_TR	0.73	0.00
tblVehicleTrips	WD_TR	10.71	55.75
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	8.17	5.00
tblVehicleTrips	WD_TR	6.83	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	18.3324	2.7700e-003	0.3005	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6400	0.6400	1.7200e-003		0.6830

Mobile	19.6816	98.7682	220.3140	0.7115	56.9151	0.7459	57.6610	15.2294	0.7001	15.9295		72,384.8335	72,384.8335	4.0614		72,486.3673
Total	**39.3323**	**110.7550**	**230.6811**	**0.7834**	**56.9151**	**1.6578**	**58.5729**	**15.2294**	**1.6120**	**16.8414**		**86,766.2522**	**86,766.2522**	**4.3387**	**0.2637**	**86,953.2868**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	18.3324	2.7700e-003	0.3005	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6400	0.6400	1.7200e-003		0.6830
Mobile	19.6816	98.7682	220.3140	0.7115	56.9151	0.7459	57.6610	15.2294	0.7001	15.9295		72,384.8335	72,384.8335	4.0614		72,486.3673
Total	**39.3323**	**110.7550**	**230.6811**	**0.7834**	**56.9151**	**1.6578**	**58.5729**	**15.2294**	**1.6120**	**16.8414**		**86,766.2522**	**86,766.2522**	**4.3387**	**0.2637**	**86,953.2868**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	19.6816	98.7682	220.3140	0.7115	56.9151	0.7459	57.6610	15.2294	0.7001	15.9295		72,384.8335	72,384.8335	4.0614		72,486.3673
Unmitigated	19.6816	98.7682	220.3140	0.7115	56.9151	0.7459	57.6610	15.2294	0.7001	15.9295		72,384.8335	72,384.8335	4.0614		72,486.3673

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	3,066.36	3,991.13	3991.13	7,189,063	7,189,063
Arena	3,233.62	4,208.83	4208.83	7,581,194	7,581,194
City Park	0.00	0.00	0.00		
Hotel	2,500.00	3,800.00	3800.00	6,851,720	6,851,720
Industrial Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	8,799.98	11,999.96	11,999.96	21,621,976	21,621,976

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	79	19	2
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unenclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
City Park	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Hotel	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Industrial Park	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Other Asphalt Surfaces	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Unenclosed Parking with Elevator	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	18.3324	2.7700e-003	0.3005	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6400	0.6400	1.7200e-003		0.6830
Unmitigated	18.3324	2.7700e-003	0.3005	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6400	0.6400	1.7200e-003		0.6830

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1074					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.1967					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0283	2.7700e-003	0.3005	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6400	0.6400	1.7200e-003		0.6830
Total	**18.3324**	**2.7700e-003**	**0.3005**	**2.0000e-005**		**1.0800e-003**	**1.0800e-003**		**1.0800e-003**	**1.0800e-003**		**0.6400**	**0.6400**	**1.7200e-003**		**0.6830**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1074					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Consumer Products	16.1967					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0283	2.7700e-003	0.3005	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6400	0.6400	1.7200e-003		0.6830
Total	**18.3324**	**2.7700e-003**	**0.3005**	**2.0000e-005**		**1.0800e-003**	**1.0800e-003**		**1.0800e-003**	**1.0800e-003**		**0.6400**	**0.6400**	**1.7200e-003**		**0.6830**

San Manuel Casino Expansion and Hotel-Phase 2

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	5.24	1000sqft	0.12	5,238.00	0
Other Asphalt Surfaces	104.90	1000sqft	2.41	104,898.00	0
Unenclosed Parking with Elevator	2,200.00	Space	2.86	880,000.00	0
Arena	100.00	1000sqft	2.30	100,000.00	0
Arena	58.00	1000sqft	1.11	58,000.00	0
City Park	1.39	Acre	1.39	60,635.52	0
Hotel	500.00	Room	0.99	647,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Specific Information

Vehicle Trips - Project Specific Information

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	5,240.00	5,238.00
tblLandUse	LandUseSquareFeet	104,900.00	104,898.00
tblLandUse	LandUseSquareFeet	60,548.40	60,635.52
tblLandUse	LandUseSquareFeet	726,000.00	647,000.00
tblLandUse	LotAcreage	19.80	2.86
tblLandUse	LotAcreage	32.14	2.30
tblLandUse	LotAcreage	18.64	1.11
tblLandUse	LotAcreage	16.67	0.99
tblVehicleTrips	ST_TR	10.71	86.08
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	8.19	3.60
tblVehicleTrips	ST_TR	2.49	0.00
tblVehicleTrips	SU_TR	10.71	86.08
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	5.95	3.60
tblVehicleTrips	SU_TR	0.73	0.00
tblVehicleTrips	WD_TR	10.71	68.35
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	8.17	3.00
tblVehicleTrips	WD_TR	6.83	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	18.5558	2.7700e-003	0.3037	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6499	0.6499	1.7100e-003		0.6928
Mobile	22.7156	109.8725	247.8861	0.9004	71.5535	0.6937	72.2472	19.1449	0.6471	19.7920		91,748.1190	91,748.1190	4.5042		91,860.7244
Total	**42.5707**	**121.6878**	**258.1123**	**0.9713**	**71.5535**	**1.5925**	**73.1460**	**19.1449**	**1.5459**	**20.6908**		**105,923.8103**	**105,923.8103**	**4.7776**	**0.2599**	**106,120.6938**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	18.5558	2.7700e-003	0.3037	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6499	0.6499	1.7100e-003		0.6928
Mobile	22.7156	109.8725	247.8861	0.9004	71.5535	0.6937	72.2472	19.1449	0.6471	19.7920		91,748.1190	91,748.1190	4.5042		91,860.7244
Total	**42.5707**	**121.6878**	**258.1123**	**0.9713**	**71.5535**	**1.5925**	**73.1460**	**19.1449**	**1.5459**	**20.6908**		**105,923.8103**	**105,923.8103**	**4.7776**	**0.2599**	**106,120.6938**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Mitigated	22.7156	109.8725	247.8861	0.9004	71.5535	0.6937	72.2472	19.1449	0.6471	19.7920		91,748.1190	91,748.1190	4.5042		91,860.7244
Unmitigated	22.7156	109.8725	247.8861	0.9004	71.5535	0.6937	72.2472	19.1449	0.6471	19.7920		91,748.1190	91,748.1190	4.5042		91,860.7244

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	6,835.40	8,607.60	8607.60	15,847,165	15,847,165
Arena	3,964.53	4,992.41	4992.41	9,191,356	9,191,356
City Park	0.00	0.00	0.00		
Hotel	1,500.00	1,800.00	1800.00	3,783,786	3,783,786
Industrial Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	12,299.93	15,400.01	15,400.01	28,822,307	28,822,307

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	79	19	2
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unenclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
City Park	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Hotel	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896

Industrial Park	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Other Asphalt Surfaces	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Unenclosed Parking with Elevator	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	18.5558	2.7700e-003	0.3037	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6499	0.6499	1.7100e-003		0.6928
Unmitigated	18.5558	2.7700e-003	0.3037	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6499	0.6499	1.7100e-003		0.6928

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1328					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.3947					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0282	2.7700e-003	0.3037	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6499	0.6499	1.7100e-003		0.6928
Total	**18.5558**	**2.7700e-003**	**0.3037**	**2.0000e-005**		**1.0800e-003**	**1.0800e-003**		**1.0800e-003**	**1.0800e-003**		**0.6499**	**0.6499**	**1.7100e-003**		**0.6928**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1328					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.3947					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0282	2.7700e-003	0.3037	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6499	0.6499	1.7100e-003		0.6928
Total	**18.5558**	**2.7700e-003**	**0.3037**	**2.0000e-005**		**1.0800e-003**	**1.0800e-003**		**1.0800e-003**	**1.0800e-003**		**0.6499**	**0.6499**	**1.7100e-003**		**0.6928**

San Manuel Casino Expansion and Hotel-Phase 2

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	5.24	1000sqft	0.12	5,238.00	0
Other Asphalt Surfaces	104.90	1000sqft	2.41	104,898.00	0
Unenclosed Parking with Elevator	2,200.00	Space	2.86	880,000.00	0
Arena	100.00	1000sqft	2.30	100,000.00	0
Arena	58.00	1000sqft	1.11	58,000.00	0
City Park	1.39	Acre	1.39	60,635.52	0
Hotel	500.00	Room	0.99	647,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Specific Information

Vehicle Trips - Project Specific Information

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	5,240.00	5,238.00
tblLandUse	LandUseSquareFeet	104,900.00	104,898.00
tblLandUse	LandUseSquareFeet	60,548.40	60,635.52
tblLandUse	LandUseSquareFeet	726,000.00	647,000.00
tblLandUse	LotAcreage	19.80	2.86
tblLandUse	LotAcreage	32.14	2.30
tblLandUse	LotAcreage	18.64	1.11
tblLandUse	LotAcreage	16.67	0.99
tblVehicleTrips	ST_TR	10.71	86.08
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	8.19	3.60
tblVehicleTrips	ST_TR	2.49	0.00
tblVehicleTrips	SU_TR	10.71	86.08
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	5.95	3.60
tblVehicleTrips	SU_TR	0.73	0.00
tblVehicleTrips	WD_TR	10.71	68.35
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	8.17	3.00
tblVehicleTrips	WD_TR	6.83	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	18.5558	2.7700e-003	0.3037	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6499	0.6499	1.7100e-003		0.6928
Mobile	21.5026	111.0254	236.4304	0.8511	71.5535	0.6995	72.2530	19.1449	0.6527	19.7976		86,768.5429	86,768.5429	4.5571		86,882.4702
Total	**41.3577**	**122.8407**	**246.6566**	**0.9220**	**71.5535**	**1.5984**	**73.1518**	**19.1449**	**1.5515**	**20.6964**		**100,944.2342**	**100,944.2342**	**4.8305**	**0.2599**	**101,142.4395**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	18.5558	2.7700e-003	0.3037	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6499	0.6499	1.7100e-003		0.6928
Mobile	21.5026	111.0254	236.4304	0.8511	71.5535	0.6995	72.2530	19.1449	0.6527	19.7976		86,768.5429	86,768.5429	4.5571		86,882.4702
Total	**41.3577**	**122.8407**	**246.6566**	**0.9220**	**71.5535**	**1.5984**	**73.1518**	**19.1449**	**1.5515**	**20.6964**		**100,944.2342**	**100,944.2342**	**4.8305**	**0.2599**	**101,142.4395**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Mitigated	21.5026	111.0254	236.4304	0.8511	71.5535	0.6995	72.2530	19.1449	0.6527	19.7976		86,768.5429	86,768.5429	4.5571		86,882.4702
Unmitigated	21.5026	111.0254	236.4304	0.8511	71.5535	0.6995	72.2530	19.1449	0.6527	19.7976		86,768.5429	86,768.5429	4.5571		86,882.4702

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	6,835.40	8,607.60	8607.60	15,847,165	15,847,165
Arena	3,964.53	4,992.41	4992.41	9,191,356	9,191,356
City Park	0.00	0.00	0.00		
Hotel	1,500.00	1,800.00	1800.00	3,783,786	3,783,786
Industrial Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	12,299.93	15,400.01	15,400.01	28,822,307	28,822,307

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	79	19	2
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unenclosed Parking with	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
City Park	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Hotel	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Industrial Park	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Other Asphalt Surfaces	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896

Unenclosed Parking with Elevator	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	18.5558	2.7700e-003	0.3037	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6499	0.6499	1.7100e-003		0.6928
Unmitigated	18.5558	2.7700e-003	0.3037	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6499	0.6499	1.7100e-003		0.6928

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1328					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.3947					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0282	2.7700e-003	0.3037	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6499	0.6499	1.7100e-003		0.6928
Total	**18.5558**	**2.7700e-003**	**0.3037**	**2.0000e-005**		**1.0800e-003**	**1.0800e-003**		**1.0800e-003**	**1.0800e-003**		**0.6499**	**0.6499**	**1.7100e-003**		**0.6928**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.1328					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	16.3947					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0282	2.7700e-003	0.3037	2.0000e-005		1.0800e-003	1.0800e-003		1.0800e-003	1.0800e-003		0.6499	0.6499	1.7100e-003		0.6928
Total	**18.5558**	**2.7700e-003**	**0.3037**	**2.0000e-005**		**1.0800e-003**	**1.0800e-003**		**1.0800e-003**	**1.0800e-003**		**0.6499**	**0.6499**	**1.7100e-003**		**0.6928**

San Manuel Casino Expansion and Hotel
Project Operational Air Quality Summary - Annual Maximum

Traffic Study Phase 1 Source Categories	**ROG**	**NOX**	**CO**	**SO2** tons/year	**Total PM10**	**Total PM2.5**
Area	3.34	0.0004	0.04	0	0.0001	0.0001
Energy with Cogeneration	2.34	1.84	4.83	0.11	1.94	1.94
Energy without Cogeneration	0.23	4.18	3.51	0.03	0.32	0.32
Mobile	2.82	14.80	32.76	0.11	8.32	2.30
Traffic Study Phase 2 Source Categories	**ROG**	**NOX**	**CO**	**SO2** tons/year	**Total PM10**	**Total PM2.5**
Area	3.38	0.0004	0.0380	0	0.0001	0.0001
Energy with Cogeneration	2.34	1.84	4.83	0.11	1.94	1.94
Energy without Cogeneration	0.23	4.18	3.51	0.03	0.32	0.32
Mobile	3.26	17.61	37.25	0.13	11.06	3.04
Scenarios Summary	**ROG**	**NOX**	**CO**	**SO2** tons/year	**Total PM10**	**Total PM2.5**
Phase 1 with Cogeneration	8.5	16.6	37.6	0.2	10.3	4.2
Phase 2 with Cogeneration	9.0	19.4	42.1	0.2	13.0	5.0
Phase 1 without Cogeneration	6.4	19.0	36.3	0.1	8.6	2.6
Phase 2 without Cogeneration	6.9	21.8	40.8	0.2	11.4	3.4

San Manuel Casino Expansion and Hotel
Project Operational Air Quality Summary - Daily Maximum

Regional Emissions
Traffic Study Phase 1

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
				lb/day		
Area	18	<1	<1	<1	<1	<1
Energy (Natural Gas) without Cogeneration	1	23	19	<1	2	2
Mobile (Traffic Study Phase 1)	21	99	231	1	58	16
Maximum Daily Emissions	**40**	**122**	**250**	**1**	**59**	**18**
SCAQMD Regional Thresholds	55	55	550	150	150	55
Over/(Under)	(15)	67	(300)	(149)	(91)	(37)
Exceeds Threshold?	No	Yes	No	No	No	No

Localized Emissions

Source	NOX	CO	Total PM10	Total PM2.5
			lbs/day	
Area	<1	<1	<1	<1
Energy (Natural Gas) without Cogeneration	23	19	2	2
Maximum Daily Emissions	**23**	**20**	**2**	**2**
SCAQMD Localized Thresholds	270	1746	4	2
Over/(Under)	(247)	(1726)	(2)	(0)
Exceeds Threshold?	No	No	No	No

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
				lb/day		
Area	18	<1	<1	<1	<1	<1
Energy (Natural Gas) with Cogeneration	13	10	26	1	11	11
Mobile (Traffic Study Phase 1)	21	99	231	1	58	16
Maximum Daily Emissions	**52**	**109**	**257**	**1**	**68**	**27**
SCAQMD Regional Thresholds	55	55	550	150	150	55
Over/(Under)	(3)	54	(293)	(149)	(82)	(28)
Exceeds Threshold?	No	Yes	No	No	No	No

Source	NOX	CO	Total PM10	Total PM2.5
			lbs/day	
Area	<1	<1	<1	<1
Energy (Natural Gas) with Cogeneration	10	26	11	11
Maximum Daily Emissions	**10**	**27**	**11**	**11**
SCAQMD Localized Thresholds	270	1746	4	2
Over/(Under)	(260)	(1719)	7	9
Exceeds Threshold?	No	No	Yes	Yes

Traffic Study Phase 2

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
				lb/day		
Area	19	<1	<1	<1	<1	<1
Energy (Natural Gas) without Cogeneration	1	23	19	<1	2	2
Mobile (Traffic Study Phase 2)	23	111	248	1	72	20
Maximum Daily Emissions	**43**	**134**	**267**	**1**	**74**	**22**
SCAQMD Regional Thresholds	55	55	550	150	150	55
Over/(Under)	(12)	79	(283)	(149)	(76)	(33)
Exceeds Threshold?	No	Yes	No	No	No	No

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
				lb/day		
Area	19	<1	<1	<1	<1	<1
Energy (Natural Gas) with Cogeneration	13	10	26	1	11	11
Mobile (Traffic Study Phase 2)	23	111	248	1	72	20
Maximum Daily Emissions	**54**	**121**	**275**	**2**	**83**	**30**
SCAQMD Regional Thresholds	55	55	550	150	150	55
Over/(Under)	(1)	66	(275)	(148)	(67)	(25)
Exceeds Threshold?	No	Yes	No	No	No	No

San Manuel Casino Expansion and Hotel
Operations Air Quality Summary

Regional Emissions Summary

Traffic Study Phase 1

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
				lb/day		
Area	18.3	0.003	0.3	0.00002	0.001	0.001
Energy (Natural Gas) **without** Cogeneration	1.3	22.9	19.2	0.1	1.7	1.7
Mobile (Traffic Study Phase 1)	20.7	98.8	230.6	0.8	57.7	15.9
Maximum Daily Emissions	**40.3**	**121.7**	**250.1**	**0.9**	**59.4**	**17.7**

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
				lb/day		
Area	18.3	0.003	0.3	0.00002	0.001	0.001
Energy (Natural Gas) **with** Cogeneration	12.8	10.1	26.5	0.6	10.6	10.6
Mobile (Traffic Study Phase 1)	20.7	98.8	230.6	0.8	57.7	15.9
Maximum Daily Emissions	**51.9**	**108.8**	**257.3**	**1.4**	**68.3**	**26.5**

Traffic Study Phase 2

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
				lb/day		
Area	18.6	0.003	0.3	0.00002	0.001	0.001
Energy (Natural Gas) **without** Cogeneration	1.3	22.9	19.2	0.1	1.7	1.7
Mobile (Traffic Study Phase 2)	22.7	111.0	247.9	0.9	72.3	19.8
Maximum Daily Emissions	**42.5**	**133.9**	**267.4**	**1.0**	**74.0**	**21.5**

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
				lb/day		
Area	18.6	0.003	0.3	0.00002	0.001	0.001
Energy (Natural Gas) **with** Cogeneration	12.8	10.1	26.5	0.6	10.6	10.6
Mobile (Traffic Study Phase 2)	22.7	111.0	247.9	0.9	72.3	19.8
Maximum Daily Emissions	**54.1**	**121.1**	**274.7**	**1.5**	**82.9**	**30.4**

San Manuel Casino Expansion and Hotel
Operations Air Quality Summary

Localized Emissions

Source	NOX	CO	Total PM10	Total PM2.5
			lb/day	
Area	0.003	0.3	0.001	0.001
Energy (Natural Gas) **without** Cogeneration	22.9	19.2	1.7	1.7
Maximum Daily Emissions	**22.9**	**19.5**	**1.7**	**1.7**

Localized Emissions

Source	NOX	CO	Total PM10	Total PM2.5
			lb/day	
Area	0.003	0.3	0.001	0.001
Energy (Natural Gas) **with** Cogeneration	10.1	26.5	10.6	10.6
Maximum Daily Emissions	**10.1**	**26.8**	**10.6**	**10.6**

San Manuel Casino Expansion and Hotel
Operations Air Quality Summary
Boiler Emissions

Type	Annual Natural gas Consumption(MMBtu/year)
Without Cogeneration	85232
With Cogeneration	4281
Daily Operating Hours	24
Days	365
Annual Operating Hours	8760

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Criteria Pollutant Emissions

Natural Gas Emission Factors (lb/MMSCF) [1]					
VOC	NOx	CO	SO2	PM10	PM2.5
5.500	100.000	84.000	0.600	7.600	7.600
Natural Gas Emission Factors (lb/MMBTU) [2]					
0.00539	0.09804	0.08235	0.00059	0.00745	0.00745

1 USEPA, AP 42, Chapter 1.4; SCAQMD AER default emission factors for natural gas combustion.

2 To convert from lb/MMSCF to lb/MMBTU divide by 1,020.
AP-42 Emissions for Factors, 1.4: Natural Gas Combustion

Type	Daily Natural Gas Consumption (MMBtu)	VOC	NOx	CO	SO2	PM10	PM2.5
		lb/day					
Without Cogeneration	234	1.26E+00	2.29E+01	1.92E+01	1.37E-01	1.74E+00	1.74E+00
With Cogeneration	12	6.32E-02	1.15E+00	9.66E-01	6.90E-03	8.74E-02	8.74E-02

Type	Annual Natural Gas	VOC	NOx	CO	SO2	PM10	PM2.5
		tons/day					
Without Cogeneration	85232	2.30E-01	4.18E+00	3.51E+00	2.51E-02	3.18E-01	3.18E-01
With Cogeneration	4281	1.15E-02	2.10E-01	1.76E-01	1.26E-03	1.59E-02	1.59E-02

San Manuel Casino Expansion and Hotel
Operations Air Quality Summary
Cogen Emissions for the Cogen Energy Alternative

Two identical Jenbacher J616 engines, each 2,656 EkW [1]

5.31	MW - total power rating for two engines
384,353	Annual Natural gas Consumption(MMBtu/year)
24	hrs/day
365	days/yr
8,300	hrs/yr
127	MW-hr/day
1,053	MMBTU/day
46.31	MMBTU/hr

1. The Cogen engine power rating, fuel usage and operation hours were estimated by the Project's energy consultant, Vanderweil.

Criteria Pollutant Emissions

	Emission Factors[1]					
	VOC	NOx	CO	SO2	PM10	PM2.5
Type	lb/MW-hr	lb/MW-hr	lb/MW-hr	lb/mmbtu	lb/mmbtu	lb/mmbtu
Uncontrolled	1.000	1.800	7.600	0.001	0.010	0.010
Controlled	0.100	0.070	0.200	0.001	0.010	0.010

1. VOC, NOx and CO emission factors were from

2. To convert from lb/MMSCF to lb/MMBTU divide by 1,020.

AP-42 Emissions for Factors, 1.4: Natural Gas Combustion

Type	Daily Maximum Emission (lb/day)					
Uncontrolled	127.49	229.48	968.91	0.62	10.52	10.52
Controlled	12.75	8.92	25.50	0.62	10.52	10.52
	Annual Maximum (tons/year)					
uncontrolled	23.27	41.88	176.83	0.11	1.92	1.92
Controlled	2.33	1.63	4.65	0.11	1.92	1.92

San Manuel Casino Expansion and Hotel
Operations Air Quality Summary

CALEEMOD Model Output

Traffic Study Phase 1: 8,800 Weekday Trips, 12,000 Weekend Trips (Summer Daily Maximum)

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
				lb/day		
Mobile	20.7	97.3	230.6	0.8	57.7	15.9

Traffic Study Phase 1: 8,800 Weekday Trips, 12,000 Weekend Trips (Winter Daily Maximum)

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
				lb/day		
Mobile	19.7	98.8	220.3	0.7	57.7	15.9

Traffic Study Phase 1: 8,800 Weekday Trips, 12,000 Weekend Trips

Annual Emissions

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
				tons/day		
Mobile	2.8	14.8	32.8	0.1	8.3	2.3

San Manuel Casino Expansion and Hotel
Operations Air Quality Summary

CALEEMOD Model Output

Traffic Study Phase 2: 12,300 Weekday Trips, 15,400 Weekend Trips (Summer Daily Maximum)

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
	lb/day					
Mobile	22.7	109.9	247.9	0.9	72.2	19.8

Traffic Study Phase 2: 12,300 Weekday Trips, 15,400 Weekend Trips (Winter Daily Maximum)

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
	lb/day					
Mobile	21.5	111.0	236.4	0.9	72.3	19.8

Annual Emissions

Traffic Study Phase 2: 12,300 Weekday Trips, 15,400 Weekend Trips

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
	ton/year					
Mobile	3.3	17.6	37.3	0.1	11.1	3.0

San Manuel Casino Expansion and Hotel
Operations Air Quality Summary

Summer/Winter - Maximum Daily Emissions, CalEEMOD Model Output
Traffic Study Phase 1

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
				lb/day		
Area	18.3	0.003	0.3	0.00002	0.001	0.001

Traffic Study Phase 2

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
				lb/day		
Area	18.6	0.003	0.3	0.00002	0.001	0.001

Maximum Annual Emissions, CalEEMOD Model Output
Traffic Study Phase 1

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
				tons/yr		
Area	3.34	0.0004	0.04	0	0.0001	0.0001

Traffic Study Phase 2

Source	ROG	NOX	CO	SO2	Total PM10	Total PM2.5
				tons/yr		
Area	3.4	0.0004	0.04	0.00	0.0001	0.0001

CalEEMod Project Trip Rates

Phase 1	CalEEMod Land use	SF/Rooms	Weekday	Weekend
Casino	Arena	55000	5500	6600
Hotel	Hotel	500	1500	1800
Meeting and Event Space	-		1000	2000
Performance Venue	Arena	58000	800	1600
		Total	**8800**	**12000**

CalEEMod Inputs

Land Use	Total SQFT	KSF	Weekday Trips	Weekday Trip Rate (Trips/KSF)	Weekend Trips	Weekday Trip Rate (Trips/KSF)
ARENA (Casino + Performance Venue)	113000	113	6300	55.8	8200	72.6
	Total SQFT	**Rooms**	**Weekday Trips**	**Weekday Trip Rate (Trips/KSF)**	**Weekend Trips**	**Weekday Trip Rate (Trips/KSF)**
HOTEL (Hotel + Meeting and Event Space)	-	500	2500	5.0	3800	7.6
			8800		12000	

Phase 2	CalEEMod Land use	SF/Rooms	Weekday	Weekend
Casino	Arena	100000	10000	12000
Hotel	Hotel	500	1500	1800
Performance Venue	Arena	58000	800	1600
		Total	**12300**	**15400**

CalEEMod Inputs

Land Use	Total SQFT	KSF	Weekday Trips	Weekday Trip Rate (Trips/KSF)	Weekend Trips	Weekday Trip Rate (Trips/KSF)
ARENA (Casino + Performance Venue)	158000	158	10800	68.4	13600	86.1
	Total SQFT	**Rooms**	**Weekday Trips**	**Weekday Trip Rate (Trips/KSF)**	**Weekend Trips**	**Weekday Trip Rate (Trips/KSF)**
HOTEL (Hotel)	-	500	1500	3.0	1800	3.6
			12300		15400	

CO Hot Spot Analysis

Year 2020 with Project (Phase 1)
Intersection Name

10- Arden Avenue at Highland Avenue	Weekday AM	Weekday PM	Saturday PM
	trips/hour	trips/hour	trips/hour
SBR	369	280	272
SBT	407	239	183
SBL	65	96	112
WBR	191	210	223
WBT	1038	1518	1539
WBL	215	233	254
NBR	89	59	60
NBT	202	111	77
NBL	306	202	175
EBR	242	394	245
EBT	900	1202	1510
EBL	110	187	195
Total	4134	4731	4845

13- Victoria Avenue at Highland Avenue	Weekday AM	Weekday PM	Saturday PM
	trips/hour	trips/hour	trips/hour
SBR	399	787	954
SBT	228	157	127
SBL	125	227	166
WBR	109	192	213
WBT	362	679	511
WBL	42	96	69
NBR	45	72	49
NBT	276	221	168
NBL	259	244	253
EBR	128	161	134
EBT	452	595	590
EBL	609	680	1057
Total	3034	4111	4291

Maximum Hourly (Trips/hour)	4845
[1] Maximum Daily (Trips/day)	**48450**

Highway Administration's methodology. Time of Day Modeling Procedures: State-of-the-Practice, State-of-the-Art. Available at:
https://www.fhwa.dot.gov/planning/tmip/publications/other_reports/tod_modeling_procedures/ch02.cfm. Accessed on January 3, 2018.

San Manuel Casino Expansion and Hotel
PM10/PM2.5 with Cogeneration AERMOD Results

	New Boilers	Cogen	Total
PM10/PM2.5 Emission Rate (g/s)	0.01	0.06	
Modeled Max. Fenceline Unit Concentration (ug/m3 per 1 g/s)	46.68	26.26	
Modeled Max.Sensitive Receptor Unit Concentration (ug/m3 per 1 g/s)	36.33	25.23	
Max. Fencline PM10/PM2.5 Concentration (ug/m3)	0.53	1.45	**1.98**
Max. Sensitive Receptor PM10/PM2.5 Concentration (ug/m3)	0.41	1.39	**1.80**
SCAQMD LST Threshold (ug/m3)			**2.50**
Exceed Threshold? (Y/N)			**No**

Phase 1 - PHV Project Only

	AM	PM
Weekday	447	632
weekend		936

Phase 2 - PHV Project Only			**Daily Total**	**Non-peak hours total Traffic**
	AM	PM		
Weekday	628	815	12300	9414
weekend		1076	15400	13248

Variable Hourly Emission Factors Based on Phase 2 Worst Case Traffic

	AM Peak	PM Peak	Non-peak hours
Weekday	7:00 - 9:00 am	4:00 - 6:00 pm	20 hours
% of Worst Hour Traffic	58%	76%	44%
Weekend		5:00-7:00 pm	22 hours
% of Worst Hour Traffic		100%	56%

Used max peak hour to set up the segment's emissions, then applied variable hourly emission profile to account for the traffic ebb and flow during the 24-hr day and week

	weekday	Saturday	Sunday
12	44%	56%	56%
1	44%	56%	56%
2	44%	56%	56%
3	44%	56%	56%
4	44%	56%	56%
5	44%	56%	56%
6	44%	56%	56%
7	58%	56%	56%
8	58%	56%	56%
9	44%	56%	56%
10	44%	56%	56%
11	44%	56%	56%
12	44%	56%	56%
13	44%	56%	56%
14	44%	56%	56%
15	44%	56%	56%
16	76%	56%	56%
17	76%	100%	100%
18	44%	100%	100%
19	44%	56%	56%
20	44%	56%	56%
21	44%	56%	56%
22	44%	56%	56%
23	44%	56%	56%

Worst Case Peak Hour Traffic		1076							
% of Project	10%	40%	3%	5%	5%	25%	5%	5%	2%
Worst Case Traffic	108	430	32	54	54	269	54	54	22

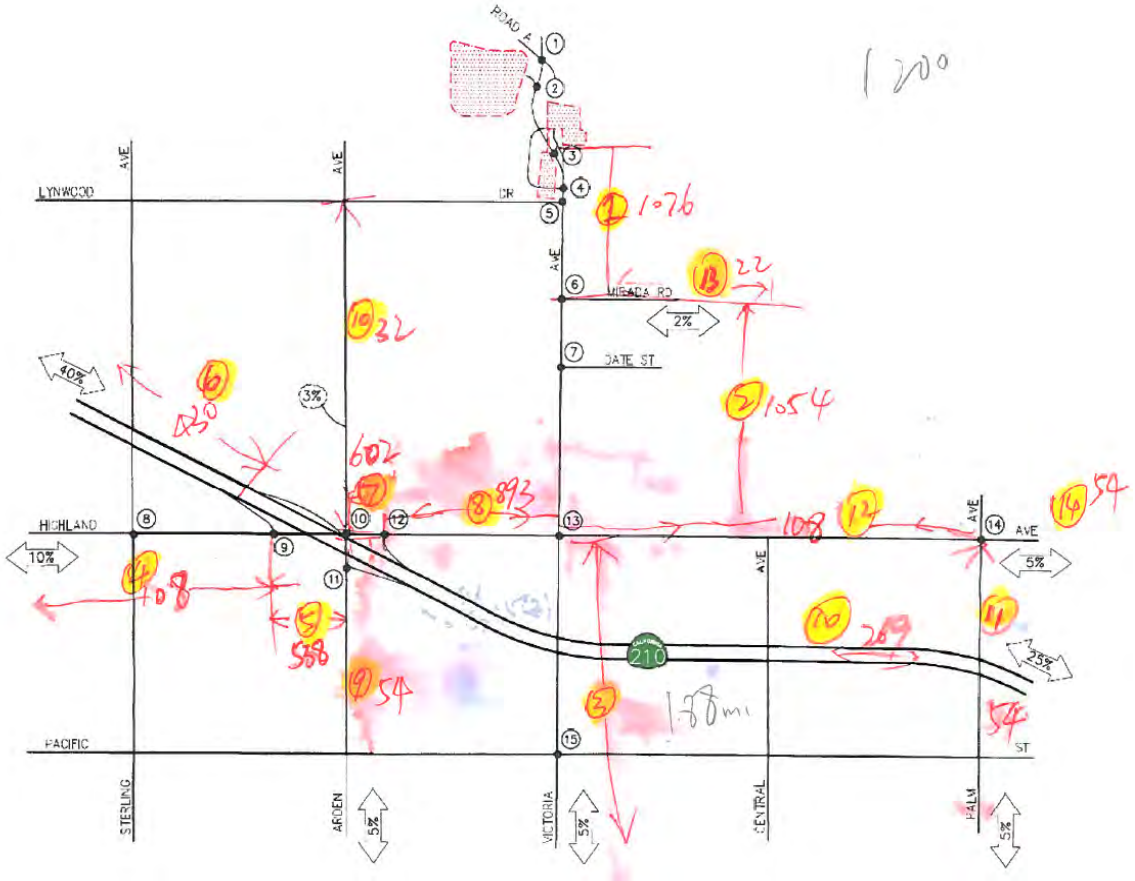
Develop Emission Factor

Year 2020	LDA	LDT1	LDT2	MCY	MDV	MH	OBUS	SBUS	UBUS	HHDT	LHDT1	LHDT2	MHDT
Fleet Mix per CalEEMod	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
EF @ 40 mph (lb/mi)	0.000103687	0.000275032	0.000152046	0.002365	0.000285	0.0024543	0.002849	0.007856922	0.014978595	0.007087	0.002203	0.001494	0.002087
		Weighted Average Emission factor (lb/mi)		0.000786668									

Row Labels	Sum of VMT	Sum of NOx_RUNEX	
40	**36583301.76**	**8.250453155**	lbs/mi
HHDT	1017170.531	3.604402727	0.007087116
LDA	19960973.62	1.034843488	0.000103687
LDT1	1615635.613	0.222175695	0.000275032
LDT2	7620594.179	0.579339089	0.000152046
LHDT1	522792.2541	0.575890131	0.002203132
LHDT2	190946.2746	0.14261339	0.001493754
MCY	179779.3692	0.212608594	0.002365217
MDV	4483409.008	0.638491803	0.000284824
MH	35466.027	0.043521342	0.002454255
MHDT	830074.7837	0.866359266	0.002087425
OBUS	80927.99918	0.115267101	0.002848633
SBUS	35402.61643	0.139077804	0.007856922
UBUS	10129.48475	0.075862725	0.014978595

Emission Rates for NO2 Modeling

% of Project	Segments	Trip/hr	Trip Length (mi/trip	mi/hr	lb/hr	g/s
100%	1	1076	0.366376631	394.2212554	0.310121	0.039075
98%	2	1054	0.530453698	559.0981976	0.439824	0.055417
5%	3	54	0.330018645	17.82100684	0.014019	0.001766
10%	4	108	0.056246116	6.074580485	0.004779	0.000602
50%	5	538	0.160410193	86.30068365	0.06789	0.008554
40%	6	430	0.058234929	25.04101927	0.019699	0.002482
56%	7	602	0.078309509	47.14232443	0.037085	0.004673
83%	8	893	0.421317589	376.2366066	0.295973	0.037292
5%	9	54	0.117961467	6.369919204	0.005011	0.000631
3%	10	33	0.739714108	24.41056557	0.019203	0.00242
25%	11	269	0.61392169	165.1449347	0.129914	0.016369
10%	12	108	0.128340584	13.8607831	0.010904	0.001374
2%	13	22	0.172902424	3.803853325	0.002992	0.000377



Summary of Model Results and Compare to NAAQS and CAAQS (unit in ug/m3)

	1-hr 8th Highest	1-hr highest	annual
[1] Project - Max	30.8	35.4	3.1
Background - Max. of Recent 3 Years	124.3	167.5	38.0
Total (Project + Background)	155.1	202.9	41.1
NAAQS Threshold	188	--	100
CAAQS Threshold	--	339	53
Exceed Threshold?	No	No	No

1. AERMOD modeling used the SCAQMD's Redland MET data, the USEPA ozone data for San Bernadino (downloaded from EPA AirData), and the default NO2/Nox ratios of 0.5 instack and 0.9 atmosphere equilibrium, respectively.Detailed AERMOD input and output files are provided in the CD of the TEIR.

SCAQMD Monitoring Data (Units in PPB, multiple by 1.88 to convert to ug/m3)

2016	98th percentile 1-hr	Max Conc 1-hr	Annual AAM
Central San Bernardino Valley 1	56.4	71.7	18.2
Central San Bernardino Valley 2	51.4	60.1	16.6
2015	**98th percentile 1-hr**	**Max Conc 1-hr**	**Annual AAM**
Central San Bernardino Valley 1	66.1	89.1	18.7
Central San Bernardino Valley 2	52.7	71.4	15.2
2014	**98th percentile 1-hr**	**Max Conc 1-hr**	**Annual AAM**
Central San Bernardino Valley 1	63.6	70.4	20.2
Central San Bernardino Valley 2	56.1	72.6	18
3-year Maximum (ppb)			
Central San Bernardino Valley 1	66.1	89.1	20.2
Central San Bernardino Valley 2	56.1	72.6	18
3-year Maximum (ug/m3)			
Central San Bernardino Valley 1	124.268	167.508	37.98
Central San Bernardino Valley 2	105.468	136.488	33.84

C-3 Operational Health Risk Assessment

- Toxic Air Contaminant Emissions
- Health Risk Assessment Summary
- AERMOD Files
- HARP2 Files

San Manuel Casino Expansion and Hotel
Operations Air Quality Summary
Boiler Emissions

Type	Annual Natural Gas Consumption (MMBtu/year) [1]	Boiler Size (MMBTU/hr) [2,3]
With CHP	4281	12 MMBTU/hr total; 2 units, each at 6 MMBTU/hr
Without CHP	85232	240 MMBTU/hr total, each unit is between 10-100 MMBTU/hr

1. Esimated usage data provided by the Project's energy consultant - Vanderweil

2. For the with CHP scenario, Vanderweil suggested the project might need two 6 MMBTU/hr boilers.

3. For the without CHP scenario, based on the natural gas consumption in comparison to the with CHP scenario, we assume the each of new boilers will be 10-100 MMBTU/hr.

Toxic Air Contaminants Emissions		**Emissions Factors (lb/MMscf) [1]**		**Emissions Factors (lb/MMBtu)**		**For HARP2**			
		With CHP	**Without CHP**	**With CHP**	**Without CHP**	**With Cogen**		**Without Cogen**	
POLLUTANT	**CAS NO.**	**<10 MMBtu/hr**	**10-100 MMBtu/hr**	**<10 MMBtu/hr**	**10-100 MMBtu/hr**	**lb/hr**	**lbs/yr**	**lb/hr**	**lbs/yr**
Benzene	71432	8.00E-03	5.80E-03	7.84E-06	5.69E-06	9.41E-05	3.36E-02	1.36E-03	4.85E-01
Formaldehyde	50000	1.70E-02	1.23E-02	1.67E-05	1.21E-05	2.00E-04	7.14E-02	2.89E-03	1.03E+00
Total PAHs (excluding Naphthalene)	1151	1.00E-04	1.00E-03	9.80E-08	9.80E-07	1.18E-06	4.20E-04	2.35E-04	8.36E-02
Naphthalene	91203	3.00E-04	3.00E-04	2.94E-07	2.94E-07	3.53E-06	1.26E-03	7.06E-05	2.51E-02
Acetaldehyde	75070	4.30E-03	3.10E-03	4.22E-06	3.04E-06	5.06E-05	1.80E-02	7.29E-04	2.59E-01
Acrolein	107028	2.70E-03	2.70E-03	2.65E-06	2.65E-06	3.18E-05	1.13E-02	6.35E-04	2.26E-01
Ammonia [2]	7664417	3.20E+00	3.20E+00	3.14E-03	3.14E-03	3.76E-02	1.34E+01	7.53E-01	2.67E+02
Ethyl benzene	100414	9.50E-03	6.90E-03	9.31E-06	6.76E-06	1.12E-04	3.99E-02	1.62E-03	5.77E-01
Hexane	110543	6.30E-03	4.60E-03	6.18E-06	4.51E-06	7.41E-05	2.64E-02	1.08E-03	3.84E-01
Toluene	108883	3.66E-02	2.65E-02	3.59E-05	2.60E-05	4.31E-04	1.54E-01	6.24E-03	2.21E+00
Xylene	1330207	2.72E-02	1.97E-02	2.67E-05	1.93E-05	3.20E-04	1.14E-01	4.64E-03	1.65E+00

1. Table B-1. Default EF for natural gas combustion (lb/mmscf). SCAQMD Reporting Procedures for AB2588 Facilities for Reporting their

2. Ammonia emission factor corresponds to equipment without SNCR or SCR by 3.2 lbs/mmscf.

San Manuel Casino Expansion and Hotel
Operations Air Quality Summary
Cogen Emissions for the Cogen Energy Alternative

Two identical Jenbacher J616 engines, each 2,656 EkW

5.31	MW - Total power rating for two engines	
384,353	1. Esimated usage data provided by the Project's energy consult	89% Vendor Quoted VOC Controlled Efficiency
8,300	hrs/yr	
46.31	MMBTU/hr	

Toxic Air Contaminants	CAS NO.	Default Emissions Factors (lb/MMscf)[1,3]	Default Emissions Factors (lb/MMBtu)	Pre-control Emissions			VOC ? (Y/N)	POST-control Emissions (for HARP2) [4]		
POLLUTANT				lbs/hr	lbs/year	tons/year		lbs/hr	lbs/year	tons/year
Benzene	71432	0.449	4.40E-04	2.04E-02	1.69E+02	8.46E-02	Y	2.24E-03	18.61	9.31E-03
1,3-Butadiene	106990	0.272	2.67E-04	1.23E-02	1.02E+02	5.12E-02	Y	1.36E-03	11.27	5.64E-03
Carbon Tetrachloride	56235	0.0374	3.67E-05	1.70E-03	1.41E+01	7.05E-03	Y	1.87E-04	1.55	7.75E-04
Ethylene Dibromide	106934	0.0452	4.43E-05	2.05E-03	1.70E+01	8.52E-03	Y	2.26E-04	1.87	9.37E-04
1,2-Dichloroethane	107062	0.0241	2.36E-05	1.09E-03	9.08E+00	4.54E-03	Y	1.20E-04	1.00	4.99E-04
Formaldehyde	50000	53.9	5.28E-02	2.45E+00	2.03E+04	1.02E+01	Y	2.69E-01	2234.15	1.12E+00
Methylene Chloride	75092	0.0204	2.00E-05	9.26E-04	7.69E+00	3.84E-03	N	9.26E-04	7.69	3.84E-03
2-Methylnaphthalene	91576	0.0339	3.32E-05	1.54E-03	1.28E+01	6.39E-03	Y	1.69E-04	1.41	7.03E-04
Acenaphthene	83329	0.00128	1.25E-06	5.81E-05	4.82E-01	2.41E-04	y	6.39E-06	0.05	2.65E-05
Acenaphthylene	208968	0.00564	5.53E-06	2.56E-04	2.13E+00	1.06E-03	Y	2.82E-05	0.23	1.17E-04
Anthracene	120127	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Y	0.00E+00	0.00	0.00E+00
Benz(a)anthracene	56553	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Y	0.00E+00	0.00	0.00E+00
Benzo(a)pyrene	50328	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Y	0.00E+00	0.00	0.00E+00
Benzo(b)fluoranthene	205992	0.000169	1.66E-07	7.67E-06	6.37E-02	3.18E-05	Y	8.44E-07	0.01	3.50E-06
Benzo(e)pyrene	192972	0.000423	4.15E-07	1.92E-05	1.59E-01	7.97E-05	Y	2.11E-06	0.02	8.77E-06
Benzo(g,h,I)perylene	191242	0.000422	4.14E-07	1.92E-05	1.59E-01	7.95E-05	N	1.92E-05	0.16	7.95E-05
Benzo(k)fluoranthene	207089	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Y	0.00E+00	0.00	0.00E+00
Chrysene	218019	0.000707	6.93E-07	3.21E-05	2.66E-01	1.33E-04	Y	3.53E-06	0.03	1.47E-05
Fluoranthene	206440	0.00113	1.11E-06	5.13E-05	4.26E-01	2.13E-04	N	5.13E-05	0.43	2.13E-04
Fluorene	86737	0.00578	5.67E-06	2.62E-04	2.18E+00	1.09E-03	N	2.62E-04	2.18	1.09E-03
Indeno(1,2,3-c,d)pyrene	193395	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	Y	0.00E+00	0.00	0.00E+00
Naphthalene	91203	0.0759	7.44E-05	3.45E-03	2.86E+01	1.43E-02	Y	3.79E-04	3.15	1.57E-03
Perylene	198550	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	N	0.00E+00	0.00	0.00E+00
Phenanthrene	85018	0.0106	1.04E-05	4.81E-04	3.99E+00	2.00E-03	N	4.81E-04	3.99	2.00E-03
Pyrene	129000	0.00139	1.36E-06	6.31E-05	5.24E-01	2.62E-04	N	6.31E-05	0.52	2.62E-04
Vinyl Chloride	75014	0.0152	1.49E-05	6.90E-04	5.73E+00	2.86E-03	Y	7.59E-05	0.63	3.15E-04
1,1,2,2-Tetrachloroethane	79345	0.0408	4.00E-05	1.85E-03	1.54E+01	7.69E-03	Y	2.04E-04	1.69	8.46E-04
1,1,2-Trichloroethane	79005	0.0324	3.18E-05	1.47E-03	1.22E+01	6.10E-03	Y	1.62E-04	1.34	6.71E-04
1,2,4-Trimethylbenzene	95636	0.0146	1.43E-05	6.63E-04	5.50E+00	2.75E-03	Y	7.29E-05	0.61	3.03E-04
1,2-Dichloropropane	78875	0.0274	2.69E-05	1.24E-03	1.03E+01	5.16E-03	Y	1.37E-04	1.14	5.68E-04
1,3-Dichloropropene	542756	0.0269	2.64E-05	1.22E-03	1.01E+01	5.07E-03	Y	1.34E-04	1.12	5.58E-04
Acetaldehyde	75070	8.53	8.36E-03	3.87E-01	3.21E+03	1.61E+00	Y	4.26E-02	353.57	1.77E-01
Acrolein	107028	5.24	5.14E-03	2.38E-01	1.97E+03	9.87E-01	Y	2.62E-02	217.20	1.09E-01
Ammonia	7664417	18	1.76E-02	8.17E-01	6.78E+03	3.39E+00	N	8.17E-01	6782.70	3.39E+00
Chloroform	67663	0.0291	2.85E-05	1.32E-03	1.10E+01	5.48E-03	Y	1.45E-04	1.21	6.03E-04
Ethylbenzene	100414	0.0405	3.97E-05	1.84E-03	1.53E+01	7.63E-03	Y	2.02E-04	1.68	8.39E-04
Hexane	110543	1.13	1.11E-03	5.13E-02	4.26E+02	2.13E-01	Y	5.64E-03	46.84	2.34E-02
Methanol	67561	2.55	2.50E-03	1.16E-01	9.61E+02	4.80E-01	Y	1.27E-02	105.70	5.28E-02
Styrene	100425	0.0241	2.36E-05	1.09E-03	9.08E+00	4.54E-03	Y	1.20E-04	1.00	4.99E-04
Toluene	108883	0.416	4.08E-04	1.89E-02	1.57E+02	7.84E-02	Y	2.08E-03	17.24	8.62E-03
Xylene	1330207	0.188	1.84E-04	8.54E-03	7.08E+01	3.54E-02	Y	9.39E-04	7.79	3.90E-03

1. Table B-1. Default EF for natural gas combustion (lb/mmscf). SCAQMD Reporting Procedures for
2. Ammonia emission factor corresponds to equipment without SNCR or SCR by 3.2 lbs/mmscf.
3. Emission factors for 4 Stroke-Lean Burn ICE from
4. Post-control emissions are based on the vendor quoted VOC reduction efficiency of 89%.

With CHP				
Sensitive Receptor Location (X,Y)		Incremental Cancer Risk	Chronic Hazard Index	Acute Hazard Index
478996.21	3778748.88	2.56		
478996.21	3778748.88		**0.05**	
478846.21	3778748.88			0.18
Without CHP				
Sensitive Receptor Location (X,Y)		Incremental Cancer Risk	Chronic Hazard Index	Acute Hazard Index
478696.21	3778998.88	2.46		
478696.21	3778998.88		0.001	
478846.21	3778748.88			0.02

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.3.0
** Lakes Environmental Software Inc.
** Date: 12/5/2017
** File: C:\Users\tsu\Desktop\Projects\San Manuel\PM2\PM2.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
   TITLEONE C:\Users\tsu\Desktop\Projects\San Manuel\PM2\PM2.isc
   MODELOPT CONC FLAT ELEV
   AVERTIME 1 24 PERIOD
   URBANOPT 2015355
   POLLUTID PM_2.5
   RUNORNOT RUN
   ERRORFIL PM2.err
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
   LOCATION STCK2        POINT      478946.112  3778943.570      445.820
** DESCRSRC New Boiler
   LOCATION STCK3        POINT      478815.290  3778985.760      441.890
** DESCRSRC CHP Stack
** Source Parameters **
   SRCPARAM STCK2             1.0    15.850   405.372   3.49833     0.457
   SRCPARAM STCK3             1.0     7.620   613.150  15.49517     0.762

** Building Downwash **
   BUILDHGT STCK2          15.54    15.54    15.54    15.54    15.54    15.54
   BUILDHGT STCK2          15.54    15.54    15.54    15.54    15.54    15.54
   BUILDHGT STCK2          15.54    15.54    15.54    15.54    15.54    15.54
   BUILDHGT STCK2          15.54    15.54    15.54    15.54    15.54    15.54
   BUILDHGT STCK2          15.54    15.54    15.54    15.54    15.54    15.54
   BUILDHGT STCK2          15.54    15.54    15.54    15.54    15.54    15.54

   BUILDHGT STCK3          15.54    15.54    15.54    15.54    15.54    15.54
   BUILDHGT STCK3          15.54    15.54    15.54    15.54    15.54    15.54
   BUILDHGT STCK3          15.54    15.54    15.54    15.54    15.54    15.54
   BUILDHGT STCK3          15.54    15.54    15.54    15.54    15.54    15.54
   BUILDHGT STCK3          15.54    15.54    15.54    15.54    15.54    15.54
   BUILDHGT STCK3          15.54    15.54    15.54    15.54    15.54    15.54

   BUILDWID STCK2         175.67   181.60   189.66   192.28   189.05   180.08
   BUILDWID STCK2         165.63   151.37   138.46   130.08   117.74   104.98
   BUILDWID STCK2         100.92    99.96   116.03   136.41   152.71   166.72
   BUILDWID STCK2         175.67   181.60   189.66   192.28   189.05   180.08
   BUILDWID STCK2         165.63   151.37   138.46   130.08   117.74   104.98
```

```
   BUILDWID STCK2          100.92    99.96   116.03   136.41   152.71   166.72

   BUILDWID STCK3          275.89   275.29   287.84   292.21   287.70   274.45
   BUILDWID STCK3          258.10   251.80   239.03   229.33   219.37   221.89
   BUILDWID STCK3          235.34   245.70   257.88   268.84   271.70   273.37
   BUILDWID STCK3          275.89   275.29   287.84   292.21   287.70   274.45
   BUILDWID STCK3          258.10   251.80   239.03   229.33   219.37   221.89
   BUILDWID STCK3          235.34   245.70   257.88   268.84   271.70   273.37

   BUILDLEN STCK2          130.08   117.74   104.98   100.92    99.96   116.03
   BUILDLEN STCK2          136.41   152.71   166.72   175.67   181.60   189.66
   BUILDLEN STCK2          192.28   189.05   180.08   165.63   151.37   138.46
   BUILDLEN STCK2          130.08   117.74   104.98   100.92    99.96   116.03
   BUILDLEN STCK2          136.41   152.71   166.72   175.67   181.60   189.66
   BUILDLEN STCK2          192.28   189.05   180.08   165.63   151.37   138.46

   BUILDLEN STCK3          229.33   219.37   221.89   235.34   245.70   257.88
   BUILDLEN STCK3          268.84   271.70   273.37   275.89   275.29   287.84
   BUILDLEN STCK3          292.21   287.70   274.45   258.10   251.80   239.03
   BUILDLEN STCK3          229.33   219.37   221.89   235.34   245.70   257.88
   BUILDLEN STCK3          268.84   271.70   273.37   275.89   275.29   287.84
   BUILDLEN STCK3          292.21   287.70   274.45   258.10   251.80   239.03

   XBADJ    STCK2         -111.18  -104.91   -95.46   -83.59   -71.27   -74.45
   XBADJ    STCK2          -81.26   -85.59   -87.33   -86.41   -82.87   -77.82
   XBADJ    STCK2          -70.73   -61.49   -50.38   -37.73   -29.16   -24.40
   XBADJ    STCK2          -18.90   -12.83    -9.51   -17.33   -28.69   -41.58
   XBADJ    STCK2          -55.15   -67.11   -79.39   -89.25   -98.73  -111.84
   XBADJ    STCK2         -121.55  -127.56  -129.70  -127.90  -122.21  -114.06

   XBADJ    STCK3         -199.70  -189.60  -173.73  -152.58  -126.80  -104.04
   XBADJ    STCK3          -82.80   -59.04   -38.20   -25.35   -14.67   -18.44
   XBADJ    STCK3          -22.21   -25.30   -27.62   -29.10   -29.70   -29.40
   XBADJ    STCK3          -29.62   -29.78   -48.16   -82.76  -118.90  -153.84
   XBADJ    STCK3         -186.04  -212.66  -235.17  -250.54  -260.62  -269.40
   XBADJ    STCK3         -270.01  -262.41  -246.83  -228.99  -222.10  -209.63

   YBADJ    STCK2           -1.42    -7.93   -17.01   -25.41   -33.04   -39.66
   YBADJ    STCK2          -45.08   -46.53   -44.83   -46.14   -46.04   -42.98
   YBADJ    STCK2          -33.13   -21.29   -16.43   -13.05    -9.24    -3.97
   YBADJ    STCK2            1.42     7.93    17.01    25.41    33.04    39.66
   YBADJ    STCK2           45.08    46.53    44.83    46.14    46.04    42.98
   YBADJ    STCK2           33.13    21.29    16.43    13.05     9.24     3.97

   YBADJ    STCK3         -112.59  -122.97  -125.48  -123.90  -118.55  -109.60
   YBADJ    STCK3          -99.94   -96.20   -90.12   -85.04   -79.91   -62.78
   YBADJ    STCK3          -34.91    -3.95    24.90    51.62    76.81    98.49
   YBADJ    STCK3          112.59   122.97   125.48   123.90   118.55   109.60
   YBADJ    STCK3           99.94    96.20    90.11    85.04    79.91    62.78
   YBADJ    STCK3           34.91     3.95   -24.90   -51.62   -76.81   -98.49

   URBANSRC ALL
   SRCGROUP NewBoile STCK2
   SRCGROUP Cogen    STCK3
   SRCGROUP ALL
SO FINISHED
**
****************************************
** AERMOD Receptor Pathway
****************************************
**
**
RE STARTING
```

```
   INCLUDED PM2.rou
RE FINISHED
**
****************************************
** AERMOD Meteorology Pathway
****************************************
**
**
ME STARTING
   SURFFILE RedlandsADJU\RDLD_V9_ADJU\RDLD_v9.SFC
   PROFFILE RedlandsADJU\RDLD_V9_ADJU\RDLD_v9.PFL
   SURFDATA 3171 2012
   UAIRDATA 3190 2012
   SITEDATA 99999 2012
   PROFBASE 481.0 METERS
ME FINISHED
**
****************************************
** AERMOD Output Pathway
****************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
   RECTABLE 24 1ST
** Auto-Generated Plotfiles
   PLOTFILE 1 ALL 1ST PM2.AD\01H1GALL.PLT 31
   PLOTFILE 24 ALL 1ST PM2.AD\24H1GALL.PLT 32
   PLOTFILE 1 NewBoile 1ST PM2.AD\01H1G001.PLT 33
   PLOTFILE 24 NewBoile 1ST PM2.AD\24H1G001.PLT 34
   PLOTFILE 1 Cogen 1ST PM2.AD\01H1G002.PLT 35
   PLOTFILE 24 Cogen 1ST PM2.AD\24H1G002.PLT 36
   PLOTFILE PERIOD ALL PM2.AD\PE00GALL.PLT 37
   PLOTFILE PERIOD NewBoile PM2.AD\PE00G001.PLT 38
   PLOTFILE PERIOD Cogen PM2.AD\PE00G002.PLT 39
   SUMMFILE PM2.sum
OU FINISHED
**
****************************************
** Project Parameters
****************************************
** PROJCTN  CoordinateSystemUTM
** DESCPTN  UTM: Universal Transverse Mercator
** DATUM    World Geodetic System 1984
** DTMRGN   Global Definition
** UNITS    m
** ZONE     11
** ZONEINX  0
**
```

HARP2 - HRACalc (dated 17023) 12/5/2017 2:53:39 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: Cancer
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 30

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 0
2<16 Years Bin: 14
16<30 Years Bin: 14
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: ON

****
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Warm

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS
Tier2 not used.

****

Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to:
C:\Users\tsu\Desktop\TEIR\HARP2\SAN MANUEL
TEIR-COGEN\hra\Cogen-CancerCancerRisk.csv
Cancer risk total by receptor saved to: C:\Users\tsu\Desktop\TEIR\HARP2\SAN MANUEL
TEIR-COGEN\hra\Cogen-CancerCancerRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 17023) 12/5/2017 2:55:12 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: NCChronic
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER
Exposure duration are only adjusted for cancer assessments

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
NOTE: Exposure duration (i.e., start age, end age, ED, & FAH) are only adjusted for cancer assessments.

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Warm

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS
Tier2 not used.

****

Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to:
C:\Users\tsu\Desktop\TEIR\HARP2\SAN MANUEL
TEIR-COGEN\hra\Cogen-CHINCChronicRisk.csv
Chronic risk total by receptor saved to: C:\Users\tsu\Desktop\TEIR\HARP2\SAN MANUEL
TEIR-COGEN\hra\Cogen-CHINCChronicRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 17023) 12/5/2017 2:51:11 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: NCAcute
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER
Exposure duration are only adjusted for cancer assessments

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
NOTE: Exposure duration (i.e., start age, end age, ED, & FAH) are only adjusted for cancer assessments.

****

TIER 2 SETTINGS
Tier2 not used.

****

Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to:
C:\Users\tsu\Desktop\TEIR\HARP2\SAN MANUEL
TEIR-COGEN\hra\Cogen-AcuteHINCAcuteRisk.csv
Acute risk total by receptor saved to: C:\Users\tsu\Desktop\TEIR\HARP2\SAN MANUEL
TEIR-COGEN\hra\Cogen-AcuteHINCAcuteRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 17023) 12/5/2017 2:59:31 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: Cancer
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 30

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 0
2<16 Years Bin: 14
16<30 Years Bin: 14
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: ON

****
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Warm

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS
Tier2 not used.

****

Calculating cancer risk
Cancer risk breakdown by pollutant and receptor saved to:
C:\Users\tsu\Desktop\TEIR\HARP2\SAN MANUEL TEIR -
NOCOGEN\hra\NoCogen-CancerCancerRisk.csv
Cancer risk total by receptor saved to: C:\Users\tsu\Desktop\TEIR\HARP2\SAN MANUEL
TEIR - NOCOGEN\hra\NoCogen-CancerCancerRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 17023) 12/5/2017 3:00:25 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: NCChronic
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER
Exposure duration are only adjusted for cancer assessments

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
NOTE: Exposure duration (i.e., start age, end age, ED, & FAH) are only adjusted for cancer assessments.

****

SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Warm

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS
Tier2 not used.

****

Calculating chronic risk
Chronic risk breakdown by pollutant and receptor saved to:
C:\Users\tsu\Desktop\TEIR\HARP2\SAN MANUEL TEIR -
NOCOGEN\hra\NoCogen-CHINCChronicRisk.csv
Chronic risk total by receptor saved to: C:\Users\tsu\Desktop\TEIR\HARP2\SAN MANUEL
TEIR - NOCOGEN\hra\NoCogen-CHINCChronicRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 17023) 12/5/2017 3:01:12 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: NCAcute
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER
Exposure duration are only adjusted for cancer assessments

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
NOTE: Exposure duration (i.e., start age, end age, ED, & FAH) are only adjusted for cancer assessments.

****

```
TIER 2 SETTINGS
Tier2 not used.

********************************

Calculating acute risk
Acute risk breakdown by pollutant and receptor saved to:
C:\Users\tsu\Desktop\TEIR\HARP2\SAN MANUEL TEIR -
NOCOGEN\hra\NoCogen-AHINCAcuteRisk.csv
Acute risk total by receptor saved to: C:\Users\tsu\Desktop\TEIR\HARP2\SAN MANUEL
TEIR - NOCOGEN\hra\NoCogen-AHINCAcuteRiskSumByRec.csv
HRA ran successfully
```

Valley District Pipeline Construction Assumptions

Total duration	5.5 months
Working days per month	22
Project length	0.5 mile (2,640 linear feet)
Project width	16.5 feet
Project area	2.5 acres
Maximum construction speed	30 linear feet per day
Water trucks	1 per day
Haul trucks	1 per day -haul within Reservation, 2.5 miles/day
Asphalt importing	5 trucks per day for 4 days during paving phase

Construction Schedule

Phase	Months	Start Date	Workers/day
Grubbing/Land Clearing	0.5	4/16/2018	3
Grading/Excavation [1]	0	NA	
Drainage/Utilities/Sub-Grade	4.5	5/1/2018	7
Paving	0.5	9/17/2018	4

1. Assume there is no need for grading or excavation. Trenching is included in the Drainage/Utilities/Sub-Grade phase.

Construction Equipment

Construction Phase	Construction Equipment	No. of Equip.
Grubbing/Land Clearing	Graders	1
	Tractors/Loaders/Backhoes	1
Drainage/Utilities/Trenching	Rough Terrain Forklifts	1
	Excavators	1
	Trenchers	1
	Tractors/Loaders/Backhoes	1
	Welders	1
Paving	Pavers	1
	Paving Equipment	1
	Rollers	1

Cumulative Construction Air Quality Impact from Project and the Valley District's Pipeline Relocation

	Regional Emission (lbs/day)						Localized Emissions (lbs/day)			
	ROG	NO_X	CO	SO_2	PM10	PM2.5	NO_X	CO	PM10	PM2.5
2018										
Phase I Demo + Pipeline CSTN	4.0	49.9	47.5	<1	4.7	2.8	47.3	46.5	2.4	3.3
Phase 1 Drainage + Pipeline CSTN	4.3	53.4	57.3	<1	3.8	3.1	52.8	56.4	1.5	3.6
Phase 1 Grading+Phase 2 Demo + Pipeline CSTN	4.2	66.7	68.7	<1	8.2	5.2	58.5	66.4	7.8	5.1
Phase 1 Grading+Phase 2 Grading + Pipeline CSTN	4.1	64.7	66.6	<1	11.1	7.1	55.4	64.0	10.6	6.9
Daily Maximum Emissions	**4.3**	**66.7**	**68.7**	<1	**11.1**	**7.1**	58.5	66.4	10.6	6.9
SCAQMD Regional Threshold	75	100	550	150	150	55	270	1746	14	8
Exceeds Threshold?	No	No	No	No	No	No	No	No	No	No

Note: Phase 1 = Parking Structure; Phase 2 = Event Center; Phase 3 = Hotel/Casino.

The maximum pounds per day in row 11 is summed over overlapping phases, but the maximum tons per phase in row 34 is not summed over overlapping phases.

Road Construction Emissions Model, Version 8.1.0

Daily Emission Estimates for -> Vally District Pipeline CSTN

Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	1.13	7.38	11.11	0.96	0.67	0.28	0.67	0.61	0.06	0.01	1,090.62	0.30	0.01	1,101.52
Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade	1.69	13.39	13.90	1.18	0.90	0.28	0.88	0.82	0.06	0.02	2,009.66	0.53	0.02	2,028.98
Paving	0.85	7.79	8.98	0.50	0.50	0.00	0.45	0.45	0.00	0.02	1,528.71	0.36	0.02	1,543.94
Maximum (pounds/day)	2.82	20.76	25.01	2.14	1.57	0.57	1.55	1.44	0.12	0.03	3,100.28	0.83	0.03	3,130.50
Total (tons/construction project)	0.09	0.75	0.80	0.07	0.05	0.02	0.05	0.05	0.00	0.00	113.88	0.03	0.00	114.98

Notes:

Project Start Year ->	2018
Project Length (months) ->	6
Total Project Area (acres) ->	3
Maximum Area Disturbed/Day (acres) ->	0
Water Truck Used? ->	Yes

	Total Material Imported/Exported Volume (yd^3/day)		Daily VMT (miles/day)			
Phase	Soil	Asphalt	Soil Hauling	Asphalt Hauling	Worker Commute	Water Truck
Grubbing/Land Clearing	10	0	5	0	90	14
Grading/Excavation	0	0	0	0	0	0
Drainage/Utilities/Sub-Grade	20	0	5	0	210	14
Paving	0	95	0	69	120	14

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

Total Emission Estimates by Phase for -> Vally District Pipeline CSTN

Project Phases (Tons for all except CO2e. Metric tonnes for CO2e)	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	Total PM10 (tons/phase)	Exhaust PM10 (tons/phase)	Fugitive Dust PM10 (tons/phase)	Total PM2.5 (tons/phase)	Exhaust PM2.5 (tons/phase)	Fugitive Dust PM2.5 (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
Grubbing/Land Clearing	0.01	0.04	0.06	0.01	0.00	0.00	0.00	0.00	0.00	0.00	6.00	0.00	0.00	5.50
Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Drainage/Utilities/Sub-Grade	0.08	0.66	0.69	0.06	0.04	0.01	0.04	0.04	0.00	0.00	99.48	0.03	0.00	91.11
Paving	0.00	0.04	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.41	0.00	0.00	7.70
Maximum (tons/phase)	0.08	0.66	0.69	0.06	0.04	0.01	0.04	0.04	0.00	0.00	99.48	0.03	0.00	91.11
Total (tons/construction project)	0.09	0.75	0.80	0.07	0.05	0.02	0.05	0.05	0.00	0.00	113.88	0.03	0.00	104.31

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.

CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1 , 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.

The CO2e emissions are reported as metric tons per phase.

Road Construction Emissions Model
Data Entry Worksheet

Version 8.1.0

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

Input Type

Project Name	Vally District Pipeline CSTN	
Construction Start Year	2018	Enter a Year between 2014 and 2025 (inclusive)
Project Type For 4: Other Linear Project Type, please provide project specific off-road equipment population and vehicle trip data	4	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	5.50	months
Working Days per Month	22.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)	2	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the Ione formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	0.50	miles
Total Project Area	2.50	acres
Maximum Area Disturbed/Day	0.03	acres
Water Trucks Used?	1	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd^3) (assume 20 if unknown)	Import Volume (yd^3/day)	Export Volume (yd^3/day)
Soil	Grubbing/Land Clearing	20.00	0.00	10.00
	Grading/Excavation		0.00	0.00
	Drainage/Utilities/Sub-Grade	20.00	0.00	20.00
	Paving		0.00	0.00
Asphalt	Grubbing/Land Clearing		0.00	0.00
	Grading/Excavation		0.00	0.00
	Drainage/Utilities/Sub-Grade		0.00	0.00
	Paving	20.00	95.00	0.00

Mitigation Options

On-road Fleet Emissions Mitigation		Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer
Off-road Equipment Emissions Mitigation		Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/ceqa/mitigation.shtml). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard

The remaining sections of this sheet contain areas that require modification when 'Other Project Type' is selected.

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing	0.50	0.55	4/16/2018	1/1/2018
Grading/Excavation	0.00	2.48	5/1/2018	1/17/2018
Drainage/Utilities/Sub-Grade	4.50	1.65	5/1/2018	1/17/2018
Paving	0.50	0.83	9/17/2018	6/3/2018
Totals (Months)	6			

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing	5.00			1	5.00
Miles/round trip: Grading/Excavation				0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade	5.00			1	5.00
Miles/round trip: Paving				0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.07	0.36	1.51	0.10	0.04	0.02	1,590.26	0.00	0.05	1,605.93
Grading/Excavation (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/mile)	0.07	0.36	1.51	0.10	0.04	0.02	1,590.26	0.00	0.05	1,605.93
Paving (grams/mile)	0.07	0.36	1.51	0.10	0.04	0.02	1,590.26	0.00	0.05	1,605.93
Hauling Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.02	0.00	0.00	0.00	17.53	0.00	0.00	17.70
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.10
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.02	0.00	0.00	0.00	17.53	0.00	0.00	17.70
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.87	0.00	0.00	0.88
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	0.96	0.00	0.00	0.97

Note: Asphalt Hauling emission default values can be overridden in cells D87 through D90, and F87 through F90.

Asphalt Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing				0	0.00
Miles/round trip: Grading/Excavation				0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade				0	0.00
Miles/round trip: Paving	13.80			5	69.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.07	0.36	1.51	0.10	0.04	0.02	1,590.26	0.00	0.05	1,605.93
Grading/Excavation (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/mile)	0.07	0.36	1.51	0.10	0.04	0.02	1,590.26	0.00	0.05	1,605.93
Paving (grams/mile)	0.07	0.36	1.51	0.10	0.04	0.02	1,590.26	0.00	0.05	1,605.93
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.01	0.05	0.23	0.02	0.01	0.00	241.91	0.00	0.01	244.29
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.00	0.00	1.34
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	1.33	0.00	0.00	1.34

Note: Worker commute default values can be overridden in cells D113 through D118.

Worker Commute Emissions User Input	User Override of Worker Commute Default Values	Default Values	Calculated Daily Trips	Calculated Daily VMT
Miles/ one-way trip	15			
One-way trips/day	2			
No. of employees: Grubbing/Land Clearing	3		6	90.00
No. of employees: Grading/Excavation			0	0.00
No. of employees: Drainage/Utilities/Sub-Grade	7		14	210.00
No. of employees: Paving	4		8	120.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.03	1.33	0.15	0.05	0.02	0.00	393.83	0.01	0.01	395.91
Grading/Excavation (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/mile)	0.03	1.33	0.15	0.05	0.02	0.00	393.83	0.01	0.01	395.91
Paving (grams/mile)	0.03	1.33	0.15	0.05	0.02	0.00	393.83	0.01	0.01	395.91
Grubbing/Land Clearing (grams/trip)	1.17	3.21	0.26	0.00	0.00	0.00	87.83	0.02	0.01	91.49
Grading/Excavation (grams/trip)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	1.17	3.21	0.26	0.00	0.00	0.00	87.83	0.02	0.01	91.49
Paving (grams/trip)	1.17	3.21	0.26	0.00	0.00	0.00	87.83	0.02	0.01	91.49
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.02	0.31	0.03	0.01	0.00	0.00	79.30	0.00	0.00	79.76
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.44	0.00	0.00	0.44
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.05	0.71	0.08	0.02	0.01	0.00	185.04	0.01	0.00	186.12
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.04	0.00	0.00	0.00	0.00	9.16	0.00	0.00	9.21
Pounds per day - Paving	0.03	0.41	0.04	0.01	0.01	0.00	105.74	0.00	0.00	106.35
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.00	0.58
Total tons per construction project	0.00	0.04	0.00	0.00	0.00	0.00	10.18	0.00	0.00	10.24

Note: Water Truck default values can be overridden in cells D145 through D148, and F145 through F148.

Water Truck Emissions User Input	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Miles Traveled/Vehicle/Day	Default Values Miles Traveled/Vehicle/Day	Calculated Daily VMT
Grubbing/Land Clearing - Exhaust	1		13.80		13.80
Grading/Excavation - Exhaust					0.00
Drainage/Utilities/Subgrade	1		13.80		13.80
Paving	1		13.80		13.80

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.07	0.36	1.51	0.10	0.04	0.02	1,590.26	0.00	0.05	1,605.93
Grading/Excavation (grams/mile)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/mile)	0.07	0.36	1.51	0.10	0.04	0.02	1,590.26	0.00	0.05	1,605.93
Paving (grams/mile)	0.07	0.36	1.51	0.10	0.04	0.02	1,590.26	0.00	0.05	1,605.93
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.01	0.05	0.00	0.00	0.00	48.38	0.00	0.00	48.86
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.27
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.01	0.05	0.00	0.00	0.00	48.38	0.00	0.00	48.86
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	2.39	0.00	0.00	2.42
Pounds per day - Paving	0.00	0.01	0.05	0.00	0.00	0.00	48.38	0.00	0.00	48.86
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00	0.27
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	2.93	0.00	0.00	2.96

Note: Fugitive dust default values can be overridden in cells D171 through D173.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing			0.28	0.00	0.06	0.00
Fugitive Dust - Grading/Excavation			0.00	0.00	0.00	0.00
Fugitive Dust - Drainage/Utilities/Subgrade			0.28	0.01	0.06	0.00

Values in cells D183 through D216, D234 through D267, D285 through D318, and D336 through D369 are required when 'Other Project Type' is selected.

Off-Road Equipment Emissions

Grubbing/Land Clearing	Default Number of Vehicles	Mitigation Option: Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*				pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Graders	0.84	4.69	8.36	0.47	0.43	0.01	629.41	0.20	0.01	635.92
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Tractors/Loaders/Backhoes	0.27	2.36	2.66	0.19	0.17	0.00	316.00	0.10	0.00	319.27
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
				pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Grubbing/Land Clearing	pounds per day		1.11	7.06	11.01	0.66	0.61	0.01	945.41	0.29	0.01	955.19
	Grubbing/Land Clearing	tons per phase		0.01	0.04	0.06	0.00	0.00	0.00	5.20	0.00	0.00	5.25

Grading/Excavation	Default Number of Vehicles	Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Mitigation Option Default		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*		Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment	If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Number of Vehicles	Equipment Tier	Type		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grading/Excavation	pounds per day		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation	tons per phase		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Drainage/Utilities/Subgrade	Default Number of Vehicles	Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Mitigation Option Default		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*		Equipment Tier		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Excavators	0.30	3.38	3.19	0.15	0.14	0.01	536.03	0.17	0.00	541.59
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Rough Terrain Forklifts	0.16	2.31	2.01	0.10	0.09	0.00	346.54	0.11	0.00	350.13
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Tractors/Loaders/Backhoes	0.27	2.36	2.66	0.19	0.17	0.00	316.00	0.10	0.00	319.27
1.00			Model Default Tier	Trenchers	0.47	2.75	4.23	0.32	0.30	0.00	352.66	0.11	0.00	356.31
1.00			Model Default Tier	Welders	0.44	1.86	1.68	0.11	0.11	0.00	207.48	0.04	0.00	208.99

User-Defined Off-road Equipment	If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Number of Vehicles	Equipment Tier	Type		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Drainage/Utilities/Sub-Grade	pounds per day		1.64	12.66	13.76	0.87	0.81	0.02	1,758.71	0.52	0.02	1,776.31
Drainage/Utilities/Sub-Grade	tons per phase		0.08	0.63	0.68	0.04	0.04	0.00	87.06	0.03	0.00	87.93

Paving	Default Number of Vehicles	Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Mitigation Option Default		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*		Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Pavers	0.32	2.84	3.50	0.17	0.16	0.00	458.58	0.14	0.00	463.33
1.00			Model Default Tier	Paving Equipment	0.24	2.52	2.64	0.13	0.12	0.00	406.90	0.13	0.00	411.13
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Rollers	0.26	1.96	2.52	0.17	0.16	0.00	267.21	0.08	0.00	269.98
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Signal Boards	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment	If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Number of Vehicles	Equipment Tier	Type		pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Paving	pounds per day		0.81	7.31	8.66	0.47	0.44	0.01	1,132.68	0.35	0.01	1,144.44
Paving	tons per phase		0.00	0.04	0.05	0.00	0.00	0.00	6.23	0.00	0.00	6.29
Total Emissions all Phases (tons per construction period) =>			0.09	0.71	0.79	0.05	0.05	0.00	98.49	0.03	0.00	99.48

Equipment default values for horsepower and hours/day can be overridden in cells D391 through D424 and F391 through F424.

Equipment	User Override of Horsepower	Default Values Horsepower	User Override of Hours/day	Default Values Hours/day
Aerial Lifts		63		8
Air Compressors		78		8
Bore/Drill Rigs		206		8
Cement and Mortar Mixers		9		8
Concrete/Industrial Saws		81		8
Cranes		226		8
Crawler Tractors		208		8
Crushing/Proc. Equipment		85		8
Excavators		163		8
Forklifts		89		8
Generator Sets		84		8
Graders		175		8
Off-Highway Tractors		123		8
Off-Highway Trucks		400		8
Other Construction Equipment		172		8
Other General Industrial Equipment		88		8
Other Material Handling Equipment		167		8
Pavers		126		8
Paving Equipment		131		8
Plate Compactors		8		8
Pressure Washers		13		8
Pumps		84		8
Rollers		81		8
Rough Terrain Forklifts		100		8
Rubber Tired Dozers		255		8
Rubber Tired Loaders		200		8
Scrapers		362		8
Signal Boards		6		8
Skid Steer Loaders		65		8
Surfacing Equipment		254		8
Sweepers/Scrubbers		64		8
Tractors/Loaders/Backhoes		98		8
Trenchers		81		8
Welders		46		8

END OF DATA ENTRY SHEET

C-4 Construction GHG Emissions

- Construction GHG CalEEMod Output (Annual)

Construction Phases 1,2, and 3 represent the construction related to the parking structure, performance venue, and the hotel tower/casino expansion, respectively. They shall not be confused with the traffic scenarios' phase 1 and 2.

San Manuel Casino Expansion and Hotel - South Coast AQMD Air District, Annual

San Manuel Casino Expansion and Hotel

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	16.50	1000sqft	0.40	16,500.00	0
Other Asphalt Surfaces	104.90	1000sqft	2.41	104,898.00	0
Unenclosed Parking with Elevator	2,200.00	Space	2.86	880,000.00	0
Arena	55.00	1000sqft	1.78	55,000.00	0
Arena	58.00	1000sqft	1.11	58,000.00	0
City Park	1.39	Acre	1.39	60,617.00	0
Hotel	500.00	Room	0.99	682,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Specific Information

Construction Phase - Project Specific Information

Off-road Equipment - Project Specific Information
Off-road Equipment - Project Specific Information
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Off-road Equipment - Project Specific Information
Off-road Equipment - Project Specific Information
Trips and VMT - Project Specific Information
Demolition - Project Specific Information
Grading - Project Specific Information
Architectural Coating - Project Specific Information
Construction Off-road Equipment Mitigation - Project Specific Information

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	405,750.00	390,500.00
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	405,750.00	29,000.00

tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	405,750.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,217,250.00	1,171,500.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,217,250.00	87,000.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	1,217,250.00	0.00
tblArchitecturalCoating	ConstArea_Parking	59,094.00	7,007.00
tblArchitecturalCoating	ConstArea_Parking	59,094.00	2,809.00
tblArchitecturalCoating	ConstArea_Parking	59,094.00	51,040.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblAreaCoating	Area_Nonresidential_Exterior	405750	419500
tblAreaCoating	Area_Nonresidential_Interior	1217250	1258500
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	8.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	7.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	25.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
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tblConstEquipMitigation	Tier	No Change	Tier 3
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tblConstructionPhase	NumDays	300.00	32.00
tblConstructionPhase	NumDays	300.00	103.00
tblConstructionPhase	NumDays	300.00	78.00
tblConstructionPhase	NumDays	300.00	212.00
tblConstructionPhase	NumDays	300.00	28.00

tblConstructionPhase	NumDays	300.00	25.00
tblConstructionPhase	NumDays	300.00	157.00
tblConstructionPhase	NumDays	20.00	18.00
tblConstructionPhase	NumDays	20.00	12.00
tblConstructionPhase	NumDays	20.00	36.00
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tblConstructionPhase	NumDays	30.00	129.00
tblConstructionPhase	NumDays	30.00	131.00
tblConstructionPhase	NumDays	20.00	12.00
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tblConstructionPhase	NumDaysWeek	5.00	6.00

tblConstructionPhase	NumDaysWeek	5.00	6.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	0.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.20	0.00
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.8620e-003	0.00
tblFleetMix	MCY	4.7770e-003	0.00
tblFleetMix	MDV	0.12	0.00
tblFleetMix	MH	9.5600e-004	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	2.0370e-003	0.00
tblFleetMix	SBUS	7.0500e-004	0.00
tblFleetMix	UBUS	1.9440e-003	0.00
tblGrading	AcresOfGrading	107.25	3.50
tblGrading	AcresOfGrading	104.81	1.20
tblGrading	AcresOfGrading	106.44	6.25
tblLandUse	LandUseSquareFeet	104,900.00	104,898.00
tblLandUse	LandUseSquareFeet	60,548.40	60,617.00
tblLandUse	LandUseSquareFeet	726,000.00	682,000.00
tblLandUse	LotAcreage	0.38	0.40
tblLandUse	LotAcreage	19.80	2.86
tblLandUse	LotAcreage	17.68	1.78
tblLandUse	LotAcreage	18.64	1.11
tblLandUse	LotAcreage	16.67	0.99
tblOffRoadEquipment	HorsePower	78.00	367.00
tblOffRoadEquipment	HorsePower	78.00	367.00
tblOffRoadEquipment	HorsePower	78.00	367.00
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tblOffRoadEquipment	LoadFactor	0.50	0.48

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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
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tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
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tblOffRoadEquipment	UsageHours	8.00	13.00
tblOffRoadEquipment	UsageHours	8.00	13.00
tblSolidWaste	SolidWasteGenerationRate	20.46	6.50
tblTripsAndVMT	HaulingTripLength	20.00	2.50
tblTripsAndVMT	HaulingTripLength	20.00	2.50
tblTripsAndVMT	HaulingTripLength	20.00	2.50
tblTripsAndVMT	HaulingTripLength	20.00	2.50
tblTripsAndVMT	HaulingTripLength	20.00	2.50
tblTripsAndVMT	HaulingTripLength	20.00	2.50
tblTripsAndVMT	HaulingTripNumber	291.00	307.00
tblTripsAndVMT	HaulingTripNumber	0.00	6,926.00
tblTripsAndVMT	HaulingTripNumber	117.00	123.00
tblTripsAndVMT	HaulingTripNumber	0.00	2,691.00
tblTripsAndVMT	HaulingTripNumber	574.00	605.00
tblTripsAndVMT	HaulingTripNumber	0.00	6,712.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00

tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	304.00	17.00
tblTripsAndVMT	VendorTripNumber	304.00	0.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	304.00	87.00
tblTripsAndVMT	VendorTripNumber	304.00	0.00
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tblTripsAndVMT	VendorTripNumber	304.00	0.00
tblTripsAndVMT	VendorTripNumber	0.00	6.00
tblTripsAndVMT	VendorTripNumber	304.00	52.00
tblTripsAndVMT	WorkerTripNumber	780.00	13.00
tblTripsAndVMT	WorkerTripNumber	780.00	100.00
tblTripsAndVMT	WorkerTripNumber	780.00	15.00
tblTripsAndVMT	WorkerTripNumber	156.00	75.00
tblTripsAndVMT	WorkerTripNumber	156.00	158.00
tblTripsAndVMT	WorkerTripNumber	780.00	250.00
tblTripsAndVMT	WorkerTripNumber	156.00	75.00
tblTripsAndVMT	WorkerTripNumber	13.00	10.00
tblTripsAndVMT	WorkerTripNumber	780.00	10.00
tblTripsAndVMT	WorkerTripNumber	10.00	5.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00
tblTripsAndVMT	WorkerTripNumber	780.00	15.00
tblTripsAndVMT	WorkerTripNumber	13.00	10.00
tblTripsAndVMT	WorkerTripNumber	780.00	250.00
tblWater	IndoorWaterUseRate	3,815,625.00	1,211,750.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.9919	11.3833	5.9695	0.0129	1.6901	0.5084	2.1985	0.8587	0.4693	1.3281	0.0000	1,188.2182	1,188.2182	0.3118	0.0000	1,196.0119
2019	1.8108	13.5720	11.4270	0.0236	0.9377	0.6861	1.6239	0.3719	0.6503	1.0222	0.0000	2,098.0502	2,098.0502	0.3672	0.0000	2,107.2306
2020	2.3043	3.5406	3.8225	7.1500e-003	0.1709	0.1964	0.3672	0.0454	0.1890	0.2344	0.0000	621.8962	621.8962	0.0910	0.0000	624.1720
Maximum	**2.3043**	**13.5720**	**11.4270**	**0.0236**	**1.6901**	**0.6861**	**2.1985**	**0.8587**	**0.6503**	**1.3281**	**0.0000**	**2,098.0502**	**2,098.0502**	**0.3672**	**0.0000**	**2,107.2306**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.3136	6.2905	6.9673	0.0129	0.7144	0.2567	0.9711	0.3498	0.2565	0.6063	0.0000	1,188.2170	1,188.2170	0.3118	0.0000	1,196.0108
2019	0.9967	9.6096	12.6300	0.0236	0.6731	0.5009	1.1740	0.2273	0.5004	0.7277	0.0000	2,098.0485	2,098.0485	0.3672	0.0000	2,107.2289
2020	2.0616	2.7488	4.1173	7.1500e-003	0.1709	0.1708	0.3417	0.0454	0.1707	0.2161	0.0000	621.8956	621.8956	0.0910	0.0000	624.1714
Maximum	**2.0616**	**9.6096**	**12.6300**	**0.0236**	**0.7144**	**0.5009**	**1.1740**	**0.3498**	**0.5004**	**0.7277**	**0.0000**	**2,098.0485**	**2,098.0485**	**0.3672**	**0.0000**	**2,107.2289**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e

Percent Reduction	**33.97**	**34.56**	**-11.76**	**0.00**	**44.32**	**33.25**	**40.65**	**51.22**	**29.12**	**40.03**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**4-1-2018**	**6-30-2018**	2.1468	1.1266
2	**7-1-2018**	**9-30-2018**	4.1086	2.0985
3	**10-1-2018**	**12-31-2018**	6.1015	3.3657
4	**1-1-2019**	**3-31-2019**	5.1493	3.3115
5	**4-1-2019**	**6-30-2019**	4.5278	3.3362
6	**7-1-2019**	**9-30-2019**	2.7657	2.0129
7	**10-1-2019**	**12-31-2019**	2.8900	1.9080
8	**1-1-2020**	**3-31-2020**	3.7982	3.0264
9	**4-1-2020**	**6-30-2020**	2.0616	1.7990
		Highest	6.1015	3.3657

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase 1 Demo	Demolition	4/1/2018	4/21/2018	6	18	11
2	Phase 1 Grading	Grading	4/23/2018	9/23/2018	6	132	12
3	Phase 2 Demo	Demolition	7/2/2018	7/15/2018	6	12	18
4	Phase 2 Grading	Grading	7/16/2018	12/12/2018	6	129	19
5	Phase 1 Drainage/Utils	Trenching	9/24/2018	11/1/2018	6	34	13
6	Phase 3 Demo	Demolition	10/1/2018	11/11/2018	6	36	24
7	Phase 1 Foundation	Building Construction	11/2/2018	11/30/2018	6	25	14
8	Phase 3 Grading	Grading	11/12/2018	4/12/2019	6	131	25
9	Phase 1 Building Construction	Building Construction	12/1/2018	6/1/2019	6	157	15
10	Phase 2 Drainage/Utils	Trenching	12/13/2018	12/26/2018	6	12	20
11	Phase 2 Foundation	Building Construction	12/27/2018	2/1/2019	6	32	21
12	Phase 2 Building Construction	Building Construction	2/2/2019	6/1/2019	6	103	22
13	Phase 3 Drainage/Utils	Trenching	4/13/2019	5/13/2019	6	26	26

14	Phase 3 Foundation	Building Construction	5/14/2019	8/12/2019	6	78	27
15	Phase 1 Paving	Paving	6/2/2019	6/16/2019	6	12	16
16	Phase 2 Architectural Coating	Architectural Coating	6/2/2019	8/1/2019	6	52	23
17	Phase 1 Architectural Coating	Architectural Coating	6/17/2019	7/1/2019	6	13	17
18	Phase 3 Building Construction	Building Construction	8/13/2019	4/15/2020	6	212	28
19	Phase 3 Architectural Coating	Architectural Coating	2/1/2020	6/1/2020	6	104	31
20	Phase 3 Paving	Paving	4/16/2020	6/1/2020	6	40	29
21	Phase 3 Landscaping	Building Construction	4/30/2020	6/1/2020	6	28	30

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 5.27

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 87,000; Non-Residential Outdoor: 29,000; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase 1 Demo	Off-Highway Trucks	1	13.00	402	0.38
Phase 1 Demo	Rubber Tired Dozers	1	13.00	247	0.40
Phase 1 Demo	Sweepers/Scrubbers	1	13.00	64	0.46
Phase 1 Demo	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 1 Grading	Excavators	1	13.00	158	0.38
Phase 1 Grading	Graders	1	13.00	187	0.41
Phase 1 Grading	Rubber Tired Dozers	1	13.00	247	0.40
Phase 1 Grading	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 2 Demo	Off-Highway Trucks	1	13.00	402	0.38
Phase 2 Demo	Rubber Tired Dozers	1	13.00	247	0.40
Phase 2 Demo	Sweepers/Scrubbers	1	13.00	64	0.46
Phase 2 Demo	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 2 Grading	Excavators	1	13.00	158	0.38
Phase 2 Grading	Graders	1	13.00	187	0.41

Phase 2 Grading	Rubber Tired Dozers	1	13.00	247	0.40
Phase 2 Grading	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 1 Drainage/Utils	Excavators	1	13.00	158	0.38
Phase 1 Drainage/Utils	Rough Terrain Forklifts	2	13.00	100	0.40
Phase 1 Drainage/Utils	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 1 Drainage/Utils	Trenchers	1	13.00	367	0.48
Phase 3 Demo	Off-Highway Trucks	1	13.00	402	0.38
Phase 3 Demo	Rubber Tired Dozers	2	13.00	247	0.40
Phase 3 Demo	Sweepers/Scrubbers	1	13.00	64	0.46
Phase 3 Demo	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 1 Foundation	Bore/Drill Rigs	1	13.00	221	0.50
Phase 1 Foundation	Cranes	1	13.00	231	0.29
Phase 1 Foundation	Pumps	2	13.00	84	0.74
Phase 1 Foundation	Rough Terrain Forklifts	1	13.00	100	0.40
Phase 1 Foundation	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 3 Grading	Excavators	1	13.00	158	0.38
Phase 3 Grading	Graders	1	13.00	187	0.41
Phase 3 Grading	Rubber Tired Dozers	1	13.00	247	0.40
Phase 3 Grading	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 1 Building Construction	Cranes	1	13.00	231	0.29
Phase 1 Building Construction	Forklifts	2	13.00	89	0.20
Phase 1 Building Construction	Paving Equipment	1	13.00	132	0.36
Phase 1 Building Construction	Pumps	1	13.00	84	0.74
Phase 1 Building Construction	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 2 Drainage/Utils	Excavators	1	13.00	158	0.38
Phase 2 Drainage/Utils	Rough Terrain Forklifts	1	13.00	100	0.40
Phase 2 Drainage/Utils	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 2 Drainage/Utils	Trenchers	1	13.00	367	0.48
Phase 2 Foundation	Bore/Drill Rigs	1	13.00	221	0.50
Phase 2 Foundation	Cranes	1	13.00	231	0.29

Phase 2 Foundation	Pumps	1	13.00	84	0.74
Phase 2 Foundation	Rough Terrain Forklifts	1	13.00	100	0.40
Phase 2 Foundation	Tractors/Loaders/Backhoes	1	13.00	97	0.37
Phase 2 Building Construction	Cranes	1	13.00	231	0.29
Phase 2 Building Construction	Forklifts	2	13.00	89	0.20
Phase 2 Building Construction	Generator Sets	1	13.00	84	0.74
Phase 2 Building Construction	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 2 Building Construction	Welders	2	13.00	46	0.45
Phase 3 Drainage/Utils	Excavators	1	13.00	158	0.38
Phase 3 Drainage/Utils	Rough Terrain Forklifts	2	13.00	100	0.40
Phase 3 Drainage/Utils	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 3 Drainage/Utils	Trenchers	1	13.00	367	0.48
Phase 3 Foundation	Bore/Drill Rigs	1	13.00	221	0.50
Phase 3 Foundation	Cranes	1	13.00	231	0.29
Phase 3 Foundation	Pumps	2	13.00	84	0.74
Phase 3 Foundation	Rough Terrain Forklifts	1	13.00	100	0.40
Phase 3 Foundation	Tractors/Loaders/Backhoes	2	13.00	97	0.37
Phase 1 Paving	Pavers	1	13.00	130	0.42
Phase 1 Paving	Paving Equipment	1	13.00	132	0.36
Phase 1 Paving	Rollers	1	13.00	80	0.38
Phase 2 Architectural Coating	Aerial Lifts	2	13.00	63	0.31
Phase 2 Architectural Coating	Air Compressors	2	13.00	78	0.48
Phase 1 Architectural Coating	Aerial Lifts	2	13.00	63	0.31
Phase 1 Architectural Coating	Air Compressors	2	13.00	78	0.48
Phase 3 Building Construction	Air Compressors	2	13.00	78	0.48
Phase 3 Building Construction	Cranes	2	13.00	231	0.29
Phase 3 Building Construction	Forklifts	2	13.00	89	0.20
Phase 3 Building Construction	Generator Sets	2	13.00	84	0.74
Phase 3 Building Construction	Pumps	1	13.00	84	0.74
Phase 3 Building Construction	Tractors/Loaders/Backhoes	2	13.00	97	0.37

Phase 3 Building Construction	Welders	2	13.00	46	0.45
Phase 3 Architectural Coating	Aerial Lifts	2	13.00	63	0.31
Phase 3 Architectural Coating	Air Compressors	2	13.00	78	0.48
Phase 3 Paving	Pavers	1	13.00	130	0.42
Phase 3 Paving	Paving Equipment	1	13.00	132	0.36
Phase 3 Paving	Rollers	1	13.00	80	0.38
Phase 3 Landscaping	Forklifts	1	13.00	89	0.20
Phase 3 Landscaping	Sweepers/Scrubbers	1	13.00	64	0.46
Phase 3 Landscaping	Tractors/Loaders/Backhoes	1	13.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Phase 1 Demo	4	10.00	6.00	307.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 1 Grading	5	10.00	6.00	6,926.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 2 Demo	4	5.00	6.00	123.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 2 Grading	4	8.00	6.00	2,691.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 1 Drainage/Utils	6	15.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Demo	5	13.00	6.00	605.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 1 Foundation	7	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Grading	5	10.00	6.00	6,712.00	14.70	6.90	2.50	LD_Mix	HDT_Mix	HHDT
Phase 1 Building Construction	7	250.00	52.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Drainage/Utils	4	10.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Foundation	5	13.00	17.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Building Construction	8	100.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Drainage/Utils	6	15.00	6.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Foundation	7	15.00	87.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Paving	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 2 Architectural Coating	4	75.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 1 Architectural Coating	4	158.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Phase 3 Building Construction	13	250.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Architectural Coating	4	75.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Paving	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Phase 3 Landscaping	3	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Phase 1 Demo - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0315	0.0000	0.0315	4.7800e-003	0.0000	4.7800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0368	0.3829	0.1891	4.0000e-004		0.0194	0.0194		0.0178	0.0178	0.0000	36.5962	36.5962	0.0114	0.0000	36.8810
Total	**0.0368**	**0.3829**	**0.1891**	**4.0000e-004**	**0.0315**	**0.0194**	**0.0509**	**4.7800e-003**	**0.0178**	**0.0226**	**0.0000**	**36.5962**	**36.5962**	**0.0114**	**0.0000**	**36.8810**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.6000e-004	0.0199	3.1600e-003	3.0000e-005	3.3000e-004	3.0000e-005	3.7000e-004	9.0000e-005	3.0000e-005	1.2000e-004	0.0000	2.8734	2.8734	3.8000e-004	0.0000	2.8828

Vendor	2.3000e-004	6.6800e-003	1.7200e-003	1.0000e-005	3.4000e-004	5.0000e-005	3.9000e-004	1.0000e-004	5.0000e-005	1.4000e-004	0.0000	1.3488	1.3488	1.0000e-004	0.0000	1.3512
Worker	4.8000e-004	3.9000e-004	4.2000e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9473	0.9473	3.0000e-005	0.0000	0.9481
Total	**1.1700e-003**	**0.0270**	**9.0800e-003**	**5.0000e-005**	**1.6600e-003**	**9.0000e-005**	**1.7600e-003**	**4.5000e-004**	**9.0000e-005**	**5.3000e-004**	**0.0000**	**5.1694**	**5.1694**	**5.1000e-004**	**0.0000**	**5.1821**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0123	0.0000	0.0123	1.8600e-003	0.0000	1.8600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.8100e-003	0.1967	0.2311	4.0000e-004		8.9500e-003	8.9500e-003		8.9500e-003	8.9500e-003	0.0000	36.5961	36.5961	0.0114	0.0000	36.8809
Total	**9.8100e-003**	**0.1967**	**0.2311**	**4.0000e-004**	**0.0123**	**8.9500e-003**	**0.0213**	**1.8600e-003**	**8.9500e-003**	**0.0108**	**0.0000**	**36.5961**	**36.5961**	**0.0114**	**0.0000**	**36.8809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.6000e-004	0.0199	3.1600e-003	3.0000e-005	3.3000e-004	3.0000e-005	3.7000e-004	9.0000e-005	3.0000e-005	1.2000e-004	0.0000	2.8734	2.8734	3.8000e-004	0.0000	2.8828
Vendor	2.3000e-004	6.6800e-003	1.7200e-003	1.0000e-005	3.4000e-004	5.0000e-005	3.9000e-004	1.0000e-004	5.0000e-005	1.4000e-004	0.0000	1.3488	1.3488	1.0000e-004	0.0000	1.3512
Worker	4.8000e-004	3.9000e-004	4.2000e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9473	0.9473	3.0000e-005	0.0000	0.9481
Total	**1.1700e-003**	**0.0270**	**9.0800e-003**	**5.0000e-005**	**1.6600e-003**	**9.0000e-005**	**1.7600e-003**	**4.5000e-004**	**9.0000e-005**	**5.3000e-004**	**0.0000**	**5.1694**	**5.1694**	**5.1000e-004**	**0.0000**	**5.1821**

3.3 Phase 1 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6477	0.0000	0.6477	0.3552	0.0000	0.3552	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2689	3.0076	1.5273	2.8500e-003		0.1464	0.1464		0.1347	0.1347	0.0000	260.2895	260.2895	0.0810	0.0000	262.3153
Total	**0.2689**	**3.0076**	**1.5273**	**2.8500e-003**	**0.6477**	**0.1464**	**0.7941**	**0.3552**	**0.1347**	**0.4899**	**0.0000**	**260.2895**	**260.2895**	**0.0810**	**0.0000**	**262.3153**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0104	0.4490	0.0713	6.6000e-004	7.5100e-003	7.6000e-004	8.2700e-003	2.0700e-003	7.3000e-004	2.8000e-003	0.0000	64.8235	64.8235	8.5200e-003	0.0000	65.0365
Vendor	1.7200e-003	0.0490	0.0126	1.0000e-004	2.5000e-003	3.5000e-004	2.8500e-003	7.2000e-004	3.4000e-004	1.0600e-003	0.0000	9.8914	9.8914	7.0000e-004	0.0000	9.9090
Worker	3.5100e-003	2.8700e-003	0.0308	8.0000e-005	7.2400e-003	6.0000e-005	7.3000e-003	1.9200e-003	5.0000e-005	1.9800e-003	0.0000	6.9465	6.9465	2.4000e-004	0.0000	6.9525
Total	**0.0156**	**0.5008**	**0.1147**	**8.4000e-004**	**0.0173**	**1.1700e-003**	**0.0184**	**4.7100e-003**	**1.1200e-003**	**5.8400e-003**	**0.0000**	**81.6614**	**81.6614**	**9.4600e-003**	**0.0000**	**81.8980**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Fugitive Dust					0.2526	0.0000	0.2526	0.1385	0.0000	0.1385	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0698	1.4056	1.7856	2.8500e-003		0.0680	0.0680		0.0680	0.0680	0.0000	260.2892	260.2892	0.0810	0.0000	262.3150
Total	**0.0698**	**1.4056**	**1.7856**	**2.8500e-003**	**0.2526**	**0.0680**	**0.3206**	**0.1385**	**0.0680**	**0.2065**	**0.0000**	**260.2892**	**260.2892**	**0.0810**	**0.0000**	**262.3150**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0104	0.4490	0.0713	6.6000e-004	7.5100e-003	7.6000e-004	8.2700e-003	2.0700e-003	7.3000e-004	2.8000e-003	0.0000	64.8235	64.8235	8.5200e-003	0.0000	65.0365
Vendor	1.7200e-003	0.0490	0.0126	1.0000e-004	2.5000e-003	3.5000e-004	2.8500e-003	7.2000e-004	3.4000e-004	1.0600e-003	0.0000	9.8914	9.8914	7.0000e-004	0.0000	9.9090
Worker	3.5100e-003	2.8700e-003	0.0308	8.0000e-005	7.2400e-003	6.0000e-005	7.3000e-003	1.9200e-003	5.0000e-005	1.9800e-003	0.0000	6.9465	6.9465	2.4000e-004	0.0000	6.9525
Total	**0.0156**	**0.5008**	**0.1147**	**8.4000e-004**	**0.0173**	**1.1700e-003**	**0.0184**	**4.7100e-003**	**1.1200e-003**	**5.8400e-003**	**0.0000**	**81.6614**	**81.6614**	**9.4600e-003**	**0.0000**	**81.8980**

3.4 Phase 2 Demo - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0126	0.0000	0.0126	1.9100e-003	0.0000	1.9100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0245	0.2553	0.1261	2.7000e-004		0.0129	0.0129		0.0119	0.0119	0.0000	24.3974	24.3974	7.6000e-003	0.0000	24.5873

Total	**0.0245**	**0.2553**	**0.1261**	**2.7000e-004**	**0.0126**	**0.0129**	**0.0255**	**1.9100e-003**	**0.0119**	**0.0138**	**0.0000**	**24.3974**	**24.3974**	**7.6000e-003**	**0.0000**	**24.5873**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8000e-004	7.9700e-003	1.2700e-003	1.0000e-005	1.3000e-004	1.0000e-005	1.5000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	1.1512	1.1512	1.5000e-004	0.0000	1.1550
Vendor	1.6000e-004	4.4500e-003	1.1500e-003	1.0000e-005	2.3000e-004	3.0000e-005	2.6000e-004	7.0000e-005	3.0000e-005	1.0000e-004	0.0000	0.8992	0.8992	6.0000e-005	0.0000	0.9008
Worker	1.6000e-004	1.3000e-004	1.4000e-003	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.3158	0.3158	1.0000e-005	0.0000	0.3160
Total	**5.0000e-004**	**0.0126**	**3.8200e-003**	**2.0000e-005**	**6.9000e-004**	**4.0000e-005**	**7.4000e-004**	**2.0000e-004**	**4.0000e-005**	**2.4000e-004**	**0.0000**	**2.3662**	**2.3662**	**2.2000e-004**	**0.0000**	**2.3718**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.9300e-003	0.0000	4.9300e-003	7.5000e-004	0.0000	7.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.5400e-003	0.1311	0.1540	2.7000e-004		5.9600e-003	5.9600e-003		5.9600e-003	5.9600e-003	0.0000	24.3974	24.3974	7.6000e-003	0.0000	24.5873
Total	**6.5400e-003**	**0.1311**	**0.1540**	**2.7000e-004**	**4.9300e-003**	**5.9600e-003**	**0.0109**	**7.5000e-004**	**5.9600e-003**	**6.7100e-003**	**0.0000**	**24.3974**	**24.3974**	**7.6000e-003**	**0.0000**	**24.5873**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.8000e-004	7.9700e-003	1.2700e-003	1.0000e-005	1.3000e-004	1.0000e-005	1.5000e-004	4.0000e-005	1.0000e-005	5.0000e-005	0.0000	1.1512	1.1512	1.5000e-004	0.0000	1.1550
Vendor	1.6000e-004	4.4500e-003	1.1500e-003	1.0000e-005	2.3000e-004	3.0000e-005	2.6000e-004	7.0000e-005	3.0000e-005	1.0000e-004	0.0000	0.8992	0.8992	6.0000e-005	0.0000	0.9008
Worker	1.6000e-004	1.3000e-004	1.4000e-003	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.3158	0.3158	1.0000e-005	0.0000	0.3160
Total	**5.0000e-004**	**0.0126**	**3.8200e-003**	**2.0000e-005**	**6.9000e-004**	**4.0000e-005**	**7.4000e-004**	**2.0000e-004**	**4.0000e-005**	**2.4000e-004**	**0.0000**	**2.3662**	**2.3662**	**2.2000e-004**	**0.0000**	**2.3718**

3.5 Phase 2 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.6318	0.0000	0.6318	0.3470	0.0000	0.3470	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2349	2.6636	1.2476	2.4600e-003		0.1235	0.1235		0.1137	0.1137	0.0000	224.6338	224.6338	0.0699	0.0000	226.3821
Total	**0.2349**	**2.6636**	**1.2476**	**2.4600e-003**	**0.6318**	**0.1235**	**0.7554**	**0.3470**	**0.1137**	**0.4607**	**0.0000**	**224.6338**	**224.6338**	**0.0699**	**0.0000**	**226.3821**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	4.0300e-003	0.1745	0.0277	2.6000e-004	2.9200e-003	3.0000e-004	3.2100e-003	8.0000e-004	2.8000e-004	1.0900e-003	0.0000	25.1862	25.1862	3.3100e-003	0.0000	25.2690
Vendor	1.6800e-003	0.0479	0.0123	1.0000e-004	2.4400e-003	3.4000e-004	2.7800e-003	7.0000e-004	3.3000e-004	1.0300e-003	0.0000	9.6666	9.6666	6.9000e-004	0.0000	9.6838
Worker	2.7400e-003	2.2400e-003	0.0241	6.0000e-005	5.6600e-003	5.0000e-005	5.7100e-003	1.5000e-003	4.0000e-005	1.5500e-003	0.0000	5.4309	5.4309	1.9000e-004	0.0000	5.4356
Total	**8.4500e-003**	**0.2245**	**0.0641**	**4.2000e-004**	**0.0110**	**6.9000e-004**	**0.0117**	**3.0000e-003**	**6.5000e-004**	**3.6700e-003**	**0.0000**	**40.2838**	**40.2838**	**4.1900e-003**	**0.0000**	**40.3884**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2464	0.0000	0.2464	0.1353	0.0000	0.1353	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0602	1.1918	1.4995	2.4600e-003		0.0537	0.0537		0.0537	0.0537	0.0000	224.6335	224.6335	0.0699	0.0000	226.3818
Total	**0.0602**	**1.1918**	**1.4995**	**2.4600e-003**	**0.2464**	**0.0537**	**0.3001**	**0.1353**	**0.0537**	**0.1891**	**0.0000**	**224.6335**	**224.6335**	**0.0699**	**0.0000**	**226.3818**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	4.0300e-003	0.1745	0.0277	2.6000e-004	2.9200e-003	3.0000e-004	3.2100e-003	8.0000e-004	2.8000e-004	1.0900e-003	0.0000	25.1862	25.1862	3.3100e-003	0.0000	25.2690
Vendor	1.6800e-003	0.0479	0.0123	1.0000e-004	2.4400e-003	3.4000e-004	2.7800e-003	7.0000e-004	3.3000e-004	1.0300e-003	0.0000	9.6666	9.6666	6.9000e-004	0.0000	9.6838
Worker	2.7400e-003	2.2400e-003	0.0241	6.0000e-005	5.6600e-003	5.0000e-005	5.7100e-003	1.5000e-003	4.0000e-005	1.5500e-003	0.0000	5.4309	5.4309	1.9000e-004	0.0000	5.4356
Total	**8.4500e-003**	**0.2245**	**0.0641**	**4.2000e-004**	**0.0110**	**6.9000e-004**	**0.0117**	**3.0000e-003**	**6.5000e-004**	**3.6700e-003**	**0.0000**	**40.2838**	**40.2838**	**4.1900e-003**	**0.0000**	**40.3884**

3.6 Phase 1 Drainage/Utils - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0533	0.6173	0.5165	9.2000e-004		0.0302	0.0302		0.0277	0.0277	0.0000	84.1912	84.1912	0.0262	0.0000	84.8465
Total	**0.0533**	**0.6173**	**0.5165**	**9.2000e-004**		**0.0302**	**0.0302**		**0.0277**	**0.0277**	**0.0000**	**84.1912**	**84.1912**	**0.0262**	**0.0000**	**84.8465**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4000e-004	0.0126	3.2500e-003	3.0000e-005	6.4000e-004	9.0000e-005	7.3000e-004	1.9000e-004	9.0000e-005	2.7000e-004	0.0000	2.5478	2.5478	1.8000e-004	0.0000	2.5523
Worker	1.3600e-003	1.1100e-003	0.0119	3.0000e-005	2.8000e-003	2.0000e-005	2.8200e-003	7.4000e-004	2.0000e-005	7.6000e-004	0.0000	2.6839	2.6839	9.0000e-005	0.0000	2.6862
Total	**1.8000e-003**	**0.0137**	**0.0152**	**6.0000e-005**	**3.4400e-003**	**1.1000e-004**	**3.5500e-003**	**9.3000e-004**	**1.1000e-004**	**1.0300e-003**	**0.0000**	**5.2317**	**5.2317**	**2.7000e-004**	**0.0000**	**5.2385**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0227	0.4696	0.6050	9.2000e-004		0.0250	0.0250		0.0250	0.0250	0.0000	84.1911	84.1911	0.0262	0.0000	84.8464
Total	**0.0227**	**0.4696**	**0.6050**	**9.2000e-004**		**0.0250**	**0.0250**		**0.0250**	**0.0250**	**0.0000**	**84.1911**	**84.1911**	**0.0262**	**0.0000**	**84.8464**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4000e-004	0.0126	3.2500e-003	3.0000e-005	6.4000e-004	9.0000e-005	7.3000e-004	1.9000e-004	9.0000e-005	2.7000e-004	0.0000	2.5478	2.5478	1.8000e-004	0.0000	2.5523
Worker	1.3600e-003	1.1100e-003	0.0119	3.0000e-005	2.8000e-003	2.0000e-005	2.8200e-003	7.4000e-004	2.0000e-005	7.6000e-004	0.0000	2.6839	2.6839	9.0000e-005	0.0000	2.6862
Total	**1.8000e-003**	**0.0137**	**0.0152**	**6.0000e-005**	**3.4400e-003**	**1.1000e-004**	**3.5500e-003**	**9.3000e-004**	**1.1000e-004**	**1.0300e-003**	**0.0000**	**5.2317**	**5.2317**	**2.7000e-004**	**0.0000**	**5.2385**

3.7 Phase 3 Demo - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0621	0.0000	0.0621	9.4100e-003	0.0000	9.4100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.1077	1.1332	0.5062	1.0500e-003		0.0566	0.0566		0.0520	0.0520	0.0000	96.0172	96.0172	0.0299	0.0000	96.7644
Total	**0.1077**	**1.1332**	**0.5062**	**1.0500e-003**	**0.0621**	**0.0566**	**0.1187**	**9.4100e-003**	**0.0520**	**0.0615**	**0.0000**	**96.0172**	**96.0172**	**0.0299**	**0.0000**	**96.7644**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.1000e-004	0.0392	6.2300e-003	6.0000e-005	6.6000e-004	7.0000e-005	7.2000e-004	1.8000e-004	6.0000e-005	2.4000e-004	0.0000	5.6625	5.6625	7.4000e-004	0.0000	5.6811
Vendor	4.7000e-004	0.0134	3.4400e-003	3.0000e-005	6.8000e-004	1.0000e-004	7.8000e-004	2.0000e-004	9.0000e-005	2.9000e-004	0.0000	2.6977	2.6977	1.9000e-004	0.0000	2.7025
Worker	1.2400e-003	1.0200e-003	0.0109	3.0000e-005	2.5700e-003	2.0000e-005	2.5900e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.4629	2.4629	8.0000e-005	0.0000	2.4650
Total	**2.6200e-003**	**0.0536**	**0.0206**	**1.2000e-004**	**3.9100e-003**	**1.9000e-004**	**4.0900e-003**	**1.0600e-003**	**1.7000e-004**	**1.2300e-003**	**0.0000**	**10.8230**	**10.8230**	**1.0100e-003**	**0.0000**	**10.8485**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0242	0.0000	0.0242	3.6700e-003	0.0000	3.6700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0257	0.5117	0.5946	1.0500e-003		0.0224	0.0224		0.0224	0.0224	0.0000	96.0170	96.0170	0.0299	0.0000	96.7643
Total	**0.0257**	**0.5117**	**0.5946**	**1.0500e-003**	**0.0242**	**0.0224**	**0.0466**	**3.6700e-003**	**0.0224**	**0.0261**	**0.0000**	**96.0170**	**96.0170**	**0.0299**	**0.0000**	**96.7643**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.1000e-004	0.0392	6.2300e-003	6.0000e-005	6.6000e-004	7.0000e-005	7.2000e-004	1.8000e-004	6.0000e-005	2.4000e-004	0.0000	5.6625	5.6625	7.4000e-004	0.0000	5.6811
Vendor	4.7000e-004	0.0134	3.4400e-003	3.0000e-005	6.8000e-004	1.0000e-004	7.8000e-004	2.0000e-004	9.0000e-005	2.9000e-004	0.0000	2.6977	2.6977	1.9000e-004	0.0000	2.7025
Worker	1.2400e-003	1.0200e-003	0.0109	3.0000e-005	2.5700e-003	2.0000e-005	2.5900e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.4629	2.4629	8.0000e-005	0.0000	2.4650
Total	**2.6200e-003**	**0.0536**	**0.0206**	**1.2000e-004**	**3.9100e-003**	**1.9000e-004**	**4.0900e-003**	**1.0600e-003**	**1.7000e-004**	**1.2300e-003**	**0.0000**	**10.8230**	**10.8230**	**1.0100e-003**	**0.0000**	**10.8485**

3.8 Phase 1 Foundation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0533	0.5410	0.3901	7.7000e-004		0.0292	0.0292		0.0277	0.0277	0.0000	68.9750	68.9750	0.0161	0.0000	69.3766
Total	**0.0533**	**0.5410**	**0.3901**	**7.7000e-004**		**0.0292**	**0.0292**		**0.0277**	**0.0277**	**0.0000**	**68.9750**	**68.9750**	**0.0161**	**0.0000**	**69.3766**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	8.2000e-004	8.7500e-003	2.0000e-005	2.0600e-003	2.0000e-005	2.0700e-003	5.5000e-004	2.0000e-005	5.6000e-004	0.0000	1.9734	1.9734	7.0000e-005	0.0000	1.9751
Total	**1.0000e-003**	**8.2000e-004**	**8.7500e-003**	**2.0000e-005**	**2.0600e-003**	**2.0000e-005**	**2.0700e-003**	**5.5000e-004**	**2.0000e-005**	**5.6000e-004**	**0.0000**	**1.9734**	**1.9734**	**7.0000e-005**	**0.0000**	**1.9751**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0178	0.3793	0.4783	7.7000e-004		0.0218	0.0218		0.0218	0.0218	0.0000	68.9749	68.9749	0.0161	0.0000	69.3765
Total	**0.0178**	**0.3793**	**0.4783**	**7.7000e-004**		**0.0218**	**0.0218**		**0.0218**	**0.0218**	**0.0000**	**68.9749**	**68.9749**	**0.0161**	**0.0000**	**69.3765**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-003	8.2000e-004	8.7500e-003	2.0000e-005	2.0600e-003	2.0000e-005	2.0700e-003	5.5000e-004	2.0000e-005	5.6000e-004	0.0000	1.9734	1.9734	7.0000e-005	0.0000	1.9751
Total	**1.0000e-003**	**8.2000e-004**	**8.7500e-003**	**2.0000e-005**	**2.0600e-003**	**2.0000e-005**	**2.0700e-003**	**5.5000e-004**	**2.0000e-005**	**5.6000e-004**	**0.0000**	**1.9734**	**1.9734**	**7.0000e-005**	**0.0000**	**1.9751**

3.9 Phase 3 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2137	0.0000	0.2137	0.1160	0.0000	0.1160	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0876	0.9798	0.4975	9.3000e-004		0.0477	0.0477		0.0439	0.0439	0.0000	84.7913	84.7913	0.0264	0.0000	85.4512
Total	**0.0876**	**0.9798**	**0.4975**	**9.3000e-004**	**0.2137**	**0.0477**	**0.2614**	**0.1160**	**0.0439**	**0.1599**	**0.0000**	**84.7913**	**84.7913**	**0.0264**	**0.0000**	**85.4512**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.3000e-003	0.1428	0.0227	2.1000e-004	6.0300e-003	2.4000e-004	6.2800e-003	1.5500e-003	2.3000e-004	1.7800e-003	0.0000	20.6205	20.6205	2.7100e-003	0.0000	20.6882
Vendor	5.6000e-004	0.0160	4.1100e-003	3.0000e-005	8.1000e-004	1.1000e-004	9.3000e-004	2.3000e-004	1.1000e-004	3.4000e-004	0.0000	3.2222	3.2222	2.3000e-004	0.0000	3.2279
Worker	1.1400e-003	9.3000e-004	0.0100	3.0000e-005	2.3600e-003	2.0000e-005	2.3800e-003	6.3000e-004	2.0000e-005	6.4000e-004	0.0000	2.2629	2.2629	8.0000e-005	0.0000	2.2648
Total	**5.0000e-003**	**0.1597**	**0.0368**	**2.7000e-004**	**9.2000e-003**	**3.7000e-004**	**9.5900e-003**	**2.4100e-003**	**3.6000e-004**	**2.7600e-003**	**0.0000**	**26.1056**	**26.1056**	**3.0200e-003**	**0.0000**	**26.1810**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0834	0.0000	0.0834	0.0452	0.0000	0.0452	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0227	0.4579	0.5817	9.3000e-004		0.0222	0.0222		0.0222	0.0222	0.0000	84.7912	84.7912	0.0264	0.0000	85.4511
Total	**0.0227**	**0.4579**	**0.5817**	**9.3000e-004**	**0.0834**	**0.0222**	**0.1055**	**0.0452**	**0.0222**	**0.0674**	**0.0000**	**84.7912**	**84.7912**	**0.0264**	**0.0000**	**85.4511**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.3000e-003	0.1428	0.0227	2.1000e-004	6.0300e-003	2.4000e-004	6.2800e-003	1.5500e-003	2.3000e-004	1.7800e-003	0.0000	20.6205	20.6205	2.7100e-003	0.0000	20.6882
Vendor	5.6000e-004	0.0160	4.1100e-003	3.0000e-005	8.1000e-004	1.1000e-004	9.3000e-004	2.3000e-004	1.1000e-004	3.4000e-004	0.0000	3.2222	3.2222	2.3000e-004	0.0000	3.2279
Worker	1.1400e-003	9.3000e-004	0.0100	3.0000e-005	2.3600e-003	2.0000e-005	2.3800e-003	6.3000e-004	2.0000e-005	6.4000e-004	0.0000	2.2629	2.2629	8.0000e-005	0.0000	2.2648
Total	**5.0000e-003**	**0.1597**	**0.0368**	**2.7000e-004**	**9.2000e-003**	**3.7000e-004**	**9.5900e-003**	**2.4100e-003**	**3.6000e-004**	**2.7600e-003**	**0.0000**	**26.1056**	**26.1056**	**3.0200e-003**	**0.0000**	**26.1810**

3.9 Phase 3 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4339	0.0000	0.4339	0.2370	0.0000	0.2370	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	0.1679	1.8598	1.0003	1.9000e-003		0.0888	0.0888		0.0817	0.0817	0.0000	170.5439	170.5439	0.0540	0.0000	171.8928
Total	**0.1679**	**1.8598**	**1.0003**	**1.9000e-003**	**0.4339**	**0.0888**	**0.5226**	**0.2370**	**0.0817**	**0.3187**	**0.0000**	**170.5439**	**170.5439**	**0.0540**	**0.0000**	**171.8928**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.3300e-003	0.2814	0.0442	4.3000e-004	6.6700e-003	4.5000e-004	7.1200e-003	1.7800e-003	4.3000e-004	2.2100e-003	0.0000	41.8698	41.8698	5.3500e-003	0.0000	42.0034
Vendor	1.0400e-003	0.0308	7.7200e-003	7.0000e-005	1.6600e-003	2.0000e-004	1.8700e-003	4.8000e-004	1.9000e-004	6.7000e-004	0.0000	6.5359	6.5359	4.5000e-004	0.0000	6.5472
Worker	2.1300e-003	1.6900e-003	0.0183	5.0000e-005	4.8300e-003	4.0000e-005	4.8700e-003	1.2800e-003	4.0000e-005	1.3200e-003	0.0000	4.4849	4.4849	1.4000e-004	0.0000	4.4884
Total	**9.5000e-003**	**0.3139**	**0.0702**	**5.5000e-004**	**0.0132**	**6.9000e-004**	**0.0139**	**3.5400e-003**	**6.6000e-004**	**4.2000e-003**	**0.0000**	**52.8905**	**52.8905**	**5.9400e-003**	**0.0000**	**53.0390**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1692	0.0000	0.1692	0.0925	0.0000	0.0925	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0465	0.9370	1.1904	1.9000e-003		0.0453	0.0453		0.0453	0.0453	0.0000	170.5437	170.5437	0.0540	0.0000	171.8926
Total	**0.0465**	**0.9370**	**1.1904**	**1.9000e-003**	**0.1692**	**0.0453**	**0.2146**	**0.0925**	**0.0453**	**0.1378**	**0.0000**	**170.5437**	**170.5437**	**0.0540**	**0.0000**	**171.8926**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	6.3300e-003	0.2814	0.0442	4.3000e-004	6.6700e-003	4.5000e-004	7.1200e-003	1.7800e-003	4.3000e-004	2.2100e-003	0.0000	41.8698	41.8698	5.3500e-003	0.0000	42.0034
Vendor	1.0400e-003	0.0308	7.7200e-003	7.0000e-005	1.6600e-003	2.0000e-004	1.8700e-003	4.8000e-004	1.9000e-004	6.7000e-004	0.0000	6.5359	6.5359	4.5000e-004	0.0000	6.5472
Worker	2.1300e-003	1.6900e-003	0.0183	5.0000e-005	4.8300e-003	4.0000e-005	4.8700e-003	1.2800e-003	4.0000e-005	1.3200e-003	0.0000	4.4849	4.4849	1.4000e-004	0.0000	4.4884
Total	**9.5000e-003**	**0.3139**	**0.0702**	**5.5000e-004**	**0.0132**	**6.9000e-004**	**0.0139**	**3.5400e-003**	**6.6000e-004**	**4.2000e-003**	**0.0000**	**52.8905**	**52.8905**	**5.9400e-003**	**0.0000**	**53.0390**

3.10 Phase 1 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0471	0.4661	0.3371	5.4000e-004		0.0280	0.0280		0.0262	0.0262	0.0000	48.8069	48.8069	0.0124	0.0000	49.1164
Total	**0.0471**	**0.4661**	**0.3371**	**5.4000e-004**		**0.0280**	**0.0280**		**0.0262**	**0.0262**	**0.0000**	**48.8069**	**48.8069**	**0.0124**	**0.0000**	**49.1164**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9300e-003	0.0836	0.0215	1.7000e-004	4.2600e-003	6.0000e-004	4.8600e-003	1.2300e-003	5.8000e-004	1.8100e-003	0.0000	16.8854	16.8854	1.2000e-003	0.0000	16.9154
Worker	0.0173	0.0141	0.1517	3.8000e-004	0.0357	2.9000e-004	0.0360	9.4700e-003	2.7000e-004	9.7400e-003	0.0000	34.2064	34.2064	1.1700e-003	0.0000	34.2355
Total	**0.0202**	**0.0977**	**0.1732**	**5.5000e-004**	**0.0399**	**8.9000e-004**	**0.0408**	**0.0107**	**8.5000e-004**	**0.0116**	**0.0000**	**51.0917**	**51.0917**	**2.3700e-003**	**0.0000**	**51.1510**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0127	0.2721	0.3641	5.4000e-004		0.0163	0.0163		0.0163	0.0163	0.0000	48.8069	48.8069	0.0124	0.0000	49.1164
Total	**0.0127**	**0.2721**	**0.3641**	**5.4000e-004**		**0.0163**	**0.0163**		**0.0163**	**0.0163**	**0.0000**	**48.8069**	**48.8069**	**0.0124**	**0.0000**	**49.1164**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9300e-003	0.0836	0.0215	1.7000e-004	4.2600e-003	6.0000e-004	4.8600e-003	1.2300e-003	5.8000e-004	1.8100e-003	0.0000	16.8854	16.8854	1.2000e-003	0.0000	16.9154
Worker	0.0173	0.0141	0.1517	3.8000e-004	0.0357	2.9000e-004	0.0360	9.4700e-003	2.7000e-004	9.7400e-003	0.0000	34.2064	34.2064	1.1700e-003	0.0000	34.2355
Total	**0.0202**	**0.0977**	**0.1732**	**5.5000e-004**	**0.0399**	**8.9000e-004**	**0.0408**	**0.0107**	**8.5000e-004**	**0.0116**	**0.0000**	**51.0917**	**51.0917**	**2.3700e-003**	**0.0000**	**51.1510**

3.10 Phase 1 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2100	2.0892	1.6595	2.7300e-003		0.1211	0.1211		0.1135	0.1135	0.0000	242.8725	242.8725	0.0618	0.0000	244.4183
Total	**0.2100**	**2.0892**	**1.6595**	**2.7300e-003**		**0.1211**	**0.1211**		**0.1135**	**0.1135**	**0.0000**	**242.8725**	**242.8725**	**0.0618**	**0.0000**	**244.4183**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0134	0.3971	0.0996	8.7000e-004	0.0215	2.6000e-003	0.0241	6.1900e-003	2.4900e-003	8.6800e-003	0.0000	84.3227	84.3227	5.8300e-003	0.0000	84.4686
Worker	0.0791	0.0628	0.6827	1.8500e-003	0.1797	1.4200e-003	0.1811	0.0477	1.3100e-003	0.0490	0.0000	166.9091	166.9091	5.2200e-003	0.0000	167.0395
Total	**0.0925**	**0.4600**	**0.7823**	**2.7200e-003**	**0.2011**	**4.0200e-003**	**0.2052**	**0.0539**	**3.8000e-003**	**0.0577**	**0.0000**	**251.2318**	**251.2318**	**0.0111**	**0.0000**	**251.5081**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0640	1.3708	1.8346	2.7300e-003		0.0822	0.0822		0.0822	0.0822	0.0000	242.8722	242.8722	0.0618	0.0000	244.4180
Total	**0.0640**	**1.3708**	**1.8346**	**2.7300e-003**		**0.0822**	**0.0822**		**0.0822**	**0.0822**	**0.0000**	**242.8722**	**242.8722**	**0.0618**	**0.0000**	**244.4180**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0134	0.3971	0.0996	8.7000e-004	0.0215	2.6000e-003	0.0241	6.1900e-003	2.4900e-003	8.6800e-003	0.0000	84.3227	84.3227	5.8300e-003	0.0000	84.4686
Worker	0.0791	0.0628	0.6827	1.8500e-003	0.1797	1.4200e-003	0.1811	0.0477	1.3100e-003	0.0490	0.0000	166.9091	166.9091	5.2200e-003	0.0000	167.0395
Total	**0.0925**	**0.4600**	**0.7823**	**2.7200e-003**	**0.2011**	**4.0200e-003**	**0.2052**	**0.0539**	**3.8000e-003**	**0.0577**	**0.0000**	**251.2318**	**251.2318**	**0.0111**	**0.0000**	**251.5081**

3.11 Phase 2 Drainage/Utils - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0147	0.1727	0.1370	2.6000e-004		7.8900e-003	7.8900e-003		7.2600e-003	7.2600e-003	0.0000	23.8829	23.8829	7.4400e-003	0.0000	24.0688

Total	**0.0147**	**0.1727**	**0.1370**	**2.6000e-004**		**7.8900e-003**	**7.8900e-003**		**7.2600e-003**	**7.2600e-003**	**0.0000**	**23.8829**	**23.8829**	**7.4400e-003**	**0.0000**	**24.0688**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	4.4500e-003	1.1500e-003	1.0000e-005	2.3000e-004	3.0000e-005	2.6000e-004	7.0000e-005	3.0000e-005	1.0000e-004	0.0000	0.8992	0.8992	6.0000e-005	0.0000	0.9008
Worker	3.2000e-004	2.6000e-004	2.8000e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.6315	0.6315	2.0000e-005	0.0000	0.6320
Total	**4.8000e-004**	**4.7100e-003**	**3.9500e-003**	**2.0000e-005**	**8.9000e-004**	**4.0000e-005**	**9.2000e-004**	**2.4000e-004**	**3.0000e-005**	**2.8000e-004**	**0.0000**	**1.5307**	**1.5307**	**8.0000e-005**	**0.0000**	**1.5329**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.4400e-003	0.1300	0.1653	2.6000e-004		6.3300e-003	6.3300e-003		6.3300e-003	6.3300e-003	0.0000	23.8829	23.8829	7.4400e-003	0.0000	24.0687
Total	**6.4400e-003**	**0.1300**	**0.1653**	**2.6000e-004**		**6.3300e-003**	**6.3300e-003**		**6.3300e-003**	**6.3300e-003**	**0.0000**	**23.8829**	**23.8829**	**7.4400e-003**	**0.0000**	**24.0687**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.6000e-004	4.4500e-003	1.1500e-003	1.0000e-005	2.3000e-004	3.0000e-005	2.6000e-004	7.0000e-005	3.0000e-005	1.0000e-004	0.0000	0.8992	0.8992	6.0000e-005	0.0000	0.9008
Worker	3.2000e-004	2.6000e-004	2.8000e-003	1.0000e-005	6.6000e-004	1.0000e-005	6.6000e-004	1.7000e-004	0.0000	1.8000e-004	0.0000	0.6315	0.6315	2.0000e-005	0.0000	0.6320
Total	**4.8000e-004**	**4.7100e-003**	**3.9500e-003**	**2.0000e-005**	**8.9000e-004**	**4.0000e-005**	**9.2000e-004**	**2.4000e-004**	**3.0000e-005**	**2.8000e-004**	**0.0000**	**1.5307**	**1.5307**	**8.0000e-005**	**0.0000**	**1.5329**

3.12 Phase 2 Foundation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.9400e-003	0.0644	0.0425	9.0000e-005		3.1600e-003	3.1600e-003		2.9800e-003	2.9800e-003	0.0000	8.2769	8.2769	2.1400e-003	0.0000	8.3305
Total	**5.9400e-003**	**0.0644**	**0.0425**	**9.0000e-005**		**3.1600e-003**	**3.1600e-003**		**2.9800e-003**	**2.9800e-003**	**0.0000**	**8.2769**	**8.2769**	**2.1400e-003**	**0.0000**	**8.3305**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5000e-004	4.2000e-003	1.0800e-003	1.0000e-005	2.1000e-004	3.0000e-005	2.4000e-004	6.0000e-005	3.0000e-005	9.0000e-005	0.0000	0.8493	0.8493	6.0000e-005	0.0000	0.8508
Worker	1.4000e-004	1.1000e-004	1.2100e-003	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2737	0.2737	1.0000e-005	0.0000	0.2739
Total	**2.9000e-004**	**4.3100e-003**	**2.2900e-003**	**1.0000e-005**	**5.0000e-004**	**3.0000e-005**	**5.3000e-004**	**1.4000e-004**	**3.0000e-005**	**1.7000e-004**	**0.0000**	**1.1229**	**1.1229**	**7.0000e-005**	**0.0000**	**1.1247**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.1700e-003	0.0453	0.0557	9.0000e-005		2.4100e-003	2.4100e-003		2.4100e-003	2.4100e-003	0.0000	8.2769	8.2769	2.1400e-003	0.0000	8.3305
Total	**2.1700e-003**	**0.0453**	**0.0557**	**9.0000e-005**		**2.4100e-003**	**2.4100e-003**		**2.4100e-003**	**2.4100e-003**	**0.0000**	**8.2769**	**8.2769**	**2.1400e-003**	**0.0000**	**8.3305**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.5000e-004	4.2000e-003	1.0800e-003	1.0000e-005	2.1000e-004	3.0000e-005	2.4000e-004	6.0000e-005	3.0000e-005	9.0000e-005	0.0000	0.8493	0.8493	6.0000e-005	0.0000	0.8508
Worker	1.4000e-004	1.1000e-004	1.2100e-003	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2737	0.2737	1.0000e-005	0.0000	0.2739
Total	**2.9000e-004**	**4.3100e-003**	**2.2900e-003**	**1.0000e-005**	**5.0000e-004**	**3.0000e-005**	**5.3000e-004**	**1.4000e-004**	**3.0000e-005**	**1.7000e-004**	**0.0000**	**1.1229**	**1.1229**	**7.0000e-005**	**0.0000**	**1.1247**

3.12 Phase 2 Foundation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0371	0.4031	0.2899	6.4000e-004		0.0190	0.0190		0.0179	0.0179	0.0000	57.1688	57.1688	0.0149	0.0000	57.5408
Total	**0.0371**	**0.4031**	**0.2899**	**6.4000e-004**		**0.0190**	**0.0190**		**0.0179**	**0.0179**	**0.0000**	**57.1688**	**57.1688**	**0.0149**	**0.0000**	**57.5408**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.3000e-004	0.0278	6.9600e-003	6.0000e-005	1.5000e-003	1.8000e-004	1.6800e-003	4.3000e-004	1.7000e-004	6.1000e-004	0.0000	5.8922	5.8922	4.1000e-004	0.0000	5.9024
Worker	8.8000e-004	7.0000e-004	7.5900e-003	2.0000e-005	2.0000e-003	2.0000e-005	2.0100e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.8551	1.8551	6.0000e-005	0.0000	1.8566
Total	**1.8100e-003**	**0.0285**	**0.0146**	**8.0000e-005**	**3.5000e-003**	**2.0000e-004**	**3.6900e-003**	**9.6000e-004**	**1.8000e-004**	**1.1500e-003**	**0.0000**	**7.7473**	**7.7473**	**4.7000e-004**	**0.0000**	**7.7589**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0152	0.3170	0.3901	6.4000e-004		0.0169	0.0169		0.0169	0.0169	0.0000	57.1687	57.1687	0.0149	0.0000	57.5407
Total	**0.0152**	**0.3170**	**0.3901**	**6.4000e-004**		**0.0169**	**0.0169**		**0.0169**	**0.0169**	**0.0000**	**57.1687**	**57.1687**	**0.0149**	**0.0000**	**57.5407**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.3000e-004	0.0278	6.9600e-003	6.0000e-005	1.5000e-003	1.8000e-004	1.6800e-003	4.3000e-004	1.7000e-004	6.1000e-004	0.0000	5.8922	5.8922	4.1000e-004	0.0000	5.9024
Worker	8.8000e-004	7.0000e-004	7.5900e-003	2.0000e-005	2.0000e-003	2.0000e-005	2.0100e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.8551	1.8551	6.0000e-005	0.0000	1.8566
Total	**1.8100e-003**	**0.0285**	**0.0146**	**8.0000e-005**	**3.5000e-003**	**2.0000e-004**	**3.6900e-003**	**9.6000e-004**	**1.8000e-004**	**1.1500e-003**	**0.0000**	**7.7473**	**7.7473**	**4.7000e-004**	**0.0000**	**7.7589**

3.13 Phase 2 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2095	1.7210	1.3912	2.2400e-003		0.1015	0.1015		0.0963	0.0963	0.0000	191.8442	191.8442	0.0440	0.0000	192.9449

Total	**0.2095**	**1.7210**	**1.3912**	**2.2400e-003**		**0.1015**	**0.1015**		**0.0963**	**0.0963**	**0.0000**	**191.8442**	**191.8442**	**0.0440**	**0.0000**	**192.9449**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0249	0.0198	0.2147	5.8000e-004	0.0565	4.5000e-004	0.0570	0.0150	4.1000e-004	0.0154	0.0000	52.4935	52.4935	1.6400e-003	0.0000	52.5346
Total	**0.0249**	**0.0198**	**0.2147**	**5.8000e-004**	**0.0565**	**4.5000e-004**	**0.0570**	**0.0150**	**4.1000e-004**	**0.0154**	**0.0000**	**52.4935**	**52.4935**	**1.6400e-003**	**0.0000**	**52.5346**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1064	1.1869	1.4854	2.2400e-003		0.0734	0.0734		0.0734	0.0734	0.0000	191.8440	191.8440	0.0440	0.0000	192.9447
Total	**0.1064**	**1.1869**	**1.4854**	**2.2400e-003**		**0.0734**	**0.0734**		**0.0734**	**0.0734**	**0.0000**	**191.8440**	**191.8440**	**0.0440**	**0.0000**	**192.9447**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0249	0.0198	0.2147	5.8000e-004	0.0565	4.5000e-004	0.0570	0.0150	4.1000e-004	0.0154	0.0000	52.4935	52.4935	1.6400e-003	0.0000	52.5346
Total	**0.0249**	**0.0198**	**0.2147**	**5.8000e-004**	**0.0565**	**4.5000e-004**	**0.0570**	**0.0150**	**4.1000e-004**	**0.0154**	**0.0000**	**52.4935**	**52.4935**	**1.6400e-003**	**0.0000**	**52.5346**

3.14 Phase 3 Drainage/Utils - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0381	0.4389	0.3938	7.1000e-004		0.0206	0.0206		0.0189	0.0189	0.0000	63.3608	63.3608	0.0201	0.0000	63.8620
Total	**0.0381**	**0.4389**	**0.3938**	**7.1000e-004**		**0.0206**	**0.0206**		**0.0189**	**0.0189**	**0.0000**	**63.3608**	**63.3608**	**0.0201**	**0.0000**	**63.8620**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1000e-004	9.0900e-003	2.2800e-003	2.0000e-005	4.9000e-004	6.0000e-005	5.5000e-004	1.4000e-004	6.0000e-005	2.0000e-004	0.0000	1.9311	1.9311	1.3000e-004	0.0000	1.9344
Worker	9.4000e-004	7.5000e-004	8.1300e-003	2.0000e-005	2.1400e-003	2.0000e-005	2.1600e-003	5.7000e-004	2.0000e-005	5.8000e-004	0.0000	1.9876	1.9876	6.0000e-005	0.0000	1.9892
Total	**1.2500e-003**	**9.8400e-003**	**0.0104**	**4.0000e-005**	**2.6300e-003**	**8.0000e-005**	**2.7100e-003**	**7.1000e-004**	**8.0000e-005**	**7.8000e-004**	**0.0000**	**3.9187**	**3.9187**	**1.9000e-004**	**0.0000**	**3.9236**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0174	0.3591	0.4627	7.1000e-004		0.0191	0.0191		0.0191	0.0191	0.0000	63.3607	63.3607	0.0201	0.0000	63.8619
Total	**0.0174**	**0.3591**	**0.4627**	**7.1000e-004**		**0.0191**	**0.0191**		**0.0191**	**0.0191**	**0.0000**	**63.3607**	**63.3607**	**0.0201**	**0.0000**	**63.8619**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1000e-004	9.0900e-003	2.2800e-003	2.0000e-005	4.9000e-004	6.0000e-005	5.5000e-004	1.4000e-004	6.0000e-005	2.0000e-004	0.0000	1.9311	1.9311	1.3000e-004	0.0000	1.9344
Worker	9.4000e-004	7.5000e-004	8.1300e-003	2.0000e-005	2.1400e-003	2.0000e-005	2.1600e-003	5.7000e-004	2.0000e-005	5.8000e-004	0.0000	1.9876	1.9876	6.0000e-005	0.0000	1.9892
Total	**1.2500e-003**	**9.8400e-003**	**0.0104**	**4.0000e-005**	**2.6300e-003**	**8.0000e-005**	**2.7100e-003**	**7.1000e-004**	**8.0000e-005**	**7.8000e-004**	**0.0000**	**3.9187**	**3.9187**	**1.9000e-004**	**0.0000**	**3.9236**

3.15 Phase 3 Foundation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1478	1.5141	1.1931	2.4100e-003		0.0779	0.0779		0.0741	0.0741	0.0000	212.7573	212.7573	0.0494	0.0000	213.9933
Total	**0.1478**	**1.5141**	**1.1931**	**2.4100e-003**		**0.0779**	**0.0779**		**0.0741**	**0.0741**	**0.0000**	**212.7573**	**212.7573**	**0.0494**	**0.0000**	**213.9933**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0133	0.3956	0.0992	8.7000e-004	0.0214	2.5900e-003	0.0240	6.1700e-003	2.4800e-003	8.6500e-003	0.0000	84.0009	84.0009	5.8100e-003	0.0000	84.1462
Worker	2.8300e-003	2.2400e-003	0.0244	7.0000e-005	6.4200e-003	5.0000e-005	6.4700e-003	1.7000e-003	5.0000e-005	1.7500e-003	0.0000	5.9629	5.9629	1.9000e-004	0.0000	5.9675
Total	**0.0162**	**0.3979**	**0.1236**	**9.4000e-004**	**0.0278**	**2.6400e-003**	**0.0305**	**7.8700e-003**	**2.5300e-003**	**0.0104**	**0.0000**	**89.9637**	**89.9637**	**6.0000e-003**	**0.0000**	**90.1137**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0555	1.1833	1.4922	2.4100e-003		0.0681	0.0681		0.0681	0.0681	0.0000	212.7571	212.7571	0.0494	0.0000	213.9930
Total	**0.0555**	**1.1833**	**1.4922**	**2.4100e-003**		**0.0681**	**0.0681**		**0.0681**	**0.0681**	**0.0000**	**212.7571**	**212.7571**	**0.0494**	**0.0000**	**213.9930**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0133	0.3956	0.0992	8.7000e-004	0.0214	2.5900e-003	0.0240	6.1700e-003	2.4800e-003	8.6500e-003	0.0000	84.0009	84.0009	5.8100e-003	0.0000	84.1462
Worker	2.8300e-003	2.2400e-003	0.0244	7.0000e-005	6.4200e-003	5.0000e-005	6.4700e-003	1.7000e-003	5.0000e-005	1.7500e-003	0.0000	5.9629	5.9629	1.9000e-004	0.0000	5.9675
Total	**0.0162**	**0.3979**	**0.1236**	**9.4000e-004**	**0.0278**	**2.6400e-003**	**0.0305**	**7.8700e-003**	**2.5300e-003**	**0.0104**	**0.0000**	**89.9637**	**89.9637**	**6.0000e-003**	**0.0000**	**90.1137**

3.16 Phase 1 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.0900e-003	0.0743	0.0715	1.1000e-004		4.0200e-003	4.0200e-003		3.7000e-003	3.7000e-003	0.0000	9.9817	9.9817	3.1600e-003	0.0000	10.0606

Paving	3.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0103**	**0.0743**	**0.0715**	**1.1000e-004**		**4.0200e-003**	**4.0200e-003**		**3.7000e-003**	**3.7000e-003**	**0.0000**	**9.9817**	**9.9817**	**3.1600e-003**	**0.0000**	**10.0606**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.8000e-004	2.0000e-003	1.0000e-005	5.3000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4893	0.4893	2.0000e-005	0.0000	0.4896
Total	**2.3000e-004**	**1.8000e-004**	**2.0000e-003**	**1.0000e-005**	**5.3000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4893**	**0.4893**	**2.0000e-005**	**0.0000**	**0.4896**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.7300e-003	0.0551	0.0843	1.1000e-004		2.9700e-003	2.9700e-003		2.9700e-003	2.9700e-003	0.0000	9.9816	9.9816	3.1600e-003	0.0000	10.0606
Paving	3.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.8900e-003**	**0.0551**	**0.0843**	**1.1000e-004**		**2.9700e-003**	**2.9700e-003**		**2.9700e-003**	**2.9700e-003**	**0.0000**	**9.9816**	**9.9816**	**3.1600e-003**	**0.0000**	**10.0606**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.3000e-004	1.8000e-004	2.0000e-003	1.0000e-005	5.3000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4893	0.4893	2.0000e-005	0.0000	0.4896
Total	**2.3000e-004**	**1.8000e-004**	**2.0000e-003**	**1.0000e-005**	**5.3000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4893**	**0.4893**	**2.0000e-005**	**0.0000**	**0.4896**

3.17 Phase 2 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1409					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0335	0.2643	0.2998	4.8000e-004		0.0159	0.0159		0.0158	0.0158	0.0000	41.5097	41.5097	6.4600e-003	0.0000	41.6712
Total	**0.1744**	**0.2643**	**0.2998**	**4.8000e-004**		**0.0159**	**0.0159**		**0.0158**	**0.0158**	**0.0000**	**41.5097**	**41.5097**	**6.4600e-003**	**0.0000**	**41.6712**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.4200e-003	7.4800e-003	0.0813	2.2000e-004	0.0214	1.7000e-004	0.0216	5.6800e-003	1.6000e-004	5.8400e-003	0.0000	19.8762	19.8762	6.2000e-004	0.0000	19.8917
Total	**9.4200e-003**	**7.4800e-003**	**0.0813**	**2.2000e-004**	**0.0214**	**1.7000e-004**	**0.0216**	**5.6800e-003**	**1.6000e-004**	**5.8400e-003**	**0.0000**	**19.8762**	**19.8762**	**6.2000e-004**	**0.0000**	**19.8917**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1409					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0102	0.2326	0.3141	4.8000e-004		0.0163	0.0163		0.0163	0.0163	0.0000	41.5096	41.5096	6.4600e-003	0.0000	41.6711
Total	**0.1511**	**0.2326**	**0.3141**	**4.8000e-004**		**0.0163**	**0.0163**		**0.0163**	**0.0163**	**0.0000**	**41.5096**	**41.5096**	**6.4600e-003**	**0.0000**	**41.6711**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.4200e-003	7.4800e-003	0.0813	2.2000e-004	0.0214	1.7000e-004	0.0216	5.6800e-003	1.6000e-004	5.8400e-003	0.0000	19.8762	19.8762	6.2000e-004	0.0000	19.8917
Total	**9.4200e-003**	**7.4800e-003**	**0.0813**	**2.2000e-004**	**0.0214**	**1.7000e-004**	**0.0216**	**5.6800e-003**	**1.6000e-004**	**5.8400e-003**	**0.0000**	**19.8762**	**19.8762**	**6.2000e-004**	**0.0000**	**19.8917**

3.18 Phase 1 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1183					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.3700e-003	0.0661	0.0750	1.2000e-004		3.9800e-003	3.9800e-003		3.9500e-003	3.9500e-003	0.0000	10.3774	10.3774	1.6200e-003	0.0000	10.4178
Total	**0.1267**	**0.0661**	**0.0750**	**1.2000e-004**		**3.9800e-003**	**3.9800e-003**		**3.9500e-003**	**3.9500e-003**	**0.0000**	**10.3774**	**10.3774**	**1.6200e-003**	**0.0000**	**10.4178**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9600e-003	3.9400e-003	0.0428	1.2000e-004	0.0113	9.0000e-005	0.0114	2.9900e-003	8.0000e-005	3.0700e-003	0.0000	10.4681	10.4681	3.3000e-004	0.0000	10.4763
Total	**4.9600e-003**	**3.9400e-003**	**0.0428**	**1.2000e-004**	**0.0113**	**9.0000e-005**	**0.0114**	**2.9900e-003**	**8.0000e-005**	**3.0700e-003**	**0.0000**	**10.4681**	**10.4681**	**3.3000e-004**	**0.0000**	**10.4763**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1183					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5500e-003	0.0582	0.0785	1.2000e-004		4.0800e-003	4.0800e-003		4.0800e-003	4.0800e-003	0.0000	10.3774	10.3774	1.6200e-003	0.0000	10.4178
Total	**0.1208**	**0.0582**	**0.0785**	**1.2000e-004**		**4.0800e-003**	**4.0800e-003**		**4.0800e-003**	**4.0800e-003**	**0.0000**	**10.3774**	**10.3774**	**1.6200e-003**	**0.0000**	**10.4178**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9600e-003	3.9400e-003	0.0428	1.2000e-004	0.0113	9.0000e-005	0.0114	2.9900e-003	8.0000e-005	3.0700e-003	0.0000	10.4681	10.4681	3.3000e-004	0.0000	10.4763
Total	**4.9600e-003**	**3.9400e-003**	**0.0428**	**1.2000e-004**	**0.0113**	**9.0000e-005**	**0.0114**	**2.9900e-003**	**8.0000e-005**	**3.0700e-003**	**0.0000**	**10.4681**	**10.4681**	**3.3000e-004**	**0.0000**	**10.4763**

3.19 Phase 3 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4555	3.8418	3.0803	5.2700e-003		0.2237	0.2237		0.2155	0.2155	0.0000	454.3870	454.3870	0.0807	0.0000	456.4052

Total	**0.4555**	**3.8418**	**3.0803**	**5.2700e-003**		**0.2237**	**0.2237**		**0.2155**	**0.2155**	**0.0000**	**454.3870**	**454.3870**	**0.0807**	**0.0000**	**456.4052**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0731	0.0580	0.6306	1.7100e-003	0.1659	1.3200e-003	0.1673	0.0441	1.2100e-003	0.0453	0.0000	154.1679	154.1679	4.8200e-003	0.0000	154.2884
Total	**0.0731**	**0.0580**	**0.6306**	**1.7100e-003**	**0.1659**	**1.3200e-003**	**0.1673**	**0.0441**	**1.2100e-003**	**0.0453**	**0.0000**	**154.1679**	**154.1679**	**4.8200e-003**	**0.0000**	**154.2884**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1803	2.6102	3.3250	5.2700e-003		0.1628	0.1628		0.1628	0.1628	0.0000	454.3865	454.3865	0.0807	0.0000	456.4047
Total	**0.1803**	**2.6102**	**3.3250**	**5.2700e-003**		**0.1628**	**0.1628**		**0.1628**	**0.1628**	**0.0000**	**454.3865**	**454.3865**	**0.0807**	**0.0000**	**456.4047**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0731	0.0580	0.6306	1.7100e-003	0.1659	1.3200e-003	0.1673	0.0441	1.2100e-003	0.0453	0.0000	154.1679	154.1679	4.8200e-003	0.0000	154.2884
Total	**0.0731**	**0.0580**	**0.6306**	**1.7100e-003**	**0.1659**	**1.3200e-003**	**0.1673**	**0.0441**	**1.2100e-003**	**0.0453**	**0.0000**	**154.1679**	**154.1679**	**4.8200e-003**	**0.0000**	**154.2884**

3.19 Phase 3 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.3080	2.6401	2.2730	3.9600e-003		0.1459	0.1459		0.1406	0.1406	0.0000	338.7129	338.7129	0.0589	0.0000	340.1862
Total	**0.3080**	**2.6401**	**2.2730**	**3.9600e-003**		**0.1459**	**0.1459**		**0.1406**	**0.1406**	**0.0000**	**338.7129**	**338.7129**	**0.0589**	**0.0000**	**340.1862**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0508	0.0389	0.4308	1.2400e-003	0.1248	9.6000e-004	0.1258	0.0331	8.9000e-004	0.0340	0.0000	112.3470	112.3470	3.2200e-003	0.0000	112.4276
Total	**0.0508**	**0.0389**	**0.4308**	**1.2400e-003**	**0.1248**	**9.6000e-004**	**0.1258**	**0.0331**	**8.9000e-004**	**0.0340**	**0.0000**	**112.3470**	**112.3470**	**3.2200e-003**	**0.0000**	**112.4276**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1293	1.9552	2.4947	3.9600e-003		0.1206	0.1206		0.1206	0.1206	0.0000	338.7125	338.7125	0.0589	0.0000	340.1858
Total	**0.1293**	**1.9552**	**2.4947**	**3.9600e-003**		**0.1206**	**0.1206**		**0.1206**	**0.1206**	**0.0000**	**338.7125**	**338.7125**	**0.0589**	**0.0000**	**340.1858**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0508	0.0389	0.4308	1.2400e-003	0.1248	9.6000e-004	0.1258	0.0331	8.9000e-004	0.0340	0.0000	112.3470	112.3470	3.2200e-003	0.0000	112.4276
Total	**0.0508**	**0.0389**	**0.4308**	**1.2400e-003**	**0.1248**	**9.6000e-004**	**0.1258**	**0.0331**	**8.9000e-004**	**0.0340**	**0.0000**	**112.3470**	**112.3470**	**3.2200e-003**	**0.0000**	**112.4276**

3.20 Phase 3 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.8262					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0613	0.4882	0.5976	9.5000e-004		0.0274	0.0274		0.0272	0.0272	0.0000	82.4653	82.4653	0.0125	0.0000	82.7782
Total	**1.8875**	**0.4882**	**0.5976**	**9.5000e-004**		**0.0274**	**0.0274**		**0.0272**	**0.0272**	**0.0000**	**82.4653**	**82.4653**	**0.0125**	**0.0000**	**82.7782**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0174	0.0134	0.1477	4.3000e-004	0.0428	3.3000e-004	0.0431	0.0114	3.0000e-004	0.0117	0.0000	38.5190	38.5190	1.1100e-003	0.0000	38.5466
Total	**0.0174**	**0.0134**	**0.1477**	**4.3000e-004**	**0.0428**	**3.3000e-004**	**0.0431**	**0.0114**	**3.0000e-004**	**0.0117**	**0.0000**	**38.5190**	**38.5190**	**1.1100e-003**	**0.0000**	**38.5466**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.8262					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.4653	0.6283	9.5000e-004		0.0326	0.0326		0.0326	0.0326	0.0000	82.4652	82.4652	0.0125	0.0000	82.7781
Total	**1.8466**	**0.4653**	**0.6283**	**9.5000e-004**		**0.0326**	**0.0326**		**0.0326**	**0.0326**	**0.0000**	**82.4652**	**82.4652**	**0.0125**	**0.0000**	**82.7781**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0174	0.0134	0.1477	4.3000e-004	0.0428	3.3000e-004	0.0431	0.0114	3.0000e-004	0.0117	0.0000	38.5190	38.5190	1.1100e-003	0.0000	38.5466
Total	**0.0174**	**0.0134**	**0.1477**	**4.3000e-004**	**0.0428**	**3.3000e-004**	**0.0431**	**0.0114**	**3.0000e-004**	**0.0117**	**0.0000**	**38.5190**	**38.5190**	**1.1100e-003**	**0.0000**	**38.5466**

3.21 Phase 3 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0220	0.2286	0.2381	3.7000e-004		0.0122	0.0122		0.0113	0.0113	0.0000	32.5459	32.5459	0.0105	0.0000	32.8090

Paving	3.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0252**	**0.2286**	**0.2381**	**3.7000e-004**		**0.0122**	**0.0122**		**0.0113**	**0.0113**	**0.0000**	**32.5459**	**32.5459**	**0.0105**	**0.0000**	**32.8090**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	5.5000e-004	6.0600e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.5803	1.5803	5.0000e-005	0.0000	1.5814
Total	**7.1000e-004**	**5.5000e-004**	**6.0600e-003**	**2.0000e-005**	**1.7600e-003**	**1.0000e-005**	**1.7700e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.5803**	**1.5803**	**5.0000e-005**	**0.0000**	**1.5814**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	9.1200e-003	0.1836	0.2811	3.7000e-004		9.9000e-003	9.9000e-003		9.9000e-003	9.9000e-003	0.0000	32.5458	32.5458	0.0105	0.0000	32.8090
Paving	3.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0123**	**0.1836**	**0.2811**	**3.7000e-004**		**9.9000e-003**	**9.9000e-003**		**9.9000e-003**	**9.9000e-003**	**0.0000**	**32.5458**	**32.5458**	**0.0105**	**0.0000**	**32.8090**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.1000e-004	5.5000e-004	6.0600e-003	2.0000e-005	1.7600e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.5803	1.5803	5.0000e-005	0.0000	1.5814
Total	**7.1000e-004**	**5.5000e-004**	**6.0600e-003**	**2.0000e-005**	**1.7600e-003**	**1.0000e-005**	**1.7700e-003**	**4.7000e-004**	**1.0000e-005**	**4.8000e-004**	**0.0000**	**1.5803**	**1.5803**	**5.0000e-005**	**0.0000**	**1.5814**

3.22 Phase 3 Landscaping - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0142	0.1304	0.1239	1.6000e-004		9.4800e-003	9.4800e-003		8.7200e-003	8.7200e-003	0.0000	14.3432	14.3432	4.6400e-003	0.0000	14.4592
Total	**0.0142**	**0.1304**	**0.1239**	**1.6000e-004**		**9.4800e-003**	**9.4800e-003**		**8.7200e-003**	**8.7200e-003**	**0.0000**	**14.3432**	**14.3432**	**4.6400e-003**	**0.0000**	**14.4592**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.8000e-004	5.3000e-003	2.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.3827	1.3827	4.0000e-005	0.0000	1.3837
Total	**6.2000e-004**	**4.8000e-004**	**5.3000e-003**	**2.0000e-005**	**1.5400e-003**	**1.0000e-005**	**1.5500e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**1.3827**	**1.3827**	**4.0000e-005**	**0.0000**	**1.3837**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.0000e-003	0.0914	0.1234	1.6000e-004		6.4000e-003	6.4000e-003		6.4000e-003	6.4000e-003	0.0000	14.3432	14.3432	4.6400e-003	0.0000	14.4592
Total	**4.0000e-003**	**0.0914**	**0.1234**	**1.6000e-004**		**6.4000e-003**	**6.4000e-003**		**6.4000e-003**	**6.4000e-003**	**0.0000**	**14.3432**	**14.3432**	**4.6400e-003**	**0.0000**	**14.4592**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.2000e-004	4.8000e-004	5.3000e-003	2.0000e-005	1.5400e-003	1.0000e-005	1.5500e-003	4.1000e-004	1.0000e-005	4.2000e-004	0.0000	1.3827	1.3827	4.0000e-005	0.0000	1.3837
Total	**6.2000e-004**	**4.8000e-004**	**5.3000e-003**	**2.0000e-005**	**1.5400e-003**	**1.0000e-005**	**1.5500e-003**	**4.1000e-004**	**1.0000e-005**	**4.2000e-004**	**0.0000**	**1.3827**	**1.3827**	**4.0000e-005**	**0.0000**	**1.3837**

C-5 Operational GHG Emissions

- Phase 1 Operational CalEEMod Output (Annual)
- Phase 2 Operational CalEEMod Output (Annual)
- Operational GHG Summary

San Manuel Casino Expansion and Hotel-A

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Arena	55.00	1000sqft	1.79	55,000.00	0
Hotel	500.00	Room	0.99	682,000.00	0
Arena	58.00	1000sqft	1.11	58,000.00	0
Unenclosed Parking with Elevator	2,200.00	Space	2.86	880,000.00	0
Industrial Park	5.24	1000sqft	0.12	5,238.00	0
Other Asphalt Surfaces	104.90	1000sqft	2.41	104,898.00	0
City Park	1.39	Acre	1.39	60,635.52	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Specific Information

Vehicle Trips - Project Specific Information

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	726,000.00	682,000.00
tblLandUse	LotAcreage	17.68	1.79
tblLandUse	LotAcreage	16.67	0.99
tblLandUse	LotAcreage	18.64	1.11
tblLandUse	LotAcreage	19.80	2.86
tblVehicleTrips	ST_TR	10.71	72.57
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	8.19	7.60
tblVehicleTrips	ST_TR	2.49	0.00
tblVehicleTrips	SU_TR	10.71	72.57
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	5.95	7.60
tblVehicleTrips	SU_TR	0.73	0.00
tblVehicleTrips	WD_TR	10.71	55.75
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	8.17	5.00
tblVehicleTrips	WD_TR	6.83	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.3440	3.5000e-004	0.0376	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0726	0.0726	1.9000e-004	0.0000	0.0775
Mobile	2.8220	14.7975	32.7620	0.1063	8.2157	0.1091	8.3248	2.2017	0.1024	2.3041	0.0000	9,809.1111	9,809.1111	0.5365	0.0000	9,822.5225
Waste						0.0000	0.0000		0.0000	0.0000	57.5439	0.0000	57.5439	3.4008	0.0000	142.5625

Water						0.0000	0.0000		0.0000	0.0000	19.8513	281.4473	301.2986	2.0505	0.0506	367.6250
Total	**6.4066**	**16.9850**	**34.6367**	**0.1194**	**8.2157**	**0.2754**	**8.4911**	**2.2017**	**0.2687**	**2.4704**	**77.3951**	**17,338.6304**	**17,416.0255**	**6.2345**	**0.1358**	**17,612.3475**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.3440	3.5000e-004	0.0376	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0726	0.0726	1.9000e-004	0.0000	0.0775
Mobile	2.8220	14.7975	32.7620	0.1063	8.2157	0.1091	8.3248	2.2017	0.1024	2.3041	0.0000	9,809.1111	9,809.1111	0.5365	0.0000	9,822.5225
Waste						0.0000	0.0000		0.0000	0.0000	57.5439	0.0000	57.5439	3.4008	0.0000	142.5625
Water						0.0000	0.0000		0.0000	0.0000	19.8513	281.4473	301.2986	2.0505	0.0506	367.6250
Total	**6.4066**	**16.9850**	**34.6367**	**0.1194**	**8.2157**	**0.2754**	**8.4911**	**2.2017**	**0.2687**	**2.4704**	**77.3951**	**17,338.6304**	**17,416.0255**	**6.2345**	**0.1358**	**17,612.3475**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.8220	14.7975	32.7620	0.1063	8.2157	0.1091	8.3248	2.2017	0.1024	2.3041	0.0000	9,809.1111	9,809.1111	0.5365	0.0000	9,822.5225
Unmitigated	2.8220	14.7975	32.7620	0.1063	8.2157	0.1091	8.3248	2.2017	0.1024	2.3041	0.0000	9,809.1111	9,809.1111	0.5365	0.0000	9,822.5225

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	3,066.36	3,991.13	3991.13	7,189,063	7,189,063
Arena	3,233.62	4,208.83	4208.83	7,581,194	7,581,194
City Park	0.00	0.00	0.00		
Hotel	2,500.00	3,800.00	3800.00	6,851,720	6,851,720
Industrial Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	8,799.98	11,999.96	11,999.96	21,621,976	21,621,976

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	79	19	2
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unenclosed Parking with Elevator	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
City Park	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Hotel	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Industrial Park	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Other Asphalt Surfaces	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956
Unenclosed Parking with Elevator	0.547828	0.043645	0.199892	0.122290	0.016774	0.005862	0.020637	0.032653	0.002037	0.001944	0.004777	0.000705	0.000956

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.3440	3.5000e-004	0.0376	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0726	0.0726	1.9000e-004	0.0000	0.0775
Unmitigated	3.3440	3.5000e-004	0.0376	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0726	0.0726	1.9000e-004	0.0000	0.0775

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3846					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.9559					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.5300e-003	3.5000e-004	0.0376	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0726	0.0726	1.9000e-004	0.0000	0.0775
Total	**3.3440**	**3.5000e-004**	**0.0376**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.0726**	**0.0726**	**1.9000e-004**	**0.0000**	**0.0775**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3846					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Consumer Products	2.9559					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.5300e-003	3.5000e-004	0.0376	0.0000		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	0.0726	0.0726	1.9000e-004	0.0000	0.0775
Total	**3.3440**	**3.5000e-004**	**0.0376**	**0.0000**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.0726**	**0.0726**	**1.9000e-004**	**0.0000**	**0.0775**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	301.2986	2.0505	0.0506	367.6250
Unmitigated	301.2986	2.0505	0.0506	367.6250

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	48.677 / 3.10704	228.3913	1.5949	0.0393	279.9674
City Park	0 / 1.65616	5.8626	2.4000e-004	5.0000e-005	5.8836
Hotel	12.6834 / 1.40927	61.6329	0.4157	0.0103	75.0793

Industrial Park	1.21175 / 0	5.4117	0.0397	9.8000e-004	6.6946
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**301.2985**	**2.0505**	**0.0506**	**367.6250**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	48.677 / 3.10704	228.3913	1.5949	0.0393	279.9674
City Park	0 / 1.65616	5.8626	2.4000e-004	5.0000e-005	5.8836
Hotel	12.6834 / 1.40927	61.6329	0.4157	0.0103	75.0793
Industrial Park	1.21175 / 0	5.4117	0.0397	9.8000e-004	6.6946
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**301.2985**	**2.0505**	**0.0506**	**367.6250**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	57.5439	3.4008	0.0000	142.5625
Unmitigated	57.5439	3.4008	0.0000	142.5625

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	3.11	0.6313	0.0373	0.0000	1.5640
City Park	0.12	0.0244	1.4400e-003	0.0000	0.0604
Hotel	273.75	55.5688	3.2840	0.0000	137.6693
Industrial Park	6.5	1.3194	0.0780	0.0000	3.2689
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with	0	0.0000	0.0000	0.0000	0.0000
Total		**57.5439**	**3.4008**	**0.0000**	**142.5625**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e

Land Use	tons	MT/yr			
Arena	3.11	0.6313	0.0373	0.0000	1.5640
City Park	0.12	0.0244	1.4400e-003	0.0000	0.0604
Hotel	273.75	55.5688	3.2840	0.0000	137.6693
Industrial Park	6.5	1.3194	0.0780	0.0000	3.2689
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with	0	0.0000	0.0000	0.0000	0.0000
Total		**57.5439**	**3.4008**	**0.0000**	**142.5625**

San Manuel Casino Expansion and Hotel-B

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Industrial Park	5.24	1000sqft	0.12	5,238.00	0
Other Asphalt Surfaces	104.90	1000sqft	2.41	104,898.00	0
Unenclosed Parking with Elevator	2,200.00	Space	2.86	880,000.00	0
Arena	100.00	1000sqft	2.30	100,000.00	0
Arena	58.00	1000sqft	1.11	58,000.00	0
City Park	1.39	Acre	1.39	60,635.52	0
Hotel	500.00	Room	0.99	647,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Project Specific Information

Vehicle Trips - Project Specific Information

Vehicle Emission Factors -

Vehicle Emission Factors -

Vehicle Emission Factors -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	5,240.00	5,238.00
tblLandUse	LandUseSquareFeet	104,900.00	104,898.00
tblLandUse	LandUseSquareFeet	60,548.40	60,635.52
tblLandUse	LandUseSquareFeet	726,000.00	647,000.00
tblLandUse	LotAcreage	19.80	2.86
tblLandUse	LotAcreage	32.14	2.30
tblLandUse	LotAcreage	18.64	1.11
tblLandUse	LotAcreage	16.67	0.99
tblVehicleTrips	ST_TR	10.71	86.08
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	8.19	3.60
tblVehicleTrips	ST_TR	2.49	0.00
tblVehicleTrips	SU_TR	10.71	86.08
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	5.95	3.60
tblVehicleTrips	SU_TR	0.73	0.00
tblVehicleTrips	WD_TR	10.71	68.35
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	8.17	3.00
tblVehicleTrips	WD_TR	6.83	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.3848	3.5000e-004	0.0380	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.0737	0.0737	1.9000e-004	0.0000	0.0786
Mobile	3.2648	17.6095	37.2528	0.1348	10.9519	0.1084	11.0603	2.9348	0.1011	3.0359	0.0000	12,467.8661	12,467.8661	0.6367	0.0000	12,483.7844
Waste						0.0000	0.0000		0.0000	0.0000	57.7956	0.0000	57.7956	3.4156	0.0000	143.1861
Water						0.0000	0.0000		0.0000	0.0000	26.0011	366.2497	392.2508	2.6857	0.0662	479.1164
Total	**6.8867**	**19.7657**	**39.1016**	**0.1477**	**10.9519**	**0.2724**	**11.2242**	**2.9348**	**0.2651**	**3.1999**	**83.7967**	**19,991.3644**	**20,075.1611**	**6.9818**	**0.1503**	**20,294.4956**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.3848	3.5000e-004	0.0380	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.0737	0.0737	1.9000e-004	0.0000	0.0786
Mobile	3.2648	17.6095	37.2528	0.1348	10.9519	0.1084	11.0603	2.9348	0.1011	3.0359	0.0000	12,467.8661	12,467.8661	0.6367	0.0000	12,483.7844
Waste						0.0000	0.0000		0.0000	0.0000	57.7956	0.0000	57.7956	3.4156	0.0000	143.1861
Water						0.0000	0.0000		0.0000	0.0000	26.0011	366.2497	392.2508	2.6857	0.0662	479.1164
Total	**6.8867**	**19.7657**	**39.1016**	**0.1477**	**10.9519**	**0.2724**	**11.2242**	**2.9348**	**0.2651**	**3.1999**	**83.7967**	**19,991.3644**	**20,075.1611**	**6.9818**	**0.1503**	**20,294.4956**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.2648	17.6095	37.2528	0.1348	10.9519	0.1084	11.0603	2.9348	0.1011	3.0359	0.0000	12,467.8661	12,467.8661	0.6367	0.0000	12,483.7844
Unmitigated	3.2648	17.6095	37.2528	0.1348	10.9519	0.1084	11.0603	2.9348	0.1011	3.0359	0.0000	12,467.8661	12,467.8661	0.6367	0.0000	12,483.7844

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	6,835.40	8,607.60	8607.60	15,847,165	15,847,165
Arena	3,964.53	4,992.41	4992.41	9,191,356	9,191,356
City Park	0.00	0.00	0.00		
Hotel	1,500.00	1,800.00	1800.00	3,783,786	3,783,786
Industrial Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	12,299.93	15,400.01	15,400.01	28,822,307	28,822,307

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Industrial Park	16.60	8.40	6.90	59.00	28.00	13.00	79	19	2
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unenclosed Parking with	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
City Park	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Hotel	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Industrial Park	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Other Asphalt Surfaces	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896
Unenclosed Parking with Elevator	0.549559	0.042893	0.201564	0.118533	0.015569	0.005846	0.021394	0.034255	0.002099	0.001828	0.004855	0.000709	0.000896

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.3848	3.5000e-004	0.0380	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.0737	0.0737	1.9000e-004	0.0000	0.0786
Unmitigated	3.3848	3.5000e-004	0.0380	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.0737	0.0737	1.9000e-004	0.0000	0.0786

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3892					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.9920					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.5300e-003	3.5000e-004	0.0380	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.0737	0.0737	1.9000e-004	0.0000	0.0786

Total	**3.3848**	**3.5000e-004**	**0.0380**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.0737**	**0.0737**	**1.9000e-004**	**0.0000**	**0.0786**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3892					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.9920					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.5300e-003	3.5000e-004	0.0380	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.0737	0.0737	1.9000e-004	0.0000	0.0786
Total	**3.3848**	**3.5000e-004**	**0.0380**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.0737**	**0.0737**	**1.9000e-004**	**0.0000**	**0.0786**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	392.2508	2.6857	0.0662	479.1164
Unmitigated	392.2508	2.6857	0.0662	479.1164

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	68.0617 / 4.34436	319.3436	2.2301	0.0549	391.4589
City Park	0 / 1.65616	5.8626	2.4000e-004	5.0000e-005	5.8836
Hotel	12.6834 / 1.40927	61.6329	0.4157	0.0103	75.0793
Industrial Park	1.21175 / 0	5.4117	0.0397	9.8000e-004	6.6946
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**392.2508**	**2.6857**	**0.0662**	**479.1164**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	68.0617 / 4.34436	319.3436	2.2301	0.0549	391.4589
City Park	0 / 1.65616	5.8626	2.4000e-004	5.0000e-005	5.8836
Hotel	12.6834 / 1.40927	61.6329	0.4157	0.0103	75.0793
Industrial Park	1.21175 / 0	5.4117	0.0397	9.8000e-004	6.6946
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000

Unenclosed Parking with	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**392.2508**	**2.6857**	**0.0662**	**479.1164**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	57.7956	3.4156	0.0000	143.1861
Unmitigated	57.7956	3.4156	0.0000	143.1861

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	4.35	0.8830	0.0522	0.0000	2.1876
City Park	0.12	0.0244	1.4400e-003	0.0000	0.0604
Hotel	273.75	55.5688	3.2840	0.0000	137.6693

Industrial Park	6.5	1.3194	0.0780	0.0000	3.2689
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**57.7956**	**3.4156**	**0.0000**	**143.1861**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	4.35	0.8830	0.0522	0.0000	2.1876
City Park	0.12	0.0244	1.4400e-003	0.0000	0.0604
Hotel	273.75	55.5688	3.2840	0.0000	137.6693
Industrial Park	6.5	1.3194	0.0780	0.0000	3.2689
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**57.7956**	**3.4156**	**0.0000**	**143.1861**

Area Source Emissions

Phase 1

Category	$MTCO_2e/yr$
Area	0.0775

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Phase 2

Category	$MTCO_2e/yr$
Area	0.0786

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Electricity Emissions

Operational Annual GHG Emissions	Total Project Electricity Usage[1]		lb/MWh			lbs/yr			MT/yr			
Type	kwh/yr	MWh/yr	CO2 Intensity Factor [2]	CH_4 Intensity Factor [2]	N_2O Intensity Factor [2]	CO2	CH4	N2O	CO_2	CH_4	N_2O	Annual CO_2 Emissions (MT CO_2e/yr)
Without Cogeneration	64508708	64508.708	702.44	0.02900	0.00600	45313497	1871	387	20554	21	52	20627
With Cogen [3]	19525259	19525.259	702.44	0.02900	0.00600	13715323	566	117	6221	6	16	6243

Notes:

1. Provided by Vanderweil

2. CO2 intensity based on CalEEMod Default Factor for Southern California Edison

3. For the With Cogen scenario, this table only calculates the GHG emissions associated with SCE grid electricity. The GHG associated with natural-gas powered electricity generation at the CHP had been accounted for in the natural gas consumption related emissions.

Natural Gas Emissions

Type	Annual Natural gas Consumption(MMBtu/yr)
Without Cogeneration	85232
With Cogeneration	388634
Daily Operating Hours	24
Days	365
Annual Operating Hours	8760

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GHG Emissions

Scenario	Natural Gas (MMBtu/yr)	CO2 Emission Factor[1] (kg/MMBtu)	CH4 Emission Factor[2] (kg/mmBtu)	N2O Emission Factor[2] (kg/MMBtu)	CO2 MT/yr [3]	CH4 MT/yr [3]	N2O MT/yr [3]	MTCO2e/yr
Without Cogeneration	85232	53.06	1.00E-03	1.00E-04	4522.40992	0.085232	0.0085232	4527
With Cogeneration	388634	53.06	1.00E-03	1.00E-04	20620.92004	0.388634	0.0388634	20642

1 CO2 Emission Factor
2 CH4/NO2 Emission Factor
3 1000kg=1 Metric ton

Mobile Emissions

Phase 1

Category	$MTCO_2e/yr$
Mobile	9823

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Phase 2

Category	$MTCO_2e/yr$
Mobile	12484

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Water and Wastewater Conveyance Emissions

Phase 1

Category	$MTCO_2e/yr$
Water	368

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Phase 2

Category	$MTCO_2e/yr$
Water	479

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Solid Waste Emissions

Phase 1

Category	$MTCO_2e/yr$
Waste	143

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Phase 2

Category	$MTCO_2e/yr$
Waste	143

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Construction Emissions

Construction Year	$MTCO_2e/yr$
2018	1196
2019	2107
2020	624
Project Total	3927
30-Year Amortization	**131**

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GHG Summary

Phase 1 -without Cogeneration	$MTCO_2e/yr$
Area	<1
Electricity	20627
Natural Gas	4527
Mobile	9823
Water	368
Waste	143
Construction	131
Project Total	**35618**

GHG Summary

Phase 1-with Cogeneration	$MTCO_2e/yr$
Area	<1
Electricity	6243
Natural Gas	20642
Mobile	9823
Water	368
Waste	143
Construction	131
Project Total	**37349**

Phase 2-without Cogeneration	$MTCO_2e/yr$
Area	<1
Electricity	20627
Natural Gas	4527
Mobile	12484
Water	479
Waste	143
Construction	131
Project Total	**38392**

Phase 2-with Cogeneration	$MTCO_2e/yr$
Area	<1
Electricity	6243
Natural Gas	20642
Mobile	12484
Water	479
Waste	143
Construction	131
Project Total	**40123**

C-6 Energy Estimate

- Construction Fuel Consumption Estimate
- Operational Electricity and Fuel Consumption Estimate

Construction Energy Analysis

Annual Fuel Summary

	Heavy-Duty Construction Equipment
275,158	Total Project Consumption
126,976	Annual Consumption
	Haul Trucks
10,853	Total Project Consumption
5,008	Annual Consumption
	Vendor Trucks
27,026	Total Project Consumption
12,472	Annual Consumption
	Workers
76,924	Total Project Consumption
35,498	Annual Consumption
37,880	Project Consumption of diesel for Haul Trucks and Vendors
17,480	Annual Consumption
313,038	Total Gallons Diesel
76,924	Total Gallons Gasoline

2.2	Estimated Project Construction Duration (years)
144,457	Annual Average Gallons Diesel
35,498	Annual Average Gallons Gasoline

Statewide Annual Fuel Consumption (2018)

Source	Fuel Type	Gallons	Percent of Annual Project
Workers [1]	Gasoline	4,634,495,111	0.0008%
Vendors [2]	Diesel	982,853,653	0.0013%
Haul Trucks [3]	Diesel	22,758,087	0.02%

Notes:

1 EMFAC2011 Categories: LDA, LDT1, LDT2

2 EMFAC2007 Categories:MHDT,HHDT

3 EMFAC2011 Categories: T7 Single Construction

Construction Energy Analysis

Off-Road Equipment

Equipment ≤ 50 hp		
pounds fuel/hp-hr (OFFROAD2011 model, ≤ 50 hp):	0.408	lb/hp-hr
diesel pounds/gallon (CARB density assumption):	7.07	lb/gal
diesel gallons/hp-hr:	0.0577	gal/hp-hr
Total <50	169,533	hp-hr
Total diesel gallons:	9,784	gal

Equipment > 50 hp		
pounds fuel/hp-hr (OFFROAD2011 model, > 50 hp):	0.367	lb/hp-hr
diesel pounds/gallon (CARB density assumption):	7.07	lb/gal
diesel gallons/hp-hr:	0.0519	gal/hp-hr
Total >50	5,112,255	hp-hr
Total diesel gallons:	265,374	gal
Total diesel gallons (off-road equipment):	**275,158**	**gal**

Source: https://www.arb.ca.gov/msei/ordiesel/usepa_bsfc.pdf

Construction Phase	Equipment	Number	Hours/Day	HP	Load	Days	Total hp-hr
Phase 1 Demo	Off-Highway Trucks	1	13	402	0.38	18	35,746
Phase 1 Demo	Rubber Tired Dozers	1	13	247	0.4	18	23,119
Phase 1 Demo	Sweepers/Scrubbers	1	13	64	0.46	18	6,889
Phase 1 Demo	Tractors/Loaders/Backhoes	1	13	97	0.37	18	8,398
Phase 1 Grading	Excavators	1	13	158	0.38	132	103,029
Phase 1 Grading	Graders	1	13	187	0.41	132	131,566
Phase 1 Grading	Rubber Tired Dozers	1	13	247	0.4	132	169,541
Phase 1 Grading	Tractors/Loaders/Backhoes	2	13	97	0.37	34	31,727
Phase 2 Demo	Off-Highway Trucks	1	13	402	0.38	12	23,831
Phase 2 Demo	Rubber Tired Dozers	1	13	247	0.4	12	15,413
Phase 2 Demo	Sweepers/Scrubbers	1	13	64	0.46	12	4,593
Phase 2 Demo	Tractors/Loaders/Backhoes	1	13	97	0.37	12	5,599
Phase 2 Grading	Excavators	1	13	158	0.38	129	100,687
Phase 2 Grading	Graders	1	13	187	0.41	129	128,576
Phase 2 Grading	Rubber Tired Dozers	1	13	247	0.4	129	165,688
Phase 2 Grading	Tractors/Loaders/Backhoes	1	13	97	0.37	129	60,188

Construction Phase	Equipment	Number	Hours/Day	HP	Load	Days	Total hp-hr
Phase 1 Drainage/Utils	Excavators	1	13	158	0.38	34	26,538
Phase 1 Drainage/Utils	Rough Terrain Forklifts	2	13	100	0.4	34	35,360
Phase 1 Drainage/Utils	Tractors/Loaders/Backhoes	2	13	97	0.37	34	31,727
Phase 1 Drainage/Utils	Trenchers	1	13	367	0.48	34	77,863
Phase 3 Demo	Off-Highway Trucks	1	13	402	0.38	36	71,492
Phase 3 Demo	Rubber Tired Dozers	2	13	247	0.4	36	92,477
Phase 3 Demo	Sweepers/Scrubbers	1	13	64	0.46	36	13,778
Phase 3 Demo	Tractors/Loaders/Backhoes	1	13	97	0.37	36	16,797
Phase 1 Foundation	Bore/Drill Rigs	1	13	221	0.5	25	35,913
Phase 1 Foundation	Cranes	1	13	231	0.29	25	21,772
Phase 1 Foundation	Pumps	2	13	84	0.74	25	40,404
Phase 1 Foundation	Rough Terrain Forklifts	1	13	100	0.4	25	13,000
Phase 1 Foundation	Tractors/Loaders/Backhoes	2	13	97	0.37	25	23,329
Phase 3 Grading	Excavators	1	13	158	0.38	131	102,248
Phase 3 Grading	Graders	1	13	187	0.41	131	130,569
Phase 3 Grading	Rubber Tired Dozers	1	13	247	0.4	131	168,256
Phase 3 Grading	Tractors/Loaders/Backhoes	2	13	97	0.37	131	122,241
Phase 1 Building Construction	Cranes	1	13	231	0.29	157	136,727
Phase 1 Building Construction	Forklifts	2	13	89	0.2	157	72,660
Phase 1 Building Construction	Paving Equipment	1	13	132	0.36	157	96,988
Phase 1 Building Construction	Pumps	1	13	84	0.74	157	126,869
Phase 1 Building Construction	Tractors/Loaders/Backhoes	2	13	97	0.37	157	146,503
Phase 2 Drainage/Utils	Excavators	1	13	158	0.38	12	9,366
Phase 2 Drainage/Utils	Rough Terrain Forklifts	1	13	100	0.4	12	6,240
Phase 2 Drainage/Utils	Tractors/Loaders/Backhoes	1	13	97	0.37	12	5,599
Phase 2 Drainage/Utils	Trenchers	1	13	367	0.48	12	27,481
Phase 2 Foundation	Bore/Drill Rigs	1	13	221	0.5	32	45,968
Phase 2 Foundation	Cranes	1	13	231	0.29	32	27,868
Phase 2 Foundation	Pumps	1	13	84	0.74	32	25,859
Phase 2 Foundation	Rough Terrain Forklifts	1	13	100	0.4	32	16,640
Phase 2 Foundation	Tractors/Loaders/Backhoes	1	13	97	0.37	32	14,930
Phase 2 Building Construction	Cranes	1	13	231	0.29	103	89,700
Phase 2 Building Construction	Forklifts	2	13	89	0.2	103	47,668
Phase 2 Building Construction	Generator Sets	1	13	84	0.74	103	83,232
Phase 2 Building Construction	Tractors/Loaders/Backhoes	2	13	97	0.37	103	96,113
Phase 2 Building Construction	Welders	2	13	46	0.45	103	55,435

Construction Phase	Equipment	Number	Hours/Day	HP	Load	Days	Total hp-hr
Phase 3 Drainage/Utils	Excavators	1	13	158	0.38	26	20,294
Phase 3 Drainage/Utils	Rough Terrain Forklifts	2	13	100	0.4	26	27,040
Phase 3 Drainage/Utils	Tractors/Loaders/Backhoes	2	13	97	0.37	26	24,262
Phase 3 Drainage/Utils	Trenchers	1	13	367	0.48	26	59,542
Phase 3 Foundation	Bore/Drill Rigs	1	13	221	0.5	78	112,047
Phase 3 Foundation	Cranes	1	13	231	0.29	78	67,928
Phase 3 Foundation	Pumps	2	13	84	0.74	78	126,060
Phase 3 Foundation	Rough Terrain Forklifts	1	13	100	0.4	78	40,560
Phase 3 Foundation	Tractors/Loaders/Backhoes	2	13	97	0.37	78	72,785
Phase 1 Paving	Pavers	1	13	130	0.42	12	8,518
Phase 1 Paving	Paving Equipment	1	13	132	0.36	12	7,413
Phase 1 Paving	Rollers	1	13	80	0.38	12	4,742
Phase 2 Architectural Coating	Aerial Lifts	2	13	63	0.31	52	26,405
Phase 2 Architectural Coating	Air Compressors	2	13	78	0.48	52	50,619
Phase 1 Architectural Coating	Aerial Lifts	2	13	63	0.31	13	6,601
Phase 1 Architectural Coating	Air Compressors	2	13	78	0.48	13	12,655
Phase 3 Building Construction	Air Compressors	2	13	78	0.48	212	206,369
Phase 3 Building Construction	Cranes	2	13	231	0.29	212	369,249
Phase 3 Building Construction	Forklifts	2	13	89	0.2	212	98,114
Phase 3 Building Construction	Generator Sets	2	13	84	0.74	21	33,939
Phase 3 Building Construction	Pumps	1	13	84	0.74	212	171,313
Phase 3 Building Construction	Tractors/Loaders/Backhoes	2	13	97	0.37	212	197,826
Phase 3 Building Construction	Welders	2	13	46	0.45	212	114,098
Phase 3 Architectural Coating	Aerial Lifts	2	13	63	0.31	104	52,809
Phase 3 Architectural Coating	Air Compressors	2	13	78	0.48	104	101,238
Phase 3 Paving	Pavers	1	13	130	0.42	40	28,392
Phase 3 Paving	Paving Equipment	1	13	132	0.36	40	24,710
Phase 3 Paving	Rollers	1	13	80	0.38	40	15,808
Phase 3 Landscaping	Forklifts	1	13	89	0.2	28	6,479
Phase 3 Landscaping	Sweepers/Scrubbers	1	13	64	0.46	28	10,716
Phase 3 Landscaping	Tractors/Loaders/Backhoes	1	13	97	0.37	28	13,064
						Total >50	5112255
						Total <50	169533

Construction Energy Analysis

On-Road Vendor Trucks

EMFAC2014 Diesel Fuel Consumption Factor:[1]	0.1538	gallons/mile
Total Vendor Truck VMT:	128,956	miles
Total VMT diesel gallons (on-road vendor trucks):	**19,838**	
EMFAC2014 Diesel Fuel Consumption Factor:[2]	1.5384	gallons/hour
Total Haul Truck Idle-Hours per Year:	4,672	hours
Total Idling diesel gallons (on-road vendor trucks):	**7,188**	
Total diesel gallons (on-road haul trucks):	**27,026**	gal

miles/gallon
6.5

1. California Air Resources Board, EMFAC2014 (South Coast Air Basin; MHDT,HHDT; Annual; CY 2018; Aggregate MY; Aggregate Speed)
2. California Air Resources Board, EMFAC2014 (South Coast Air Basin; MHDT,HHDT; Annual; CY 2018; Aggregate MY; 10 miles per hour converted to hourly rate)
3. Source: California Air Resources Board (CARB), 2004. Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling, Appendix F, July 2004, https://www.arb.ca.gov/regact/idling/idling.htm, accessed November 2016.

Phase	Days	Total One-way Trips/Day	Total Trips	Miles/Trip	VMT	Idle Hours
Phase 1-Demo	18	6	108	6.9	745	27
Phase 1-Grading	132	6	792	6.9	5,465	198
Phase 1-Drainage/Utils	34	6	204	6.9	1,408	51
Phase 1-Building Construction	157	52	8148	6.9	56,222	2,037
Phase 2-Demo	12	6	72	6.9	497	18
Phase 2-Grading	129	6	774	6.9	5,341	194
Phase 2-Drainage/Utils	12	6	72	6.9	497	18
Phase 2-Foundation	32	17	537	6.9	3,706	134
Phase 3-Demo	36	6	216	6.9	1,490	54
Phase 3-Grading	131	6	786	6.9	5,423	197
Phase 3- Drainage/Utils	26	6	156	6.9	1,076	39
Phase 3- Foundation	78	87	6824	6.9	47,086	1,706
			18689			
			Total Vendor Truck VMT:		128,956	
				Total Idle-Hours:		4,672

Construction Energy Analysis

On-Road Workers (LDA, LDT1, LDT2)

EMFAC2014 Gasoline Fuel Consumption Factor:[1]	0.0421	gallons/mile	miles/gallon
Total Worker VMT:	1,827,960	miles	23.8
Total VMT gasoline gallons (workers):	**76,924**		

1. California Air Resources Board, EMFAC2014 (South Coast Air Basin; LDA, LDT1, LDT2; CY 2018; Aggregate MY; Aggregate Speed)

Phase	Days	One-Way Trips/Day	Miles/Trip	VMT
Demolition (Remove pavement)	18	10	14.7	2,646
Grading a	132	10	14.7	19,404
Drainage/Utilities/Trenching	34	15	14.7	7,497
Foundation	25	15	14.7	5,513
Building Construction	157	250	14.7	576,975
Paving	12	8	14.7	1,411
Architectural Coating	13	158	14.7	30,194
Demolition (Remove pavement)	12	5	14.7	882
Grading a	129	8	14.7	15,170
Drainage/Utilities/Trenching	12	10	14.7	1,764
Foundation	32	13	14.7	6,115
Building Construction	103	100	14.7	151,410
Architectural Coating	52	75	14.7	57,330
Demolition (Remove pavement)	36	13	14.7	6,880
Grading a	131	10	14.7	19,257
Drainage/Utilities/Trenching	26	15	14.7	5,733
Foundation	78	15	14.7	17,199
Building Construction	212	250	14.7	779,100
Paving	40	8	14.7	4,704
Landscaping	28	10	14.7	4,116
Architectural Coating	104	75	14.7	114,660
			Total Worker VMT:	**1,827,960**

Construction Energy Analysis

On-Road Haul Trucks

EMFAC2014 Diesel Fuel Consumption Factor:[1]	0.1667	gallons/mile	miles/gallon
Total Haul Truck VMT:	43,410	miles	6.00
Total VMT diesel gallons (on-road haul trucks):	**7,236**		
EMFAC2014 Diesel Fuel Consumption Factor:[2]	1.6668	gallons/hour	
Total Haul Truck Idle-Hours per Year:	2,171	hours	
Total Idling diesel gallons (on-road haul trucks):	**3,618**		
Total diesel gallons (on-road haul trucks):	**10,853**	gal	

1. California Air Resources Board, EMFAC2014 (South Coast Air Basin; T7 Single Construction; Annual; CY 2017; Aggregate MY; Aggregate Speed)
2. California Air Resources Board, EMFAC2014 (South Coast Air Basin; T7 Single Construction; Annual; CY 2017; Aggregate MY; 10 miles per hour converted to hourly rate)
3. Source: California Air Resources Board (CARB), 2004. Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling, Appendix F, July 2004, https://www.arb.ca.gov/regact/idling/idling.htm, accessed November 2016.

Phase	Days	Total One-Way Trips	Miles/Trip	VMT	Idle Hours
Phase 1 Demo	18	307	2.5	768	38
Phase 1 Excavation	132	6926	2.5	17,315	866
Phase 2 Demo	12	123	2.5	308	15
Phase 2 Excavation	129	2691	2.5	6,728	336
Phase 3 Demo	36	605	2.5	1,513	76
Phase 3 Excavation	131	6712	2.5	16,780	839
		17364			
			Total Haul Truck VMT:	43,410	
			Total Idle-Hours:	2,171	

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: Air Basin
Region: South Coast
Calendar Year: 2018
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Workers (LDA, LDT1, LDT2)-Gasoline	
VMT	Fuel Usage (gal/day)
301726299	12697247
Annual VMT	Fuel Usage (gal/year)
110130098977	4634495111
gal/mi	0.0421
mi/gal	23.76

Haul Trucks (T7 Single Construction)-Diesel	
VMT	Fuel Usage (gal/day)
374075	62351
Annual VMT	Fuel Usage (gal/year)
136537218	22758087
gal/mi	0.167
mi/gal	6.00

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Trips	Fuel_Consumption
South Coas	2018	LDA	Aggregate	Aggregate	GAS	5902291	2.07E+08	37196282	7958.702
South Coas	2018	LDA	Aggregate	Aggregate	DSL	48393.15	1855378	299156.4	53.11975
South Coas	2018	LDA	Aggregate	Aggregate	ELEC	62927.98	2972577	409740.7	0
South Coas	2018	LDT1	Aggregate	Aggregate	GAS	511327.2	17356142	3102010	786.369
South Coas	2018	LDT1	Aggregate	Aggregate	DSL	695.558	18701.99	3594.659	0.734236
South Coas	2018	LDT1	Aggregate	Aggregate	ELEC	428.587	13476.73	2594.394	0
South Coas	2018	LDT2	Aggregate	Aggregate	GAS	2046915	77072757	12925441	3952.176
South Coas	2018	LDT2	Aggregate	Aggregate	DSL	2951.975	126794.4	19063.36	4.681525
South Coas	2018	T7 single c	Aggregate	Aggregate	DSL	4094.843	374074.6	0	62.35092

EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: Air Basin
Region: South Coast
Calendar Year: 2018
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Vendor	
VMT	Fuel Usage (gal/day)
17503649.23	2692749.733
Annual VMT	Fuel usage (gal/yr)
6388831969	982853652.5
gal/mi	0.154

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Trips	Fuel_Consumption
South Coas	2018	HHDT	Aggregatec	Aggregatec	GAS	749.9976	94681.82	15005.95	20.74751
South Coas	2018	HHDT	Aggregatec	Aggregatec	DSL	80425.24	10818544	0	1919.141
South Coas	2018	MHDT	Aggregatec	Aggregatec	GAS	19053.19	942543.5	381216.2	137.6581
South Coas	2018	MHDT	Aggregatec	Aggregatec	DSL	121397.5	6685105	0	773.6092

San Manuel Casino Expansion and Hotel
Operational Energy Analysis

Summary of Energy and Fuel Estimates

	Natural Gas demand (million kBTU/yr)[1]	SCE Electricity demand (million kWh/yr)[1]	Electricity demand per CHP (million kWh/yr)[1]	Electricity demand from water demand (million kWh/yr) [2]	Diesel (Gals/yr) [3]	Gasoline (Gals/yr) [3]
Project - Phase 1 With CHP	388.63	19.53	41.99	1.15	232,250	845,552
Project - Phase 1 Without CHP	85.23	64.51	--	0.88		
Project - Phase 2 With CHP	388.63	19.53	41.99	1.15	309,592	1,127,130
Project - Phase 2 Without CHP	85.23	64.51	--	0.88		
SoCal Gas/ SCE [4]	300,000	85,977				
Statewide [5]	--				3,372,533,262	13,877,797,039

1 Estimated energy usage from Project's energy consultant at Vanderweil.

2 Based on California Emissions Estimator Model (CalEEMod).

3 Based on VMT from CALEEMOD and fuel consumption rate from EMFAC2014 for California Statewide 2020 Annual average data.

4 So Cal Edison 2016 Annual Report

5 So Cal Gas 2016 Annual Report
Report has annual natural gas sales of 294 billion cubic, converted to kBtu using 1020Btu/cubic foot

San Manuel Casino Expansion and Hotel
Operational Energy Analysis

Energy Estimates

Source	Natural Gas demand (million kBTU/yr)[1]	SCE Electricity demand (million kWh/yr)[1]	Electricity demand per CHP (million kWh/yr)[1]	Electricity demand from water demand (million kWh/yr)
With CHP	388.634	19.525	41.986	1.149
Without CHP	85.232	64.509	--	0.883

Source	CalEEMod Indoor Water Use (Mgal/yr)	CalEEMod Outdoor Water Use (Mgal/yr)	Total Water Use (Mgal/yr)	Electricity Demand from water Demand (million kWh)
Scenario A (Traffic Study Phase 1)	62.57	6.17	68.74	0.88
Scenario B (Traffic Study Phase 2)	81.96	7.41	89.37	1.15

CalEEMod Water Electricity Factors[2]	Electricity Intensity Factor To Supply (kWh/Mgal)	Electricity Intensity Factor To Treat (kWh/Mgal)	Electricity Intensity Factor To Distribute (kWh/Mgal)	Electricity Intensity Factor For Wastewater Treatment (kWh/Mgal)
Scenario A (Traffic Study Phase 1)	9727	111	1272	1911
Scenario B (Traffic Study Phase 2)	9727	111	1272	1911

Scenario A Water Use		Scenario B Water Use	
Indoor	Outdoor	Indoor	Outdoor
48.68	3.11	68.06	4.34
0.00	1.66	0.00	1.66
12.68	1.41	12.68	1.41
1.21	0.00	1.21	0.00
62.57	**6.17**	**81.96**	**7.41**

1 Estimated energy usage from Project's energy consultant at Vanderweil.

2 California Emissions Estimator Model (CalEEMod).

Natural Gas Consumption

Boilers	MMBtu/year	kBtu	million kBtu
With CHP	4281	4281000	4.281
Without Cogen	85232	85232000	85.232
CHP:			
2-J616 Engines	384353	384353000	384

Utility Provider Summary	Amount	Unit
SoCal Edison[3]	85,977	million kWh
SoCal Gas[4]	300000	million kBtu

3 So Cal Edison 2016 Annual Report

4 So Cal Gas 2016 Annual Report

Report has annual natural gas sales of 294 billion cubic, converted to kBtu using 1020Btu/cubic foot

% of Utility Provider		
	With CHP	Without CHP
Natural Gas	0.13%	0.03%
Electricity	0.02%	0.08%

San Manuel Casino Expansion and Hotel
Operational Energy Analysis

Proposed Project
Fuel Usage from VMT
Phase 1

Annual VMT (All): 21,621,976 miles/year

Fuel Type:[1]	GAS	DSL	ELEC	
Percent:	89.97%	8.49%	1.54%	
Gallon per mile	0.04	0.13	-	
Annual VMT by Fuel Type (miles/year) :	19,453,274	1,835,453	333,249	
Annual Fuel Usage (gallons) :	845,552	232,250	-	
Annual Fuel Savings from Electric Vehicles:[2]	-	-	14,485	gal/year (assumed to be gasoline)

Fuel Consumed	gal/year	gal/year
State	13,877,797,039	3,372,533,262
Project	845,552	232,250
% of Statewide consumption	0.006%	0.007%

Notes:

1. California Air Resources Board, EMFAC2014 California Statewide; Annual; 2020).
2. Assumes electric vehicles would replace traditional gasoline-fueled vehicles.

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San Manuel Casino Expansion and Hotel
Operational Energy Analysis

Proposed Project
Fuel Usage from VMT
Phase 2

Annual VMT (All): 28,822,307 miles/year

Fuel Type:[1]	GAS	DSL	ELEC	
Percent:	89.97%	8.49%	1.54%	
Gallon per mile	0.04	0.13	-	
Annual VMT by Fuel Type (miles/year) :	25,931,405	2,446,677	444,225	
Annual Fuel Usage (gallons) :	1,127,130	309,592	-	
Annual Fuel Savings from Electric Vehicles:[2]	-	-	19,309	gal/year (assumed to be gasoline)

Fuel Consumed	gal/year	gal/year
State	13,877,797,039	3,372,533,262
Project	1,127,130	309,592
% of Statewide consumption	0.008%	0.009%

Notes:

1. California Air Resources Board, EMFAC2014 California Statewide; LDA, LDT1, LDT2; Annual; 2020).
2. Assumes electric vehicles would replace traditional gasoline-fueled vehicles.

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EMFAC2014 (v1.0.7) Emissions Inventory
Region Type: Statewide
Region: California
Calendar Year: 2020
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	Vehicle Class	MdlYr	Speed	Fuel	Population	VMT	Trips	ROG_RUNEX	ROG_IDLEX	ROG_STREX	ROG_TOTEX	ROG_DIURN	ROG_HTSK	ROG_RUNLS	Fuel_Consumption
Statewide	2020	HHDT	Aggregated	Aggregated	GAS	1886.003192	246313.44	37735.152	0.130427575	0	0.067970222	0.198398	8.33E-05	0.0038203	0.019119	52.8216799
Statewide	2020	HHDT	Aggregated	Aggregated	DSL	284873.9601	41788419	0	5.810215263	0.6617	0	6.47193	0	0	0	7062.57041
Statewide	2020	LDA	Aggregated	Aggregated	GAS	14384215.18	518680561	90664261	8.653057841	0	11.01498702	19.66804	4.607232	12.234754	24.72891	18294.5466
Statewide	2020	LDA	Aggregated	Aggregated	DSL	146440.9893	5547923.7	908467.67	0.158492309	0	0	0.158492	0	0	0	149.552911
Statewide	2020	LDA	Aggregated	Aggregated	ELEC	306322.3047	15179484	1995631.3	0	0	0	0	0.007444	0.0107438	0	0
Statewide	2020	LDT1	Aggregated	Aggregated	GAS	1212499.985	40204595	7331032.9	1.768916363	0	2.260223575	4.02914	1.234909	2.6728504	9.415115	1699.59952
Statewide	2020	LDT1	Aggregated	Aggregated	DSL	1983.981893	44169.566	9787.4456	0.008217028	0	0	0.008217	0	0	0	1.65425464
Statewide	2020	LDT1	Aggregated	Aggregated	ELEC	859.1796773	26541.76	5191.9496	0	0	0	0	2.03E-05	2.795E-05	0	0
Statewide	2020	LDT2	Aggregated	Aggregated	GAS	5083828.563	189489509	32019616	4.115459402	0	4.893317058	9.008776	2.061264	4.9145552	16.48875	8990.42029
Statewide	2020	LDT2	Aggregated	Aggregated	DSL	8334.556504	346754.05	53495.848	0.007109519	0	0	0.00711	0	0	0	12.1159457
Statewide	2020	LHDT1	Aggregated	Aggregated	GAS	319866.6442	9235319.5	4765536.4	0.950992354	0.1296	2.897782836	3.978384	0.030224	1.0269333	7.378766	912.900699
Statewide	2020	LHDT1	Aggregated	Aggregated	DSL	307503.9609	10274457	3868013	1.942797767	0.0372	0	1.980002	0	0	0	560.63545
Statewide	2020	LHDT2	Aggregated	Aggregated	GAS	54137.71386	1887880.1	806571.27	0.074939127	0.0219	0.320515808	0.417361	0.002935	0.0999212	0.650009	200.128851
Statewide	2020	LHDT2	Aggregated	Aggregated	DSL	101911.9089	3876245.1	1281923.6	0.536438332	0.0123	0	0.548769	0	0	0	229.396619
Statewide	2020	MCY	Aggregated	Aggregated	GAS	744461.4136	5465829.3	1488773.9	14.82719044	0	3.638020902	18.46521	1.878661	1.3290512	4.04009	151.479171
Statewide	2020	MDV	Aggregated	Aggregated	GAS	3605767.523	117742037	22314582	5.916975124	0	7.515488847	13.43246	2.084797	4.9845427	15.51461	7568.98875
Statewide	2020	MDV	Aggregated	Aggregated	DSL	52058.0611	2087315.9	332117.56	0.038486277	0	0	0.038486	0	0	0	94.9945203
Statewide	2020	MH	Aggregated	Aggregated	GAS	98062.46631	785065.45	9810.1691	0.149499325	0	0.006289886	0.155789	0.018067	0.0012979	0.029707	112.827502
Statewide	2020	MH	Aggregated	Aggregated	DSL	25963.40975	219213.38	2596.341	0.028678897	0	0	0.028679	0	0	0	22.2117642
Statewide	2020	MHDT	Aggregated	Aggregated	GAS	40141.49556	2037897.6	803151.04	0.241315173	0.0355	0.777615679	1.054444	0.00247	0.0910726	0.509665	301.955326
Statewide	2020	MHDT	Aggregated	Aggregated	DSL	317935.8722	16633062	0	2.06724102	0.0273	0	2.094528	0	0	0	1956.34335
Statewide	2020	OBUS	Aggregated	Aggregated	GAS	18206.04532	963999.98	364266.55	0.05915183	0.0122	0.183862205	0.255188	0.000744	0.0087515	0.09822	140.119087
Statewide	2020	OBUS	Aggregated	Aggregated	DSL	13358.60963	1072399.6	0	0.127636543	0.0061	0	0.133756	0	0	0	150.22771
Statewide	2020	SBUS	Aggregated	Aggregated	GAS	4851.223526	222385.22	19404.894	0.026591604	0.0458	0.024168618	0.09655	0.000225	0.0019473	0.01444	19.2851667
Statewide	2020	SBUS	Aggregated	Aggregated	DSL	15373.71507	585648.37	0	0.086527357	0.0039	0	0.090407	0	0	0	81.1376217
Statewide	2020	UBUS	Aggregated	Aggregated	GAS	4998.204278	683386.37	19992.817	0.444896354	0	0.051494144	0.49639	0.000309	0.0049742	0.039417	137.13498
Statewide	2020	UBUS	Aggregated	Aggregated	DSL	9541.202536	1275355.5	38164.81	1.224401295	0	0	1.224401	0	0	0	276.637766

VMT (miles/day)

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHDT1	LHDT2	MHDT	HHDT	OBUS	UBUS	MCY	SBUS	MH	Total		Total
CALEEMOD																
Default	0.54783	0.043645	0.199892	0.12229	0.01677	0.005862	0.020637	0.032653	0.002037	0.0019	0.004777	0.000705	0.000956			
GAS	5.2E+08	40204595	189489509	1.18E+08	9235320	1887880.078	2037897.6	246313.44	963999.9792	683386	5465829.268	222385.2	785065.5	887644778	0.899699	879524112
DSL	5547924	44169.566	346754.05	2087316	1E+07	3876245.148	16633062	41788419	1072399.587	1E+06	0	585648.4	219213.4	83750963	0.084888	80598346.7
ELEC	1.5E+07	26541.76	0	0	0	0	0	0	0	0	0	0	0	15206026	0.015413	15206026.1
														986601768		**975328485**

Fuel (1000 gals/day)

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHDT1	LHDT2	MHDT	HHDT	OBUS	UBUS	MCY	SBUS	MH	total	gal/mile	Total	gal/mile	mi/gal
CALEEMOD																		
Default	0.54783	0.043645	0.199892	0.12229	0.01677	0.005862	0.020637	0.032653										
GAS	18294.5	1699.5995	8990.4203	7568.989	912.901	200.1288511	301.95533	52.82168	140.1190872	137.13	151.4791707	19.28517	112.8275	38582.208	0.043466	38021.3617	0.043	23.1
DSL	149.553	1.6542546	12.115946	94.99452	560.635	229.3966189	1956.3434	7062.5704	150.2277097	276.64	0	81.13762	22.21176	10597.478	0.126536	10067.2635	0.125	8.0
ELEC	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0		

Statewide Fuel Consumption

GAS	13,877,797,039
DIESEL	3,372,533,262

Appendix D
Noise Data

Appendix D-1

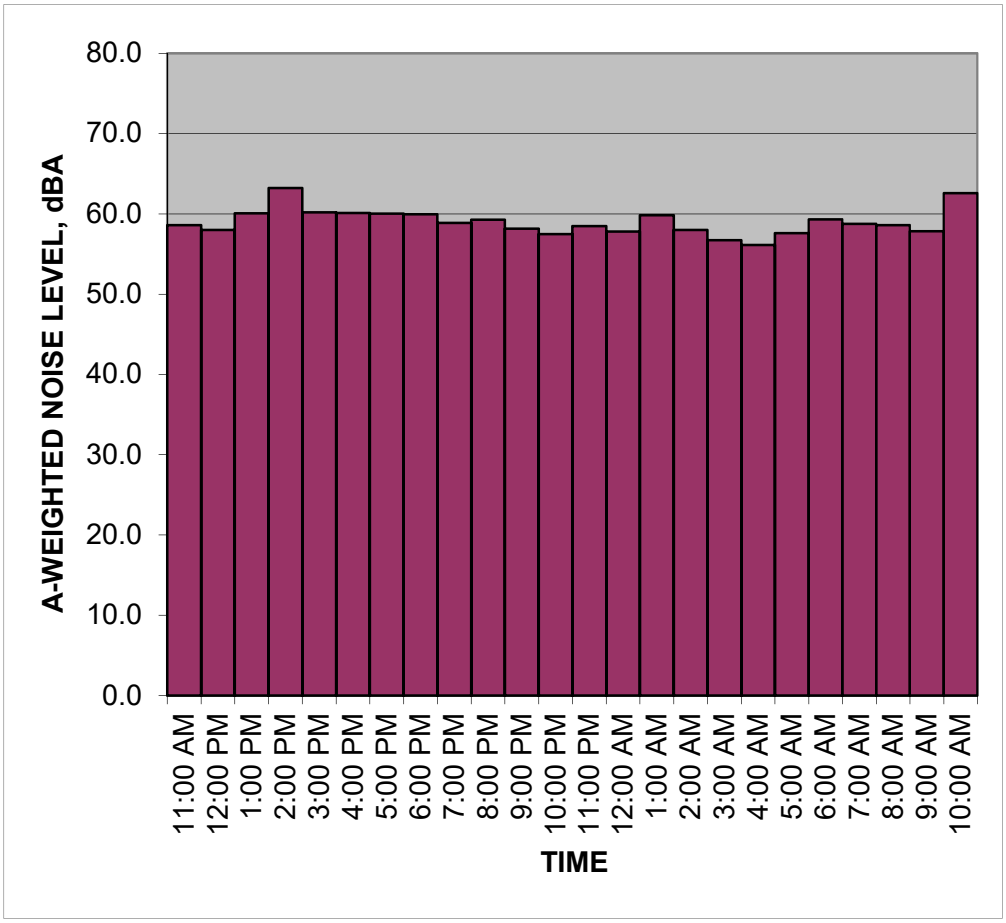
Measured Ambient Noise Levels

Measured Ambient Noise Levels

Project: San Manuel Casino Expansion and Hotel
Project Number: D150771.02
Location: R1
Sources: Ambient

Date: November 29-30, 2017

TIME	HNL, dB(A)
11:00 AM	58.6
12:00 PM	58.0
1:00 PM	60.1
2:00 PM	63.2
3:00 PM	60.2
4:00 PM	60.1
5:00 PM	60.0
6:00 PM	60.0
7:00 PM	58.9
8:00 PM	59.3
9:00 PM	58.2
10:00 PM	57.5
11:00 PM	58.5
12:00 AM	57.8
1:00 AM	59.8
2:00 AM	58.0
3:00 AM	56.7
4:00 AM	56.1
5:00 AM	57.6
6:00 AM	59.3
7:00 AM	58.7
8:00 AM	58.6
9:00 AM	57.8
10:00 AM	62.6
CNEL, dB(A):	**65.1**



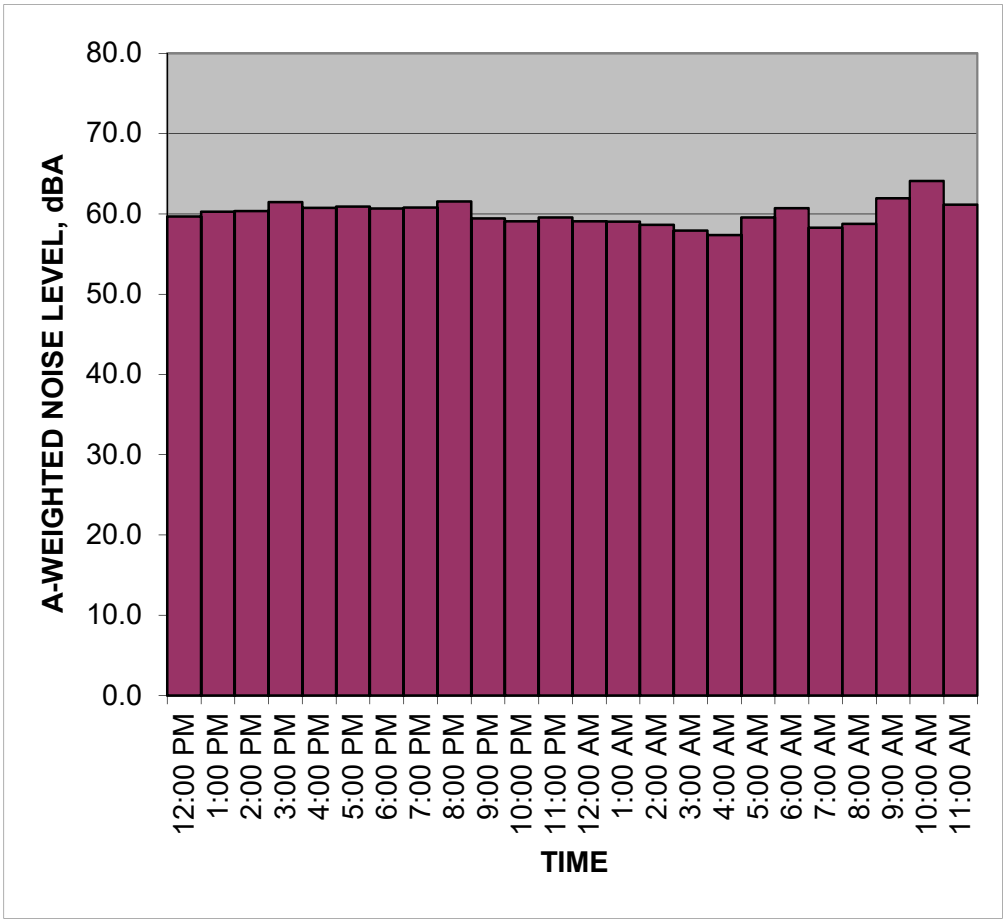
NOTES:

Measured Ambient Noise Levels

Project: San Manuel Casino Expansion and Hotel
Project Number: D150771.02
Location: R2
Sources: Ambient

Date: November 29-30, 2017

TIME	HNL, dB(A)
12:00 PM	59.6
1:00 PM	60.3
2:00 PM	60.3
3:00 PM	61.4
4:00 PM	60.7
5:00 PM	60.9
6:00 PM	60.6
7:00 PM	60.8
8:00 PM	61.5
9:00 PM	59.4
10:00 PM	59.1
11:00 PM	59.5
12:00 AM	59.1
1:00 AM	59.0
2:00 AM	58.6
3:00 AM	57.9
4:00 AM	57.4
5:00 AM	59.6
6:00 AM	60.7
7:00 AM	58.3
8:00 AM	58.7
9:00 AM	61.9
10:00 AM	64.1
11:00 AM	61.1
CNEL, dB(A):	**66.1**



NOTES:

Summary

File Name on Meter	LxT_Data.076
File Name on PC	SLM_0004983_LxT_Data_076.00.ldbin
Serial Number	0004983
Model	SoundTrack LxT®
Firmware Version	2.301
User	
Location	R3
Job Description	
Note	

Measurement

Description	
Start	2017-11-29 09:39:51
Stop	2017-11-29 09:54:51
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2017-11-29 09:25:09
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1
Microphone Correction	Off
Integration Method	Exponential
Overload	144.9 dB

	A	C	Z
Under Range Peak	**101.2**	98.2	103.2 dB
Under Range Limit	**37.6**	35.6	43.6 dB
Noise Floor	24.8	25.3	32.8 dB

Results

LA_{Seq}	43.2 dB	
LASE	72.8 dB	
EAS	2.099 µPa²h	
EAS8	67.168 µPa²h	
EAS40	335.842 µPa²h	
$LA_{Speak\ (max)}$	2017-11-29 09:40:19	87.4 dB
LA_{Smax}	2017-11-29 09:40:19	62.4 dB
LA_{Smin}	2017-11-29 09:51:48	36.7 dB
SEA	-99.9 dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{Speak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{Speak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{Speak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
LC_{Seq}	58.2 dB	
LA_{Seq}	43.2 dB	
LC_{Seq} - LA_{Seq}	15.0 dB	
LA_{Ieq}	49.3 dB	
LA_{eq}	43.2 dB	
LA_{Ieq} - LA_{eq}	6.1 dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	43.2					
$L_{S(max)}$	62.4	2017/11/29 9:40:19				
$L_{S(min)}$	36.7	2017/11/29 9:51:48				
$L_{Peak(max)}$	87.4	2017/11/29 9:40:19				

# Overloads	0	
Overload Duration	0.0	s

Dose Settings

Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results

Dose	-99.9	-99.9	%
Projected Dose	-99.9	-99.9	%
TWA (Projected)	-99.9	-99.9	dB
TWA (t)	-99.9	-99.9	dB
Lep (t)	28.2	28.2	dB

Statistics

LAS5.00	47.1	dB
LAS10.00	45.6	dB
LAS33.30	42.3	dB
LAS50.00	41.0	dB
LAS66.60	40.2	dB
LAS90.00	38.7	dB

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**	**10.0**
PRMLxT1	2017-11-29 09:25:09	-51.2			
PRMLxT1	2017-11-29 09:24:53	-51.2			
PRMLxT1	2017-11-21 09:22:04	-53.4			
PRMLxT1	2017-11-02 09:20:08	-53.7			
PRMLxT1	2017-10-18 07:25:56	-53.7			
PRMLxT1	2017-10-12 15:44:06	-53.1			
PRMLxT1	2017-10-12 15:43:47	-53.1			
PRMLxT1	2017-10-12 15:43:29	-53.5			
PRMLxT1	2017-10-12 15:43:11	-53.3			
PRMLxT1	2017-10-09 09:10:18	-53.4			
PRMLxT1	2017-10-09 09:10:01	-53.4			

Summary

File Name on Meter	LxT_Data.077
File Name on PC	SLM_0004983_LxT_Data_077.00.ldbin
Serial Number	0004983
Model	SoundTrack LxT®
Firmware Version	2.301
User	
Location	R4
Job Description	
Note	

Measurement

Description	
Start	2017-11-29 09:57:23
Stop	2017-11-29 10:12:23
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2017-11-29 09:25:09
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1
Microphone Correction	Off
Integration Method	Exponential
Overload	144.9 dB

	A	C	Z
Under Range Peak	**101.2**	98.2	103.2 dB
Under Range Limit	**37.6**	35.6	43.6 dB
Noise Floor	24.8	25.3	32.8 dB

Results

L_{ASeq}	50.1 dB	
LASE	79.7 dB	
EAS	10.339 µPa²h	
EAS8	330.840 µPa²h	
EAS40	1.654 mPa²h	
$L_{ASpeak\ (max)}$	2017-11-29 10:08:01	86.4 dB
L_{ASmax}	2017-11-29 10:10:18	64.9 dB
L_{ASmin}	2017-11-29 10:07:53	38.9 dB
SEA	-99.9 dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{CSeq}	62.6 dB	
L_{ASeq}	50.1 dB	
L_{CSeq} - L_{ASeq}	12.4 dB	
L_{AIeq}	54.0 dB	
L_{AEq}	50.1 dB	
L_{AIeq} - L_{AEq}	3.8 dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	50.1					
$L_{S(max)}$	64.9	2017/11/29 10:10:18				
$L_{S(min)}$	38.9	2017/11/29 10:07:53				
$L_{Peak(max)}$	86.4	2017/11/29 10:08:01				

# Overloads	0
Overload Duration	0.0 s

Dose Settings			
Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results			
Dose	-99.9	-99.9	%
Projected Dose	-99.9	-99.9	%
TWA (Projected)	-99.9	-99.9	dB
TWA (t)	-99.9	-99.9	dB
Lep (t)	35.1	35.1	dB

Statistics		
LAS5.00	55.4	dB
LAS10.00	52.3	dB
LAS33.30	45.5	dB
LAS50.00	43.7	dB
LAS66.60	42.2	dB
LAS90.00	40.8	dB

Calibration History					
Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**	**10.0**
PRMLxT1	2017-11-29 09:25:09	-51.2			
PRMLxT1	2017-11-29 09:24:53	-51.2			
PRMLxT1	2017-11-21 09:22:04	-53.4			
PRMLxT1	2017-11-02 09:20:08	-53.7			
PRMLxT1	2017-10-18 07:25:56	-53.7			
PRMLxT1	2017-10-12 15:44:06	-53.1			
PRMLxT1	2017-10-12 15:43:47	-53.1			
PRMLxT1	2017-10-12 15:43:29	-53.5			
PRMLxT1	2017-10-12 15:43:11	-53.3			
PRMLxT1	2017-10-09 09:10:18	-53.4			
PRMLxT1	2017-10-09 09:10:01	-53.4			

Summary

File Name on Meter	LxT_Data.078
File Name on PC	SLM_0004983_LxT_Data_078.00.ldbin
Serial Number	0004983
Model	SoundTrack LxT®
Firmware Version	2.301
User	
Location	R5
Job Description	
Note	

Measurement

Description	
Start	2017-11-29 10:15:46
Stop	2017-11-29 10:30:46
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2017-11-29 09:25:09
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1
Microphone Correction	Off
Integration Method	Exponential
Overload	144.9 dB

	A	C	Z
Under Range Peak	**101.2**	98.2	103.2 dB
Under Range Limit	**37.6**	35.6	43.6 dB
Noise Floor	24.8	25.3	32.8 dB

Results

L_{ASeq}	56.7 dB	
LASE	86.3 dB	
EAS	46.891 µPa²h	
EAS8	1.500 mPa²h	
EAS40	7.502 mPa²h	
$L_{ASpeak\ (max)}$	2017-11-29 10:27:29	83.9 dB
L_{ASmax}	2017-11-29 10:27:33	71.2 dB
L_{ASmin}	2017-11-29 10:21:31	36.7 dB
SEA	-99.9 dB	

LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s

L_{CSeq}	68.4 dB
L_{ASeq}	56.7 dB
L_{CSeq} - L_{ASeq}	11.7 dB
L_{AIeq}	59.1 dB
L_{AEq}	56.7 dB
L_{AIeq} - L_{AEq}	2.4 dB

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	56.7					
$L_{S(max)}$	71.2	2017/11/29 10:27:33				
$L_{S(min)}$	36.7	2017/11/29 10:21:31				
$L_{Peak(max)}$	83.9	2017/11/29 10:27:29				

# Overloads	0
Overload Duration	0.0 s

Dose Settings			
Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results			
Dose	-99.9	-99.9	%
Projected Dose	-99.9	-99.9	%
TWA (Projected)	-99.9	-99.9	dB
TWA (t)	-99.9	-99.9	dB
Lep (t)	41.7	41.7	dB

Statistics		
LAS5.00	64.5	dB
LAS10.00	59.6	dB
LAS33.30	46.7	dB
LAS50.00	41.6	dB
LAS66.60	39.8	dB
LAS90.00	37.9	dB

Calibration History					
Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**	**10.0**
PRMLxT1	2017-11-29 09:25:09	-51.2			
PRMLxT1	2017-11-29 09:24:53	-51.2			
PRMLxT1	2017-11-21 09:22:04	-53.4			
PRMLxT1	2017-11-02 09:20:08	-53.7			
PRMLxT1	2017-10-18 07:25:56	-53.7			
PRMLxT1	2017-10-12 15:44:06	-53.1			
PRMLxT1	2017-10-12 15:43:47	-53.1			
PRMLxT1	2017-10-12 15:43:29	-53.5			
PRMLxT1	2017-10-12 15:43:11	-53.3			
PRMLxT1	2017-10-09 09:10:18	-53.4			
PRMLxT1	2017-10-09 09:10:01	-53.4			

Summary

File Name on Meter	LxT_Data.079
File Name on PC	SLM_0004983_LxT_Data_079.00.ldbin
Serial Number	0004983
Model	SoundTrack LxT®
Firmware Version	2.301
User	
Location	R6
Job Description	
Note	

Measurement

Description	
Start	2017-11-29 10:36:17
Stop	2017-11-29 10:51:17
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2017-11-29 09:25:09
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1
Microphone Correction	Off
Integration Method	Exponential
Overload	144.9 dB

	A	C	Z
Under Range Peak	**101.2**	98.2	103.2 dB
Under Range Limit	**37.6**	35.6	43.6 dB
Noise Floor	24.8	25.3	32.8 dB

Results

L_{ASeq}	52.3 dB	
LASE	81.8 dB	
EAS	16.896 µPa²h	
EAS8	540.676 µPa²h	
EAS40	2.703 mPa²h	
$L_{ASpeak\ (max)}$	2017-11-29 10:41:39	80.8 dB
L_{ASmax}	2017-11-29 10:41:40	68.5 dB
L_{ASmin}	2017-11-29 10:47:48	43.0 dB
SEA	-99.9 dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{ASpeak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s
L_{CSeq}	64.8 dB	
L_{ASeq}	52.3 dB	
L_{CSeq} - L_{ASeq}	12.5 dB	
L_{AIeq}	54.0 dB	
L_{Aeq}	52.3 dB	
L_{AIeq} - L_{Aeq}	1.7 dB	

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	52.3					
$L_{S(max)}$	68.5	2017/11/29 10:41:40				
$L_{S(min)}$	43.0	2017/11/29 10:47:48				
$L_{Peak(max)}$	80.8	2017/11/29 10:41:39				

# Overloads	0
Overload Duration	0.0 s

Dose Settings			
Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results			
Dose	-99.9	-99.9	%
Projected Dose	-99.9	-99.9	%
TWA (Projected)	-99.9	-99.9	dB
TWA (t)	-99.9	-99.9	dB
Lep (t)	37.2	37.2	dB

Statistics		
LAS5.00	56.3	dB
LAS10.00	50.9	dB
LAS33.30	46.2	dB
LAS50.00	45.5	dB
LAS66.60	44.9	dB
LAS90.00	44.0	dB

Calibration History					
Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**	**10.0**
PRMLxT1	2017-11-29 09:25:09	-51.2			
PRMLxT1	2017-11-29 09:24:53	-51.2			
PRMLxT1	2017-11-21 09:22:04	-53.4			
PRMLxT1	2017-11-02 09:20:08	-53.7			
PRMLxT1	2017-10-18 07:25:56	-53.7			
PRMLxT1	2017-10-12 15:44:06	-53.1			
PRMLxT1	2017-10-12 15:43:47	-53.1			
PRMLxT1	2017-10-12 15:43:29	-53.5			
PRMLxT1	2017-10-12 15:43:11	-53.3			
PRMLxT1	2017-10-09 09:10:18	-53.4			
PRMLxT1	2017-10-09 09:10:01	-53.4			

Summary

File Name on Meter	LxT_Data.080
File Name on PC	SLM_0004983_LxT_Data_080.00.ldbin
Serial Number	0004983
Model	SoundTrack LxT®
Firmware Version	2.301
User	
Location	R7
Job Description	
Note	

Measurement

Description	
Start	2017-11-29 11:00:08
Stop	2017-11-29 11:15:08
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2017-11-29 09:25:09
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamp	PRMLxT1
Microphone Correction	Off
Integration Method	Exponential
Overload	144.9 dB

	A	C	Z
Under Range Peak	**101.2**	98.2	103.2 dB
Under Range Limit	**37.6**	35.6	43.6 dB
Noise Floor	24.8	25.3	32.8 dB

Results

LA_{Seq}	42.2 dB	
LASE	71.7 dB	
EAS	1.658 µPa²h	
EAS8	53.051 µPa²h	
EAS40	265.253 µPa²h	
$LA_{Speak\ (max)}$	2017-11-29 11:13:41	77.4 dB
LAS_{max}	2017-11-29 11:10:17	53.9 dB
LAS_{min}	2017-11-29 11:01:06	35.7 dB
SEA	-99.9 dB	

LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{Speak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{Speak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LA_{Speak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s

LC_{Seq}	58.2 dB
LA_{Seq}	42.2 dB
LC_{Seq} - LA_{Seq}	16.0 dB
LAI_{eq}	45.5 dB
LA_{eq}	42.2 dB
LAI_{eq} - LA_{eq}	3.3 dB

	A		C		Z	
	dB	**Time Stamp**	**dB**	**Time Stamp**	**dB**	**Time Stamp**
L_{eq}	42.2					
$L_{S(max)}$	53.9	2017/11/29 11:10:17				
$L_{S(min)}$	35.7	2017/11/29 11:01:06				
$L_{Peak(max)}$	77.4	2017/11/29 11:13:41				

# Overloads	0
Overload Duration	0.0 s

Dose Settings			
Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results			
Dose	-99.9	-99.9	%
Projected Dose	-99.9	-99.9	%
TWA (Projected)	-99.9	-99.9	dB
TWA (t)	-99.9	-99.9	dB
Lep (t)	27.1	27.1	dB

Statistics		
LAS5.00	46.2	dB
LAS10.00	44.8	dB
LAS33.30	42.2	dB
LAS50.00	41.1	dB
LAS66.60	39.6	dB
LAS90.00	37.5	dB

Calibration History					
Preamp	**Date**	**dB re. 1V/Pa**	**6.3**	**8.0**	**10.0**
PRMLxT1	2017-11-29 09:25:09	-51.2			
PRMLxT1	2017-11-29 09:24:53	-51.2			
PRMLxT1	2017-11-21 09:22:04	-53.4			
PRMLxT1	2017-11-02 09:20:08	-53.7			
PRMLxT1	2017-10-18 07:25:56	-53.7			
PRMLxT1	2017-10-12 15:44:06	-53.1			
PRMLxT1	2017-10-12 15:43:47	-53.1			
PRMLxT1	2017-10-12 15:43:29	-53.5			
PRMLxT1	2017-10-12 15:43:11	-53.3			
PRMLxT1	2017-10-09 09:10:18	-53.4			
PRMLxT1	2017-10-09 09:10:01	-53.4			

Appendix D-2

Construction Noise Impact

Project: San Manuel

Construction Noise Impact on Sensitive Receptors

Parameters

Construction Hours:	8	Daytime hours (7 am to 7 pm)
	0	Evening hours (7 pm to 10 pm)
	0	Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3	

				R1					R3					R4					R5				
Construction Phase **Equipment Type**	**No. of Equip.**	**Reference Noise Level at 50ft, Lmax**	**Acoustical Usage Factor**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**	**Distance (ft)**	**Lmax**	**Leq**	**L10**	**Estimated Noise Shielding, dBA**
Phase 1: Parking Structure - Demolition						***54***					***49***					***49***					***31***		
Off-Highway Trucks	1	76	20%	100	55	48	51	15	230	48	41	44	15	230	48	41	44	15	1300	28	21	24	20
Rubber Tired Dozer	1	82	40%	200	55	51	54	15	330	51	47	50	15	330	51	47	50	15	1400	33	29	32	20
Sweeper/Scrubbers	1	82	10%	300	51	41	44	15	430	48	38	41	15	430	48	38	41	15	1500	32	22	25	20
Tractor/Loader/Backhoe	1	80	25%	300	49	43	46	15	430	46	40	43	15	430	46	40	43	15	1500	30	24	27	20
Phase 1: Parking Structure - Grading						***62***					***55***					***55***					***36***		
Graders	1	85	40%	100	64	60	63	15	230	57	53	56	15	230	57	53	56	15	1300	37	33	36	20
Excavator	1	81	40%	100	60	56	59	15	230	53	49	52	15	230	53	49	52	15	1300	33	29	32	20
Rubber Tired Dozer	1	82	40%	200	55	51	54	15	330	51	47	50	15	330	51	47	50	15	1400	33	29	32	20
Tractor/Loader/Backhoe	2	80	25%	300	52	46	49	15	430	49	43	46	15	430	49	43	46	15	1500	33	27	30	20
Phase 1: Parking Structure - Drainage/Utilities						***57***					***51***					***51***					***33***		
Excavator	1	81	40%	100	60	56	59	15	230	53	49	52	15	230	53	49	52	15	1300	33	29	32	20
Rough Terrain Forklifts	2	75	10%	200	51	41	44	15	330	47	37	40	15	330	47	37	40	15	1400	29	19	22	20
Tractor/Loader/Backhoe	2	80	25%	300	52	46	49	15	430	49	43	46	15	430	49	43	46	15	1500	33	27	30	20
Trenchers	1	80	50%	300	49	46	49	15	430	46	43	46	15	430	46	43	46	15	1500	30	27	30	20
Phase 1: Parking Structure - Foundation						***56***					***51***					***51***					***35***		
Bore/Drill Rig	1	79	20%	100	58	51	54	15	230	51	44	47	15	230	51	44	47	15	1300	31	24	27	20
Cranes	1	81	40%	200	54	50	53	15	330	50	46	49	15	330	50	46	49	15	1400	32	28	31	20
Pumps	2	81	50%	300	53	50	53	15	430	50	47	50	15	430	50	47	50	15	1500	34	31	34	20
Rough Terrain Forklifts	1	75	10%	300	44	34	37	15	430	41	31	34	15	430	41	31	34	15	1500	25	15	18	20
Tractor/Loader/Backhoe	2	80	25%	300	52	46	49	15	430	49	43	46	15	430	49	43	46	15	1500	33	27	30	20
Phase 1: Parking Structure - Building Construction						***58***					***53***					***53***					***36***		
Cranes	1	81	40%	100	60	56	59	15	230	53	49	52	15	230	53	49	52	15	1300	33	29	32	20
Forklifts	2	75	10%	200	51	41	44	15	330	47	37	40	15	330	47	37	40	15	1400	29	19	22	20
Paving Equipment	1	90	20%	300	59	52	55	15	430	56	49	52	15	430	56	49	52	15	1500	40	33	36	20
Pumps	1	81	50%	300	50	47	50	15	430	47	44	47	15	430	47	44	47	15	1500	31	28	31	20
Tractors/Loaders/Backhoes	2	80	25%	300	52	46	49	15	430	49	43	46	15	430	49	43	46	15	1500	33	27	30	20
Phase 1: Parking Structure - Paving/Architectural Coating						***57***					***52***					***52***					***36***		
Pavers	1	77	50%	100	56	53	56	15	230	49	46	49	15	230	49	46	49	15	1300	29	26	29	20
Rollers	1	80	20%	200	53	46	49	15	330	49	42	45	15	330	49	42	45	15	1400	31	24	27	20
Paving Equipment	1	90	20%	300	59	52	55	15	430	56	49	52	15	430	56	49	52	15	1500	40	33	36	20
Aerial Lifts	2	75	20%	300	47	40	43	15	430	44	37	40	15	430	44	37	40	15	1500	28	21	24	20
Air Compressors	2	78	50%	300	50	47	50	15	430	47	44	47	15	430	47	44	47	15	1500	31	28	31	20
Phase 2: Event Center - Demolition						***29***					***32***					***42***					***50***		
Off-Highway Trucks	1	76	20%	1700	25	18	21	20	1200	28	21	24	20	600	39	32	35	15	200	49	42	45	15
Rubber Tired Dozer	1	82	40%	1800	31	27	30	20	1300	34	30	33	20	700	44	40	43	15	300	51	47	50	15
Sweeper/Scrubbers	1	82	10%	1900	30	20	23	20	1400	33	23	26	20	800	43	33	36	15	400	49	39	42	15
Tractor/Loader/Backhoe	1	80	25%	1900	28	22	25	20	1400	31	25	28	20	800	41	35	38	15	400	47	41	44	15
Phase 2: Event Center - Grading						***33***					***36***					***47***					***56***		
Graders	1	85	40%	1700	34	30	33	20	1200	37	33	36	20	600	48	44	47	15	200	58	54	57	15
Excavator	1	81	40%	1700	30	26	29	20	1200	33	29	32	20	600	44	40	43	15	200	54	50	53	15
Rubber Tired Dozer	1	82	40%	1800	31	27	30	20	1300	34	30	33	20	700	44	40	43	15	300	51	47	50	15
Tractor/Loader/Backhoe	1	80	25%	1900	28	22	25	20	1400	31	25	28	20	800	41	35	38	15	400	47	41	44	15
Phase 2: Event Center - Drainage/Utilities						***30***					***33***					***43***					***51***		
Excavator	1	81	40%	1700	30	26	29	20	1200	33	29	32	20	600	44	40	43	15	200	54	50	53	15
Rough Terrain Forklifts	1	75	10%	1800	24	14	17	20	1300	27	17	20	20	700	37	27	30	15	300	44	34	37	15
Tractor/Loader/Backhoe	1	80	25%	1900	28	22	25	20	1400	31	25	28	20	800	41	35	38	15	400	47	41	44	15
Trenchers	1	80	50%	1900	28	25	28	20	1400	31	28	31	20	800	41	38	41	15	400	47	44	47	15
Phase 2: Event Center - Foundation						***31***					***33***					***44***					***51***		
Bore/Drill Rig	1	79	20%	1700	28	21	24	20	1200	31	24	27	20	600	42	35	38	15	200	52	45	48	15
Cranes	1	81	40%	1800	30	26	29	20	1300	33	29	32	20	700	43	39	42	15	300	50	46	49	15
Pumps	1	81	50%	1900	29	26	29	20	1400	32	29	32	20	800	42	39	42	15	400	48	45	48	15
Rough Terrain Forklifts	1	75	10%	1900	23	13	16	20	1400	26	16	19	20	800	36	26	29	15	400	42	32	35	15
Tractor/Loader/Backhoe	1	80	25%	1900	28	22	25	20	1400	31	25	28	20	800	41	35	38	15	400	47	41	44	15
Phase 2: Event Center - Building Construction						***31***					***34***					***45***					***52***		
Cranes	1	81	40%	1700	30	26	29	20	1200	33	29	32	20	600	44	40	43	15	200	54	50	53	15
Forklifts	2	75	10%	1800	27	17	20	20	1300	30	20	23	20	700	40	30	33	15	300	47	37	40	15
Generator Sets	1	81	50%	1900	29	26	29	20	1400	32	29	32	20	800	42	39	42	15	400	48	45	48	15
Welders	2	74	40%	1900	25	21	24	20	1400	28	24	27	20	800	38	34	37	15	400	44	40	43	15
Tractors/Loaders/Backhoes	2	80	25%	1900	31	25	28	20	1400	34	28	31	20	800	44	38	41	15	400	50	44	47	15
Phase 2: Event Center - Architectural Coating						***28***					***31***					***41***					***49***		

Aerial Lifts	2	75	20%	1700	27	20	23	20	1200	30	23	26	20	600	41	34	37	15	200	51	44	47	15
Air Compressors	2	78	50%	1800	30	27	30	20	1300	33	30	33	20	700	43	40	43	15	300	50	47	50	15
Phase 3: Podium/Tower - Demolition						***33***					***36***					***49***					***41***		
Off-Highway Trucks	1	76	20%	1300	28	21	24	20	900	31	24	27	20	330	45	38	41	15	500	36	29	32	20
Rubber Tired Dozer	2	82	40%	1400	36	32	35	20	1000	39	35	38	20	430	51	47	50	15	600	43	39	42	20
Sweeper/Scrubbers	1	82	10%	1500	32	22	25	20	1100	35	25	28	20	530	46	36	39	15	700	39	29	32	20
Tractor/Loader/Backhoe	1	80	25%	1500	30	24	27	20	1100	33	27	30	20	530	44	38	41	15	700	37	31	34	20
Phase 3: Podium/Tower - Grading						***36***					***39***					***52***					***44***		
Graders	1	85	40%	1300	37	33	36	20	900	40	36	39	20	330	54	50	53	15	500	45	41	44	20
Excavator	1	81	40%	1300	33	29	32	20	900	36	32	35	20	330	50	46	49	15	500	41	37	40	20
Rubber Tired Dozer	1	82	40%	1400	33	29	32	20	1000	36	32	35	20	430	48	44	47	15	600	40	36	39	20
Tractor/Loader/Backhoe	2	80	25%	1500	33	27	30	20	1100	36	30	33	20	530	48	41	44	15	700	40	34	37	20
Phase 3: Podium/Tower - Drainage/Utilities						***33***					***36***					***48***					***40***		
Excavator	1	81	40%	1300	33	29	32	20	900	36	32	35	20	330	50	46	49	15	500	41	37	40	20
Rough Terrain Forklifts	2	75	10%	1400	29	19	22	20	1000	32	22	25	20	430	44	34	37	15	600	36	26	29	20
Tractor/Loader/Backhoe	2	80	25%	1500	33	27	30	20	1100	36	30	33	20	530	48	41	44	15	700	40	34	37	20
Trenchers	1	80	50%	1500	30	27	30	20	1100	33	30	33	20	530	44	41	44	15	700	37	34	37	20
Phase 3: Podium/Tower - Foundation						***35***					***37***					***49***					***42***		
Bore/Drill Rig	1	79	20%	1300	31	24	27	20	900	34	27	30	20	330	48	41	44	15	500	39	32	35	20
Cranes	1	81	40%	1400	32	28	31	20	1000	35	31	34	20	430	47	43	46	15	600	39	35	38	20
Pumps	2	81	50%	1500	34	31	34	20	1100	37	34	37	20	530	49	45	48	15	700	41	38	41	20
Rough Terrain Forklifts	1	75	10%	1500	25	15	18	20	1100	28	18	21	20	530	39	29	32	15	700	32	22	25	20
Tractor/Loader/Backhoe	2	80	25%	1500	33	27	30	20	1100	36	30	33	20	530	48	41	44	15	700	40	34	37	20
Phase 3: Podium/Tower - Building Construction/Architectural Coating						***38***					***41***					***53***					***45***		
Air Compressor	2	78	50%	1300	33	30	33	20	900	36	33	36	20	330	50	47	50	15	500	41	38	41	20
Cranes	2	81	40%	1400	35	31	34	20	1000	38	34	37	20	430	50	46	49	15	600	42	38	41	20
Forklifts	2	75	10%	1500	28	18	21	20	1100	31	21	24	20	530	43	33	36	15	700	35	25	28	20
Generator Sets	2	81	50%	1500	34	31	34	20	1100	37	34	37	20	530	49	45	48	15	700	41	38	41	20
Pumps	1	81	50%	1500	31	28	31	20	1100	34	31	34	20	530	45	42	45	15	700	38	35	38	20
Tractors/Loaders/Backhoes	2	80	25%	1500	33	27	30	20	1100	36	30	33	20	530	48	41	44	15	700	40	34	37	20
Welders	2	74	40%	1500	27	23	26	20	1100	30	26	29	20	530	42	38	41	15	700	34	30	33	20
Aerial Lifts	2	75	20%	1500	28	21	24	20	1100	31	24	27	20	530	43	36	39	15	700	35	28	31	20
Air Compressors	2	78	50%	1500	31	28	31	20	1100	34	31	34	20	530	46	42	45	15	700	38	35	38	20
Phase 3: Podium/Tower - Paving/Landscaping						***36***					***39***					***51***					***43***		
Pavers	1	77	50%	1300	29	26	29	20	900	32	29	32	20	330	46	43	46	15	500	37	34	37	20
Paving Equipment	1	90	20%	1400	41	34	37	20	1000	44	37	40	20	430	56	49	52	15	600	48	41	44	20
Rollers	1	80	20%	1500	30	23	26	20	1100	33	26	29	20	530	44	38	41	15	700	37	30	33	20
Forklifts	1	75	10%	1500	25	15	18	20	1100	28	18	21	20	530	39	29	32	15	700	32	22	25	20
Sweepers/Scrubbers	1	82	10%	1500	32	22	25	20	1100	35	25	28	20	530	46	36	39	15	700	39	29	32	20
Tractors/Loaders/Backhoes	1	80	25%	1500	30	24	27	20	1100	33	27	30	20	530	44	38	41	15	700	37	31	34	20
Maximum Noise Level (Overlapping Phases)						***64***					***58***					***60***					***58***		

Appendix D-3

Parking Related Noise Analysis

Parking Related Noise Analysis

Project Name: **San Manuel Casino Expansion and Hotel**
Project Number: **D150771.02**

AM or PM Peak Hour Trips	1076	trips
Leq	**57**	dBA

$$Leq(h) = SELref + 10\log(NA/1000) - 35.6$$

Where: Leq(h) = hourly Leq noise level at 50 feet
SELref (92 dBA SEL) = reference noise level for stationary noise source represented in sound exposure level (SEL) at 50 feet
NA = number of automobiles per hour

Appendix D-4

Vibration Calculations

Vibration Calculations

Project Name: San Manuel Casino Expansion and Hotel Project
Project Number: D150771.02

R1

0.089	0.076	0.035	0.003
25	25	25	25
100	100	100	100
0.25	0.25	0.25	0.25
0.125	0.125	0.125	0.125
0.0111	0.0095	0.004	0.0004

R3

0.089	0.076	0.035	0.003
25	25	25	25
230	230	230	230
0.108696	0.108696	0.108696	0.108696
0.036	0.036	0.036	0.036
0.0032	0.0027	0.001	0.0001

R4

0.089	0.076	0.035	0.003
25	25	25	25
230	230	230	230
0.108696	0.108696	0.108696	0.108696
0.036	0.036	0.036	0.036
0.0032	0.0027	0.001	0.0001

R5

0.089	0.076	0.035	0.003
25	25	25	25
200	200	200	200
0.125	0.125	0.125	0.125
0.044	0.044	0.044	0.044
0.0039	0.0034	0.002	0.0001

Appendix D-5

Traffic Noise Analysis

TRAFFIC NOISE ANALYSIS TOOL

Project Name: San Manuel Casino Expansion and Hotel
Project Number: D150771.02
Analysis Scenario: Existing
Source of Traffic Volumes: Iinscot, Law & Greenspan, Engineers, November 6, 2017

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Victoria Avenue, between Road A and Road B	Hard	35	35	35	35	85	2	0	55.2	55.5
Victoria Avenue, between Road B and Driveway C	Hard	35	35	35	35	330	7	0	61.1	61.4
Victoria Avenue, between Driveway C and Driveway D	Hard	35	35	35	35	596	12	0	63.7	64.0
Victoria Avenue, between Driveway D and Lynwood Drive	Hard	45	40	40	40	775	16	0	65.4	65.7
Victoria Avenue, between Lynwood Drive and Mirada Road	Hard	40	40	40	40	1027	21	11	67.7	68.0
Victoria Avenue, between Mirada Road and Date Street	Hard	40	40	40	40	1314	27	14	68.7	69.0
Victoria Avenue, between Date Street and Highland Avenue	Hard	45	40	40	40	1351	28	14	68.3	68.6
Victoria Avenue, between Highland Avenue and Pacific Street	Hard	40	40	40	40	857	18	9	66.9	67.2
Highland Avenue, between Sterling Avenue and SR-210 SB Off-Ram	Hard	55	40	40	40	1077	22	111	69.5	69.8
Highland Avenue, between SR-210 NB Off-Ramp and Victoria Aven	Hard	50	40	40	40	2117	43	216	72.8	73.1
Highland Avenue, between Victoria Avenue and Palm Avenue	Hard	50	40	40	40	1261	26	129	70.6	70.9

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.
Roadway grade is less than 1.5%.
CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.

TRAFFIC NOISE ANALYSIS TOOL

Project Name: San Manuel Casino Expansion and Hotel
Project Number: D150771.02
Analysis Scenario: Existing with Project
Source of Traffic Volumes: Iinscot, Law & Greenspan, Engineers, November 6, 2017

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Victoria Avenue, between Road A and Road B	Hard	35	35	35	35	131	3	0	57.1	57.4
Victoria Avenue, between Road B and Driveway C	Hard	35	35	35	35	530	11	0	63.2	63.5
Victoria Avenue, between Driveway C and Driveway D	Hard	35	35	35	35	1107	23	0	66.4	66.7
Victoria Avenue, between Driveway D and Lynwood Drive	Hard	45	40	40	40	1519	31	0	68.3	68.6
Victoria Avenue, between Lynwood Drive and Mirada Road	Hard	40	40	40	40	1830	38	19	70.2	70.5
Victoria Avenue, between Mirada Road and Date Street	Hard	40	40	40	40	2000	41	21	70.5	70.8
Victoria Avenue, between Date Street and Highland Avenue	Hard	45	40	40	40	2036	42	21	70.1	70.4
Victoria Avenue, between Highland Avenue and Pacific Street	Hard	40	40	40	40	891	18	9	67.0	67.3
Highland Avenue, between Sterling Avenue and SR-210 SB Off-Ram	Hard	55	40	40	40	1147	24	118	69.8	70.1
Highland Avenue, between SR-210 NB Off-Ramp and Victoria Aven	Hard	50	40	40	40	2704	55	276	73.9	74.2
Highland Avenue, between Victoria Avenue and Palm Avenue	Hard	50	40	40	40	1331	27	136	70.8	71.1

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.
Roadway grade is less than 1.5%.
CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.

TRAFFIC NOISE ANALYSIS TOOL

Project Name: San Manuel Casino Expansion and Hotel
Project Number: D150771.02
Analysis Scenario: Future without Project
Source of Traffic Volumes: Iinscot, Law & Greenspan, Engineers, November 6, 2017

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Victoria Avenue, between Road A and Road B	Hard	35	35	35	35	85	2	0	55.2	55.5
Victoria Avenue, between Road B and Driveway C	Hard	35	35	35	35	330	7	0	61.1	61.4
Victoria Avenue, between Driveway C and Driveway D	Hard	35	35	35	35	596	12	0	63.7	64.0
Victoria Avenue, between Driveway D and Lynwood Drive	Hard	45	40	40	40	912	19	0	66.1	66.4
Victoria Avenue, between Lynwood Drive and Mirada Road	Hard	40	40	40	40	1299	27	13	68.7	69.0
Victoria Avenue, between Mirada Road and Date Street	Hard	40	40	40	40	1516	31	16	69.3	69.6
Victoria Avenue, between Date Street and Highland Avenue	Hard	45	40	40	40	1560	32	16	69.0	69.3
Victoria Avenue, between Highland Avenue and Pacific Street	Hard	40	40	40	40	1005	21	10	67.6	67.9
Highland Avenue, between Sterling Avenue and SR-210 SB Off-Ram	Hard	55	40	40	40	1358	28	140	70.5	70.8
Highland Avenue, between SR-210 NB Off-Ramp and Victoria Aven	Hard	50	40	40	40	2493	51	254	73.5	73.8
Highland Avenue, between Victoria Avenue and Palm Avenue	Hard	50	40	40	40	1535	31	157	71.4	71.7

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.
Roadway grade is less than 1.5%.
CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.

TRAFFIC NOISE ANALYSIS TOOL

Project Name: San Manuel Casino Expansion and Hotel
Project Number: D150771.02
Analysis Scenario: Future with Project
Source of Traffic Volumes: Iinscot, Law & Greenspan, Engineers, November 6, 2017

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Victoria Avenue, between Road A and Road B	Hard	35	35	35	35	131	3	0	57.1	57.4
Victoria Avenue, between Road B and Driveway C	Hard	35	35	35	35	530	11	0	63.2	63.5
Victoria Avenue, between Driveway C and Driveway D	Hard	35	35	35	35	1107	23	0	66.4	66.7
Victoria Avenue, between Driveway D and Lynwood Drive	Hard	45	40	40	40	1619	33	0	68.6	68.9
Victoria Avenue, between Lynwood Drive and Mirada Road	Hard	40	40	40	40	1999	41	21	70.5	70.8
Victoria Avenue, between Mirada Road and Date Street	Hard	40	40	40	40	2201	45	23	71.0	71.3
Victoria Avenue, between Date Street and Highland Avenue	Hard	45	40	40	40	2245	46	23	70.5	70.8
Victoria Avenue, between Highland Avenue and Pacific Street	Hard	40	40	40	40	1040	21	11	67.7	68.0
Highland Avenue, between Sterling Avenue and SR-210 SB Off-Ram	Hard	55	40	40	40	1429	29	147	70.7	71.0
Highland Avenue, between SR-210 NB Off-Ramp and Victoria Aven	Hard	50	40	40	40	3071	63	313	74.4	74.7
Highland Avenue, between Victoria Avenue and Palm Avenue	Hard	50	40	40	40	1605	33	164	71.6	71.9

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.
Roadway grade is less than 1.5%.
CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.

Appendix E
Revised Traffic Impact Analysis

LINSCOTT LAW & GREENSPAN engineers

TRAFFIC IMPACT ANALYSIS REPORT
SAN MANUEL HOTEL AND CASINO EXPANSION

San Bernardino County, California

March 8, 2018

(Update of the January 4, 2018 Report)

Prepared for:

ESA
2600 Capitol Avenue, Suite 200
Sacramento, CA 95816

LLG Ref. 2-16-3777-1

Prepared by:
Angela Besa
Transportation Engineer I

&

Zawwar Saiyed, P.E.
Senior Transportation Engineer

Under the Supervision of:
Keil D. Maberry, P.E.
Principal

Linscott, Law & Greenspan, Engineers
2 Executive Circle
Suite 250
Irvine, CA 92614
949.825.6175 T
949.825.6173 F
www.llgengineers.com

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M. Year 2022 Traffic Conditions Freeway Merge And Diverge Segments Level of Service Calculation Worksheets

M-I Year 2022 Without Project Traffic Conditions
M-II Year 2022 With Project (Phase 2) Traffic Conditions
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EXECUTIVE SUMMARY

Project Description

- The San Manuel Hotel and Casino Expansion Project is located on the San Manuel Reservation in San Bernardino County, California, adjacent to the City of San Bernardino and approximately one mile north of the City of Highland. Construction and operational activities associated with the Project would occur on a portion of the previously disturbed 70± acre Project site in the southwestern portion of the Reservation. The Project site is currently developed with parking, roadways and landscaped areas that are associated with the existing casino. The Project site is generally located at the northerly terminus of Victoria Avenue.

- The proposed Project Phase 1 of the expansion consists of the construction of 55,000 SF of additional gaming area, a 500 room resort hotel, 35,000 SF of meeting and event space, and a 4,000 seat performance venue. In addition, a second parking structure with six levels, providing 2,200 spaces, will be constructed at the existing surface lot site located on the northwest quadrant of Victoria Avenue at Lynwood Drive, as well as an underground parking structure constructed underneath the proposed hotel. The proposed Phase 2 of the expansion would involve the conversion of the proposed 35,000 SF of meeting and event space and 10,000 SF of back of house office space in Phase 1 to 45,000 SF of additional gaming area for a total of 100,000 SF of gaming area. The Project Phases 1 and 2 are anticipated to be completed by Year 2020 and 2022, respectively.

- The Project Phase 1 is expected to generate 8,800 Weekday daily trips (one half arriving, one half departing), with 447 trips (264 inbound, 183 outbound) produced in the Weekday AM peak hour and 632 trips (321 inbound, 311 outbound) produced in the Weekday PM peak hour on a "typical" weekday. The Project Phase 1 is expected to generate 12,000 Saturday daily trips (one half arriving, one half departing), with 936 trips (499 inbound, 437 outbound) produced in the Saturday PM peak hour on a "typical" Saturday.

- The Project Phase 2 (which includes Project Phase 1) is expected to generate 12,300 Weekday daily trips (one half arriving, one half departing), with 628 trips (381 inbound, 247 outbound) produced in the Weekday AM peak hour and 815 trips (427 inbound, 388 outbound) produced in the Weekday PM peak hour on a "typical" weekday. The Project Phase 2 is expected to generate 15,400 Saturday daily trips (one half arriving, one half departing), with 1,076 trips (586 inbound, 490 outbound) produced in the Saturday PM peak hour on a "typical" Saturday.

Study Area

- Fifteen (15) key study intersections listed below are locations that could potentially be impacted by the Project. The key intersections selected for evaluation in this report provide local and regional access to the study area and are listed as follows:

    1. Victoria Avenue at Road "A" (San Bernardino)
    2. Victoria Avenue at Road "B" (San Bernardino)
    3. Victoria Avenue at Driveway "C" (San Bernardino)
    4. Victoria Avenue at Driveway "D" (San Bernardino)
    5. Victoria Avenue at Lynwood Drive (San Bernardino)
    6. Victoria Avenue at Mirada Road (San Bernardino)
    7. Victoria Avenue at Date Street (San Bernardino)
    8. Sterling Avenue at Highland Avenue (San Bernardino)
    9. SR-210 EB Off-Ramp at Highland Avenue (San Bernardino/Caltrans)
    10. Arden Avenue at Highland Avenue (San Bernardino)
    11. Arden Avenue at SR-210 EB On-Ramp (San Bernardino/Caltrans)
    12. SR-210 WB Off-Ramp at Highland Avenue (San Bernardino/Caltrans)
    13. Victoria Avenue at Highland Avenue (San Bernardino/Highland)
    14. Palm Avenue at Highland Avenue (San Bernardino)
    15. Victoria Avenue at Pacific Street (Highland)

- The study roadway segments listed below are locations that could potentially be impacted by the Project. The six (6) roadway segments listed below were selected based on the arterial network within the study area:

    1. Victoria Avenue, *between* Lynwood Drive and Mirada Road (San Bernardino)
    2. Victoria Avenue, *between* Date Street and Highland Avenue (San Bernardino)
    3. Victoria Avenue, *between* Highland Avenue and Pacific Street (San Bernardino)
    4. Highland Avenue, *between* Sterling Avenue and SR-210 EB Off-Ramp (San Bernardino)
    5. Highland Avenue, *between* SR-210 WB Off-Ramp and Victoria Avenue (San Bernardino)
    6. Highland Avenue, *between* Victoria Avenue and Central Avenue (San Bernardino)

Related Projects Description

- The six (6) related projects are expected to generate 39,964 Weekday daily trips (one half arriving, one half departing), with 2,280 trips (1,227 inbound and 1,053 outbound) forecast during the Weekday AM peak hour and 3,257 trips (1,664 inbound and 1,593 outbound)

forecast during the Weekday PM peak hour on a "typical" weekday. The related projects are expected to generate 39,528 Saturday daily trips (one half arriving, one half departing) with 3,770 trips (1,993 inbound and 1,777 outbound) forecast during the Saturday PM peak hour on a "typical" Saturday.

Traffic Impact Analysis

Existing Traffic Conditions

- For the Existing traffic conditions, all fifteen (15) key study intersections currently operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours when compared to the LOS standards defined in this report.

- For the Existing traffic conditions, three (3) of the six (6) key study roadway segments currently operate at unacceptable levels of service on a Weekday daily basis and Saturday daily basis when compared to the LOS standards defined in this report. The remaining three (3) key study roadway segments currently operate at acceptable levels of service LOS A or better on a Weekday daily basis and Saturday daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Victoria Ave, *between* Lynwood Dr and Mirada Rd	**28,849**	**0.962**	**E**	**35,638**	**1.188**	**F**
2. Victoria Ave, *between* Date St and Highland Ave	**27,922**	**0.931**	**E**	**32,728**	**1.091**	**F**
5. Highland Ave, *between* SR-210 WB Off-Ramp and Victoria Ave	**46,792**	**1.170**	**F**	**50,427**	**1.261**	**F**

Existing With Project (Phase 1) Traffic Conditions

- For the Existing With Project (Phase 1) traffic conditions, all fifteen (15) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours when compared to the LOS standards defined in this report.

- For the Existing With Project (Phase 1) traffic conditions, three (3) of the six (6) key study roadway segments are forecast to operate at unacceptable levels of service on a Weekday daily basis and Saturday daily basis when compared to the LOS standards defined in this report. The remaining three (3) key study roadway segments are forecast to operate at acceptable levels of service LOS B or better on a Weekday daily basis and Saturday daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Victoria Ave, *between* Lynwood Dr and Mirada Rd	**37,649**	**1.255**	**F**	**47,638**	**1.588**	**F**
2. Victoria Ave, *between* Date St and Highland Ave	**36,546**	**1.218**	**F**	**44,488**	**1.483**	**F**
5. Highland Ave, *between* SR-210 WB Off-Ramp and Victoria Ave	**54,096**	**1.352**	**F**	**60,387**	**1.510**	**F**

To determine if the Project (Phase 1) creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies. These study roadway segments are forecast to operate at LOS A during the Weekday AM, Weekday PM, and Saturday PM peak hours. As a result, the key study roadway segments are not significantly impacted by Existing With Project (Phase 1) traffic and therefore no improvements are required.

Existing With Project (Phase 2) Traffic Conditions

- For the Existing With Project (Phase 2) traffic conditions, one (1) of the fifteen (15) key study intersections is forecast to operate at an unacceptable level of service during the Weekday AM peak hour when compared to the LOS standards defined in this report. The remaining fourteen (14) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours. The intersection operating at an adverse level of service is:

	Weekday AM Peak Hour		Weekday PM Peak Hour		Saturday PM Peak Hour	
Key Intersection	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
10. Arden Avenue at Highland Avenue	57.0	E	--	--	--	--

One (1) of the fifteen (15) key study intersections will have a significant impact under the Existing With Project (Phase 2) traffic conditions when compared to the LOS criteria defined in this report. The implementation of recommended mitigation measures at the impacted intersection mitigates the impacts of the proposed Project (Phase 2). After implementation of the recommended mitigation measures, the impacted intersection is forecast to operate at an acceptable LOS based on the LOS standards outlined in this report.

- For the Existing With Project (Phase 2) traffic conditions, three (3) of the six (6) key study roadway segments are forecast to operate at unacceptable levels of service on a Weekday daily basis and Saturday daily basis when compared to the LOS standards defined in this report. The remaining three (3) key study roadway segments are forecast to operate at acceptable levels of service LOS B or better on a Weekday daily basis and Saturday daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Victoria Ave, *between* Lynwood Dr and Mirada Rd	**41,149**	**1.372**	**F**	**51,038**	**1.701**	**F**
2. Victoria Ave, *between* Date St and Highland Ave	**39,976**	**1.333**	**F**	**47,820**	**1.594**	**F**
5. Highland Ave, *between* SR-210 WB Off-Ramp and Victoria Ave	**57,001**	**1.425**	**F**	**63,209**	**1.580**	**F**

To determine if the Project (Phase 2) creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies. These study roadway segments are forecast to operate at LOS A during the Weekday AM, Weekday PM, and Saturday PM peak hours. As a result, the key study

roadway segments are not significantly impacted by Existing With Project (Phase 2) traffic and therefore no improvements are required.

Year 2020 With Project (Phase 1) Traffic Conditions

- For the Year 2020 With Project (Phase 1) traffic conditions, all fifteen (15) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours when compared to the LOS standards defined in this report.

- For the Year 2020 With Project (Phase 1) traffic conditions, three (3) of the six (6) key study roadway segments are forecast to operate at unacceptable levels of service on a Weekday daily basis and Saturday daily basis when compared to the LOS standards defined in this report. The remaining three (3) key study roadway segments are forecast to operate at acceptable levels of service LOS B or better on a daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Victoria Ave, *between* Lynwood Dr and Mirada Rd	**39,380**	**1.313**	**F**	**49,776**	**1.659**	**F**
2. Victoria Ave, *between* Date St and Highland Ave	**38,303**	**1.277**	**F**	**46,537**	**1.551**	**F**
5. Highland Ave, *between* SR-210 WB Off-Ramp and Victoria Ave	**57,568**	**1.439**	**F**	**64,050**	**1.601**	**F**

To determine if the Project (Phase 1) creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies. These study roadway segments are forecast to operate at LOS A or better during the Weekday AM, Weekday PM, and Saturday PM peak hours. As a result, the key study roadway segments are not significantly impacted by Year 2020 With Project (Phase 1) traffic and therefore no improvements are required.

Year 2022 With Project (Phase 2) Traffic Conditions

- For the Year 2022 With Project (Phase 2) traffic conditions, one (1) of the fifteen (15) key study intersections is forecast to operate at an unacceptable level of service during the Weekday AM and Saturday PM peak hours when compared to the LOS standards defined in this report. The remaining fourteen (14) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours. The intersection operating at an adverse level of service is:

	Weekday AM Peak Hour		Weekday PM Peak Hour		Saturday PM Peak Hour	
Key Intersection	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
10. Arden Avenue at Highland Avenue	61.3	E	--	--	62.2	E

One (1) of the fifteen (15) key study intersections will have a significant impact under the Year 2022 With Project (Phase 2) traffic conditions when compared to the LOS criteria

defined in this report. The implementation of recommended mitigation measures at the impacted intersection mitigates the impacts of the proposed Project (Phase 2). After implementation of the recommended mitigation measures, the impacted intersection is forecast to operate at an acceptable LOS based on the LOS standards outlined in this report.

- For the Year 2022 With Project (Phase 2) traffic conditions, three (3) of the six (6) key study roadway segments are forecast to operate at unacceptable levels of service on a Weekday daily basis and Saturday daily basis when compared to the LOS standards defined in this report. The remaining three (3) key study roadway segments are forecast to operate at acceptable levels of service LOS B or better on a Weekday daily basis and Saturday daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Victoria Ave, *between* Lynwood Dr and Mirada Rd	**44,034**	**1.468**	**F**	**54,602**	**1.820**	**F**
2. Victoria Ave, *between* Date St and Highland Ave	**42,850**	**1.428**	**F**	**51,178**	**1.706**	**F**
5. Highland Ave, *between* SR-210 WB Off-Ramp and Victoria Ave	**62,410**	**1.560**	**F**	**68,961**	**1.724**	**F**

To determine if the Project (Phase 2) creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies. These study roadway segments are forecast to operate at LOS A or better during the Weekday AM, Weekday PM, and Saturday PM peak hours. As a result, the key study roadway segments are not significantly impacted by Year 2022 With Project (Phase 2) traffic and therefore no improvements are required.

Year 2040 With Project (Phase 1) Traffic Conditions

- For the Year 2040 With Project (Phase 1) traffic conditions, one (1) of the fifteen (15) key study intersections are forecast to operate at unacceptable levels of service during the Weekday AM, Weekday PM, and Saturday PM peak hours when compared to the LOS standards defined in this report. The remaining fourteen (14) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours. The intersection operating at adverse levels of service is:

	Weekday AM Peak Hour		Weekday PM Peak Hour		Saturday PM Peak Hour	
Key Intersection	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
10. Arden Avenue at Highland Avenue	57.0	E	56.4	E	74.0	E

One (1) of the fifteen (15) key study intersections will have a significant impact under the Year 2040 With Project (Phase 1) traffic conditions when compared to the LOS criteria defined in this report. The implementation of recommended mitigation measure at the impacted intersection mitigates the impacts of the proposed Project (Phase 1). After

implementation of the recommended mitigation measures, the impacted intersection is forecast to operate at an acceptable LOS based on the LOS standards outlined in this report.

- For the Year 2040 With Project (Phase 1) traffic conditions, three (3) of the six (6) key study roadway segments are forecast to operate at unacceptable levels of service on a Weekday daily basis and Saturday daily basis when compared to the LOS standards defined in this report. The remaining three (3) key study roadway segments are forecast to operate at acceptable levels of service LOS C or better on a Weekday daily basis and Saturday daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Victoria Ave, *between* Lynwood Dr and Mirada Rd	**41,962**	**1.399**	**F**	**52,966**	**1.766**	**F**
2. Victoria Ave, *between* Date St and Highland Ave	**40,806**	**1.360**	**F**	**49,470**	**1.649**	**F**
5. Highland Ave, *between* SR-210 WB Off-Ramp and Victoria Ave	**62,018**	**1.550**	**F**	**68,846**	**1.721**	**F**

To determine if the Project (Phase 1) creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies. These study roadway segments are forecast to operate at LOS A or better during the Weekday AM, Weekday PM, and Saturday PM peak hours. As a result, the key study roadway segments are not significantly impacted by Year 2040 With Project (Phase 1) traffic and therefore no improvements are required.

Year 2040 With Project (Phase 2) Traffic Conditions

- For the Year 2040 With Project (Phase 2) traffic conditions, All fifteen (15) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours when compared to the LOS standards defined in this report. It should be noted that Year 2040 With Project (Phase 1) recommended mitigation measures are included.

- For the Year 2040 With Project (Phase 2) traffic conditions, three (3) of the six (6) key study roadway segments are forecast to operate at unacceptable levels of service on a Weekday daily basis and Saturday daily basis when compared to the LOS standards defined in this report. The remaining three (3) key study roadway segments are forecast to operate at acceptable levels of service LOS C or better on a Weekday daily basis and Saturday daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Victoria Ave, *between* Lynwood Dr and Mirada Rd	**45,462**	**1.515**	**F**	**56,366**	**1.879**	**F**
2. Victoria Ave, *between* Date St and Highland Ave	**44,236**	**1.475**	**F**	**52,802**	**1.760**	**F**
5. Highland Ave, *between* SR-210 WB Off-Ramp and Victoria Ave	**64,923**	**1.623**	**F**	**71,668**	**1.792**	**F**

To determine if the Project (Phase 2) creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies. These study roadway segments are forecast to operate at LOS B or better during the Weekday AM, Weekday PM, and Saturday PM peak hours. As a result, the key study roadway segments are not significantly impacted by Year 2040 With Project (Phase 2) traffic and therefore no improvements are required.

Project-Specific Improvements

Existing With Project (Phase 1), Existing With Project (Phase 2), Year 2020 With Project (Phase 1), Year 2022 Without Project (includes Phase 1), Year 2022 With Project (Phase 2), Year 2040 With Project (Phase 1), and Year 2040 With Project (Phase 2) Traffic Conditions

- The Project-specific improvements listed below are anticipated to be completed in conjunction with the Project development and have been assumed in the Existing With Project (Phase 1), Existing With Project (Phase 2), Year 2020 With Project (Phase 1), Year 2022 Without Project (includes Phase 1), Year 2022 With Project (Phase 2), Year 2040 With Project (Phase 1), and Year 2040 With Project (Phase 2) traffic conditions:
  - Intersection 3. Victoria Avenue at Driveway "C": Restripe exclusive northbound left-turn lane to a shared through-left-turn lane, exclusive northbound through lane to a shared through-right-turn lane, and northbound shared through-right-turn lane to exclusive right-turn lane. Remove southbound right-turn lane. Construct new entrance to proposed parking structure with an eastbound shared through-left-right-turn lane and exclusive right-turn lane. Remove crosswalks on north and east legs and stripe a crosswalk on south leg.
  - Intersection 4. Victoria Avenue at Driveway "D": Remove one northbound through lane.
- There are no Project-Specific improvements for the off-site roadway segments.

Recommended Improvements

Existing With Project (Phase 1) Traffic Conditions

- The results of the Existing With Project (Phase 1) traffic conditions level of service analyses indicate that the proposed Project (Phase 1) will not have a significant impact at any of the fifteen (15) key study intersections. All fifteen (15) key study intersections are forecast to operate at acceptable levels of service LOS D or better under the Existing With Project (Phase 1) traffic conditions. Hence, no mitigation measures have been recommended.

Existing With Project (Phase 2) Traffic Conditions

- The results of the Existing With Project (Phase 2) traffic conditions level of service analyses indicate that the proposed Project (Phase 2) will significantly impact one (1) of the fifteen

(15) key study intersections. The remaining fourteen (14) key study intersections are forecast to operate at acceptable levels of service LOS D or better under the Existing With Project (Phase 2) traffic conditions. The improvements listed below have been identified to address the traffic impacts at the intersection significantly impacted by the Existing With Project (Phase 2) traffic:

- Intersection 10. Arden Avenue at Highland Avenue: Restripe the northbound through lane to a 2nd northbound left-turn lane and restripe the northbound right-turn lane to a northbound shared through-right-turn lane on Arden Avenue. Modify the existing traffic signal and include the northbound and southbound left-turn movements as lead-lag to avoid conflict.

Year 2020 With Project (Phase 1) Traffic Conditions

- The results of the Year 2020 With Project (Phase 1) traffic conditions level of service analyses indicate that the proposed Project (Phase 1) will not have a significant impact at any of the fifteen (15) key study intersections. All fifteen (15) key study intersections are forecast to operate at acceptable levels of service LOS D or better under the Year 2020 With Project (Phase 1) traffic conditions. Hence, no mitigation measures have been recommended.

Year 2022 With Project (Phase 2) Traffic Conditions

- The results of the Year 2022 With Project (Phase 2) traffic conditions level of service analyses indicate that the proposed Project (Phase 1) will significantly impact one (1) of the of fifteen (15) key study intersections. The remaining fourteen (14) key study intersections are forecast to operate at acceptable levels of service LOS D or better under the Year 2022 With Project (Phase 2) traffic conditions. The improvements listed below have been identified to address the traffic impacts at the intersection significantly impacted by the Year 2022 With Project (Phase 2) traffic:

  - Intersection 10. Arden Avenue at Highland Avenue: Restripe the northbound through lane to a 2nd northbound left-turn lane and restripe the northbound right-turn lane to a northbound shared through-right-turn lane on Arden Avenue. Modify the existing traffic signal and include the northbound and southbound left-turn movements as lead-lag to avoid conflict.

Year 2040 With Project (Phase 1) Traffic Conditions

- The results of the Year 2040 With Project (Phase 1) traffic conditions level of service analyses indicate that the proposed Project (Phase 1) will significantly impact one (1) of the of fifteen (15) key study intersections. The remaining fourteen (14) key study intersections are forecast to operate at acceptable levels of service LOS D or better under the Year 2040 With Project (Phase 1) traffic conditions. The improvements listed below have been identified to address the traffic impacts at the intersection significantly impacted by the Year 2040 With Project (Phase 1) traffic:

- Intersection 10. Arden Avenue at Highland Avenue: Restripe the northbound through lane to a 2nd northbound left-turn lane and restripe the northbound right-turn lane to a northbound shared through-right-turn lane on Arden Avenue. Modify the existing traffic signal and include the northbound and southbound left-turn movements as lead-lag to avoid conflict.

Year 2040 With Project (Phase 2) Traffic Conditions

- The results of the Year 2040 With Project (Phase 2) traffic conditions level of service analyses indicate that the proposed Project (Phase 2) will not have a significant impact at any of the fifteen (15) key study intersections. All the fifteen (15) key study intersections are forecast to operate at acceptable levels of service LOS D or better under the Year 2040 With Project (Phase 2) traffic conditions. It should be noted that the recommended improvements from the Year 2040 With Project (Phase 1) With Mitigation traffic conditions have been included in the traffic conditions for Year 2040 With Project (Phase 2). Hence, no mitigation measures have been recommended.

Project Fair Share Analysis and Costs

Existing With Project (Phase 1) Traffic Conditions

- The results of the intersection analyses indicate that the proposed Project (Phase 1) is not forecast to have a significant impact at any of the fifteen (15) key study intersections for the Existing With Project (Phase 1) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

- The results of the roadway segment analyses indicate that the proposed Project (Phase 1) is not forecast to have a significant impact at any of the six (6) key roadway segments for the Existing With Project (Phase 1) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

Existing With Project (Phase 2) Traffic Conditions

- The Project (Phase 2) fair share percentage (worse time period impacted) for the one (1) impacted intersection for the Existing With Project (Phase 2) traffic conditions is shown below:

  - 10. Arden Avenue at Highland Avenue 100.00%

  Project's fair share contribution to offset all Existing With Project (Phase 2) intersection project impacts is **$100,000.00**

- The results of the roadway segment analyses indicate that the proposed Project (Phase 2) is not forecast to have a significant impact at any of the six (6) key roadway segments for the Existing With Project (Phase 2) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

Year 2020 With Project (Phase 1) Traffic Conditions

- The results of the intersection analyses indicate that the proposed Project (Phase 1) is not forecast to have a significant impact at any of the fifteen (15) key study intersections for the Year 2020 With Project (Phase 1) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

- The results of the roadway segment analyses indicate that the proposed Project (Phase 1) is not forecast to have a significant impact at any of the six (6) key roadway segments for the Year 2020 With Project (Phase 1) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

Year 2022 With Project (Phase 2) Traffic Conditions

- The Project (Phase 2) fair share percentage (worse time period impacted) for the one (1) impacted intersection for the Year 2022 With Project (Phase 2) traffic conditions is shown below:
    - 10. Arden Avenue at Highland Avenue 12.03%

- The results of the roadway segment analyses indicate that the proposed Project (Phase 2) is not forecast to have a significant impact at any of the six (6) key roadway segments for the Year 2022 With Project (Phase 2) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

Year 2040 With Project (Phase 1) Traffic Conditions

- The Project (Phase 1) fair share percentage (worse time period impacted) for the one (1) impacted intersection for the Year 2040 With Project (Phase 1) traffic conditions is shown below:
    - 10. Arden Avenue at Highland Avenue 41.86%

- The results of the roadway segment analyses indicate that the proposed Project (Phase 1) is not forecast to have a significant impact at any of the six (6) key roadway segments for the Year 2040 With Project (Phase 1) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

Year 2040 With Project (Phase 2) Traffic Conditions

- The results of the intersection analyses indicate that the proposed Project (Phase 2) is not forecast to have a significant impact at any of the fifteen (15) key study intersections for the Year 2040 With Project (Phase 2) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed. It should be noted that the recommended improvements from the Year 2040 With Project (Phase 1) With Mitigation traffic conditions have been included in the traffic conditions for Year 2040 With Project (Phase 2).

- The results of the roadway segment analyses indicate that the proposed Project (Phase 1) is not forecast to have a significant impact at any of the six (6) key roadway segments for the Year 2040 With Project (Phase 2) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

Site Access and Internal Circulation Evaluation

- The four (4) internal (on-site) key study intersections are forecast to operate at acceptable levels of service LOS C or better during the Weekday AM, Weekday PM, and Saturday PM peak hours under the Existing With Project (Phase 1) traffic conditions.

- The four (4) internal (on-site) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours under the Existing With Project (Phase 2) traffic conditions.

- The four (4) internal (on-site) key study intersections are forecast to operate at acceptable levels of service LOS C or better during the Weekday Am, Weekday PM, and Saturday PM peak hours under the Year 2020 With Project (Phase 1) traffic conditions.

- The four (4) internal (on-site) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours under the Year 2022 With Project (Phase 2) traffic conditions.

- The four (4) internal (on-site) key study intersections are forecast to operate at acceptable levels of service LOS C or better during the Weekday AM, Weekday PM, and Saturday PM peak hours under the Year 2040 With Project (Phase 1) traffic conditions.

- The on-site and off-site circulation was evaluated in terms of vehicle-pedestrian conflicts. Based on our review of the preliminary site plan, the overall layout does not create significant vehicle-pedestrian conflict points and the driveway throat lengths are sufficient such that access to the parking structures, hotel, and casino areas are not impacted by internal vehicle queuing/stacking. Project traffic is not anticipated to cause significant queuing/stacking at the internal (on-site) intersections. The on-site circulation is acceptable based on our review of the proposed site plan. The alignment, spacing and throat length of the internal (on-site) intersections are also deemed adequate. Turning movements into and out of the Project site at the intersection of Victoria Avenue at Lynwood Drive are anticipated to operate at an acceptable service level. As such, motorists entering and exiting the Project site from this intersection will be able to do so comfortably, safely, and without undue congestion.

Caltrans Facilities Analysis

Existing Traffic Conditions

- All four (4) basic freeway segments currently operate at acceptable LOS D or better during the AM and PM peak hours under the Existing traffic conditions.

- All four (4) freeway merge and diverge segments currently operate at acceptable levels of service LOS D or better under the Existing traffic conditions based on the LOS standards defined in this report.

Existing With Project (Phase 1) Traffic Conditions

- All four (4) basic freeway segments are forecast to operate at acceptable levels of service LOS D or better under the Existing With Project (Phase 1) traffic conditions based on the LOS standards defined in this report. None of the four (4) basic freeway segments will have a significant impact under the Existing With Project (Phase 1) traffic conditions when compared to the LOS criteria defined in this report.

- All four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS D or better under the Existing With Project (Phase 1) traffic conditions based on the LOS standards defined in this report. None of the four (4) freeway merge and diverge segments will have a significant impact under the Existing With Project (Phase 1) traffic conditions when compared to the LOS criteria defined in this report.

Existing With Project (Phase 2) Traffic Conditions

- All four (4) basic freeway segments are forecast to operate at acceptable levels of service LOS D or better under the Existing With Project (Phase 2) traffic conditions based on the LOS standards defined in this report. None of the four (4) basic freeway segments will have a significant impact under the Existing With Project (Phase 2) traffic conditions when compared to the LOS criteria defined in this report.

- All four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS D or better under the Existing With Project (Phase 2) traffic conditions based on the LOS standards defined in this report. None of the four (4) freeway merge and diverge segments will have a significant impact under the Existing With Project (Phase 2) traffic conditions when compared to the LOS criteria defined in this report.

Year 2020 With Project (Phase 1) Traffic Conditions

- All four (4) basic freeway segments are forecast to operate at acceptable levels of service LOS C or better under the Year 2020 With Project (Phase 1) traffic conditions based on the LOS standards defined in this report. None of the four (4) basic freeway segments will have a significant impact under the Year 2020 With Project (Phase 1) traffic conditions when compared to the LOS criteria defined in this report.

- All four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS C or better under the Year 2020 With Project (Phase 1) traffic conditions based on the LOS standards defined in this report. None of the four (4) freeway merge and diverge segments will have a significant impact under the Year 2020 With Project (Phase 1) traffic conditions when compared to the LOS criteria defined in this report.

Year 2022 With Project (Phase 2) Traffic Conditions

- All four (4) basic freeway segments are forecast to operate at acceptable levels of service LOS C or better under the Year 2022 With Project (Phase 2) traffic conditions based on the LOS standards defined in this report. None of the four (4) basic freeway segments will have a significant impact under the Year 2022 With Project (Phase 2) traffic conditions when compared to the LOS criteria defined in this report.

- All four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS C or better under the Year 2022 With Project (Phase 2) traffic conditions based on the LOS standards defined in this report. None of the four (4) freeway merge and diverge segments will have a significant impact under the Year 2022 With Project (Phase 2) traffic conditions when compared to the LOS criteria defined in this report.

Year 2040 With Project (Phase 1) Traffic Conditions

- All four (4) basic freeway segments are forecast to operate at acceptable levels of service LOS D or better under the Year 2040 With Project (Phase 1) traffic conditions based on the LOS standards defined in this report. None of the four (4) basic freeway segments will have a significant impact under the Year 2040 With Project (Phase 1) traffic conditions when compared to the LOS criteria defined in this report.

- All four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS D or better under the Year 2040 With Project (Phase 1) traffic conditions based on the LOS standards defined in this report. None of the four (4) freeway merge and diverge segments will have a significant impact under the Year 2040 With Project (Phase 1) traffic conditions when compared to the LOS criteria defined in this report.

Year 2040 With Project (Phase 2) Traffic Conditions

- All four (4) basic freeway segments are forecast to operate at acceptable levels of service LOS D or better under the Year 2040 With Project (Phase 2) traffic conditions based on the LOS standards defined in this report. None of the four (4) basic freeway segments will have a significant impact under the Year 2040 With Project (Phase 2) traffic conditions when compared to the LOS criteria defined in this report.

- All four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS D or better under the Year 2040 With Project (Phase 2) traffic conditions based on the LOS standards defined in this report. None of the four (4) freeway merge and

diverge segments will have a significant impact under the Year 2040 With Project (Phase 2) traffic conditions when compared to the LOS criteria defined in this report.

SR-210 Mixed Flow Lane Project Planned Improvements (Caltrans Facilities)

Year 2020 Without Project, Year 2020 With Project (Phase 1), Year 2022 Without Project, Year 2022 With Project (Phase 2), Year 2040 Without Project (Phase 2), Year 2040 With Project (Phase 1), and Year 2040 With Project (Phase 2) Traffic Conditions

- The planned improvements for basic freeway segments listed below are anticipated to be completed in conjunction with the SR-210 Mixed Flow Lane Project and have been assumed in the Year 2020 Without Project, Year 2020 With Project (Phase 1), Year 2022 Without Project, Year 2022 With Project (Phase 2), Year 2040 Without Project (Phase 2), Year 2040 With Project (Phase 1), and Year 2040 With Project (Phase 2) traffic conditions:
  - 1. SR-210 Eastbound *west* of Highland Avenue: Add one (1) mixed flow lane.
  - 2. SR-210 Eastbound *east* of Highland Avenue: Add one (1) mixed flow lane.
  - 3. SR-210 Westbound *east* of Highland Avenue: Add one (1) mixed flow lane.
  - 4. SR-210 Westbound *west* of Highland Avenue: Add one (1) mixed flow lane.

- The planned improvements for freeway merge and diverge segments listed below are anticipated to be completed in conjunction with the SR-210 Mixed Flow Lane Project and have been assumed in the Year 2020 Without Project, Year 2020 With Project (Phase 1), Year 2022 Without Project, Year 2022 With Project (Phase 2), Year 2040 Without Project (Phase 2), Year 2040 With Project (Phase 1), and Year 2040 With Project (Phase 2) traffic conditions:
  - 1. SR-210 Eastbound Off-Ramp *to* Highland Avenue: Add one (1) mixed flow lane and one deceleration lane for a two-lane off-ramp at Highland Avenue.
  - 2. SR-210 Eastbound On-Ramp *from* Arden Avenue: Add one (1) mixed flow lane.
  - 3. SR-210 Westbound Off-Ramp *to* Highland Avenue: Add one (1) mixed flow lane.
  - 4. SR-210 Westbound On-Ramp *from* Highland Avenue: Add one (1) mixed flow lane.

Recommended Improvements (Caltrans Facilities)

Basic Freeway Segments

- The results of the analysis scenarios listed below indicate that the proposed Project will not have a significant impact at any of the four (4) basic freeway segments. All the four (4) basic freeway segments are forecast to operate at acceptable levels of service. Hence, no mitigation measures have been recommended. It should be noted that the planned improvements from the SR-210 Mixed Flow Lane Project have been included in the background traffic

conditions for Year 2020, Year 2022 and Year 2040 traffic conditions. The analysis scenarios are:

- Existing With Project (Phase 1) Traffic Conditions
- Existing With Project (Phase 2) Traffic Conditions
- Year 2020 With Project (Phase 1) Traffic Conditions
- Year 2022 With Project (Phase 2) Traffic Conditions
- Year 2040 With Project (Phase 1) Traffic Conditions
- Year 2040 With Project (Phase 2) Traffic Conditions

Freeway Merge And Diverge Segments

- The results of the analysis scenarios listed below indicate that the proposed Project will not have a significant impact at any of the four (4) freeway merge and diverge segments. All the four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service. Hence, no mitigation measures have been recommended. It should be noted that the planned improvements from the SR-210 Mixed Flow Lane Project have been included in the background traffic conditions for Year 2020, Year 2022 and Year 2040 traffic conditions. The analysis scenarios are:

  - Existing With Project (Phase 1) Traffic Conditions
  - Existing With Project (Phase 2) Traffic Conditions
  - Year 2020 With Project (Phase 1) Traffic Conditions
  - Year 2022 With Project (Phase 2) Traffic Conditions
  - Year 2040 With Project (Phase 1) Traffic Conditions
  - Year 2040 With Project (Phase 2) Traffic Conditions

TRAFFIC IMPACT ANALYSIS REPORT

SAN MANUEL HOTEL AND CASINO EXPANSION

San Bernardino County, California

March 8, 2018

(Update of the January 4, 2018 Report)

1.0 INTRODUCTION

This traffic impact analysis evaluates the potential traffic impacts of the proposed San Manuel Hotel and Casino Expansion Project (hereinafter referred to as Project), on the area traffic circulation. The proposed Project is located on the San Manuel Reservation in San Bernardino County, California, adjacent to the City of San Bernardino and approximately one mile north of the City of Highland. Construction and operational activities associated with the Project would occur on a portion of the previously disturbed 70± acre Project site in the southwestern portion of the Reservation. The Project site is currently developed with parking, roadways and landscaped areas that are associated with the existing casino. The Project site is generally located at the northerly terminus of Victoria Avenue. The proposed Project Phase 1 of the expansion consists of the construction of 55,000 SF additional gaming area, a 500 room resort hotel, 35,000 SF of meeting and event space, and a 4,000 seat performance venue. In addition, a second parking structure with six levels, providing 2,200 spaces will be constructed at the existing surface lot site located on the northwest quadrant of Victoria Avenue at Lynwood Drive, as well as an underground parking structure constructed underneath the proposed hotel. The proposed Phase 2 of the expansion would involve the conversion of the proposed 35,000 SF of meeting and event space and 10,000 SF of back of house office space in Phase 1 to 45,000 SF of additional gaming area for a total of 100,000 SF of gaming area. The Project Phases 1 and 2 are anticipated to be completed by Year 2020 and 2022, respectively.

This report documents the findings and recommendations of a traffic impact analysis conducted by Linscott, Law & Greenspan, Engineers (LLG) to determine the potential traffic impacts that the Project may have on the local and/or regional transportation network in the vicinity of the Project site. The traffic impact analysis evaluates the operating conditions at fifteen (15) existing key study intersections and six (6) existing key roadway segments within the Project vicinity, estimates the trip generation potential of the Project and forecasts future (near-term and long-term) operating conditions without and with the Project. In addition, this report also includes a Caltrans Facilities Analysis which includes freeway mainline segments and merge/diverge segments.

The Project site has been visited and an inventory of adjacent area roadways and intersections was performed. Existing (i.e. baseline) peak hours and daily traffic information has been collected at fifteen (15) key study intersections and six (6) key roadway segments, respectively, on a "typical" weekday and "typical" Saturday for use in the preparation of intersection and roadway segment level of service calculations. This traffic report analyzes existing (i.e. baseline) and future (near-term and long-term) Weekday Daily, Saturday Daily, Weekday AM, Weekday PM, and Saturday PM peak hour traffic conditions for Existing (i.e. baseline), Year 2020, Year 2022, and Year 2040 traffic

conditions without and with the proposed Project. Peak hour and daily traffic forecasts for the Year 2020 and Year 2022 traffic conditions have been projected by increasing existing traffic volumes by an annual growth rate of two percent (2%) per year and adding the traffic from six (6) related projects. In addition, peak hour and daily forecasts for the Buildout (Year 2040) traffic conditions have been projected based on the San Bernardino Traffic Analysis Model (SBTAM), administered by LSA Associates, Inc. (LSA).

1.1 Study Area

1.1.1 *Intersections*

Fifteen (15) key study intersections listed below are locations that could potentially be impacted by the Project. The key intersections selected for evaluation in this report provide local and regional access to the study area and are listed as follows (as well as their respective jurisdictions):

1. Victoria Avenue at Road "A" (San Bernardino)
2. Victoria Avenue at Road "B" (San Bernardino)
3. Victoria Avenue at Driveway "C" (San Bernardino)
4. Victoria Avenue at Driveway "D" (San Bernardino)
5. Victoria Avenue at Lynwood Drive (San Bernardino)
6. Victoria Avenue at Mirada Road (San Bernardino)
7. Victoria Avenue at Date Street (San Bernardino)
8. Sterling Avenue at Highland Avenue (San Bernardino)
9. SR-210 EB Off-Ramp at Highland Avenue (San Bernardino/Caltrans)
10. Arden Avenue at Highland Avenue (San Bernardino)
11. Arden Avenue at SR-210 EB On-Ramp (San Bernardino/Caltrans)
12. SR-210 WB Off-Ramp at Highland Avenue (San Bernardino/Caltrans)
13. Victoria Avenue at Highland Avenue (San Bernardino/Highland)
14. Palm Avenue at Highland Avenue (San Bernardino)
15. Victoria Avenue at Pacific Street (Highland)

1.1.2 *Roadway Segments*

The study roadway segments listed below are locations that could potentially be impacted by the Project. The six (6) roadway segments listed below were selected based on the arterial network within the study area:

1. Victoria Avenue, *between* Lynwood Drive and Mirada Road (San Bernardino)
2. Victoria Avenue, *between* Date Street and Highland Avenue (San Bernardino)
3. Victoria Avenue, *between* Highland Avenue and Pacific Street (San Bernardino)
4. Highland Avenue, *between* Sterling Avenue and SR-210 EB Off-Ramp (San Bernardino)
5. Highland Avenue, *between* SR-210 WB Off-Ramp and Victoria Avenue (San Bernardino)
6. Highland Avenue, *between* Victoria Avenue and Central Avenue (San Bernardino)

1.2 Traffic Impact Analysis Components

The Highway Capacity Manual (HCM) Delay, Volume to Capacity (V/C) ratio and corresponding Level of Service (LOS) calculations at the key study locations were used to evaluate the potential traffic-related impacts associated with area growth, related projects and the Project. When necessary, this report recommends intersection and/or roadway segment improvements that may be required to accommodate future traffic volumes and restore/maintain an acceptable Level of Service and/or addresses the impact of the Project.

Included in this Traffic Impact Analysis are:

- Existing Traffic Counts,
- Estimated Project traffic generation/distribution/assignment,
- Estimated Related Projects traffic generation/distribution/assignment,
- Weekday Daily, Saturday Daily, Weekday AM, Weekday PM, and Saturday PM peak hour LOS analyses for Existing (i.e. Baseline) Conditions,
- Weekday Daily, Saturday Daily, Weekday AM, Weekday PM, and Saturday PM peak hour for Existing (i.e. Baseline) Conditions with Project traffic,
- Weekday Daily, Saturday Daily, Weekday AM, Weekday PM, and Saturday PM peak hour LOS analyses for Near-Term (Year 2020) Conditions without and with Project traffic,
- Weekday Daily, Saturday Daily, Weekday AM, Weekday PM, and Saturday PM peak hour LOS analyses for Near-Term (Year 2022) Conditions without and with Project traffic,
- Weekday Daily, Saturday Daily, Weekday AM, Weekday PM, and Saturday PM peak hour LOS analyses for Long-Term (Year 2040) Conditions without and with Project traffic,
- Planned and Recommended Improvements,
- Project Fair Share Analysis,
- Site Access and Internal Circulation Evaluation, and
- Caltrans Facilities Analysis.

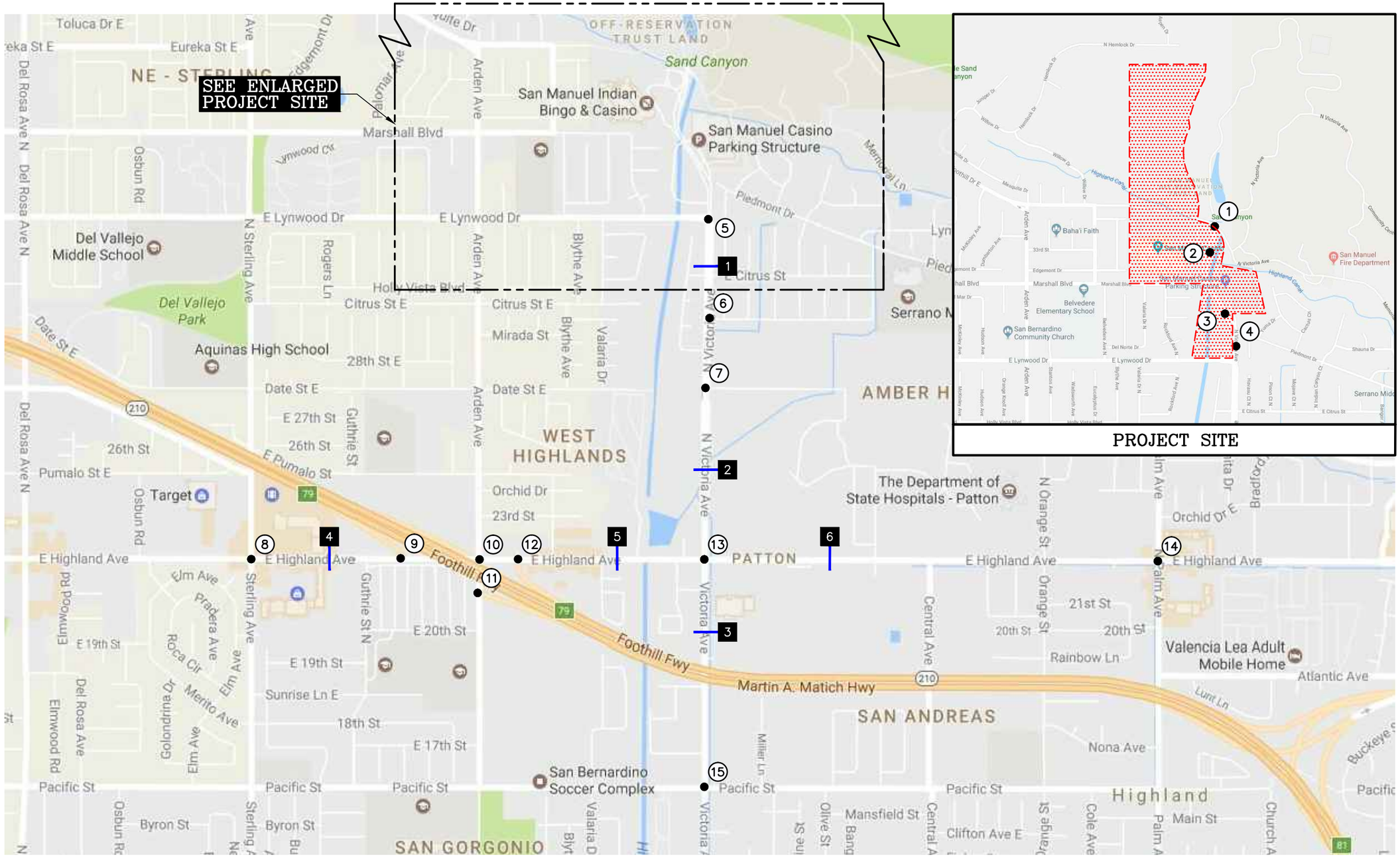
Figure 1-1 presents a Vicinity Map, which illustrates the general location of the Project and depicts the study locations and surrounding street system.

1.3 Traffic Impact Analysis Scenarios

The following scenarios are those for which Delay/V/C and corresponding LOS calculations have been performed at the key intersections and key roadway segments for existing, near-term, and long-term traffic conditions:

1. Existing (i.e. Baseline) Traffic Conditions,
2. Existing (i.e. Baseline) With Project (Phase 1) Traffic Conditions,

3. Scenario (2) with Recommended Improvements, if any,
4. Existing (i.e. Baseline) With Project (Phase 2) Traffic Conditions,
5. Scenario (4) with Recommended Improvements, if any,
6. Year 2020 Without Project Traffic Conditions,
7. Year 2020 With Project (Phase 1) Traffic Conditions,
8. Scenario (7) With Recommended Improvements, if any,
9. Year 2022 Without Project Traffic Conditions,
10. Year 2022 With Project (Phase 2) Traffic Conditions,
11. Scenario (10) With Recommended Improvements, if any,
12. Year 2040 Without Project Traffic Conditions,
13. Year 2040 With Project (Phase 1) Traffic Conditions, and
14. Scenario (13) With Recommended Improvements, if any.
15. Year 2040 With Project (Phase 2) Traffic Conditions, and
16. Scenario (15) With Recommended Improvements, if any.



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

KEY

(#) = STUDY INTERSECTION

[#] = STUDY ROADWAY SEGMENT

FIGURE 1-1

VICINITY MAP

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

2.0 PROJECT DESCRIPTION AND LOCATION

The proposed San Manuel Hotel and Casino Expansion is located on the San Manuel Reservation in San Bernardino County, California, adjacent to the City of San Bernardino and approximately one mile north of the City of Highland. Construction and operational activities associated with the Project would occur on a portion of the previously disturbed 70± acre Project site in the southwestern portion of the Reservation. The Project site is currently developed with parking, roadways and landscaped areas that are associated with the existing casino. The Project site is generally located at the northerly terminus of Victoria Avenue.

The proposed Project Phase 1 of the expansion consists of the construction of 55,000 SF additional gaming area, a 500 room resort hotel, 35,000 SF of meeting and event space, and a 4,000 seat performance venue. In addition, a second parking structure with six levels, providing 2,200 spaces will be constructed at the existing surface lot site located on the northwest quadrant of Victoria Avenue at Lynwood Drive, as well as an underground parking structure constructed underneath the proposed hotel. Phase 1 is expected to be completed in 2020.

The proposed Project Phase 2 of the expansion would involve the conversion of the proposed 35,000 SF of meeting and event space and 10,000 SF of back of house office space in Phase 1 to 45,000 SF of additional gaming area for a total of 100,000 SF of gaming area. Phase 2 is expected to be completed in 2022.

Figure 2-1 presents the existing site for the proposed Project. ***Figure 2-2*** presents the proposed site plans prepared by WATG.

2.1 Site Access

Located at 777 San Manuel Boulevard, the San Manuel Casino is accessed from the intersection of Victoria Street at Lynwood Drive. Regionally, the San Manuel Casino can be accessed from the Highland Avenue exit off of the SR-210 Freeway.

2.2 Project-Specific Improvements

With the construction of the second parking structure and other on-site improvements, the internal (on-site) intersections of Victoria Avenue at Driveway "C" and Victoria Avenue at Driveway "D" will have improvements which are further discussed in ***Section 11.0*** of this report.

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SOURCE: ESRI IMAGERY

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

FIGURE 2-1

EXISTING SITE AERIAL

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

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SOURCE: WATG

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

FIGURE 2-2

PROPOSED PROJECT SITE PLAN

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

3.0 ANALYSIS CONDITIONS AND METHODOLOGY

3.1 Existing Street Network

The Foothill Freeway (SR-210) provides regional access to the Project site. The SR-210 is located south of the Project site. The principal local network of streets serving the site consists of Highland Avenue and Victoria Avenue. The following discussion provides a brief synopsis of the key area streets.

Highland Avenue is a four-lane, divided roadway, oriented in the east-west direction. The posted speed limit on Highland Avenue is 40 miles per hour (mph). On-street parking is generally permitted along the northern side of Highland Avenue west of the SR-210 EB Off-Ramp and is not permitted on either side of the roadway east of the SR-210 EB Off-Ramp.

Victoria Avenue is a four-lane, divided roadway oriented in the north-south direction. The posted speed limit on Victoria Avenue is 45 mph north of Highland Avenue and 40 mph south of Highland Avenue. On-street parking is not permitted along either side of the roadway.

Figure 3-1 presents an inventory of the existing roadway conditions within the study area evaluated in this report. The number of travel lanes and intersection controls for the key area study intersections and roadway segments are identified. ***Figure 3-2*** shows the current City of San Bernardino General Plan Circulation Element.

3.2 Existing Traffic Volumes

Existing Weekday AM, Weekday PM and Saturday PM peak hour traffic volumes for the fifteen (15) key study intersections and Weekday daily and Saturday daily two-way traffic volumes for the key six (6) roadway segments evaluated in this report, were collected by *Counts Unlimited* in December 2016. The existing traffic volumes are comprised of passenger vehicles, large 2-axle trucks, 3-axle trucks and 4+-axle trucks. The truck traffic volumes were converted to passenger car equivalents (P.C.E.'s) using SANBAG approved factors. P.C.E. factors of 1.5, 2.0 and 3.0 were utilized for large 2-axle trucks, 3-axle trucks and 4+-axle trucks, respectively. ***Appendix A*** contains the existing intersection turning movement and roadway segment traffic count data.

Figures 3-3, 3-4 and ***3-5*** present the existing Weekday AM, Weekday PM, and Saturday PM peak hour traffic volumes, respectively, for the fifteen (15) key study intersections. *Figures 3-4* and *3-5* also present the existing Weekday daily and Saturday daily traffic volumes, respectively, for the six (6) key study roadway segments. Additionally, existing freeway volumes were obtaied from the Caltrans' website.

3.3 Level Of Service (LOS) Analysis Methodologies

Existing Weekday AM, Weekday PM, and Saturday PM peak hour operating conditions for the fifteen (15) key study intersections were evaluated using the methodology outlined in *Chapter 19 of the Highway Capacity Manual 6 (HCM 6)* for signalized intersections, the methodology outlined in *Chapter 20 of the HCM 6* for two-way stop-controlled intersections, and the methodology outlined

in *Chapter 21 of the HCM 6* for all-way stop-controlled intersections. Freeway mainline segments and ramp merge/diverge segments were analyzed using *HCM 6 Chapters 12 and 14, respectively*. Daily operating conditions for the six (6) key study roadway segments were analyzed using the *Volume to Capacity (V/C) Ratio Methodology*.

3.3.1 *Highway Capacity Manual (HCM) Method of Analysis (Signalized Intersections)*

Based on the HCM operations method of analysis, level of service for signalized intersections and approaches is defined in terms of control delay, which is a measure of the increase in travel time due to traffic signal control, driver discomfort, and fuel consumption. Control delay includes the delay associated with vehicles slowing in advance of an intersection, the time spent stopped on an intersection approach, the time spent as vehicles move up in the queue, and the time needed for vehicles to accelerate to their desired speed. LOS criteria for traffic signals are stated in terms of the control delay in seconds per vehicle. The LOS thresholds established for the automobile mode at a signalized intersection are shown in ***Table 3-1***.

3.3.2 *Highway Capacity Manual (HCM) Method of Analysis (Unsignalized Intersections)*

The HCM unsignalized methodology for stop-controlled intersections was utilized for the analysis of the unsignalized intersections. LOS criteria for unsignalized intersections differ from LOS criteria for signalized intersections as signalized intersections are designed for heavier traffic and therefore a greater delay. Unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable, which can reduce users' delay tolerance.

Two-way stop-controlled intersections are comprised of a major street, which is uncontrolled, and a minor street, which is controlled by stop signs. Level of service for a two-way stop-controlled intersection is determined by the computed or measured control delay. The control delay by movement, by approach, and for the intersection as a whole is estimated by the computed capacity for each movement. LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. The worst side street approach delay is reported. LOS is not defined for the intersection as a whole or for major-street approaches, as it is assumed that major-street through vehicles experience zero delay. The HCM control delay value ranges for two-way stop-controlled intersections are shown in ***Table 3-2***.

All-way stop-controlled intersections require every vehicle to stop at the intersection before proceeding. Because each driver must stop, the decision to proceed into the intersection is a function of traffic conditions on the other approaches. The time between subsequent vehicle departures depends on the degree of conflict that results between the vehicles and vehicles on the other approaches. This methodology determines the control delay for each lane on the approach, computes a weighted average for the whole approach, and computes a weighted average for the intersection as a whole. Level of service (LOS) at the approach and intersection levels is based solely on control delay. The HCM control delay value ranges for all-way stop-controlled intersections are also shown in *Table 3-2*.

3.3.3 *Volume to Capacity (V/C) Ratio Method of Analysis (Roadway Segments)*

Daily operating conditions for the key study roadway segments have been investigated according to the Volume to Capacity (V/C) ratio of each roadway segment. The V/C relationship is used to estimate the LOS of the roadway segment with the volume based on the 24-hour traffic volumes and the capacity based on the City's classification of each roadway. The six qualitative categories of Level of Service have been defined along with the corresponding Volume to Capacity (V/C) value range and are shown in ***Table 3-3***.

The roadway segments' daily capacities of each street classification according to the *City of San Bernardino General Plan Appendix 14* are presented in ***Table 3-4.***

Although the arterial segment V/C analysis provides a general assessment of overall system performance, the performance is measured on the ability to serve peak hour traffic demands. To identify deficient arterial segments, the segments that are identified as deficient under daily conditions are evaluated under peak hour conditions to evaluate the capability of serving forecast peak hour throughput. Arterial segments that operate deficiently under peak hour conditions are candidates for mitigation improvements.

3.3.4 *Basic Freeway Segments*

The basic freeway segment criteria are based on peak hour *HCM 6* density analysis. The capacities are based on information contained in the *HCM 6*. Existing traffic count data for the analyzed freeway segments was obtained from the Caltrans website.

Basic freeway segment levels of service are determined from segment density. ***Table 3-5*** presents the correlation between LOS and density in terms of passenger cars per mile per lane (pc/mi/ln) for freeway basic freeway segments.

3.3.5 *Freeway Merge And Diverge Segments*

Freeway merge and diverge segment analysis is based on peak hour *HCM 6* density analysis for freeway-to-arterial interchanges. According to *HCM 6* methodology, the ramp merge and diverge segments focus on an influential area of 1,500 feet, including the acceleration or deceleration lane(s) and adjacent freeway ramps. The methodology incorporates three fundamental steps:

- Determination of the traffic entering the freeway lanes upstream of the merge or at the beginning of the deceleration lane at diverge;
- Determination of the capacity for the segment; and
- Determination of the density of traffic flow within the ramp influence area and its level of service.

The level of service (LOS) for freeway merge and diverge segments is determined by traffic density based on criteria outlined in the *HCM 6*. ***Table 3-6*** presents the correlation between LOS and density in terms of passenger cars per mile per lane (pc/mi/ln) for freeway merge and diverge segments.

3.4 Impact Criteria and Thresholds

3.4.1 *Intersections*

The *San Bernardino County Congestion Management Program* states the adopted LOS standard for all intersections is LOS E or better, except where an existing LOS F condition is identified in the *CMP* document.

According to the City of San Bernardino, LOS D is the minimum acceptable condition that should be maintained during the peak commute hours. Therefore, any intersection operating at LOS E or LOS F is considered deficient/unsatisfactory.

The *City of Highland General Plan Circulation Element* states the City of Highland considers LOS D to be the minimum acceptable LOS for all intersections for peak operating periods. Therefore, any intersection operating at LOS E or LOS F is considered deficient.

3.4.2 *Roadway Segments*

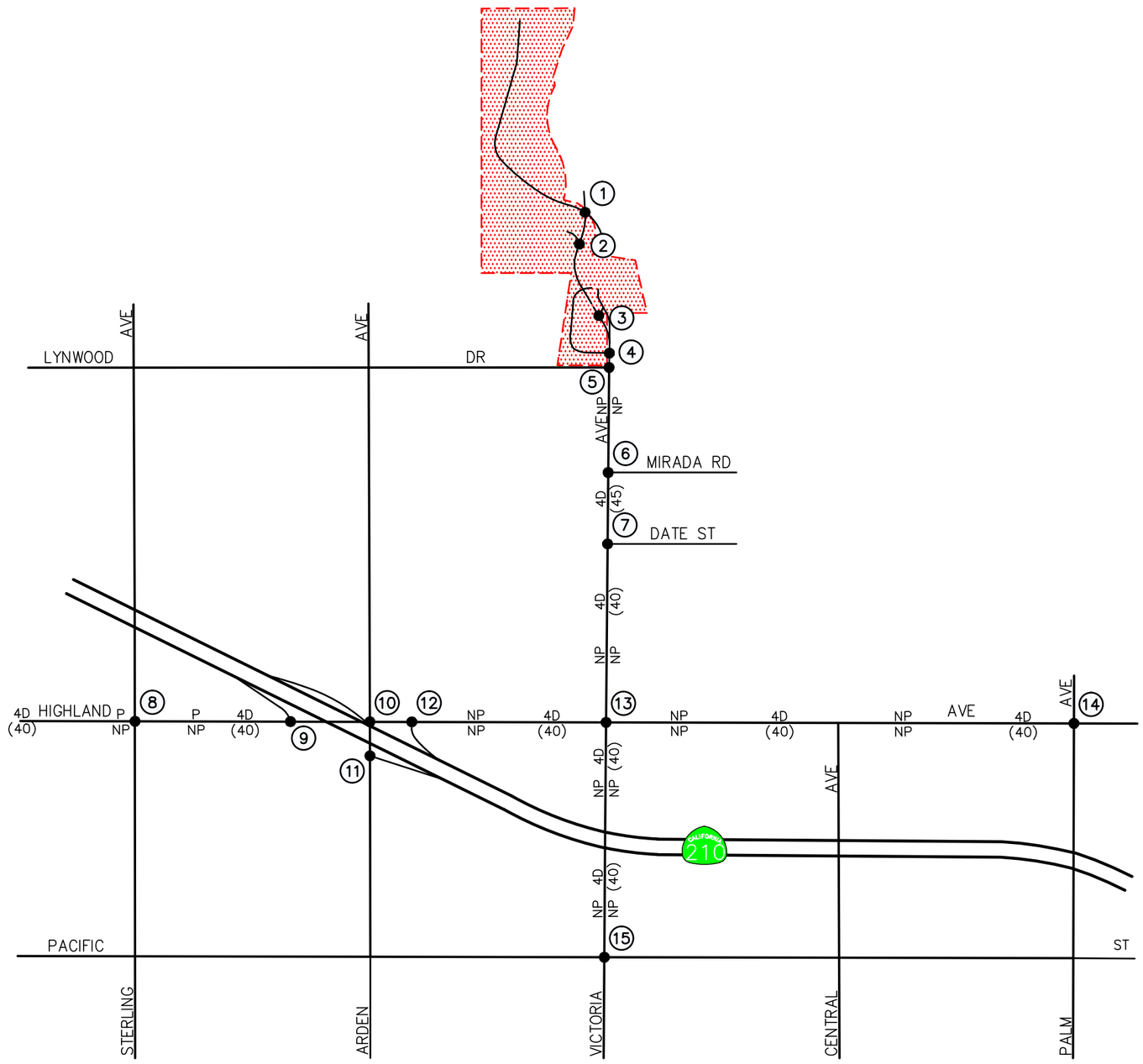
The *San Bernardino County Congestion Management Program* states the adopted LOS standard for all roadway segments is LOS E or better, except where an existing LOS F condition is identified in the *CMP* document.

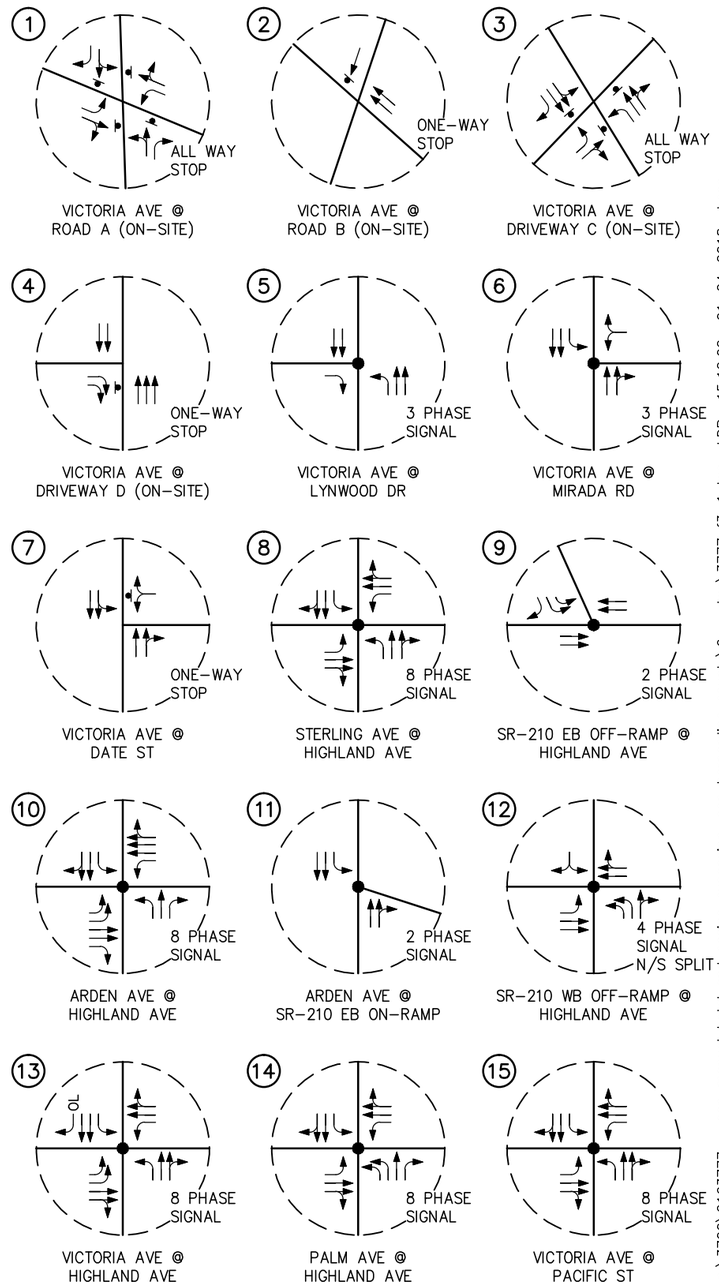
The City of San Bernardino considers LOS C to be the minimum acceptable LOS for all roadway segments.

The *City of Highland General Plan Circulation Element* states the City of Highland considers LOS D to be the minimum acceptable LOS for all mid-block street segments.

3.4.3 *Caltrans Facilities*

Caltrans District 8 has established that LOS D is the operating standard for all Caltrans facilities. Caltrans has determined that all state owned facilities that operate below LOS D should be identified and improved to an acceptable LOS although specific criteria to identify Project related impacts is not specified in the *Caltrans Traffic Impact Study Guidelines*. Analysis of Caltrans facilities is conducted in ***Sections 14.0*** through ***18.0*** of this report.





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N NO SCALE

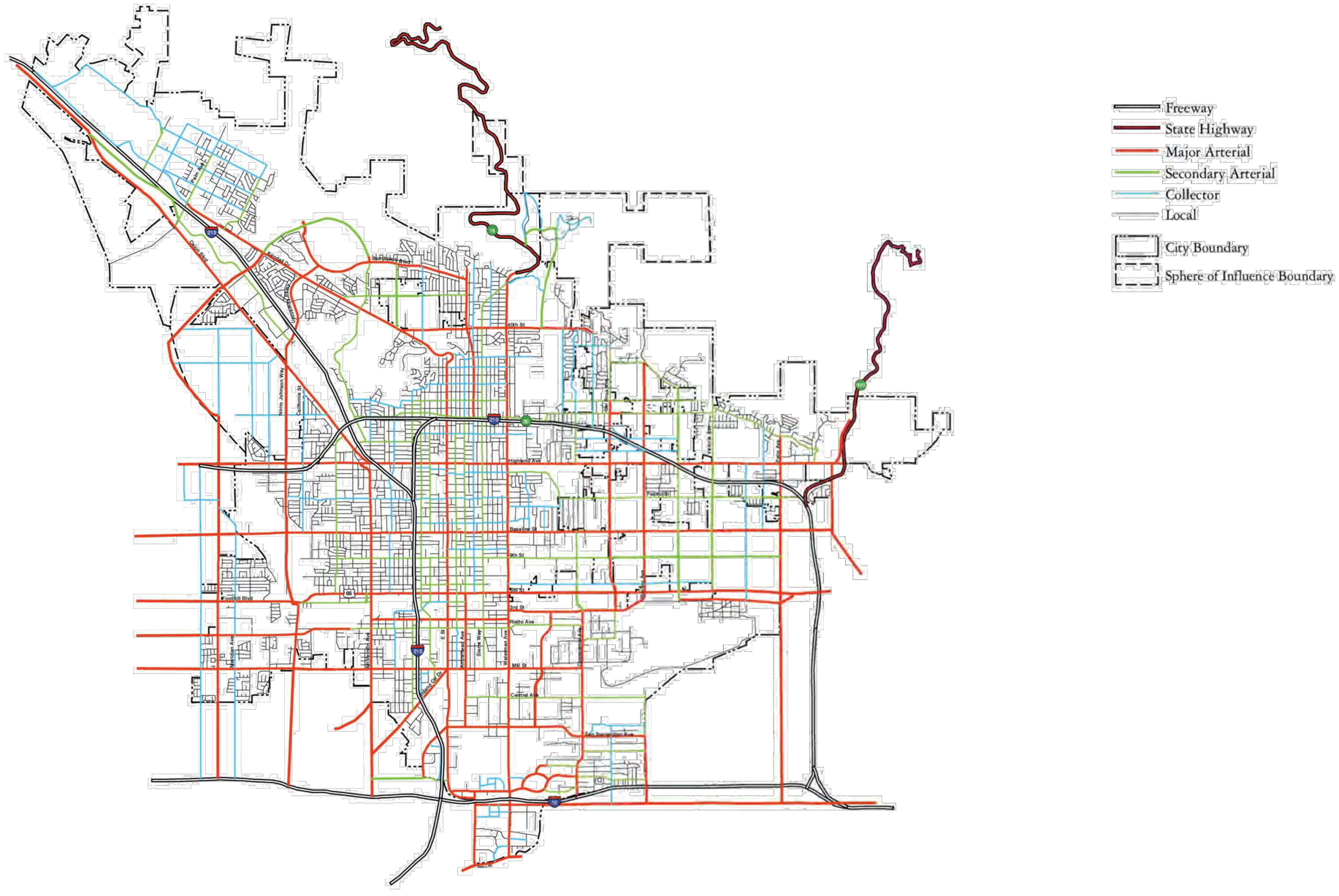
KEY

- ← = APPROACH LANE ASSIGNMENT
- ● = TRAFFIC SIGNAL, ☛ = STOP SIGN
- P = PARKING, NP = NO PARKING
- U = UNDIVIDED, D = DIVIDED
- 2 = NUMBER OF TRAVEL LANES
- (XX) = POSTED SPEED LIMIT (MPH)
- ▨ = PROJECT SITE

FIGURE 3-1

EXISTING ROADWAY CONDITIONS AND INTERSECTION CONTROLS

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY



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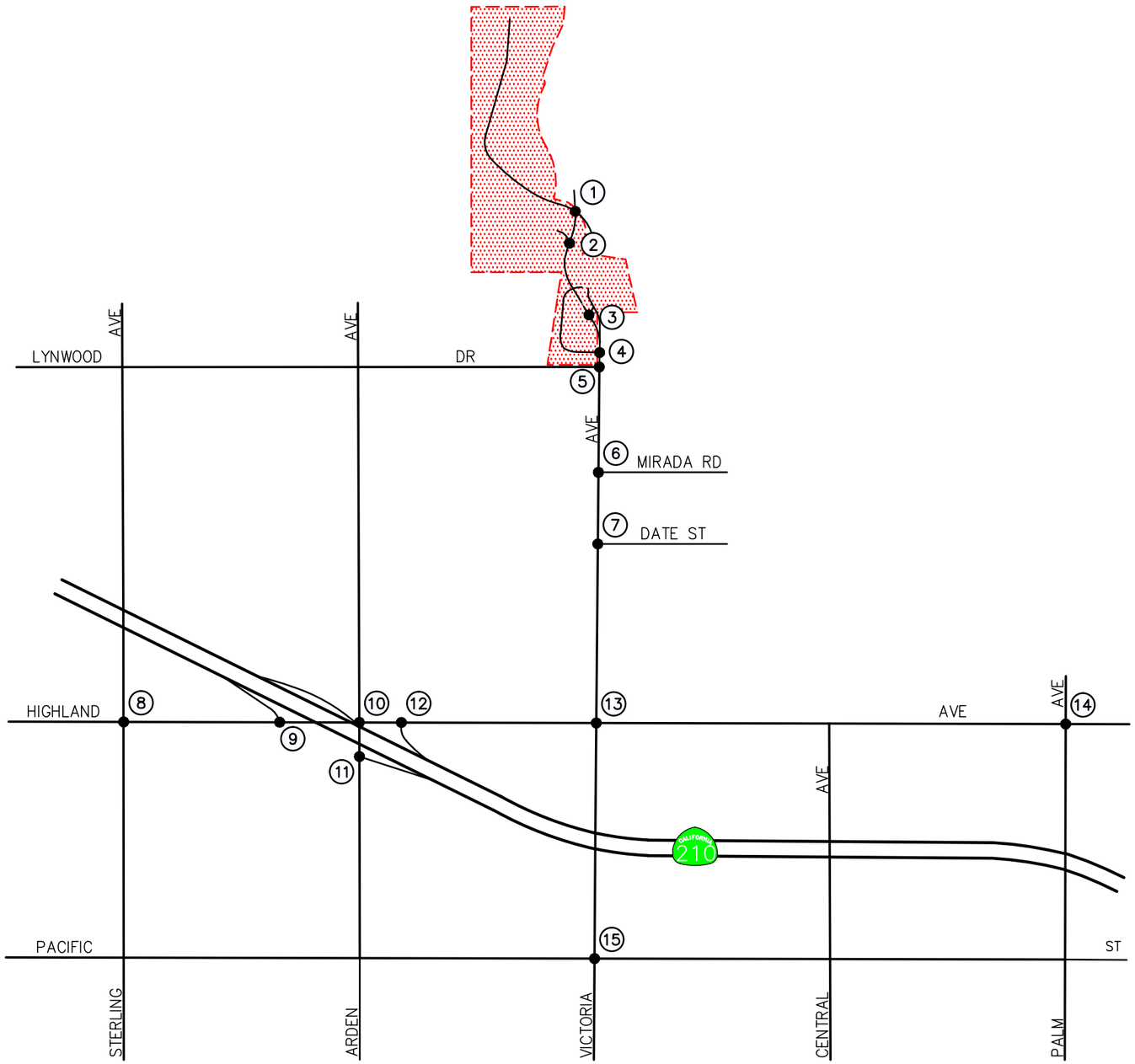
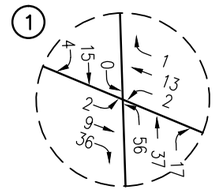
SOURCE: CITY OF SAN BERNARDINO GENERAL PLAN

FIGURE 3-2

CITY OF SAN BERNARDINO GENERAL PLAN CIRCULATION ELEMENT

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY





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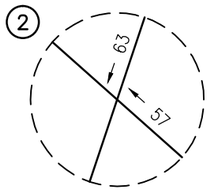
ROAD A (ON-SITE)



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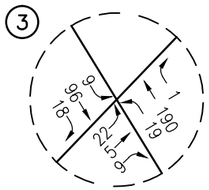
ROAD B (ON-SITE)



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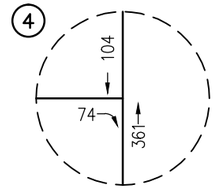

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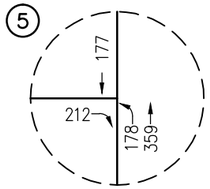
DRIVEWAY D (ON-SITE)



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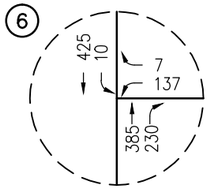

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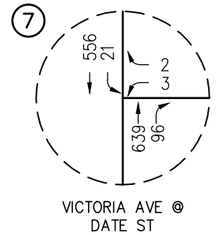

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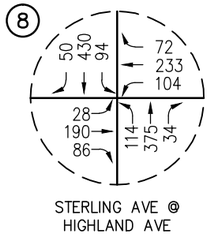

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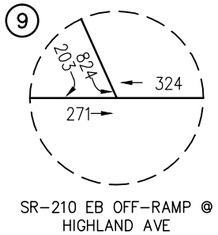
HIGHLAND AVE



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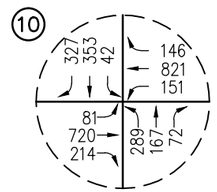

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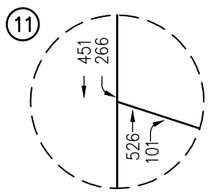

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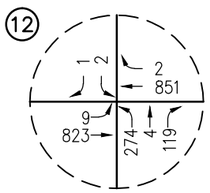

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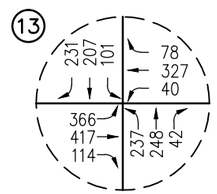

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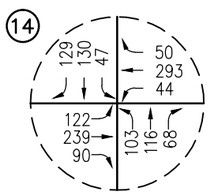

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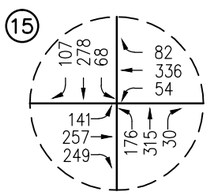

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LINSCOTT LAW & GREENSPAN engineers

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KEY

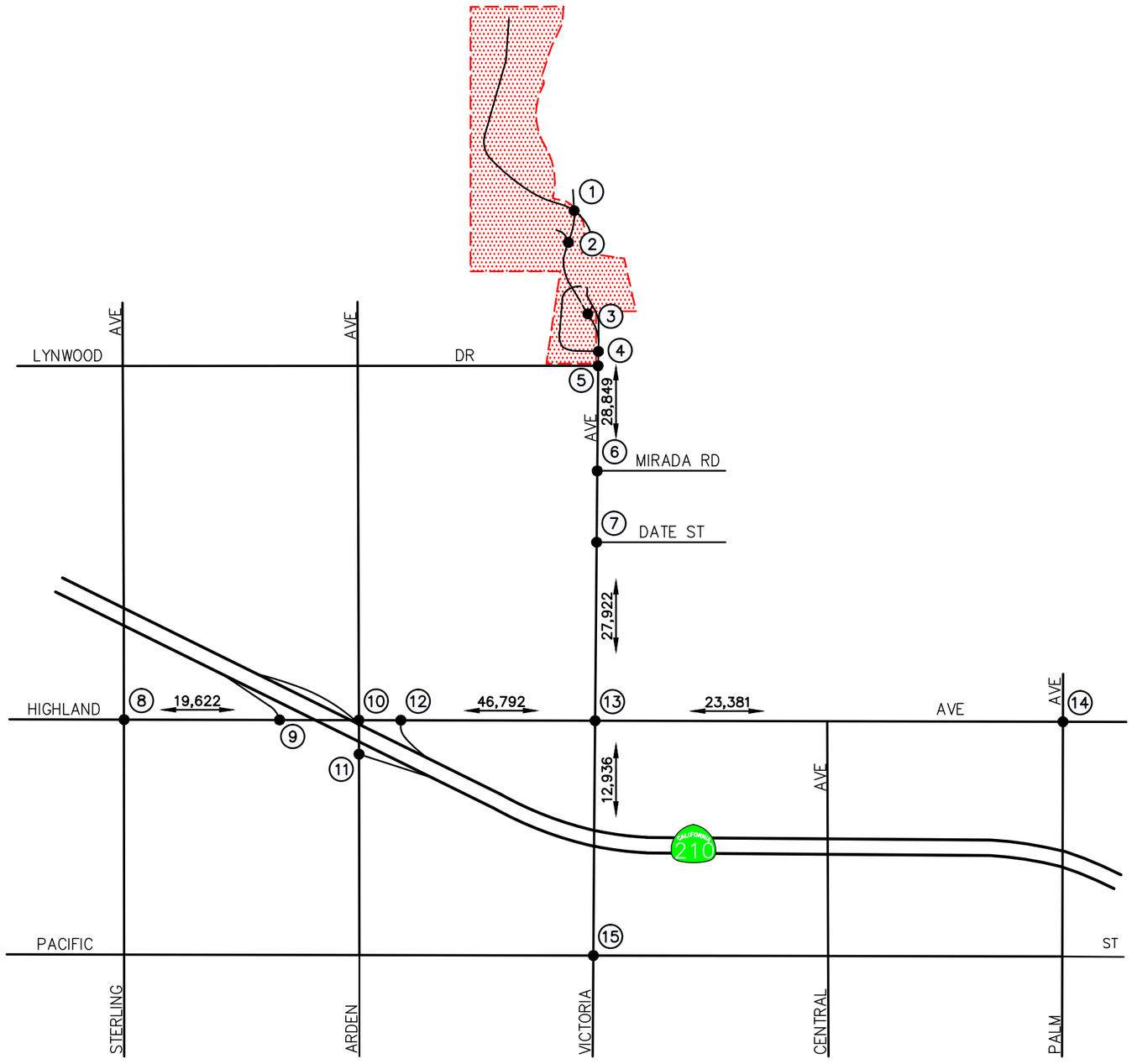
(#) = STUDY INTESECTION

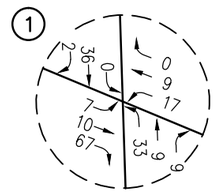
= PROJECT SITE

FIGURE 3-3

EXISTING WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY





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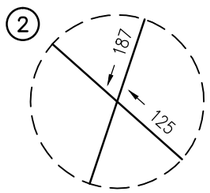

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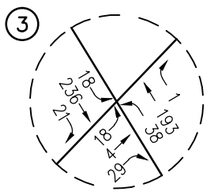

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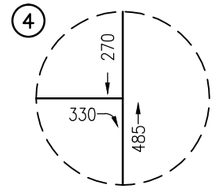

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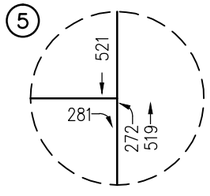

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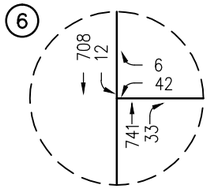

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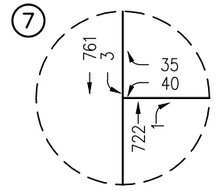

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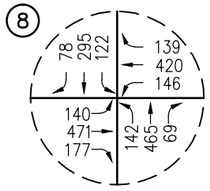

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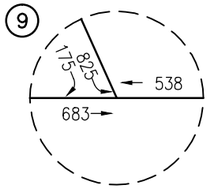

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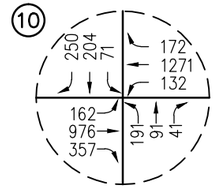
HIGHLAND AVE



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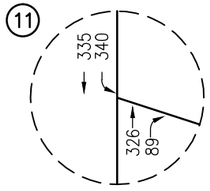
HIGHLAND AVE



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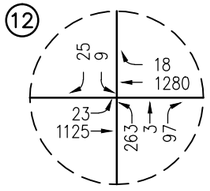

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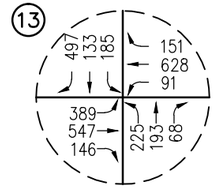

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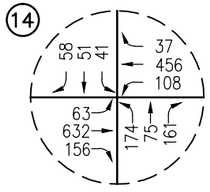

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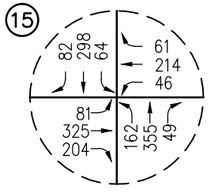

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

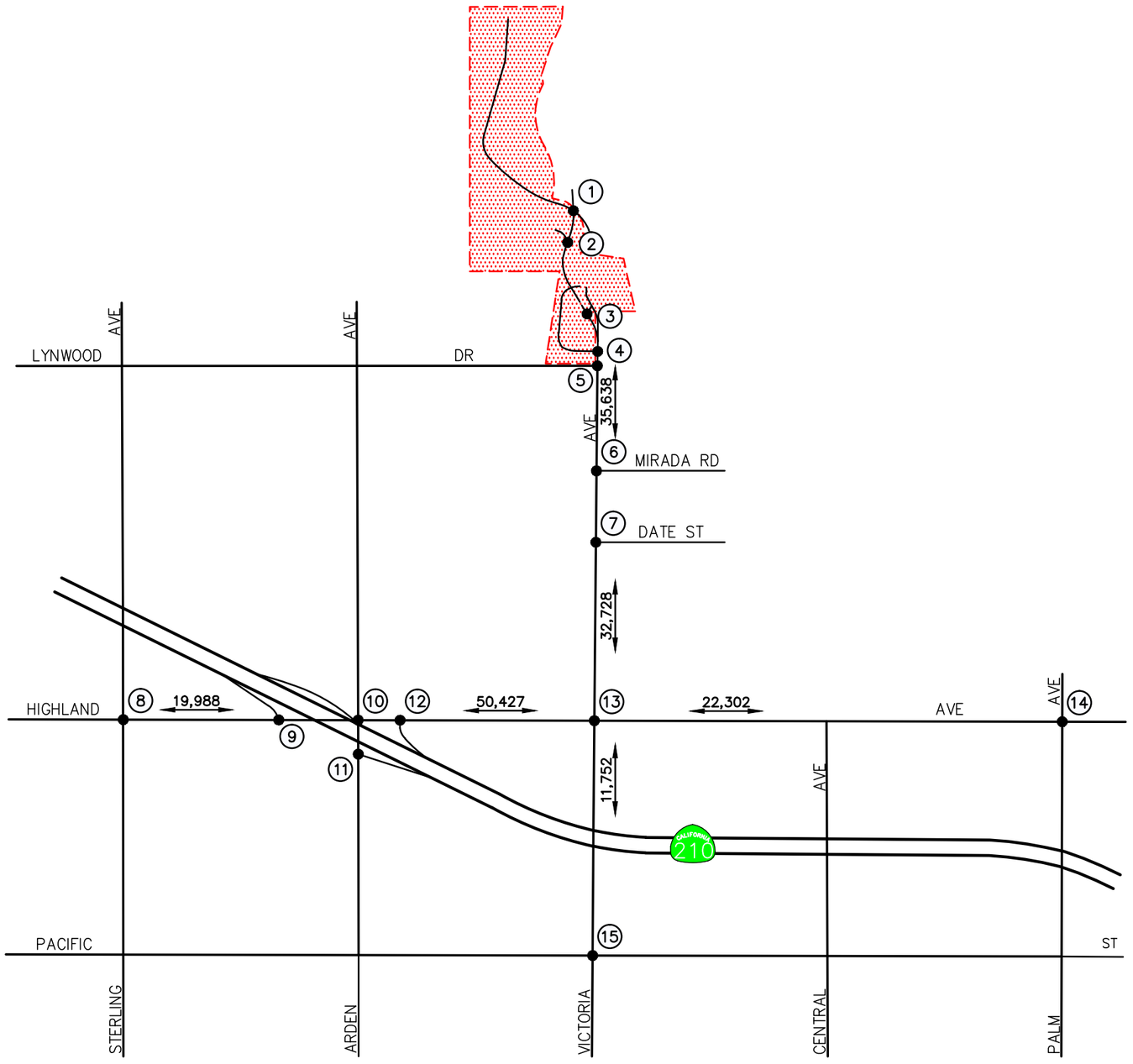
XX,XXX = DAILY TRAFFIC VOLUMES

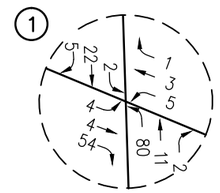
= PROJECT SITE

FIGURE 3-4

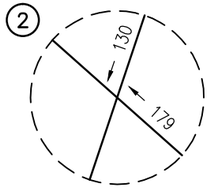
EXISTING WEEKDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY





VICTORIA AVE @
ROAD A (ON-SITE)



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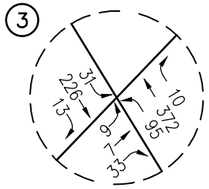

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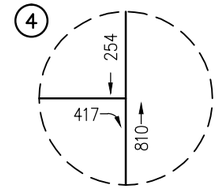

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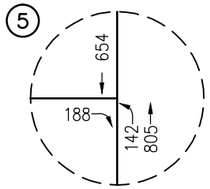

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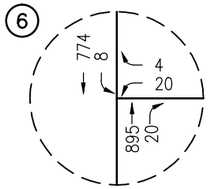

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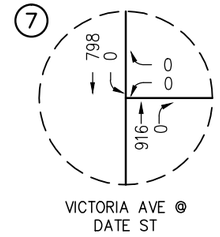

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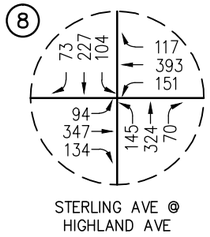

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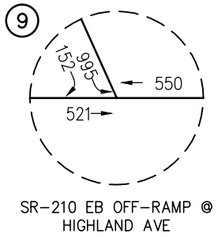

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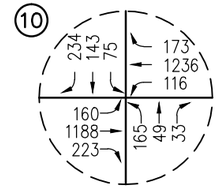

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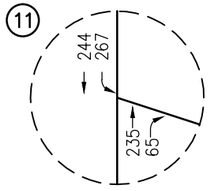

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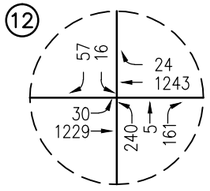

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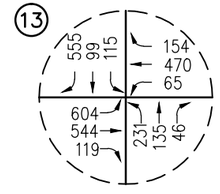

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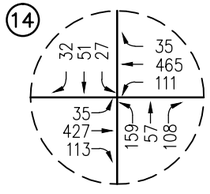

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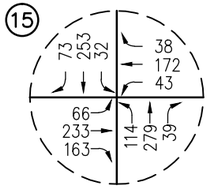

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N NO SCALE

KEY

(#) = STUDY INTESECTION

XX,XXX = DAILY TRAFFIC VOLUMES

= PROJECT SITE

FIGURE 3-5

EXISTING SATURDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

TABLE 3-1

LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS (HCM 6 METHODOLOGY)[1]

Level of Service (LOS)	Control Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	≤ 10.0	This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 10.0 and ≤ 20.0	This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.
C	> 20.0 and ≤ 35.0	Average traffic delays. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	> 35.0 and ≤ 55.0	Long traffic delays At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	> 55.0 and ≤ 80.0	Very long traffic delays This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths and high *v/c* ratios. Individual cycle failures are frequent occurrences.
F	≥ 80.0	Severe congestion This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high *v/c* ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

[1] Source: *Highway Capacity Manual 6*, Chapter 19: Signalized Intersections.

TABLE 3-2

LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS (HCM 6 METHODOLOGY)[2,3]

Level of Service (LOS)	Highway Capacity Manual (HCM) Delay Per Vehicle (seconds/vehicle)	Level of Service Description
A	≤ 10.0	Little or no delay
B	> 10.0 and ≤ 15.0	Short traffic delays
C	> 15.0 and ≤ 25.0	Average traffic delays
D	> 25.0 and ≤ 35.0	Long traffic delays
E	> 35.0 and ≤ 50.0	Very long traffic delays
F	> 50.0	Severe congestion

[2] Source: *Highway Capacity Manual 6*, Chapter 20: Two-Way Stop-Controlled Intersections. The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-street approaches or for the intersection as a whole.

[3] Source: *Highway Capacity Manual 6*, Chapter 21: All-Way Stop-Controlled Intersections. For approaches and intersection-wide assessment, LOS is defined solely by control delay.

TABLE 3-3

LEVEL OF SERVICE CRITERIA FOR ROADWAY SEGMENTS (V/C METHODOLOGY)[4]

Level of Service (LOS)	Volume to Capacity Ratio (V/C)	Level of Service Description
A	≤ 0.600	**EXCELLENT**. Describes primarily free flow operations at average travel speeds, usually about 90% of the free flow speed for the arterial class. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Stopped delay at signalized intersections is minimal.
B	0.601 – 0.700	**VERY GOOD**. Represents reasonably unimpeded operations at average travel speeds, usually about 70% of the free flow speed for the arterial class. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome. Drivers are not generally subjected to appreciable tension.
C	0.701 – 0.800	**GOOD**. Represents stable conditions; however, ability to maneuver and change lanes in mid-block location may be more restricted than in LOS B, and longer queues and/or adverse signal coordination may contribute to lower average travel speeds of about 50% of the average free flow speed for the arterial class. Motorists will experience appreciable tension while driving.
D	0.801 – 0.900	**FAIR**. Borders on a range in which small increases in flow may cause substantial increases in approach delay and, hence, decreases in arterial speed. This may be due to adverse signal progression, inappropriate signal timing, high volumes, or some combination of these. Average travel speeds are about 40% of free flow speed.
E	0.901 – 1.000	**POOR**. Characterized by significant approach delays and average travel speeds of one-third the free flow speed or lower. Such operations are caused by some combination of adverse progression, high signal density, extensive queuing at critical intersections, and inappropriate signal timing.
F	> 1.000	**FAILURE**. Characterizes arterial flow at extremely low speeds below one-third to one-quarter of the free flow speed. Intersection congestion is likely at critical signalized locations, with resultant high approach delays. Adverse progression is frequently a contributor to this condition.

Note:

- **LOS F** applies whenever the flow rate exceeds the segment capacity.

[4] Source: *Transportation Research Board (TRBV) 2000.*

TABLE 3-4

DAILY ROADWAY SEGMENT CAPACITIES[5]

Roadway Classification	Maximum Two-Way Traffic Volume (ADT) Level of Service
4-lane Major Arterial	40,000
2-lane Major Arterial	15,000
4-lane Secondary Arterial	30,000
2-lane Secondary Arterial	12,000
4-lane Collector Street	25,000
2-lane Collector Street	10,000

[5] Source: *City of San Bernardino General Plan, Appendix 14.*

TABLE 3-5

BASIC FREEWAY SEGMENTS LEVEL OF SERVICE CRITERIA (HCM METHODOLOGY)[6]

LOS	Basic Freeway Segment Density (pc/mi/ln)
A	≤ 11.0
B	> 11.0 – 18.0
C	> 18.0 – 26.0
D	> 26.0 – 35.0
E	> 35.0 – 45.0
F	> 45.0

[6] Source: *Highway Capacity Manual 6,* Chapter 12: Basic Freeway and Multilane Highway Segments.

TABLE 3-6

FREEWAY MERGE AND DIVERGE SEGMENTS LEVEL OF SERVICE CRITERIA (HCM METHODOLOGY)[7]

LOS	Freeway Ramp Density (pc/mi/ln)	Level of Service Description
A	≤ 10.0	Unrestricted operations
B	> 10.0 – 20.0	Merging and diverging maneuvers noticeable to drivers
C	> 20.0 – 28.0	Influence area speeds begin to decline
D	> 28.0 – 35.0	Influence area turbulence becomes intrusive
E	> 35.0	Turbulence felt by virtually all drivers
F	Demand Exceeds Capacity	Ramp and freeway queues form

[7] Source: *Highway Capacity Manual 6,* Chapter 14: Freeway Merge and Diverge Segments.

4.0 TRAFFIC FORECASTING METHODOLOGY

In order to estimate the traffic impact characteristics of the Project, a multi-step process has been utilized. The first step is traffic generation, which estimates the total arriving and departing traffic on a peak hour and daily basis. The traffic generation potential is forecast by applying the appropriate vehicle trip generation equations and/or rates to the Project development tabulation.

The second step of the forecasting process is traffic distribution, which identifies the origins and destinations of inbound and outbound Project traffic. These origins and destinations are typically based on demographics and existing/expected future travel patterns in the study area.

The third step is traffic assignment, which involves the allocation of Project traffic to study area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds.

Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway segments and intersection turning movements throughout the study area.

With the forecasting process complete and Project traffic assignments developed, the impact of the Project is isolated by comparing operational (LOS) conditions at selected key intersections using expected future traffic volumes with and without forecast Project traffic. If necessary, the need for site-specific and/or cumulative local area improvements can then be evaluated.

5.0 PROJECT TRAFFIC CHARACTERISTICS

5.1 Project Trip Generation Forecast

Trip generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations and/or rates used in the traffic forecasting procedure are found in the Ninth Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2012], and *County of San Diego's Traffic Needs Assessment of Tribal Development Projects in the San Diego Region*, published by the San Diego Association of Governments [March 2003].

5.1.1 *Project Phase 1 Trip Generation Forecast*

The first part of ***Table 5-1*** summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed Project and the lower part presents the forecast daily and peak hour Project traffic volumes for a "typical" weekday. The trip generation potential for the proposed Project was forecast using the *County of San Diego's Traffic Needs Assessment of Tribal Development Projects in the San Diego Region* and ITE Land Use Code 441: Live Theater rates.

As shown in *Table 5-1*, the Project Phase 1 is expected to generate 8,800 Weekday daily trips (one half arriving, one half departing), with 447 trips (264 inbound, 183 outbound) produced in the Weekday AM peak hour and 632 trips (321 inbound, 311 outbound) produced in the Weekday PM peak hour on a "typical" weekday. The Project Phase 1 is expected to generate 12,000 Saturday daily trips (one half arriving, one half departing), with 936 trips (499 inbound, 437 outbound) produced in the Saturday PM peak hour on a "typical" Saturday.

5.1.2 *Project Phase 2 Trip Generation Forecast*

Table 5-2 is similar in setup to *Table 5-1*. As shown in *Table 5-2*, the Project Phase 2 (which includes Project Phase 1) is expected to generate 12,300 Weekday daily trips (one half arriving, one half departing), with 628 trips (381 inbound, 247 outbound) produced in the Weekday AM peak hour and 815 trips (427 inbound, 388 outbound) produced in the Weekday PM peak hour on a "typical" weekday. The Project Phase 2 is expected to generate 15,400 Saturday daily trips (one half arriving, one half departing), with 1,076 trips (586 inbound, 490 outbound) produced in the Saturday PM peak hour on a "typical" Saturday.

5.2 Project Trip Distribution and Assignment

The directional trip distribution patterns for both Phase 1 and Phase 2 components of the Project are presented in ***Figure 5-1***. Project traffic volumes, both entering and exiting the site, have been distributed and assigned to the adjacent street system based on the following considerations:

- the site's proximity to major traffic carriers (i.e. SR-210 Freeway, etc.),
- expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals,
- the traffic-carrying capacity and travel speed available on roadways serving the Project site,
- existing intersection traffic volumes, and

- ingress/egress availability at the Project site.

5.2.1 *Project Phase 1 Trip Assignment*

The anticipated Weekday AM, Weekday PM, and Saturday PM peak hour Project Phase 1 traffic volumes at the fifteen (15) key study intersections are presented in ***Figures 5-2, 5-3,*** and ***5-4***, respectively. *Figures 5-3* and *5-4* also present the Weekday daily and Saturday daily Project Phase 1 traffic volumes, respectively, at the six (6) key study roadway segments. The traffic volume assignment presented in the above mentioned figures reflect the Project Phase 1 trip distribution characteristics shown in *Figure 5-1* and the Project Phase 1 trip generation forecast presented in the *Table 5-1*.

5.2.2 *Project Phase 2 Trip Assignment*

The anticipated Weekday AM, Weekday PM, and Saturday PM peak hour Project Phase 2 traffic volumes at the fifteen (15) key study intersections are presented in ***Figures 5-5, 5-6,*** and ***5-7***, respectively. *Figures 5-6* and *5-7* also present the Weekday daily and Saturday daily Project Phase 2 traffic volumes, respectively, at the six (6) key study roadway segments. The traffic volume assignment presented in the above mentioned figures reflect the Project Phase 2 trip distribution characteristics shown in *Figure 5-1* and the Project Phase 2 trip generation forecast presented in the *Table 5-2*.

TABLE 5-1

PROJECT PHASE 1 TRIP GENERATION RATES AND FORECAST

	Weekday							Weekend			
	Daily	AM Peak Hour			PM Peak Hour			Daily	PM Peak Hour		
Project Description	**2-Way**	**Enter**	**Exit**	**Total**	**Enter**	**Exit**	**Total**	**2-Way**	**Enter**	**Exit**	**Total**
Project Trip Generation Factors [1]:											
▪ Gaming Area (TE/TSF) [1]	100.00	3.16	1.97	5.13	3.47	2.83	6.30	120.00	4.16	3.40	7.56
▪ Resort Hotel (TE/Room) [2]	3.00	0.09	0.06	0.15	0.08	0.13	0.21	3.60	0.18	0.14	0.32
▪ Meeting and Event Space (TE/TSF) [3]	40.00	1.00	1.00	2.00	2.00	2.00	4.00	80.00	4.00	4.00	8.00
▪ Land Use Code 441: Live Theater (TE/Seat) [4]	0.20	0.005	0.005	0.01	0.010	0.010	0.02	0.40	0.020	0.020	0.04
Proposed Project Trip Generation Forecast:											
▪ Gaming Area (55 TSF)	5,500	174	108	282	191	156	347	6,600	229	187	416
▪ Resort Hotel (500 Rooms)	1,500	45	30	75	40	65	105	1,800	90	70	160
▪ Meeting and Event Space (35 TSF) [5]	1,000	25	25	50	50	50	100	2,000	100	100	200
▪ Performance Venue (4,000 Seats) [6]	800	20	20	40	40	40	80	1,600	80	80	160
Proposed Project Trip Generation Forecast	***8,800***	***264***	***183***	***447***	***321***	***311***	***632***	***12,000***	***499***	***437***	***936***

Notes:

[1] Source: *County of San Diego's Traffic Needs Assessment of Tribal Development Projects in the San Diego Region. March 2003.* The rates were increased by 20% for the weekend calculations.
Weekday/Weekend AM Peak Hours are 5.13% of Weekday/Weekend Daily and the Weekday/Weekend Enter/Exit Splits are 62/38 based on the *San Manuel Bingo & Casino Expansion TIA, prepared by LLG, dated February*
Weekday/Weekend PM Peak Hours are 6.3% of Weekday/Weekend Daily and the Weekday/Weekend Enter/Exit Splits are 55/45 based on the *Sycuan Hotel & Casino Expansion TIA, prepared by LLG, dated February 2016.*

[2] Source: *County of San Diego's Traffic Needs Assessment of Tribal Development Projects in the San Diego Region. March 2003.* The rates were increased by 20% for the weekend calculations.
Weekday AM Peak Hour is 5.0% of Daily and Enter/Exit Split is 60/40 and these % and Enter/Exit Split were obtained from *SANDAG*.
Weekday PM Peak Hour is 7.0% of Daily and Enter/Exit Split is 40/60 and these % and Enter/Exit Split were obtained from *SANDAG*.
Weekend PM Peak Hour is 8.79% of Daily and Enter/Exit Split is 56/44 and these % and Enter/Exit Split were obtained from *ITE Trip Generation Manual, 9th Edition [2012], Land Use Code: 310*.

[3] Source: *County of San Diego's Traffic Needs Assessment of Tribal Development Projects in the San Diego Region. March 2003.*
Weekday AM Peak Hour is assumed to be 5% of Weekday Daily and the Weekday Enter/Exit Splits are assumed to be 50/50.
Weekday PM Peak Hour is assumed to be 10% of Weekday Daily and the Weekday Enter/Exit Splits are assumed to be 50/50.
The Weekday PM Peak Hours trip generation rates were doubled for the Weekend PM Peak Hour rates.

[4] Source: *ITE Trip Generation Manual, 9th Edition [2012].* Weekday AM Peak Hour was assumed to be half of the Weekday PM Peak Hour rates.
Weekday/Weekend PM Peak Hour was assumed to be 10% of the Weekday/Weekend Daily rates. The trip generation rates were doubled for the Weekend PM Peak Hour rates.

[5] Meeting and Event Space was reduced by 10 TSF (500 Rooms x 20 SF = 10,000 SF) based on *ULI - Urban Land Institute "Shared Parking," Second Edition, 2005,* which states that 1 hotel room includes 20 SF of Meeting and Event Space as an ancillary use. Hence, the 35 TSF has been reduced by 10 TSF to 25 TSF.

[6] Land Use Code 441: Live Theater rates used.

TE/TSF = Trip ends per Thousand Square-Feet
TE/Room = Trip ends per Room
TE/Seat = Trip ends per Seat
TSF = Thousand Square-Feet

TABLE 5-2

PROJECT PHASE 2 TRIP GENERATION RATES AND FORECAST

Project Description	Weekday							Weekend			
	Daily	AM Peak Hour			PM Peak Hour			Daily	PM Peak Hour		
	2-Way	Enter	Exit	Total	Enter	Exit	Total	2-Way	Enter	Exit	Total
Project Trip Generation Factors [1]:											
▪ Gaming Area (TE/TSF) [1]	100.00	3.16	1.97	5.13	3.47	2.83	6.30	120.00	4.16	3.40	7.56
▪ Resort Hotel (TE/Room) [2]	3.00	0.09	0.06	0.15	0.08	0.13	0.21	3.60	0.18	0.14	0.32
▪ Land Use Code 441: Live Theater (TE/Seat) [3]	0.20	0.005	0.005	0.01	0.010	0.010	0.02	0.40	0.020	0.020	0.04
Proposed Project Trip Generation Forecast:											
▪ Gaming Area (100 TSF)	10,000	316	197	513	347	283	630	12,000	416	340	756
▪ Resort Hotel (500 Rooms)	1,500	45	30	75	40	65	105	1,800	90	70	160
▪ Performance Venue (4,000 Seats) [4]	800	20	20	40	40	40	80	1,600	80	80	160
Proposed Project Trip Generation Forecast	***12,300***	***381***	***247***	***628***	***427***	***388***	***815***	***15,400***	***586***	***490***	***1,076***

Notes:

[1] Source: *County of San Diego's Traffic Needs Assessment of Tribal Development Projects in the San Diego Region. March 2003.* The rates were increased by 20% for the weekend calculations.
Weekday/Weekend AM Peak Hours are 5.13% of Weekday/Weekend Daily and the Weekday/Weekend Enter/Exit Splits are 62/38 based on the *San Manuel Bingo & Casino Expansion TIA, prepared by LLG, dated February*
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[2] Source: *County of San Diego's Traffic Needs Assessment of Tribal Development Projects in the San Diego Region. March 2003.* The rates were increased by 20% for the weekend calculations.
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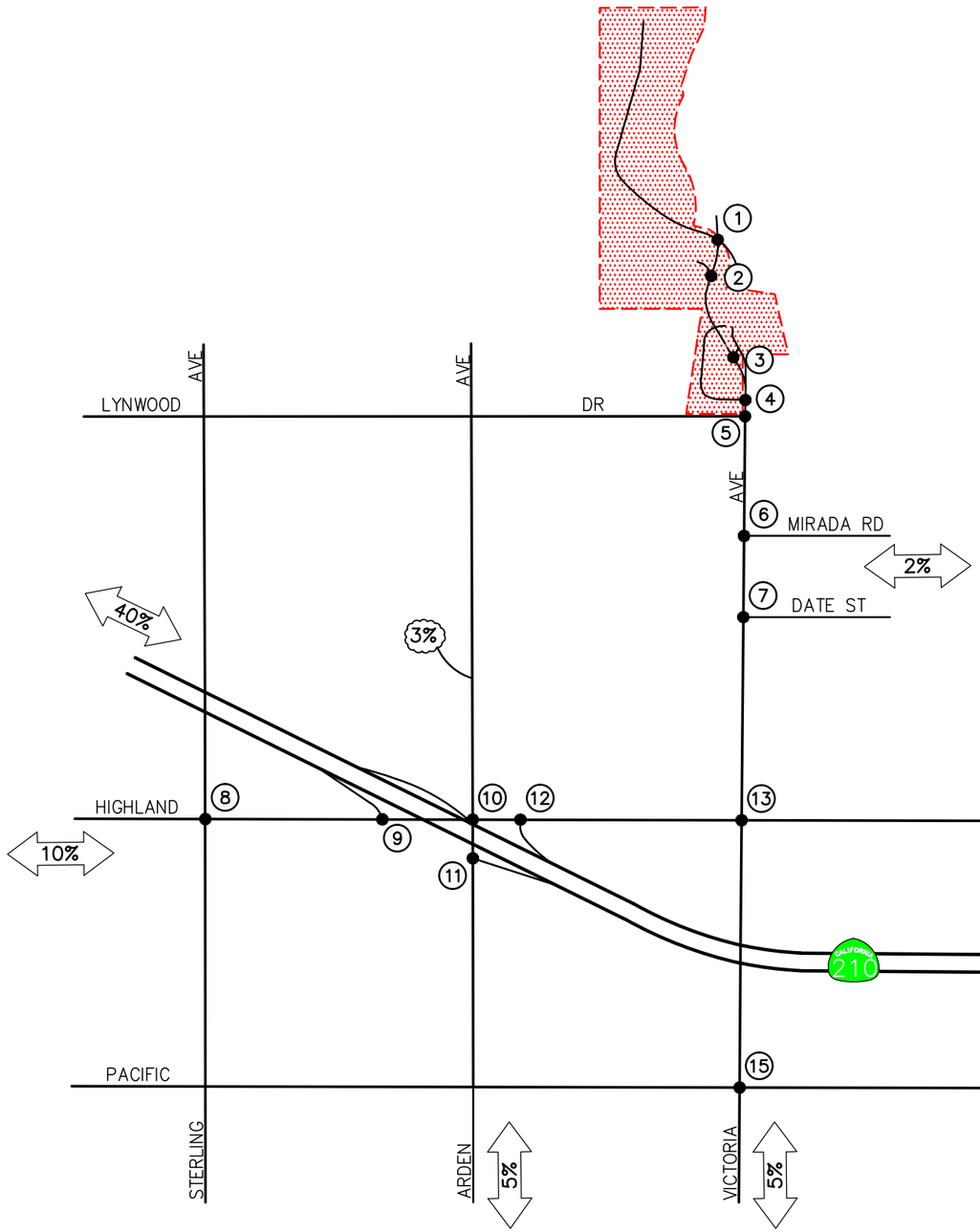
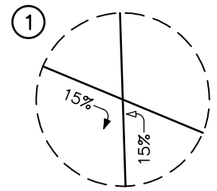
Weekend PM Peak Hour is 8.79% of Daily and Enter/Exit Split is 56/44 and these % and Enter/Exit Split were obtained from *ITE Trip Generation Manual, 9th Edition [2012], Land Use Code: 310*.

[3] Source: *ITE Trip Generation Manual, 9th Edition [2012]*. Weekday AM Peak Hour was assumed to be half of the Weekday PM Peak Hour rates.
Weekday/Weekend PM Peak Hour was assumed to be 10% of the Weekday/Weekend Daily rates. The trip generation rates were doubled for the Weekend PM Peak Hour rates.

[4] Land Use Code 441: Live Theater rates used.

TE/TSF = Trip ends per Thousand Square-Feet
TE/Room = Trip ends per Room
TE/Seat = Trip ends per Seat
TSF = Thousand Square-Feet





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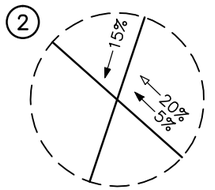

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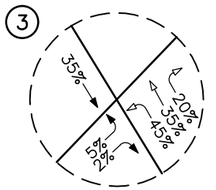
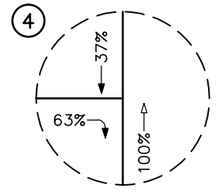
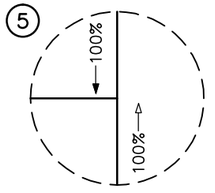


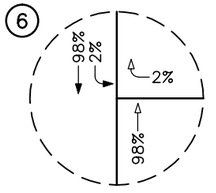
VICTORIA AVE @
DRIVEWAY C (ON-SITE)



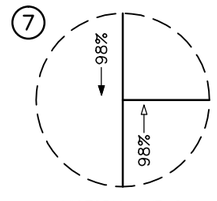
VICTORIA AVE @
DRIVEWAY D (ON-SITE)



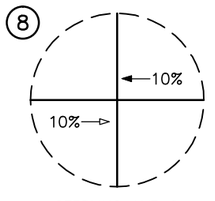
VICTORIA AVE @
LYNWOOD DR



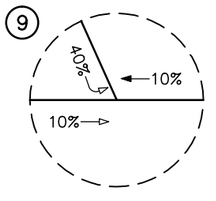
VICTORIA AVE @
MIRADA RD



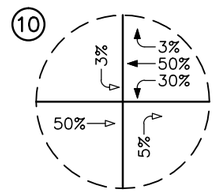
VICTORIA AVE @
DATE ST



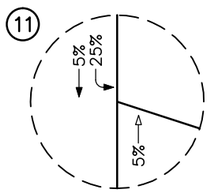
STERLING AVE @
HIGHLAND AVE



SR-210 EB OFF-RAMP @
HIGHLAND AVE



ARDEN AVE @
HIGHLAND AVE



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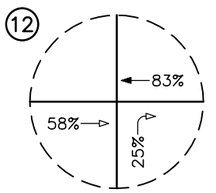
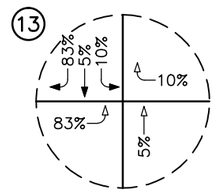
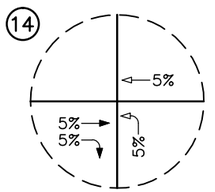


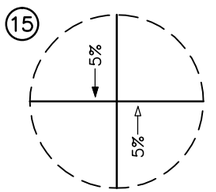
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

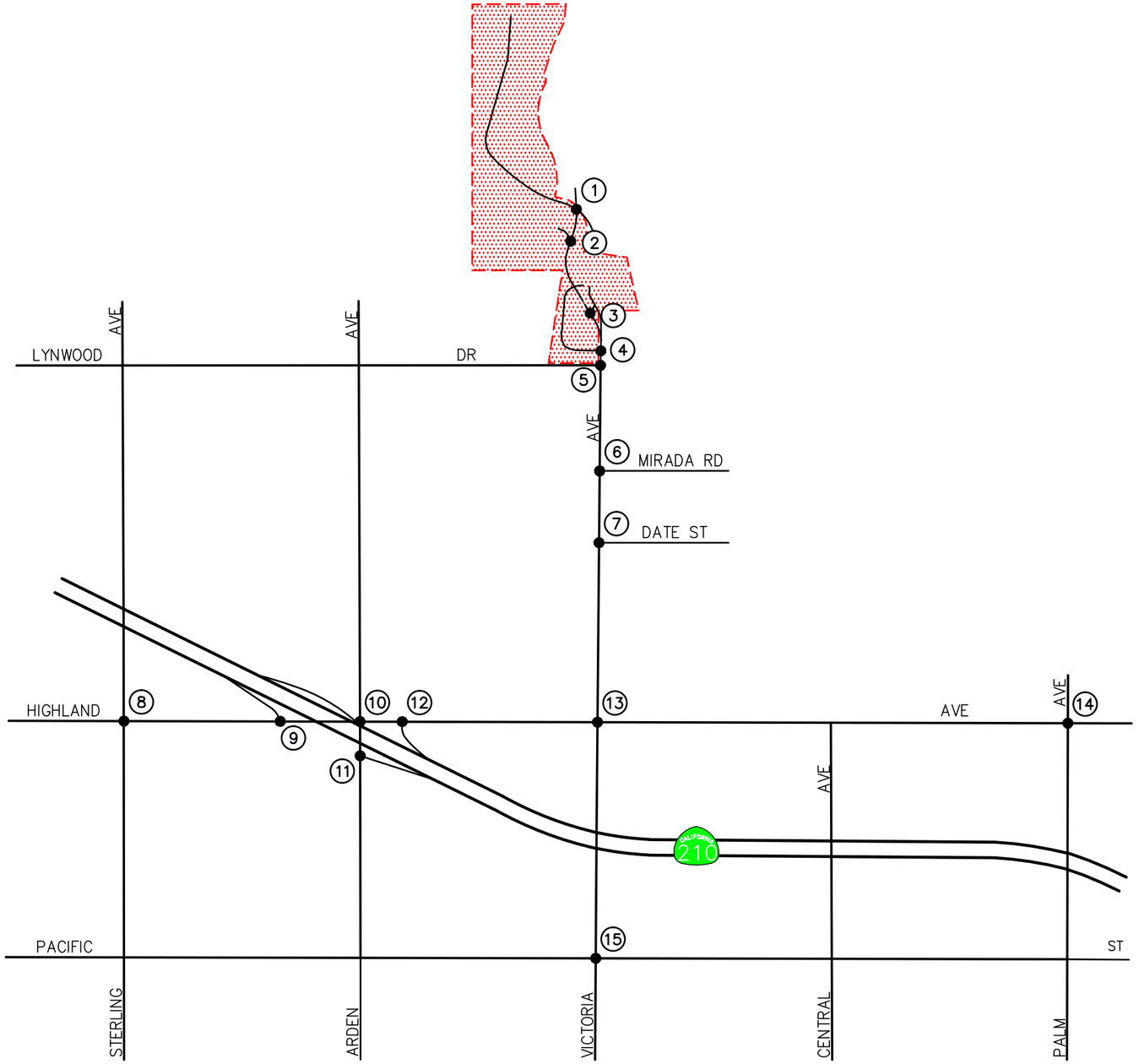
KEY

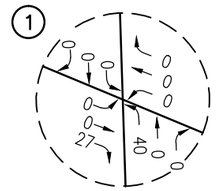
(#) = STUDY INTERSECTION
⇦ = INBOUND PERCENTAGE
⇦ = OUTBOUND PERCENTAGE
▭ = PROJECT SITE

FIGURE 5-1

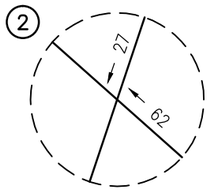
PROJECT TRIP DISTRIBUTION PATTERN

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

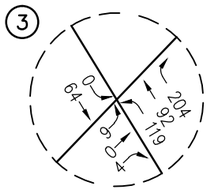




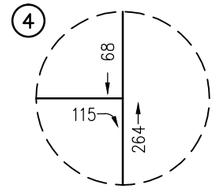
VICTORIA AVE @
ROAD A (ON-SITE)



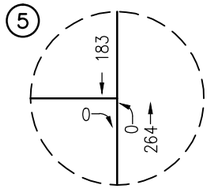
VICTORIA AVE @
ROAD B (ON-SITE)



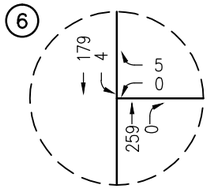
VICTORIA AVE @
DRIVEWAY C (ON-SITE)



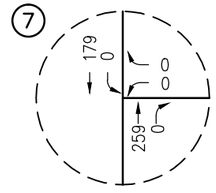
VICTORIA AVE @
DRIVEWAY D (ON-SITE)



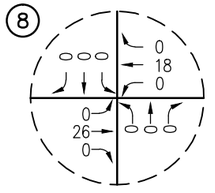
VICTORIA AVE @
LYNWOOD DR



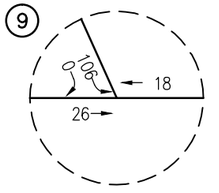
VICTORIA AVE @
MIRADA RD



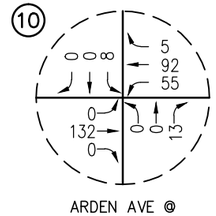
VICTORIA AVE @
DATE ST



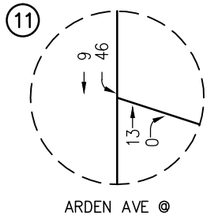
STERLING AVE @
HIGHLAND AVE



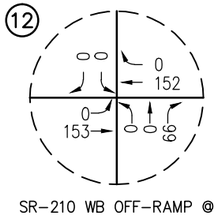
SR-210 EB OFF-RAMP @
HIGHLAND AVE



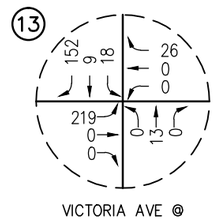
ARDEN AVE @
HIGHLAND AVE



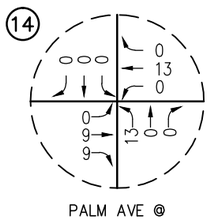
ARDEN AVE @
SR-210 EB ON-RAMP



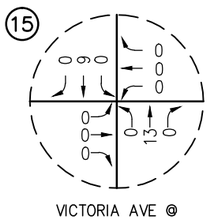
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

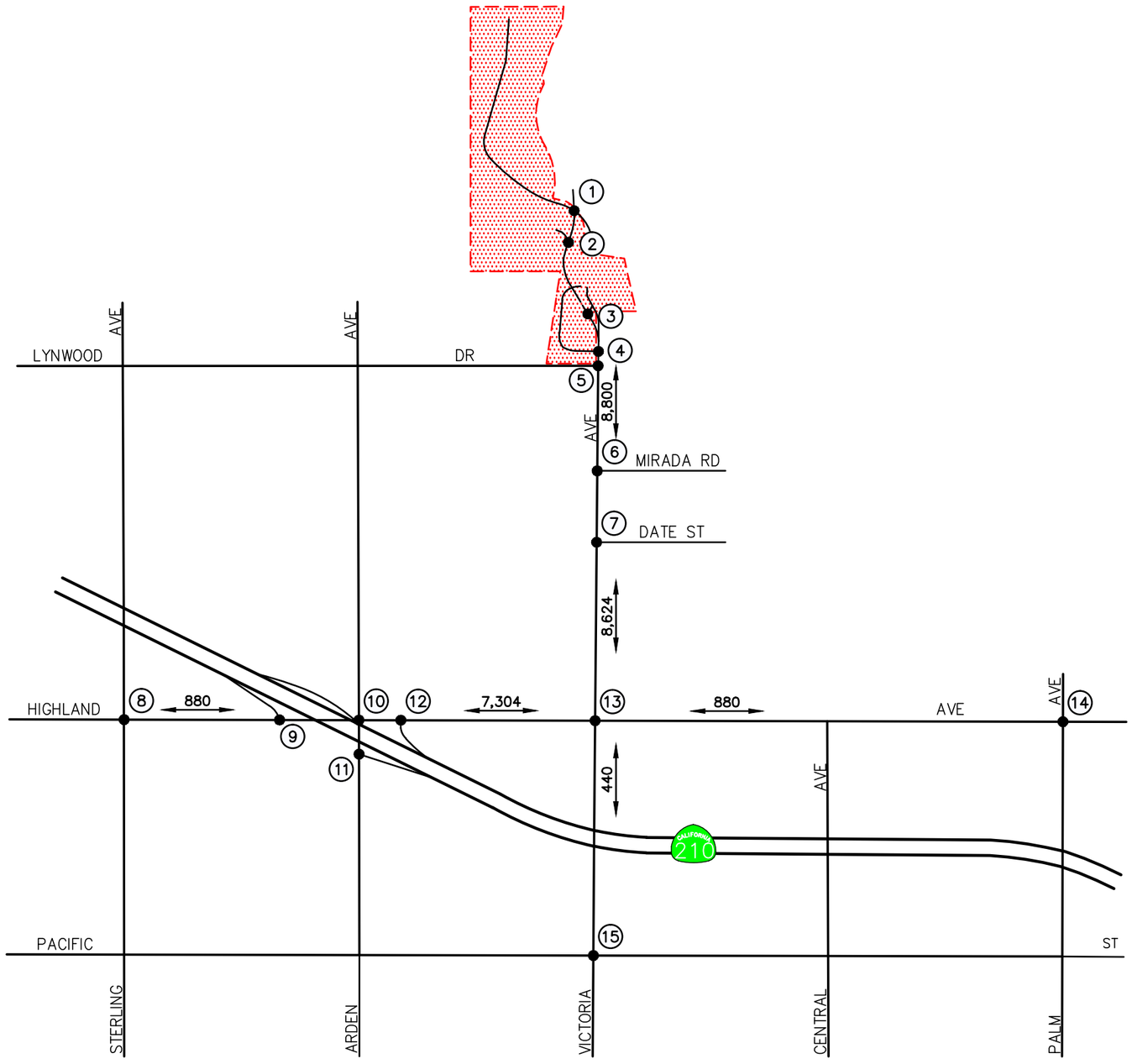
(#) = STUDY INTESECTION

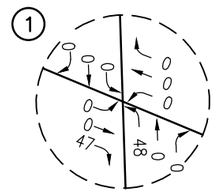
= PROJECT SITE

FIGURE 5-2

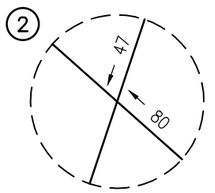
WEEKDAY AM PEAK HOUR PROJECT (PHASE 1) TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

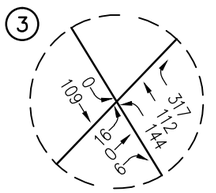




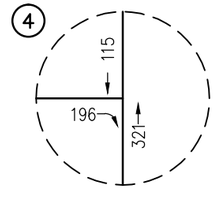
VICTORIA AVE @
ROAD A (ON–SITE)



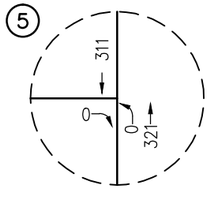
VICTORIA AVE @
ROAD B (ON–SITE)



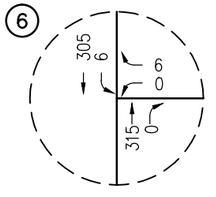
VICTORIA AVE @
DRIVEWAY C (ON–SITE)



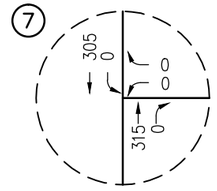
VICTORIA AVE @
DRIVEWAY D (ON–SITE)



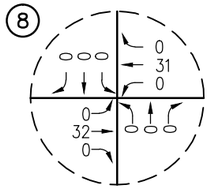
VICTORIA AVE @
LYNWOOD DR



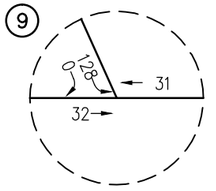
VICTORIA AVE @
MIRADA RD



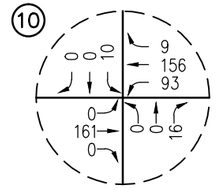
VICTORIA AVE @
DATE ST



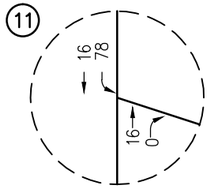
STERLING AVE @
HIGHLAND AVE



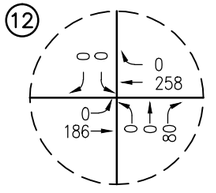
SR–210 EB OFF–RAMP @
HIGHLAND AVE



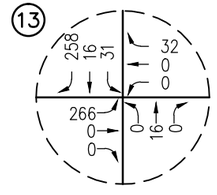
ARDEN AVE @
HIGHLAND AVE



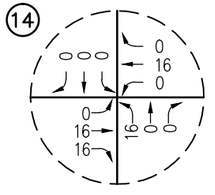
ARDEN AVE @
SR–210 EB ON–RAMP



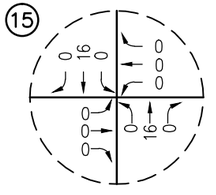
SR–210 WB OFF–RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

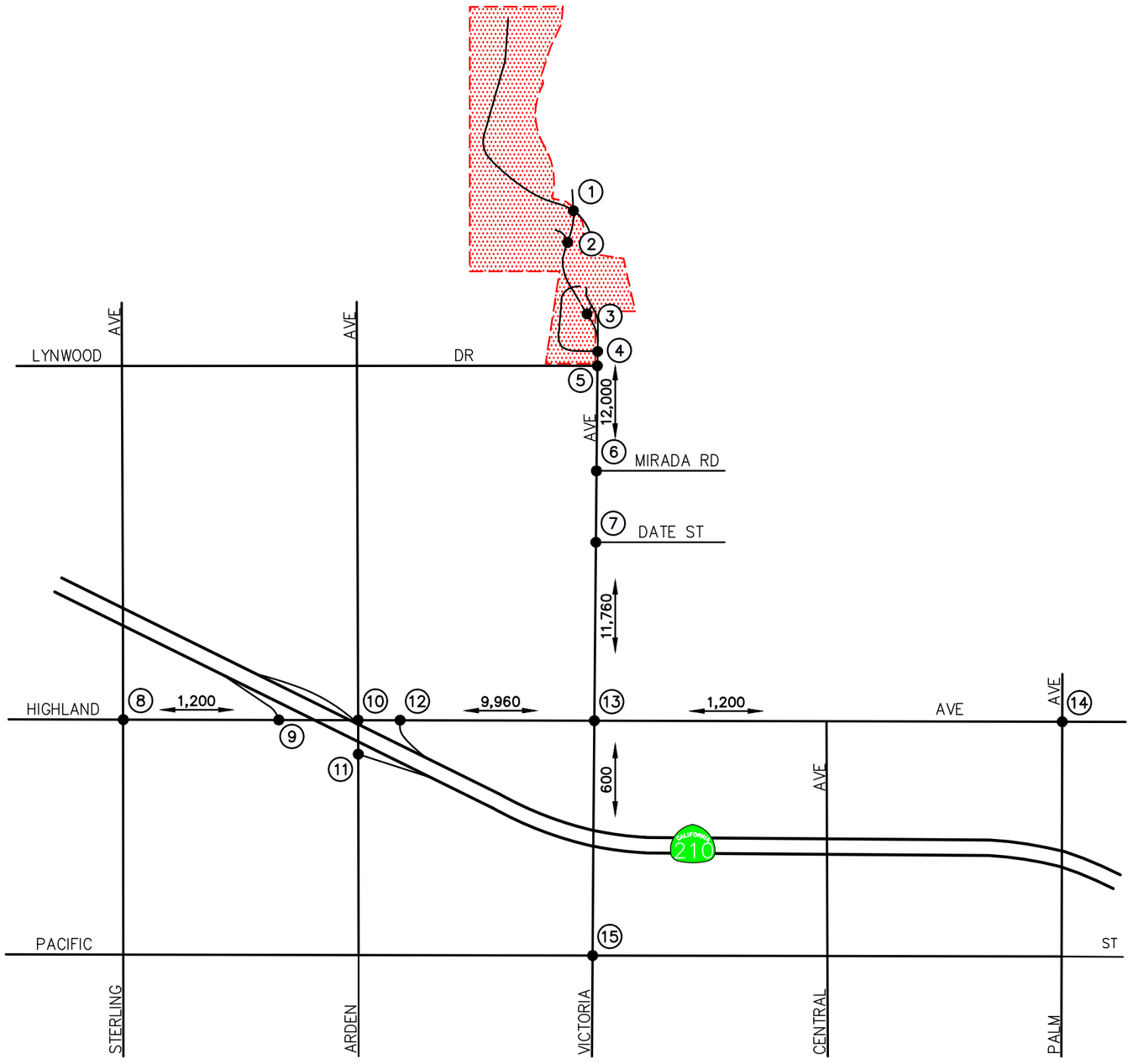
XX,XXX = DAILY TRAFFIC VOLUMES

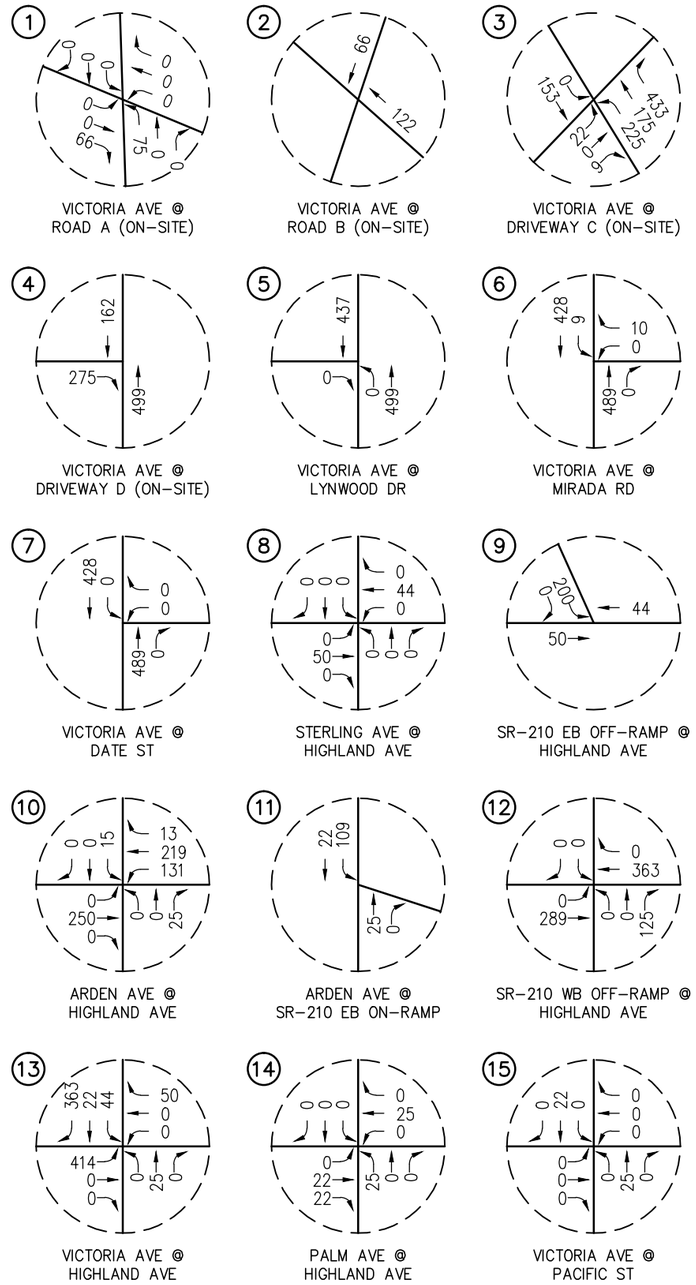
= PROJECT SITE

FIGURE 5–3

WEEKDAY PM PEAK HOUR AND DAILY PROJECT (PHASE 1) TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY





LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

XX,XXX = DAILY TRAFFIC VOLUMES

= PROJECT SITE

FIGURE 5-4

SATURDAY PM PEAK HOUR AND DAILY PROJECT (PHASE 1) TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

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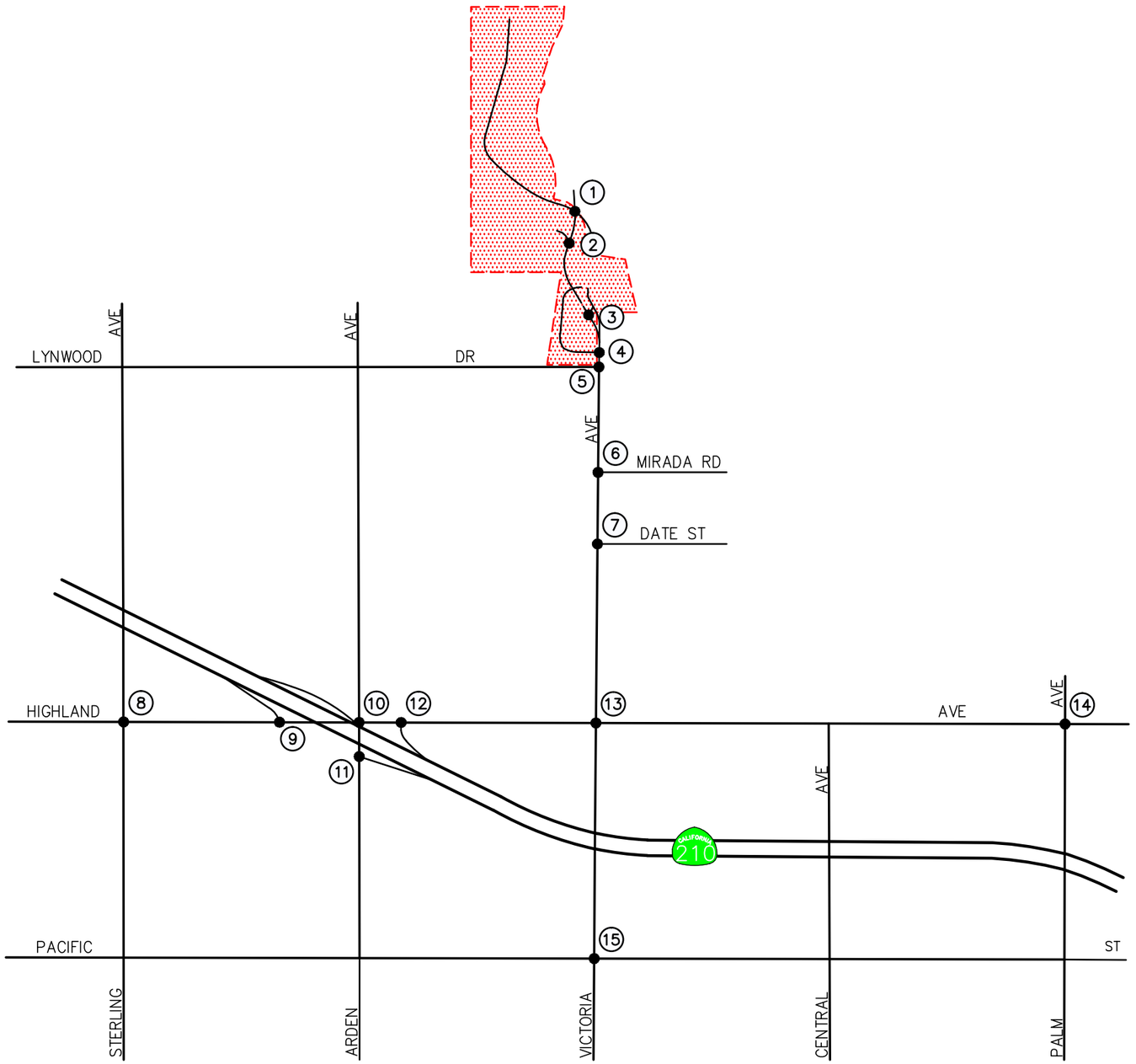
LYNWOOD DR
AVE
AVE
AVE
AVE
AVE
HIGHLAND
PACIFIC
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STERLING
ARDEN
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CENTRAL
PALM
MIRADA RD
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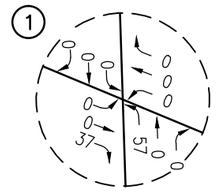
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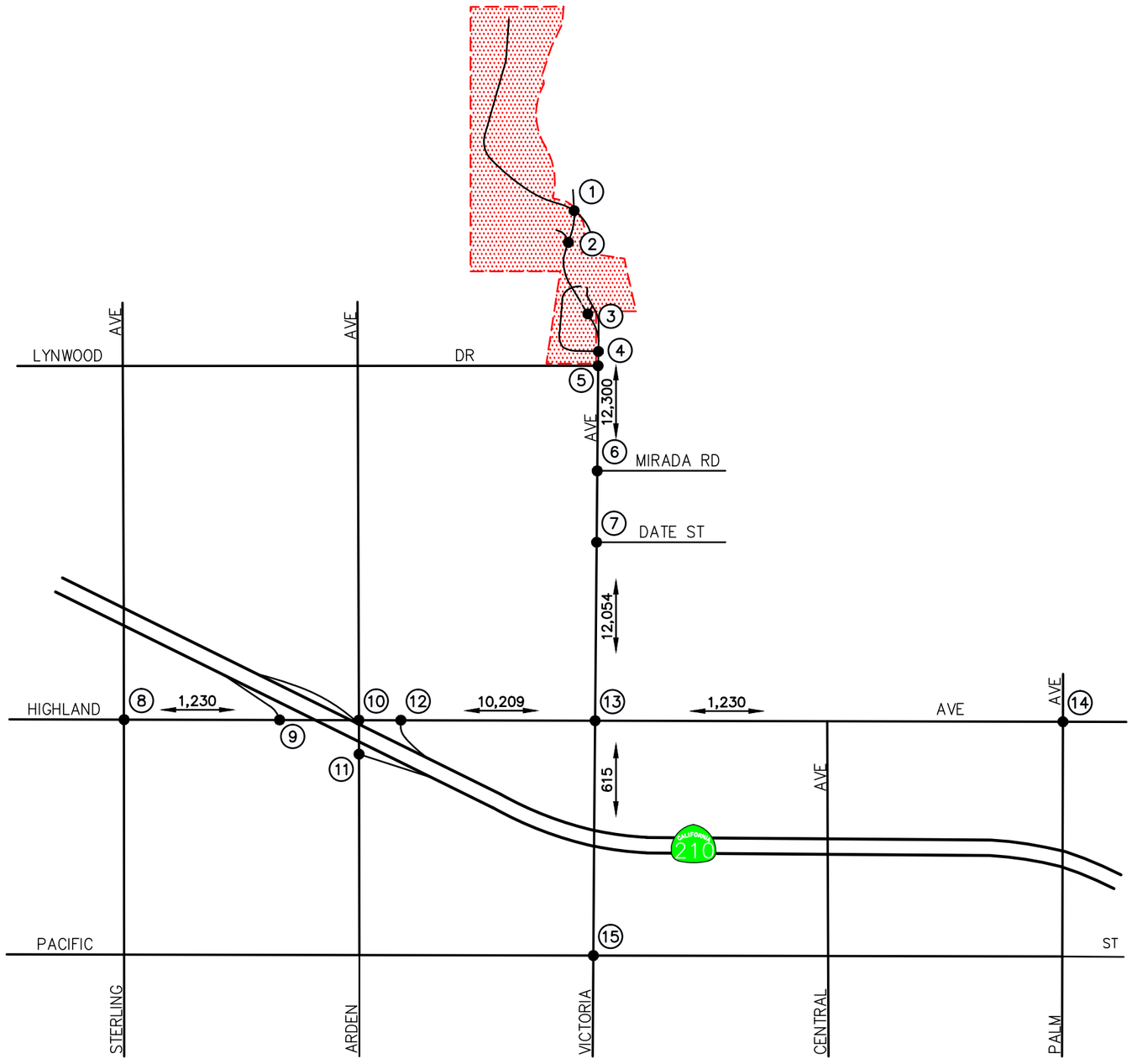

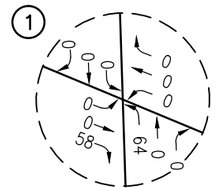

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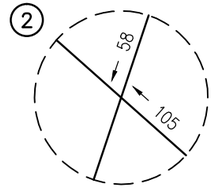

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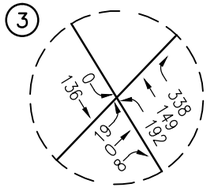

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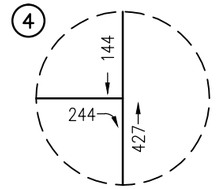

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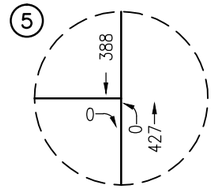

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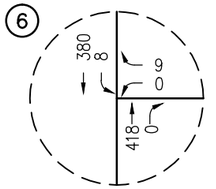

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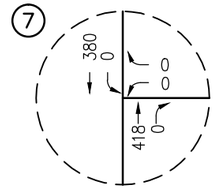

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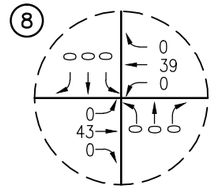

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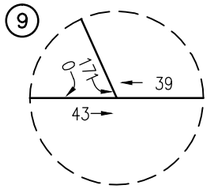

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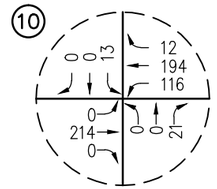

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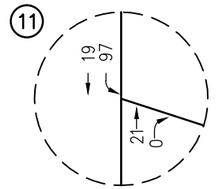

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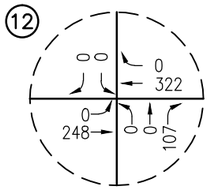

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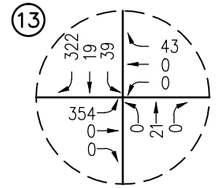
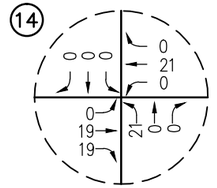


VICTORIA AVE @
HIGHLAND AVE



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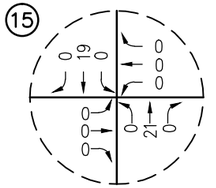

VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

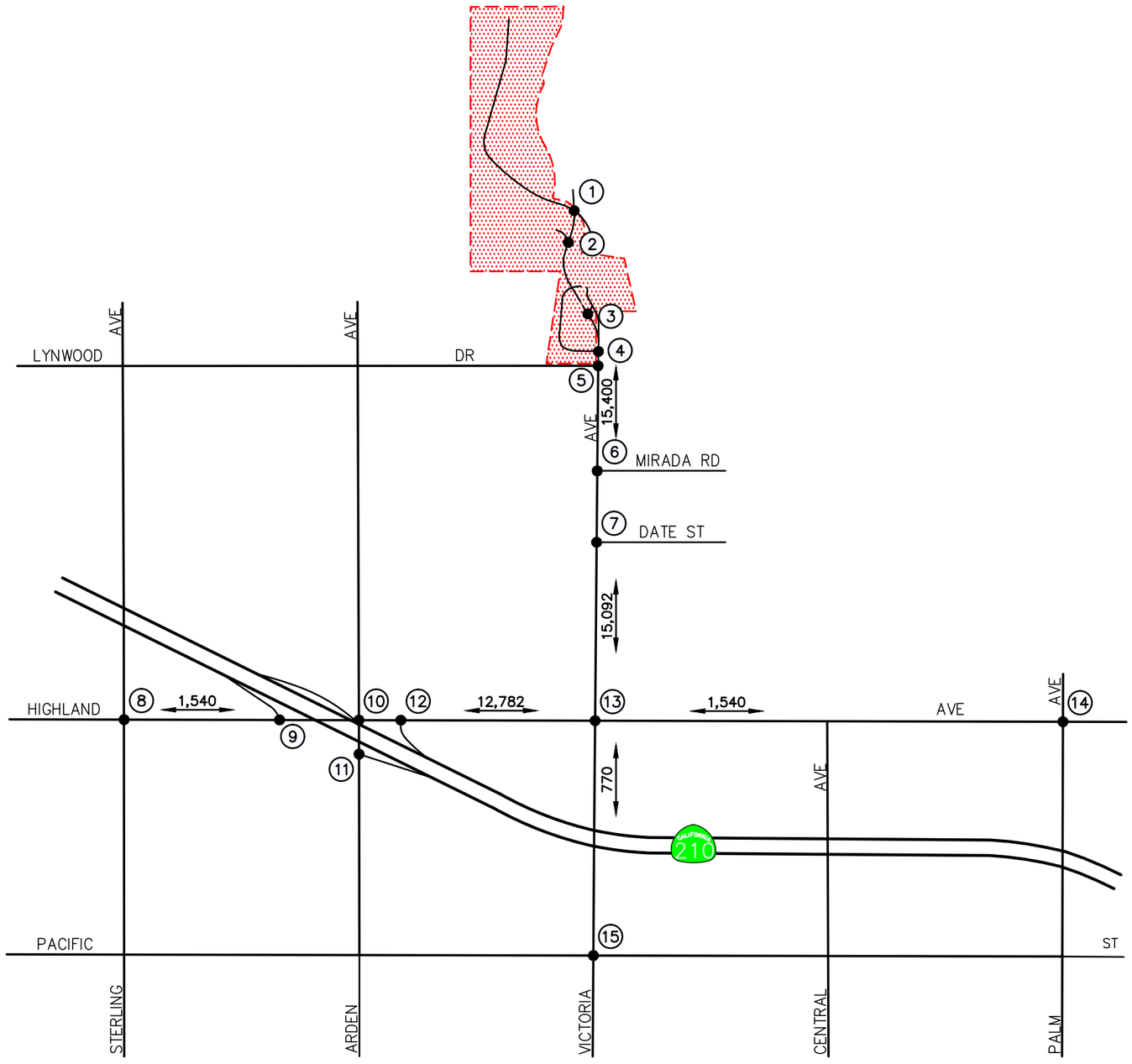
XX,XXX = DAILY TRAFFIC VOLUMES

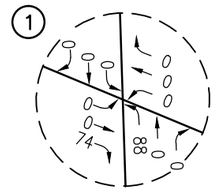
= PROJECT SITE

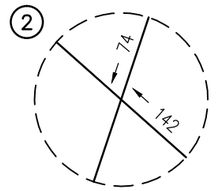
FIGURE 5–6

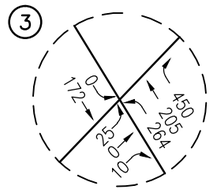
WEEKDAY PM PEAK HOUR AND DAILY PROJECT (PHASE 2) TRAFFIC VOLUMES

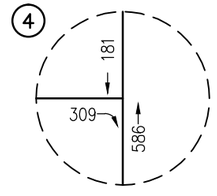
SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

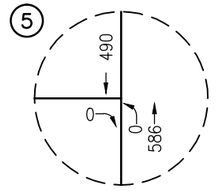


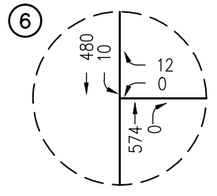


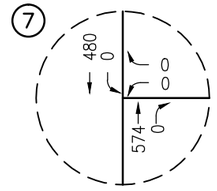


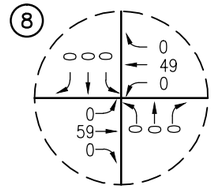


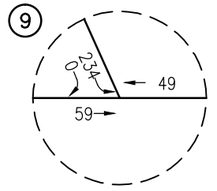


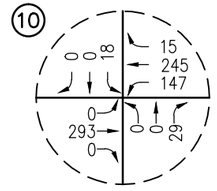


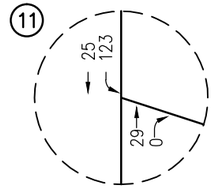


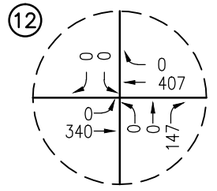


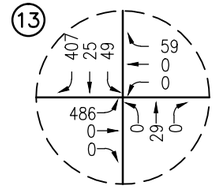


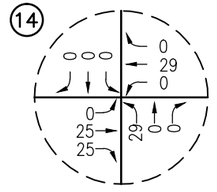


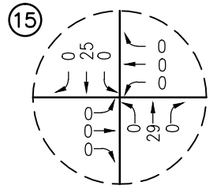












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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

XX,XXX = DAILY TRAFFIC VOLUMES

= PROJECT SITE

FIGURE 5-7

SATURDAY PM PEAK HOUR AND DAILY PROJECT (PHASE 2) TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

6.0 FUTURE TRAFFIC CONDITIONS

6.1 Existing With Project (Phase 1) Traffic Volumes

The estimates of Project (Phase 1) generated traffic volumes were added to the Existing traffic conditions to develop traffic projections for the Existing With Project (Phase 1) traffic conditions. ***Figures 6-1, 6-2*** and ***6-3*** present the anticipated Weekday AM, Weekday PM, and Saturday PM peak hour Existing With Project traffic volumes, respectively, at the fifteen (15) key study intersections. *Figures 6-2* and *6-3* also present the Existing With Project (Phase 1) Weekday daily and Saturday daily traffic volumes, respectively, for the six (6) key study roadway segments.

6.2 Existing With Project (Phase 2) Traffic Volumes

The estimates of Project (Phase 2) generated traffic volumes were added to the Existing traffic conditions to develop traffic projections for the Existing With Project (Phase 2) traffic conditions. ***Figures 6-4, 6-5*** and ***6-6*** present the anticipated Weekday AM, Weekday PM, and Saturday PM peak hour Existing With Project traffic volumes, respectively, at the fifteen (15) key study intersections. *Figures 6-5* and *6-6* also present the Existing With Project (Phase 2) Weekday daily and Saturday daily traffic volumes, respectively, for the six (6) key study roadway segments.

6.3 Year 2020 Without Project Traffic Volumes

6.3.1 *Ambient Growth Traffic*

Near-term horizon year, traffic growth estimates have been calculated using an ambient growth factor. The ambient growth factor is intended to include unknown and future related projects in the study area, as well as account for regular growth in traffic volumes due to the development of projects outside the study area. The application of the two percent (2%) annual growth rate to baseline traffic volumes results in a six percent (6%) growth in existing baseline volumes at the fifteen (15) key study intersections and six (6) key roadway segments to horizon Year 2020.

6.3.2 *Related Projects Traffic*

Six (6) related projects have been identified within the Project study area, five (5) within the City of San Bernardino and one (1) within the City of Highland. Related projects, as defined by Section 15355 of the CEQA Guidelines, are "closely related past, present and reasonably foreseeable probable future projects". The Traffic Impact Analysis assumes that these related projects will be developed and operational when the proposed Project is operational. This is the most conservative, worst-case approach, since the exact timing of each related project is uncertain. In addition, impacts for these related projects would likely be, or have been, subject to mitigation measures, which could reduce potential impacts. Under this analysis, however, those mitigation measures are not considered. The locations of these related projects are presented in ***Figure 6-7***.

Table 6-1 presents the jurisdiction, description and development totals for each of the related projects. ***Table 6-2*** presents the resultant trip generation for the related projects. As shown in *Table 6-2*, the related projects are expected to generate 39,964 Weekday daily trips (one half arriving, one half departing), with 2,280 trips (1,227 inbound and 1,053 outbound) forecast during the Weekday

AM peak hour and 3,257 trips (1,664 inbound and 1,593 outbound) forecast during the Weekday PM peak hour on a "typical" weekday. The related projects are expected to generate 39,528 Saturday daily trips (one half arriving, one half departing) with 3,770 trips (1,993 inbound and 1,777 outbound) forecast during the Saturday PM peak hour on a "typical" Saturday.

The anticipated Weekday AM, Weekday PM, and Saturday PM peak hour related projects traffic volumes at the fifteen (15) key study intersections are presented in ***Figures 6-8, 6-9,*** and ***6-10***, respectively. *Figures 6-9* and *6-10* also present the daily related projects traffic volumes for the six (6) key study roadway segments.

Figures 6-11, 6-12 and ***6-13*** present Year 2020 Without Project Weekday AM, Weekday PM, and Saturday PM peak hour traffic volumes at the fifteen (15) key study intersections, respectively. *Figures 6-12* and *6-13* also present the Year 2020 Without Project Weekday daily and Saturday daily traffic volumes, respectively, for the six (6) key study roadway segments. It should be noted that the Year 2020 Without Project traffic volumes include ambient traffic growth as well as the traffic from the six (6) related projects. Please note that only 30% of Greenspot Village and Marketplace will be completed by 2020.

It should again be emphasized that because this traffic impact analysis utilizes both an ambient growth factor along with a list of related projects approach to analyze cumulative impacts, this traffic impact analysis is highly conservative and would tend to overstate cumulative traffic impacts.

6.4 Year 2020 With Project (Phase 1) Traffic Volumes

The estimates of Project Phase 1 generated traffic volumes were added to the Year 2020 Without Project traffic conditions to develop traffic projections for the Year 2020 With Project (Phase 1) traffic conditions. ***Figures 6-14, 6-15,*** and ***6-16*** present the anticipated Weekday AM, Weekday PM, and Saturday PM peak hour Year 2020 With Project (Phase 1) traffic volumes, respectively, at the fifteen (15) key study intersections. *Figures 6-15* and *6-16* also present the Weekday daily and Saturday daily Year 2020 With Project (Phase 1) traffic volumes, respectively, at the six (6) key study roadway segments.

6.5 Year 2022 Without Project Traffic Volumes

The application of the two percent (2%) annual growth rate to baseline traffic volumes results in a ten percent (10%) growth in existing baseline volumes at the fifteen (15) key study intersections and six (6) key roadway segments to horizon Year 2022. It should be noted that Project Phase 1 traffic is included in the Year 2022 volumes. The estimated trip generation of the six (6) related projects was also added. Please note that only 50% of Greenspot Village and Marketplace will be completed by 2022.

Figures 6-17, 6-18, and ***6-19*** present the anticipated Weekday AM, Weekday PM, and Saturday PM peak hour Year 2022 Without Project traffic volumes, respectively, at the fifteen (15) key study intersections. *Figures 6-18* and *6-19* also present the Weekday daily and Saturday daily Year 2022 Without Project traffic volumes, respectively, at the six (6) key study roadway segments.

It should again be emphasized that because this traffic impact analysis utilizes both an ambient growth factor along with a list of related projects approach to analyze cumulative impacts, this traffic impact analysis is highly conservative and would tend to overstate cumulative traffic impacts.

6.6 Year 2022 With Project (Phase 2) Traffic Volumes

The estimates of Project Phase 2 generated traffic volumes were added to the Year 2022 Without Project traffic conditions to develop traffic projections for the Year 2022 With Project (Phase 2) traffic conditions. ***Figures 6-20, 6-21,*** and ***6-22*** present the anticipated Weekday AM, Weekday PM, and Saturday PM peak hour Year 2022 With Project (Phase 2) traffic volumes, respectively, at the fifteen (15) key study intersections. *Figures 6-21* and *6-22* also present presents the Weekday daily and Saturday daily Year 2022 With Project (Phase 2) traffic volumes, respectively, at the six (6) key study roadway segments.

6.7 Year 2040 Travel Demand Model Methodology

The Year 2040 General Plan Buildout traffic volume forecasts were obtained through utilization of the SBTAM travel demand model administered by LSA Associates, Inc.

6.7.1 *Volume Adjustment*

Using the SBTAM, projected traffic volumes were obtained for each intersection. The model produces peak period and off-peak period volumes (6 AM – 9 AM, 9 AM – 3 PM, 3 PM – 7 PM and 7 PM – 6 AM). Before converting the model peak period link volumes to future turning movement volumes for analysis, the model volumes must be reviewed and adjusted.

The first step is to obtain the approach and departure volumes from the model for each leg of the analyzed intersections. The next step converts the model approach and departure volumes from AM and PM peak period volumes to peak hour volumes. The AM peak hour volumes are calculated by multiplying the AM peak period volumes by 38%. Similarly, the PM peak hour volumes are calculated by multiplying the PM period volumes by 28%. These are the percentages of vehicles that are assumed to occur in the peak hour of the peak period. These factors are derived from SCAG research. The next step is to determine the difference between the base year (2008) peak hour model volumes and the Buildout peak hour model volumes. This "difference" represents the projected growth in traffic on each approach to the Buildout of the General Plan using the SCAG 2040 CTP model.

6.7.2 *B-turn Methodology*

The base year turning movement counts for each intersection must be converted to approach and departure volumes for each leg of the intersection. Once the base counts are in this format, the difference between the Buildout model and base model are then added to the base year counts for each corresponding approach and departure volume. This step provides the adjusted volumes that will be used to determine the Buildout turning movement volumes. The next process in the forecasting of future turning volumes applies the B-turn methodology. The B-turn methodology is generally described in the *"National Cooperative Highway Research Program Report (NCHRP) 255: Highway Traffic Data for Urbanized Area Project Planning and Design", Chapter 8*. The B-

turn method uses the base year turning percentages (from traffic counts) and proceeds through an iterative computational technique to produce a final set of future year turning volumes. The computations involve alternatively balancing the rows (approaches) and the columns (departures) of a turning movement matrix until an acceptable convergence is obtained. Future year link volumes are fixed using this method and the turning movements are adjusted to match. The results must be checked for reasonableness, and manual adjustments are sometimes necessary.

Finally, it should be noted that all provided volumes are from a General Plan level model that was not specifically developed for analysis of individual intersection turning movements. Therefore each projected volume was reviewed carefully and adjustments were applied as warranted based on local conditions and professional judgment.

Copies of the traffic model post-processing worksheets and a detailed description of the traffic volume derivation are contained in ***Appendix B***. Please note that the post-processing methodology utilized in this report is consistent with SCAG requirements.

6.8 Year 2040 Without Project (Phase 2) Traffic Volumes

The Year 2040 Without Project (Phase 2) traffic volumes were obtained by post-processing the peak hour approach and departure traffic volumes based on the relationship of the base year validation model run output to the base year ground traffic counts and represent the General Plan Buildout traffic conditions. Please note that the remaining 50% of Greenspot Village and Marketplace is expected to be completed by 2040.

The anticipated Year 2040 Without Project (Phase 2) traffic conditions Weekday AM, Weekday PM, and Saturday PM peak hour traffic volumes at the fifteen (15) key study intersections are presented in ***Figures 6-23, 6-24,*** and ***6-25,*** respectively. *Figures 6-24* and *6-25* also present the daily Year 2040 Without Project (Phase 2) traffic volumes, respectively, at the six (6) key study roadway segments.

6.9 Year 2040 With Project (Phase 1) Traffic Volumes

Since the SBTAM does not include the proposed Project, the Year 2040 forecast volumes from the SBTAM Model are considered to be the Year 2040 Without Project (Phase 2) volumes. Therefore, to obtain the "With" Project volumes, the Project Phase 1 trips were manually superimposed on the Year 2040 Without Project (Phase 2) volumes to obtain the Year 2040 With Project (Phase 1) volumes.

Figures 6-26, 6-27, and ***6-28*** present the anticipated Weekday AM, Weekday PM, and Saturday PM peak hour Year 2040 With Project (Phase 1) traffic volumes, respectively, at the fifteen (15) key study intersections. *Figures 6-27* and *6-28* also present the Weekday daily and Saturday daily Year 2040 With Project (Phase 1) traffic volumes, respectively, at the six (6) key study roadway segments.

6.10 Year 2040 With Project (Phase 2) Traffic Volumes

Since the SBTAM does not include the proposed Project, the Year 2040 forecast volumes from the SBTAM Model are considered to be the Year 2040 Without Project (Phase 2) volumes. Therefore, to obtain the "With" Project volumes, the Project Phase 2 trips were manually superimposed on the Year 2040 Without Project (Phase 2) volumes to obtain the Year 2040 With Project (Phase 2) volumes.

Figures 6-29, 6-30, and ***6-31*** present the anticipated Weekday AM, Weekday PM, and Saturday PM peak hour Year 2040 With Project (Phase 2) traffic volumes, respectively, at the fifteen (15) key study intersections. *Figures 6-30* and *6-31* also present the Weekday daily and Saturday daily Year 2040 With Project (Phase 2) traffic volumes, respectively, at the six (6) key study roadway segments.

TABLE 6-1

LOCATION AND DESCRIPTION OF CUMULATIVE PROJECTS

No.	Cumulative Project	Location/Address	Description
City of San Bernardino Development[8]			
1.	Aquinas Catholic High School	2772 N. Sterling Avenue	16.600 TSF Performing Arts Building, 3.460 TSF Administration Building, 4.490 TSF Gymnasium Expansion, 2.170 TSF Aquatic Center
2.	1550 E. Pumalo Street	1550 E. Pumalo Street	7.680 TSF Preschool
3.	2384 N. Arden Avenue	2384 N. Arden Avenue	2.400 TSF 7-Eleven Expansion
4.	West of N. Arden, North of E. Highland Avenue	West of N. Arden, North of E. Highland Avenue	6.800 TSF Auto Parts Retail, 4.600 TSF Retail, 2.200 TSF Restaurant With Drive-thru
5.	1895 N. Del Rosa Avenue	1895 N. Del Rosa Avenue	44.190 TSF Office
City of Highland Development[9]			
6.	Greenspot Village & Marketplace	North of Greenspot Road, East of SR-210, West of Boulder Avenue	679 TSF Shopping Center, 11.2 TSF Fast Food With Drive-Thru, 3.6 Gasoline/Service Station, 10 TSF Drive-In Bank, 696 DU Apartment, 104 DU Senior Adult Housing-Attached, 240 RM Hotel[10]

8 Source: *City of San Bernardino Community Development Department*.

9 Source: *Hernandez, Kroone & Associates, Inc*.

10 Source: *Greenspot Village & Marketplace Traffic Study Update,* prepared by Urban Crossroads. Please note that 30% of the project is expected to be completed by Year 2020, 50% by Year 2022, and the remaining 50% by Year 2040.

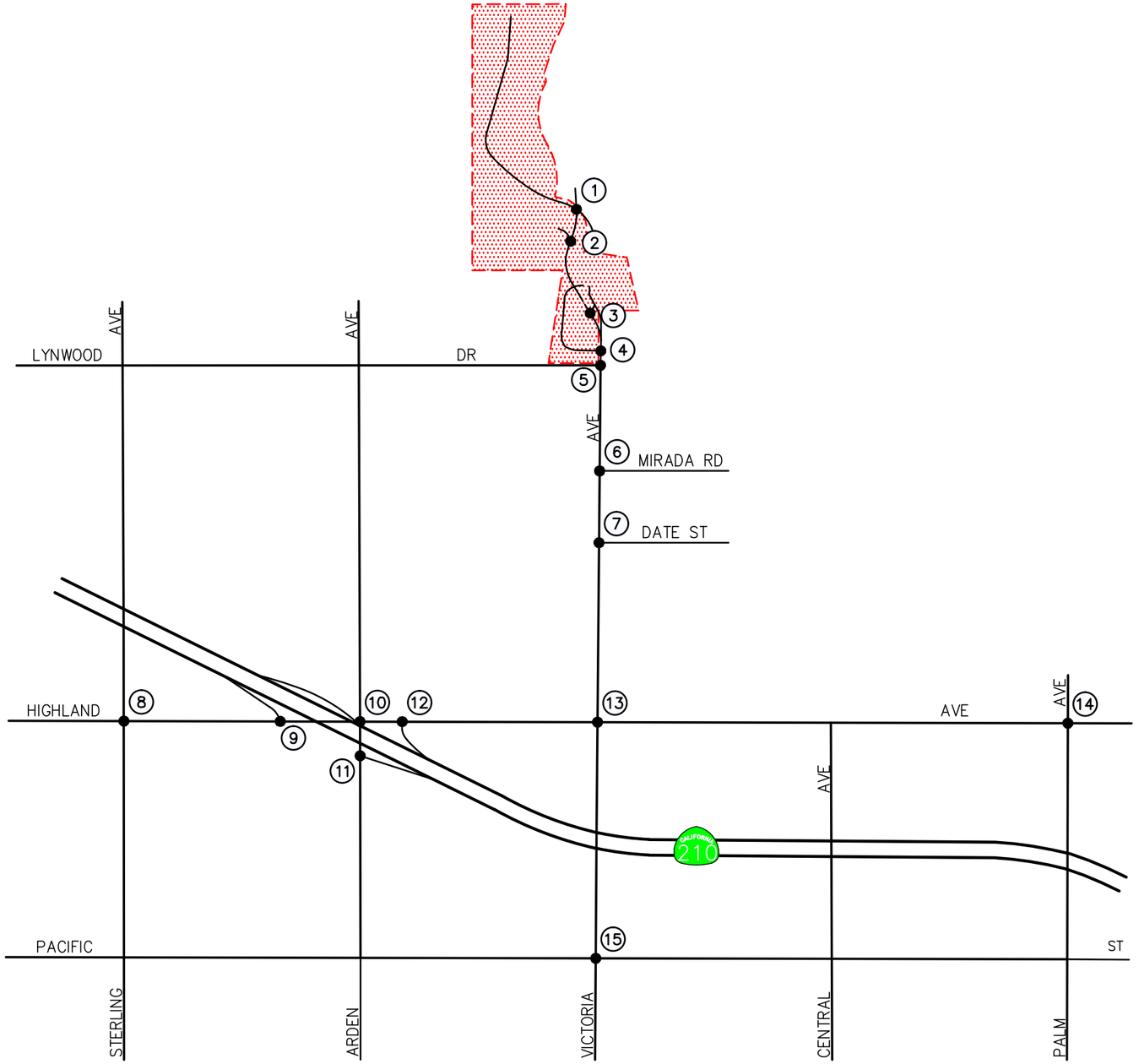
TABLE 6-2

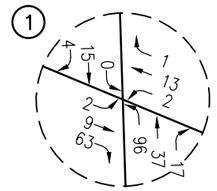
RELATED PROJECTS TRIP GENERATION FORECAST[11]

Cumulative Project Description	Weekday							Saturday			
	Daily 2-Way	AM Peak Hour			PM Peak Hour			Daily 2-Way	PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total		Enter	Exit	Total
1. Aquinas Catholic High School	344	58	24	82	14	12	26	117	14	8	22
2. 1550 E. Pumalo Street	569	50	44	94	45	50	95	48	8	5	13
3. 2384 N. Arden Avenue	1,594	73	72	145	31	31	62	1,864	46	45	91
4. West of N. Arden, North of E. Highland Avenue	1,646	35	33	68	34	36	70	1,704	63	60	123
5. 1895 N. Del Rosa Avenue	3,046	218	42	260	16	37	53	109	10	9	19
6. Greenspot Village & Marketplace[12]	32,765	793	838	1,631	1,524	1,427	2,951	35,686	1,852	1,650	3,502
Cumulative Projects Total Trip Generation Potential	**39,964**	**1,227**	**1,053**	**2,280**	**1,664**	**1,593**	**3,257**	**39,528**	**1,993**	**1,777**	**3,770**

[11] Source: *Trip Generation*, 9th Edition, Institute of Transportation Engineers (ITE), Washington, D.C. (2012).

[12] Source: *Greenspot Village & Marketplace Traffic Study Update,* prepared by Urban Crossroads.





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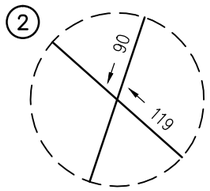

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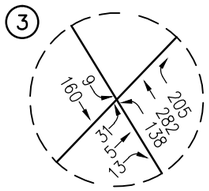

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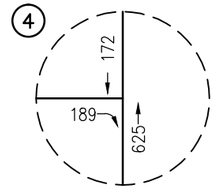

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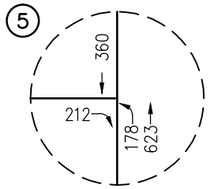

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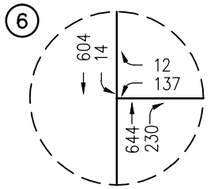

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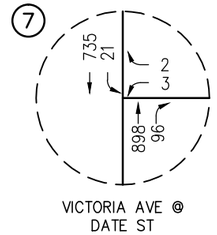

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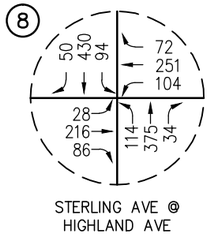

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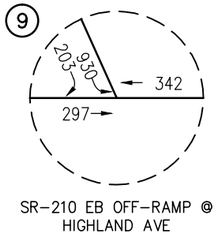

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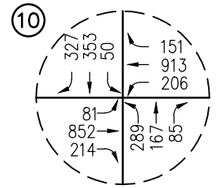

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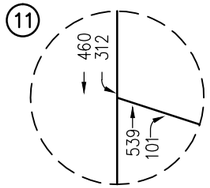

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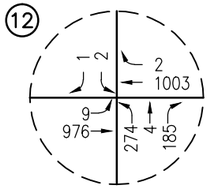

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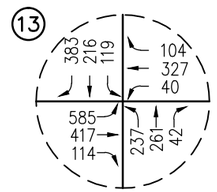

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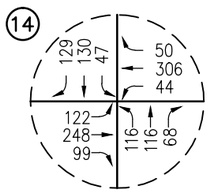

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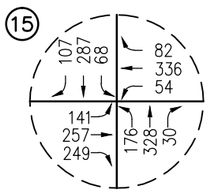

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PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

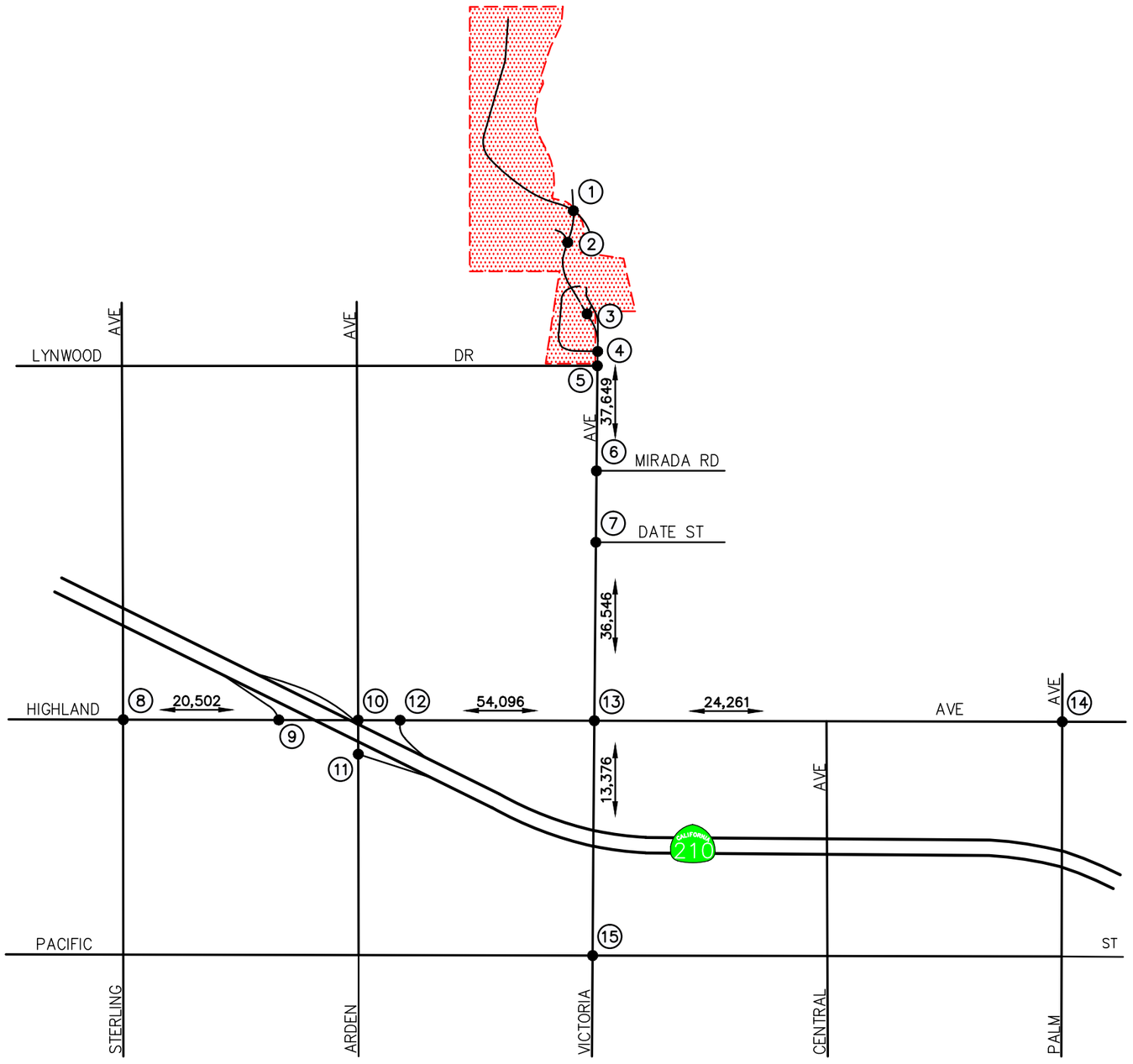
(#) = STUDY INTESECTION

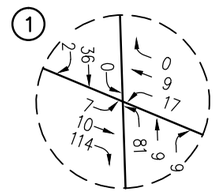
= PROJECT SITE

FIGURE 6-1

EXISTING WITH PROJECT (PHASE 1) WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY





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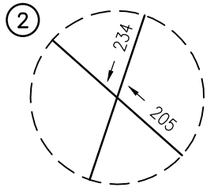

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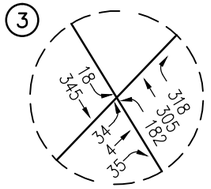

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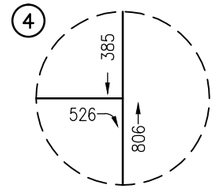

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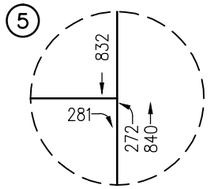

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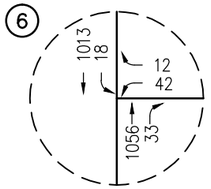

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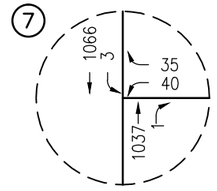

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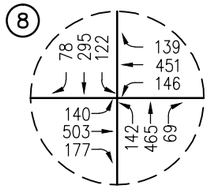

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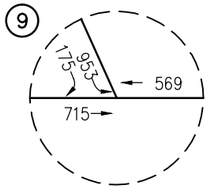

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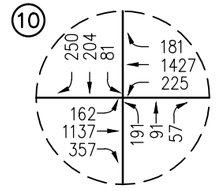

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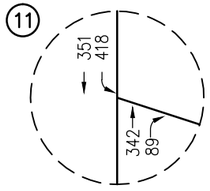

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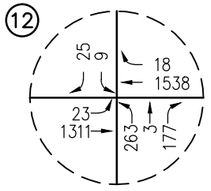

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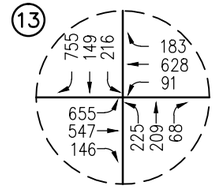

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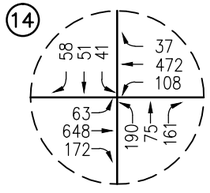

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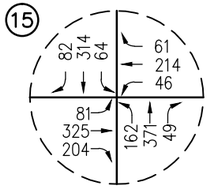

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PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

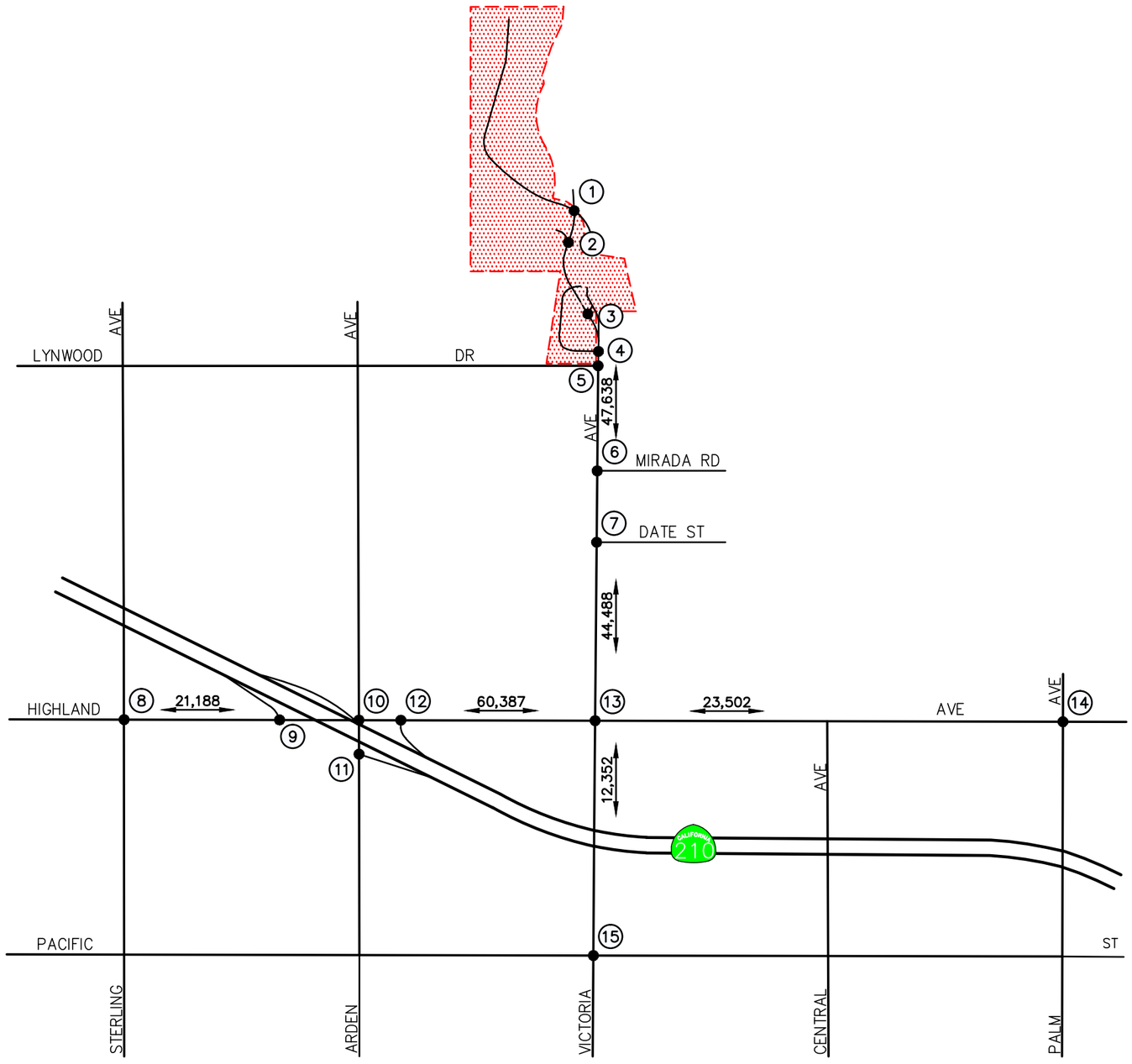
XX,XXX = DAILY TRAFFIC VOLUMES

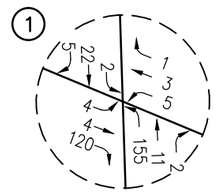
= PROJECT SITE

FIGURE 6–2

EXISTING WITH PROJECT (PHASE 1) WEEKDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY





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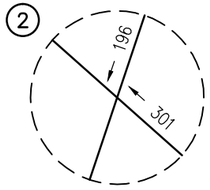

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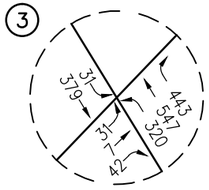

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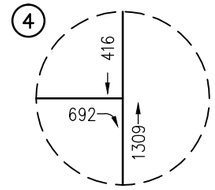

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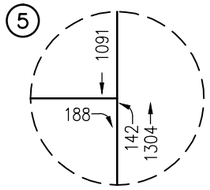

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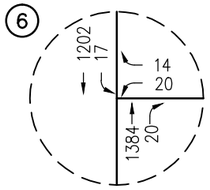

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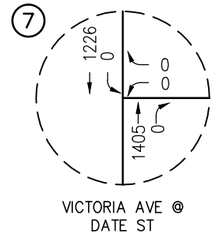

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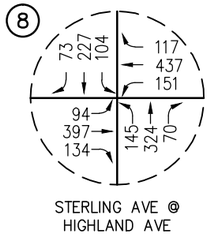

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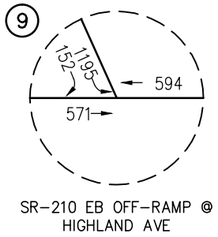

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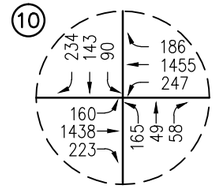

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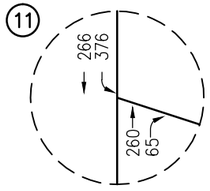

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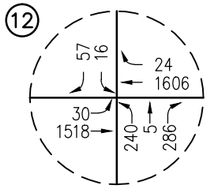
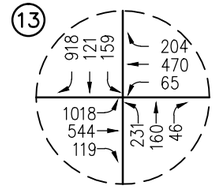
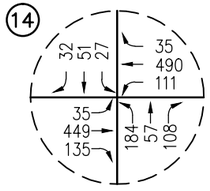


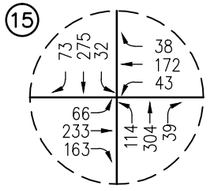
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

n:\3700\2163777 - san manuel hotel and casino expansion, san bernardino county\6 - dwg\3777 f6-3.dwg LDP 15:24:07 01-24-2018 besa

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

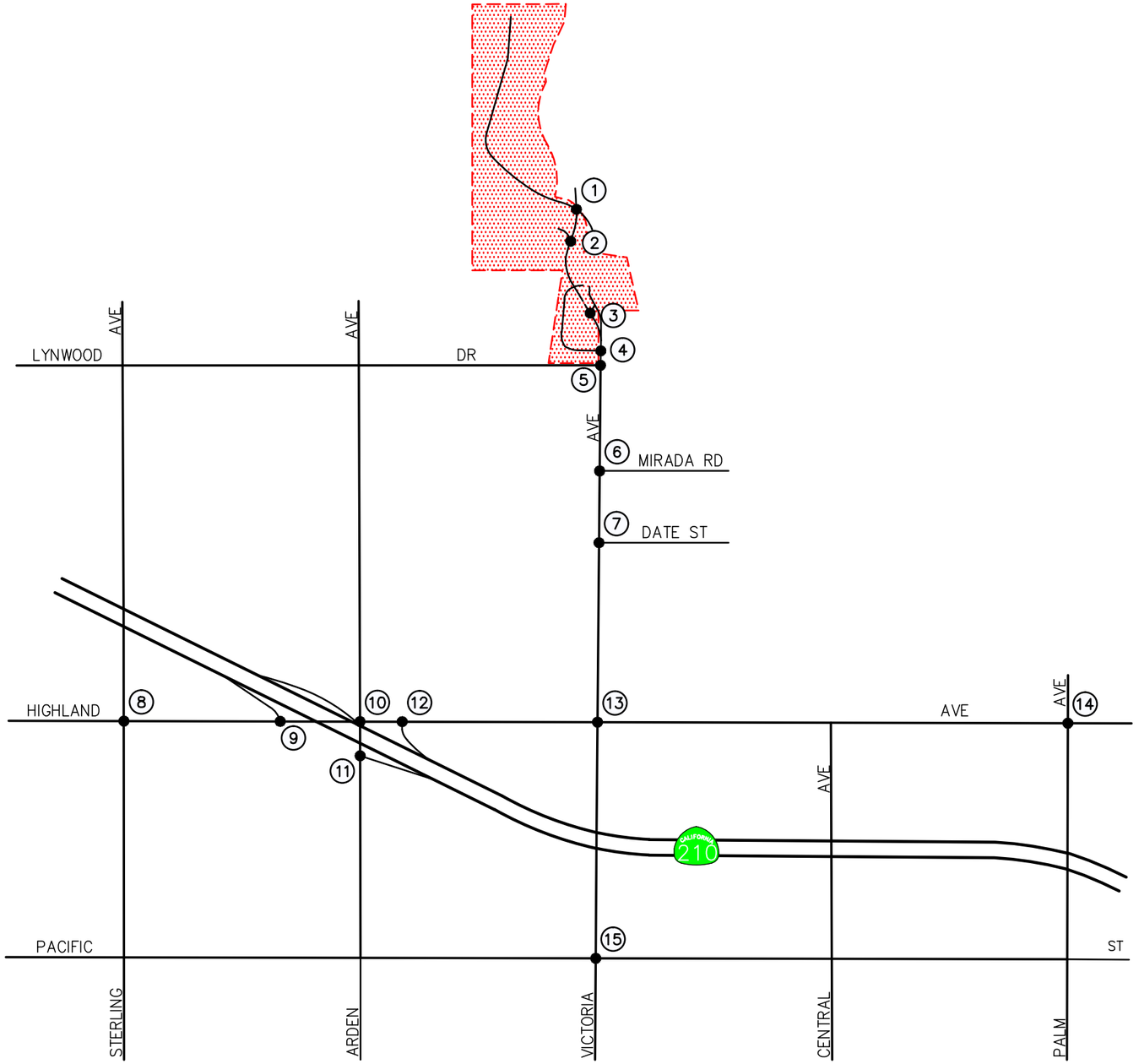
XX,XXX = DAILY TRAFFIC VOLUMES

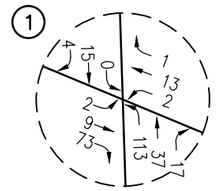
= PROJECT SITE

FIGURE 6-3

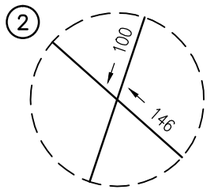
EXISTING WITH PROJECT (PHASE 1) SATURDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

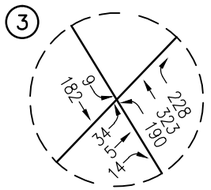




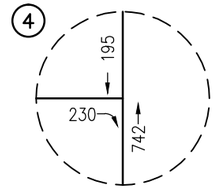
VICTORIA AVE @
ROAD A (ON-SITE)



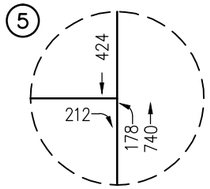
VICTORIA AVE @
ROAD B (ON-SITE)



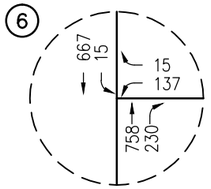
VICTORIA AVE @
DRIVEWAY C (ON-SITE)



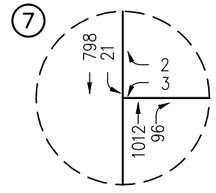
VICTORIA AVE @
DRIVEWAY D (ON-SITE)



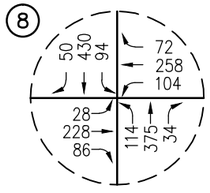
VICTORIA AVE @
LYNWOOD DR



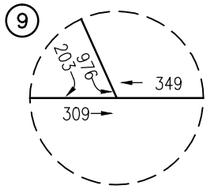
VICTORIA AVE @
MIRADA RD



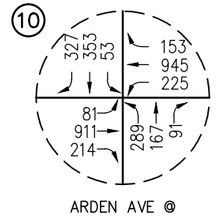
VICTORIA AVE @
DATE ST



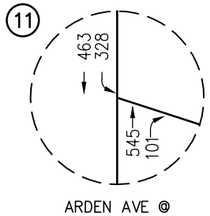
STERLING AVE @
HIGHLAND AVE



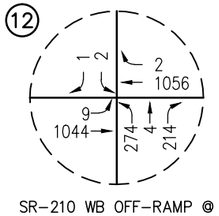
SR-210 EB OFF-RAMP @
HIGHLAND AVE



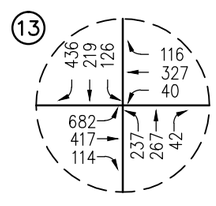
ARDEN AVE @
HIGHLAND AVE



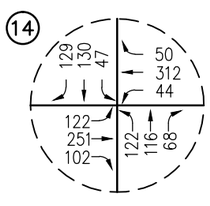
ARDEN AVE @
SR-210 EB ON-RAMP



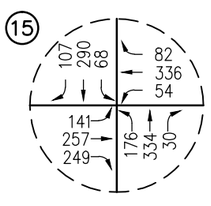
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

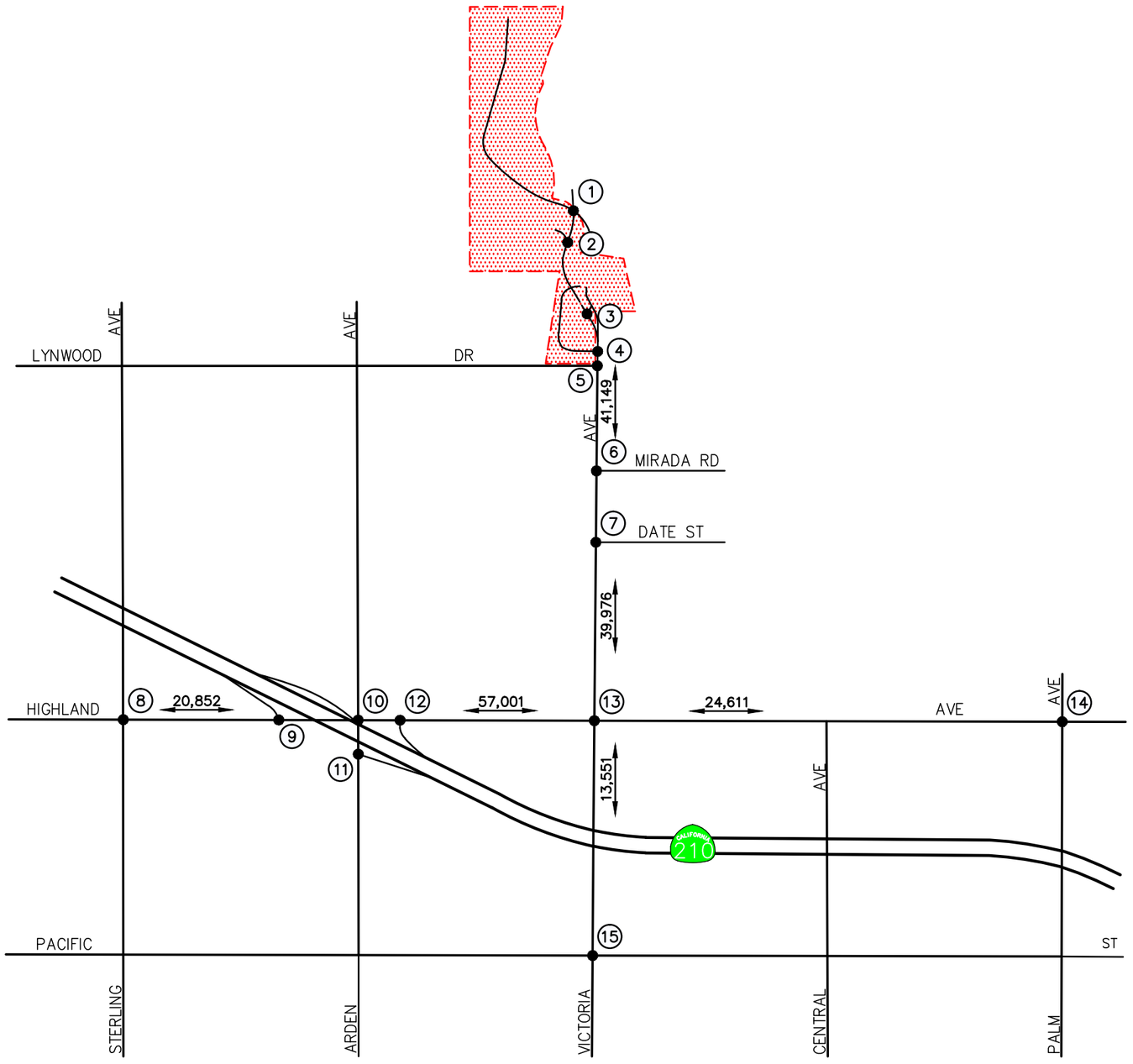
(#) = STUDY INTESECTION

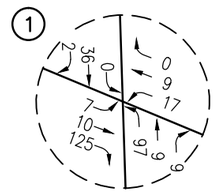
= PROJECT SITE

FIGURE 6-4

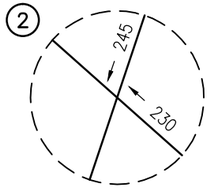
EXISTING WITH PROJECT (PHASE 2) WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

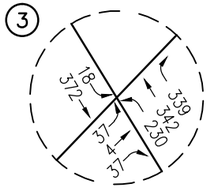




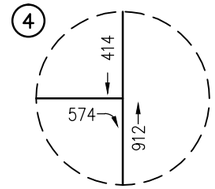
VICTORIA AVE @
ROAD A (ON-SITE)



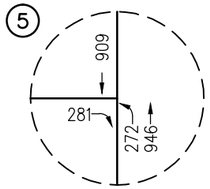
VICTORIA AVE @
ROAD B (ON-SITE)



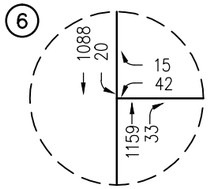
VICTORIA AVE @
DRIVEWAY C (ON-SITE)



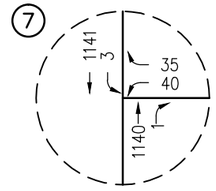
VICTORIA AVE @
DRIVEWAY D (ON-SITE)



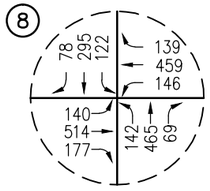
VICTORIA AVE @
LYNWOOD DR



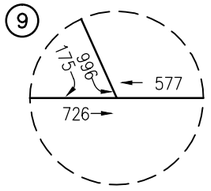
VICTORIA AVE @
MIRADA RD



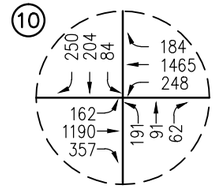
VICTORIA AVE @
DATE ST



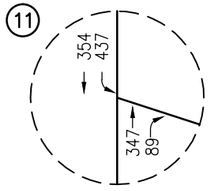
STERLING AVE @
HIGHLAND AVE



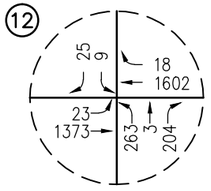
SR-210 EB OFF-RAMP @
HIGHLAND AVE



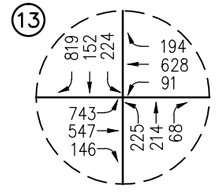
ARDEN AVE @
HIGHLAND AVE



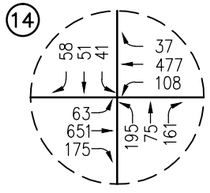
ARDEN AVE @
SR-210 EB ON-RAMP



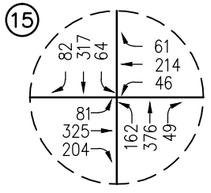
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

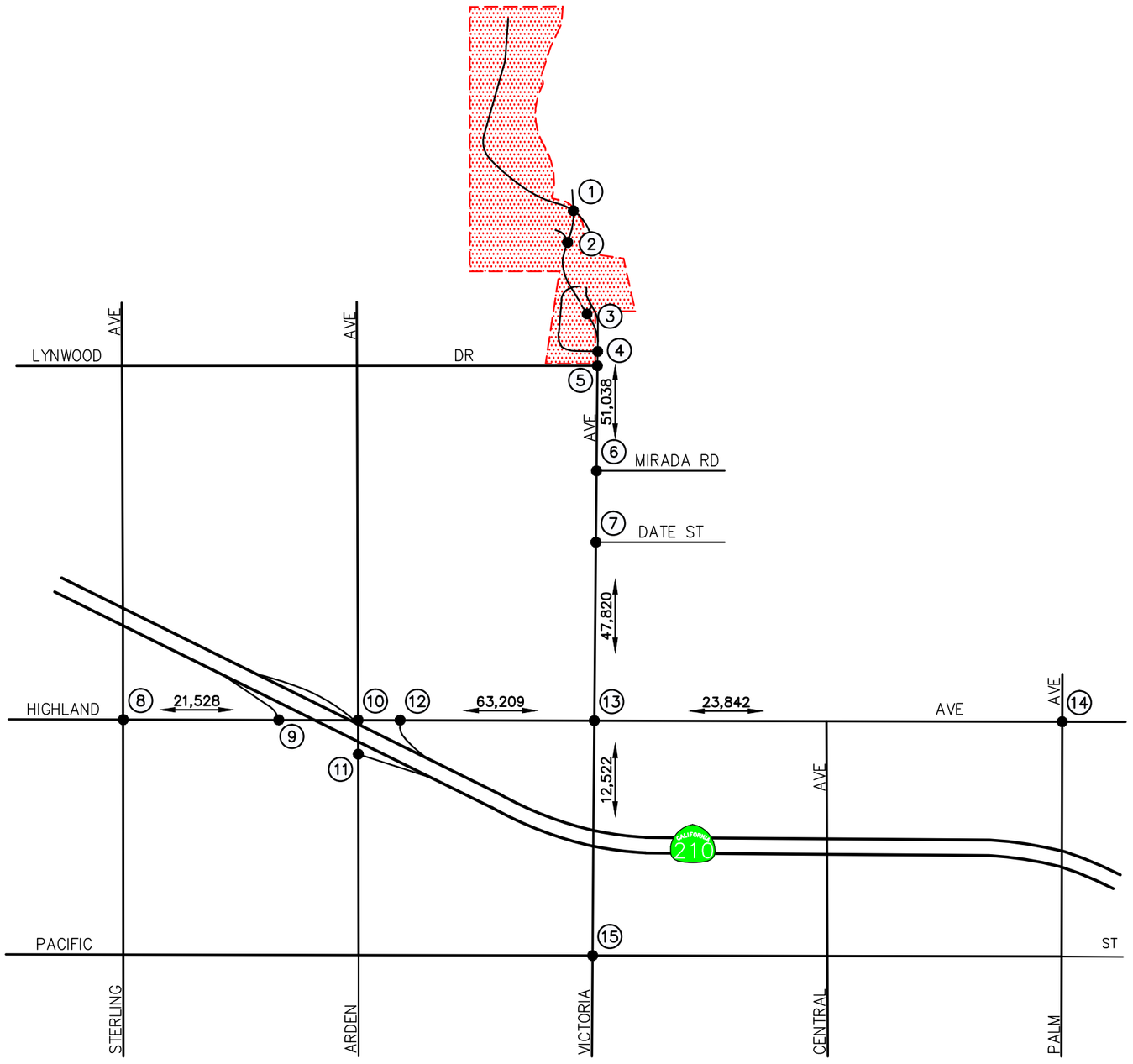
XX,XXX = DAILY TRAFFIC VOLUMES

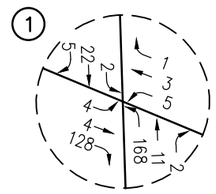
= PROJECT SITE

FIGURE 6-5

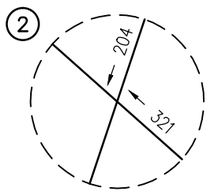
EXISTING WITH PROJECT (PHASE 2) WEEKDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

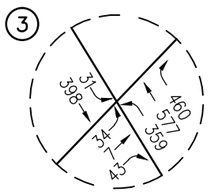




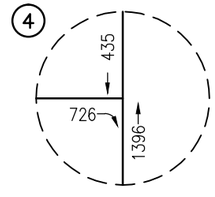
VICTORIA AVE @
ROAD A (ON–SITE)



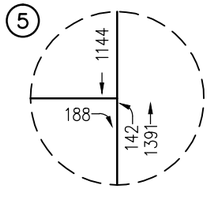
VICTORIA AVE @
ROAD B (ON–SITE)



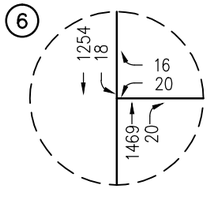
VICTORIA AVE @
DRIVEWAY C (ON–SITE)



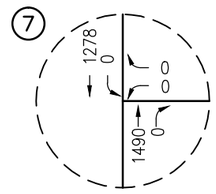
VICTORIA AVE @
DRIVEWAY D (ON–SITE)



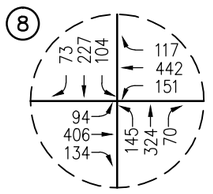
VICTORIA AVE @
LYNWOOD DR



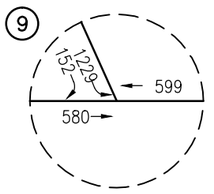
VICTORIA AVE @
MIRADA RD



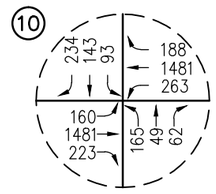
VICTORIA AVE @
DATE ST



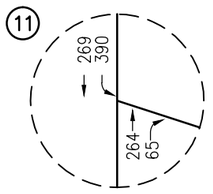
STERLING AVE @
HIGHLAND AVE



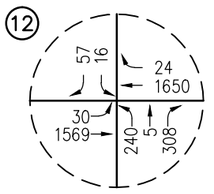
SR–210 EB OFF–RAMP @
HIGHLAND AVE



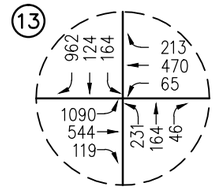
ARDEN AVE @
HIGHLAND AVE



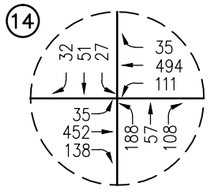
ARDEN AVE @
SR–210 EB ON–RAMP



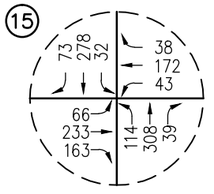
SR–210 WB OFF–RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

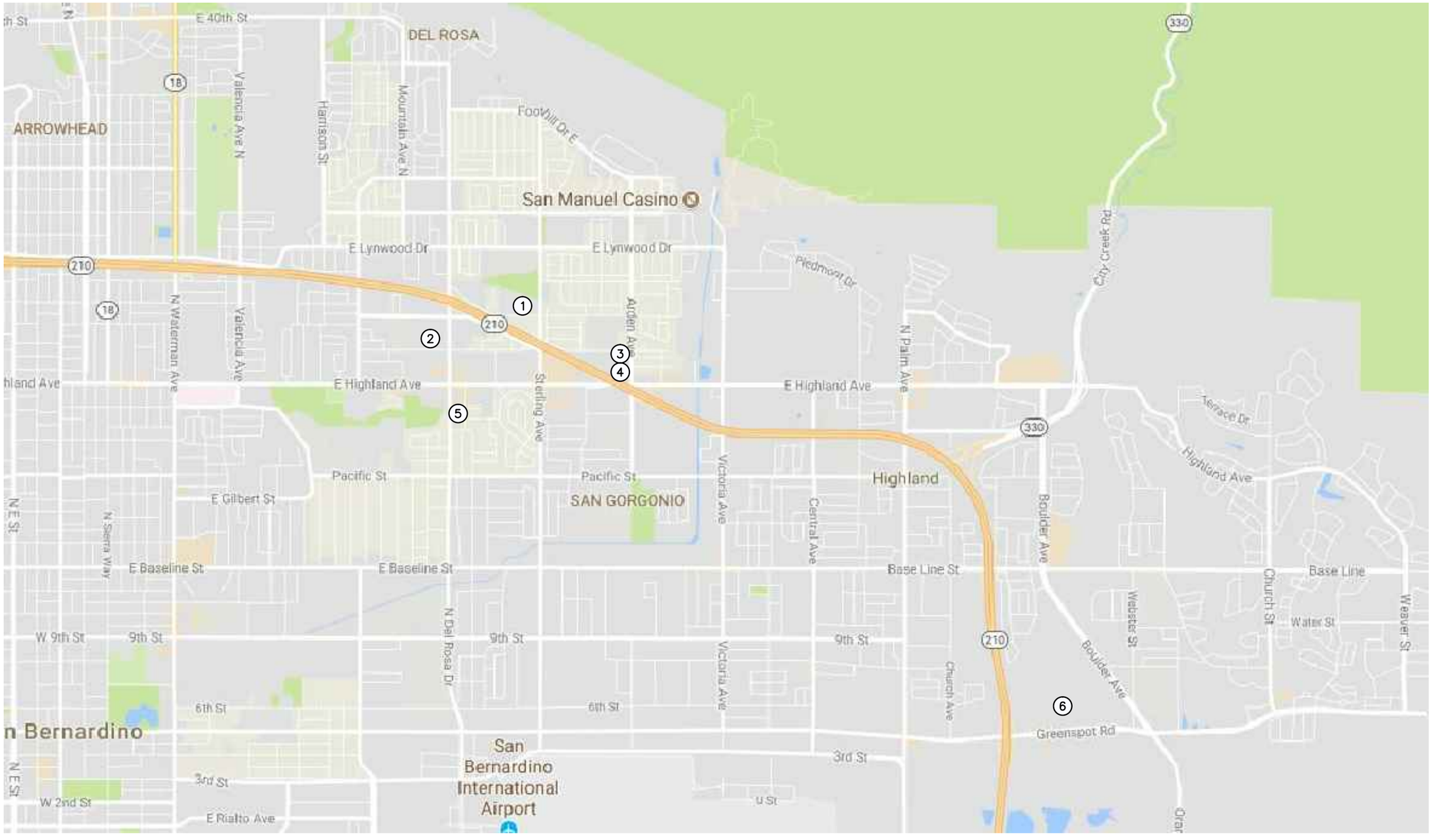
XX,XXX = DAILY TRAFFIC VOLUMES

= PROJECT SITE

FIGURE 6–6

EXISTING WITH PROJECT (PHASE 2)
SATURDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

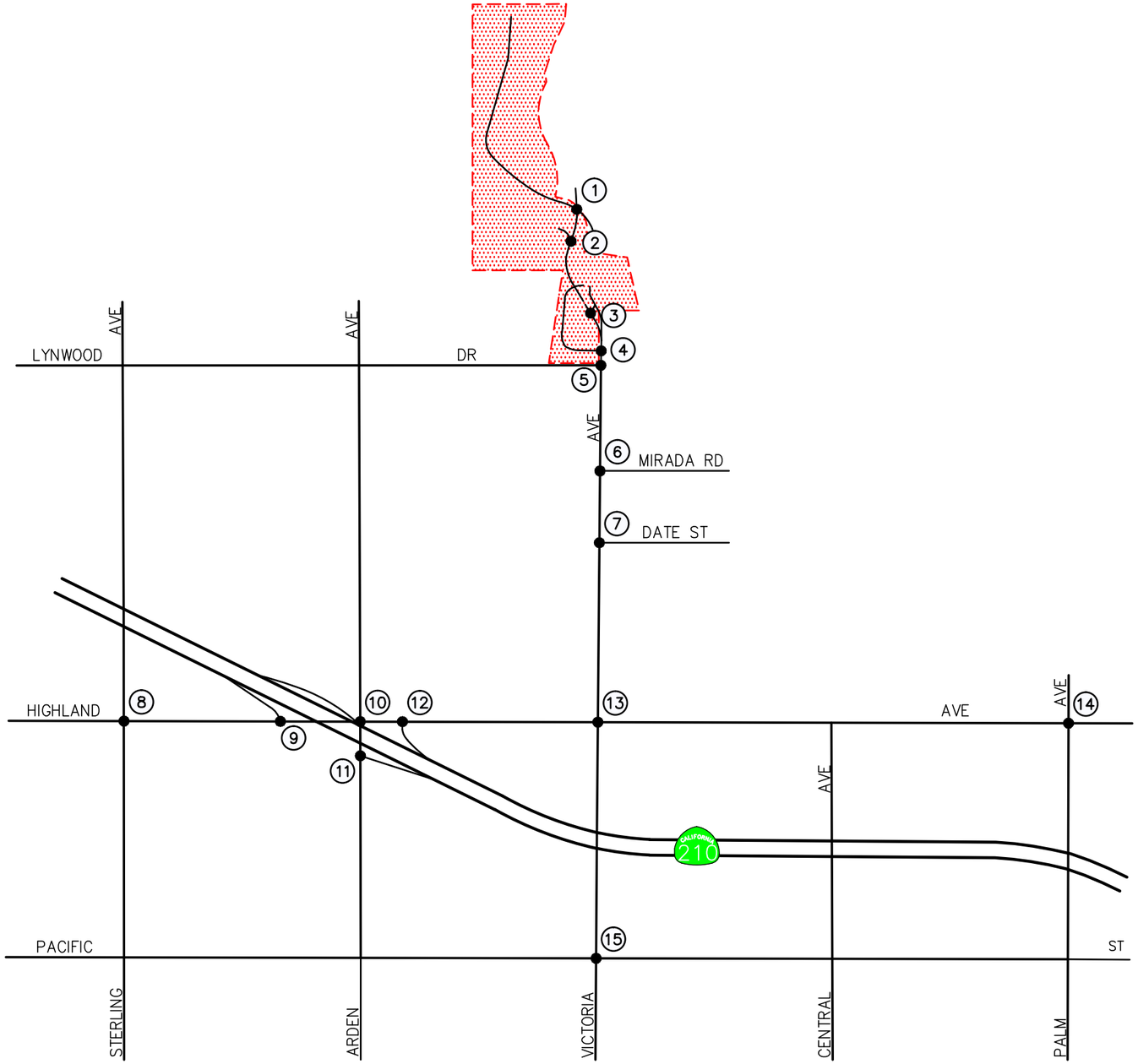
KEY

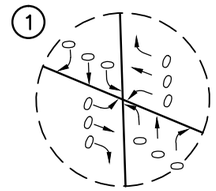
(#) = CUMULATIVE PROJECT LOCATION

FIGURE 6-7

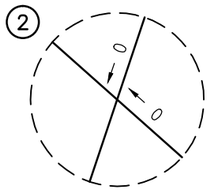
LOCATION OF CUMULATIVE PROJECTS

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY





VICTORIA AVE @
ROAD A (ON-SITE)



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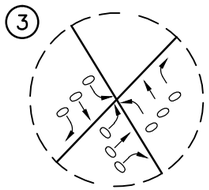

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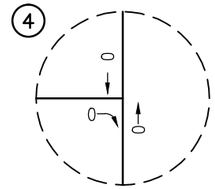
DRIVEWAY C (ON-SITE)



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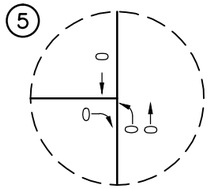
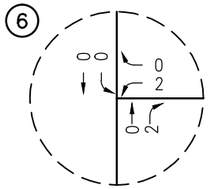
DRIVEWAY D (ON-SITE)



VICTORIA AVE @
LYNWOOD DR



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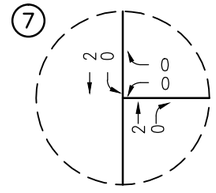
MIRADA RD



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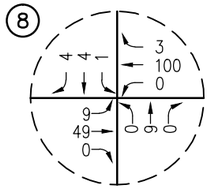
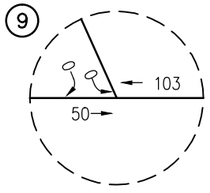
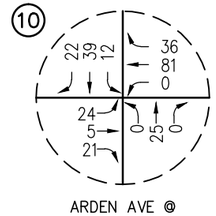


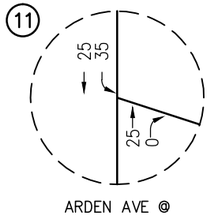
STERLING AVE @
HIGHLAND AVE



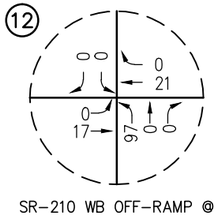
SR-210 EB OFF-RAMP @
HIGHLAND AVE



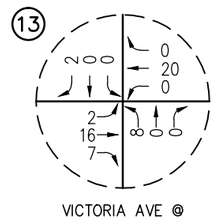
ARDEN AVE @
HIGHLAND AVE



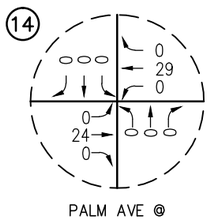
ARDEN AVE @
SR-210 EB ON-RAMP



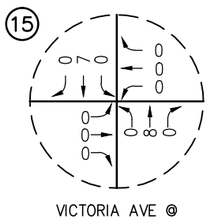
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

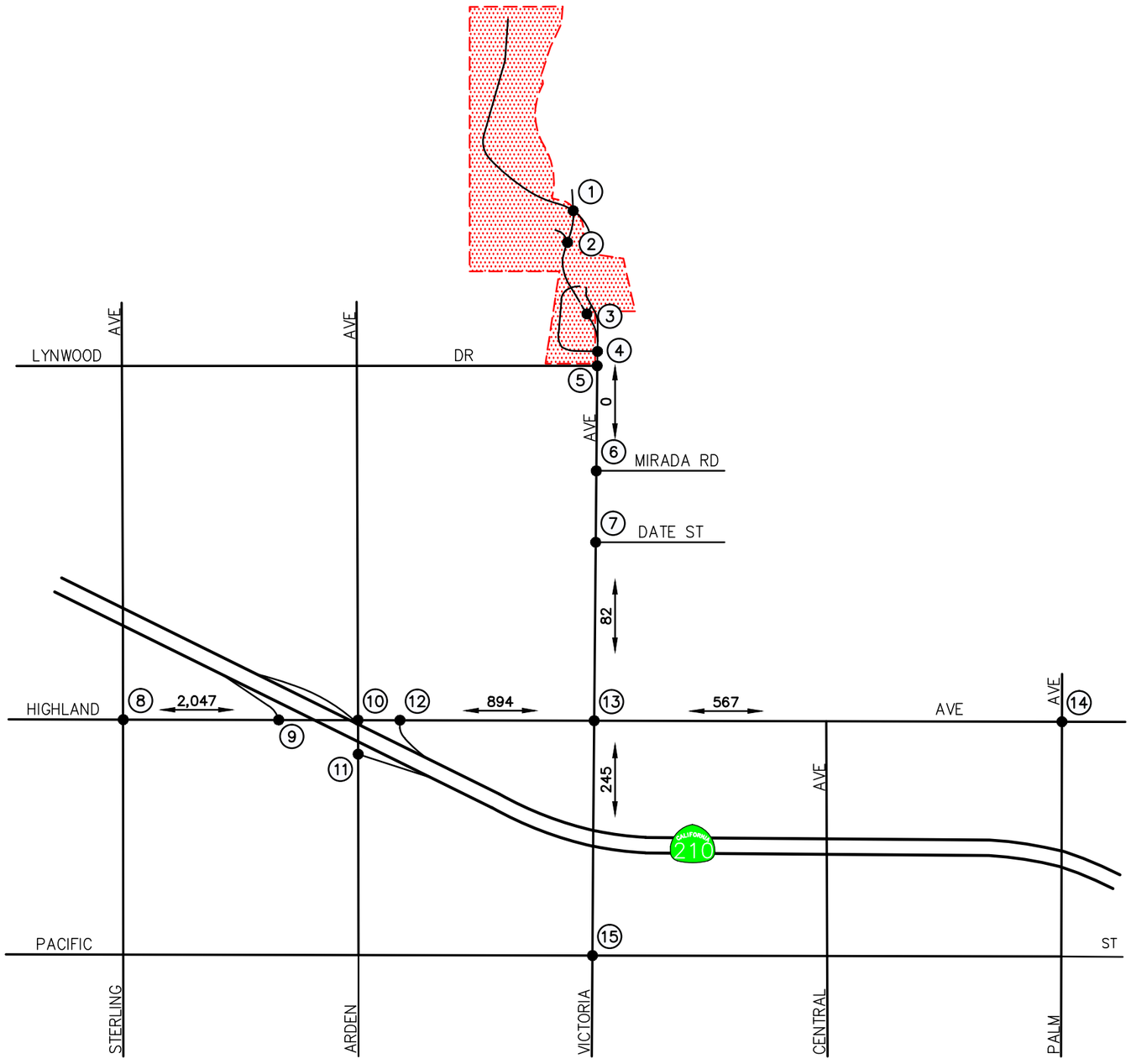
= PROJECT SITE

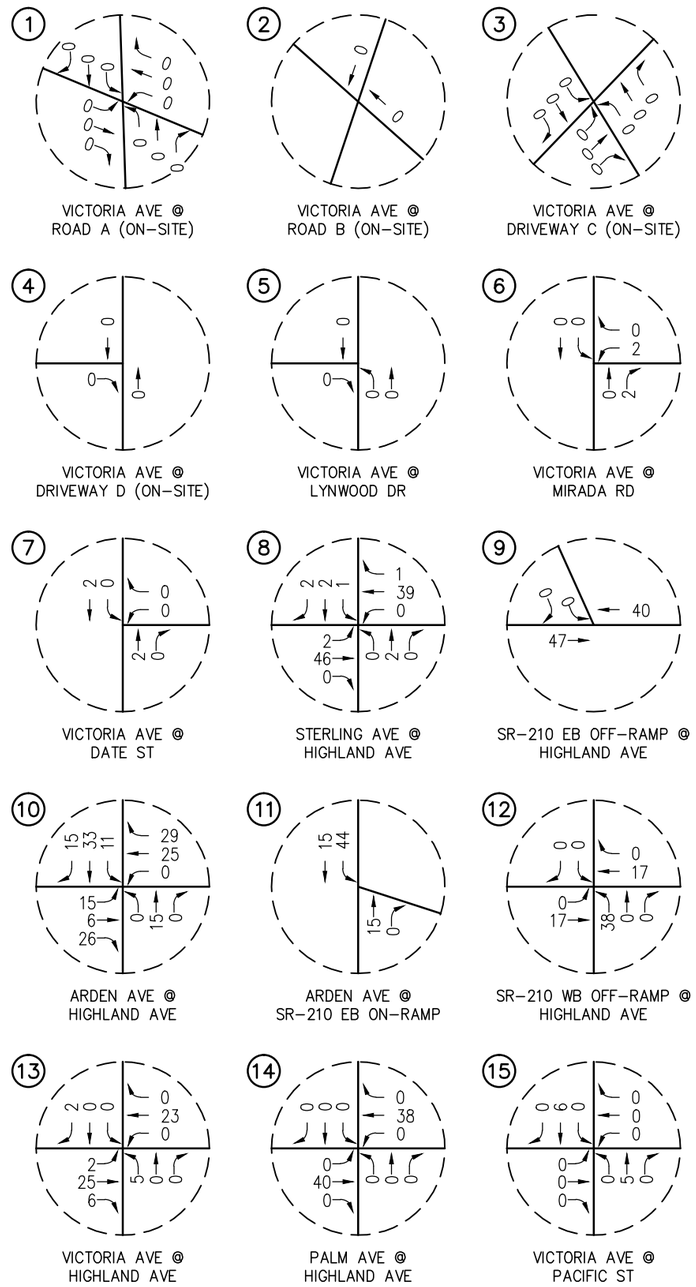
NOTE: THE VOLUMES PRESENTED ABOVE ASSUME 100% BUILDOUT OF THE SIX CUMULATIVE PROJECTS AS DETAILED IN TABLES 6-1 AND 6-2. THE YEAR 2020 ANALYSIS ASSUMES ONLY 30% BUILDOUT OF CUMULATIVE PROJECT #6: GREENSPOT VILLAGE & MARKETPLACE WHILE YEAR 2022 ANALYSIS ASSUMES 50% BUILDOUT.

FIGURE 6-8

WEEKDAY AM PEAK HOUR CUMULATIVE PROJECTS TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY





LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

XX,XXX = DAILY TRAFFIC VOLUMES

= PROJECT SITE

NOTE: THE VOLUMES PRESENTED ABOVE ASSUME 100% BUILDOUT OF THE SIX CUMULATIVE PROJECTS AS DETAILED IN TABLES 6-1 AND 6-2. THE YEAR 2020 ANALYSIS ASSUMES ONLY 30% BUILDOUT OF CUMULATIVE PROJECT #6: GREENSPOT VILLAGE & MARKETPLACE WHILE YEAR 2022 ANALYSIS ASSUMES 50% BUILDOUT.

FIGURE 6-9

WEEKDAY PM PEAK HOUR AND DAILY CUMULATIVE PROJECTS TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

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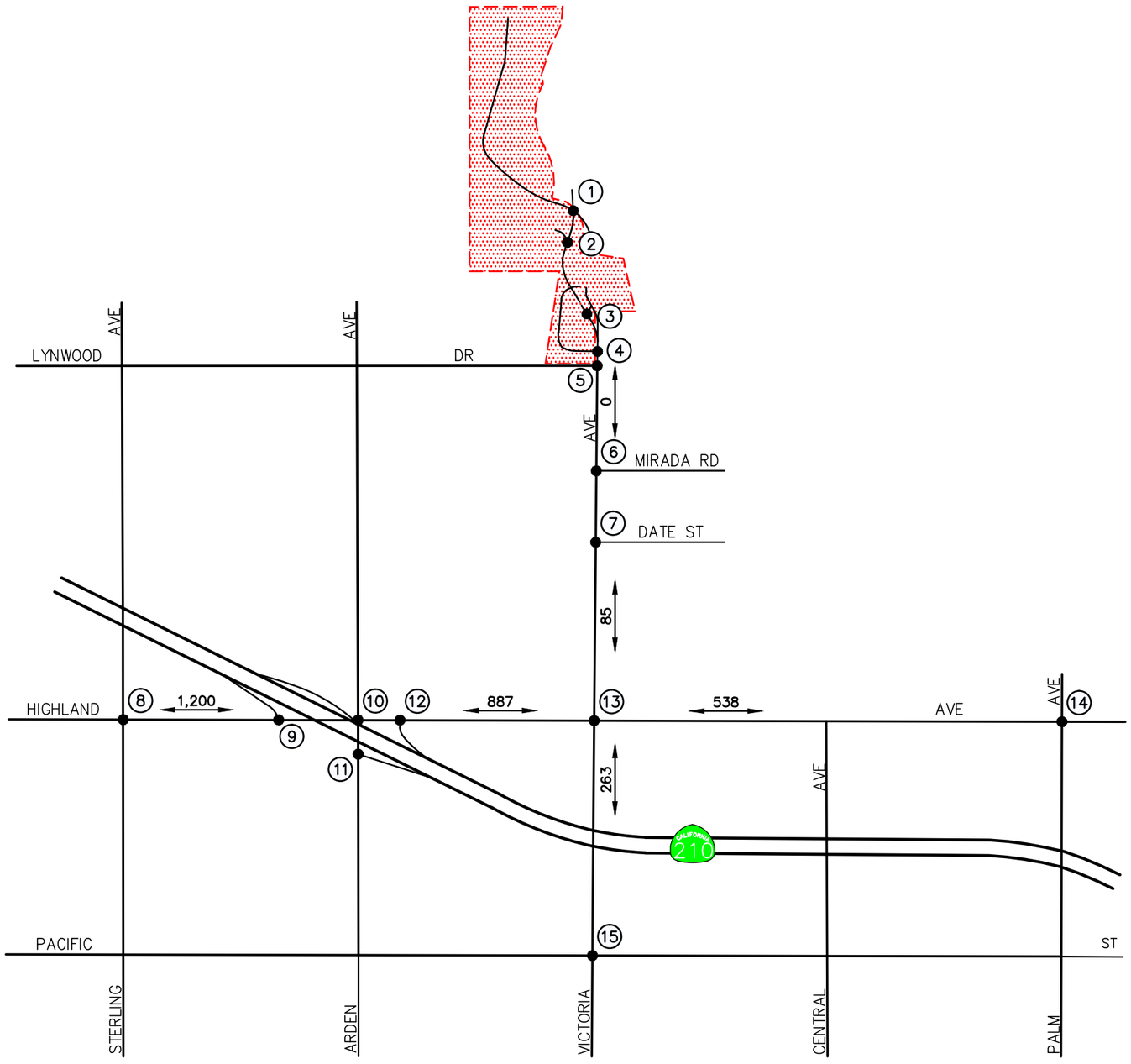

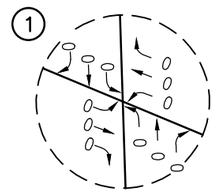

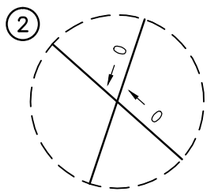

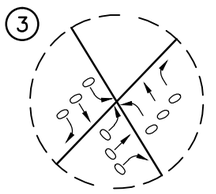

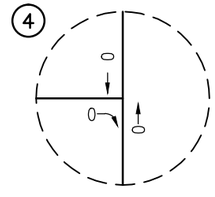

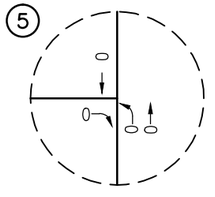

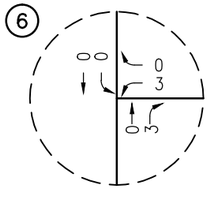

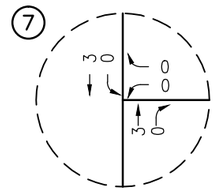

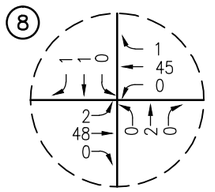

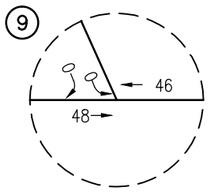

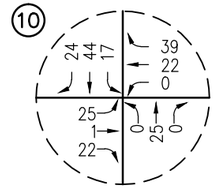

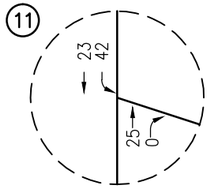

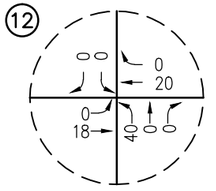

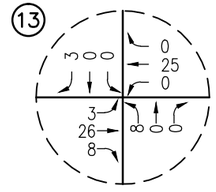

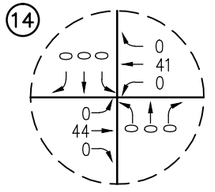

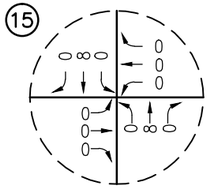

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

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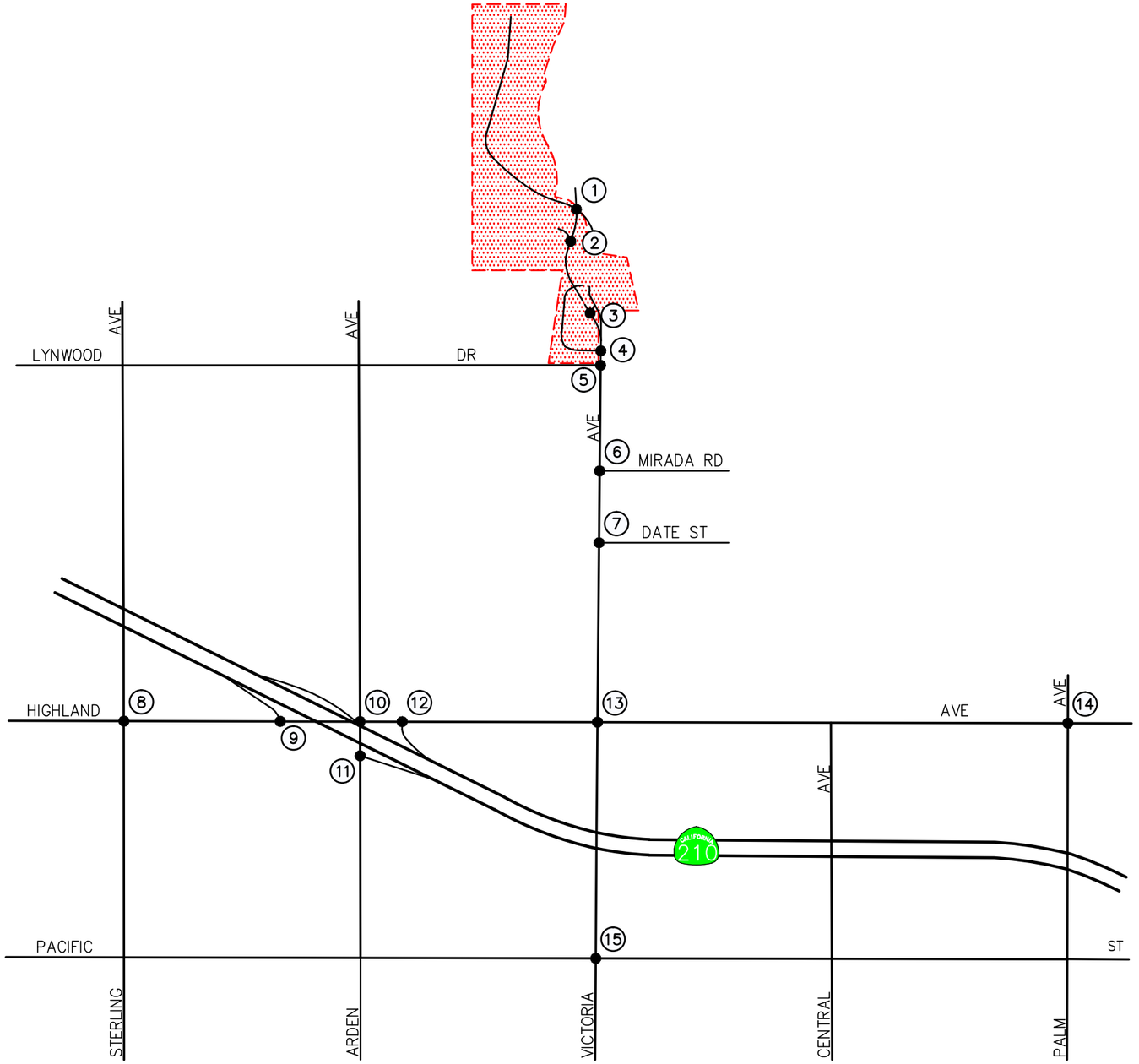
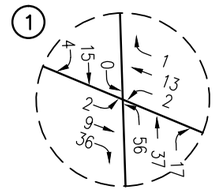
FIGURE 6-10

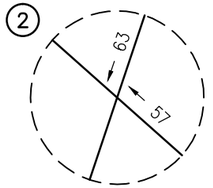
SATURDAY PM PEAK HOUR AND DAILY CUMULATIVE PROJECTS TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY





VICTORIA AVE @
ROAD A (ON-SITE)



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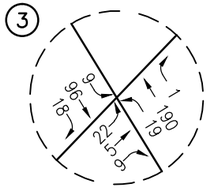

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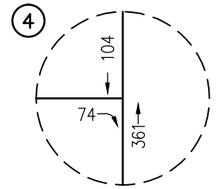

VICTORIA AVE @
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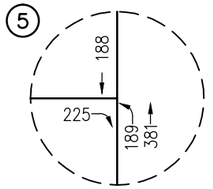
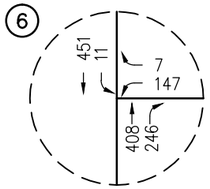


VICTORIA AVE @
LYNWOOD DR



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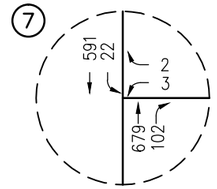
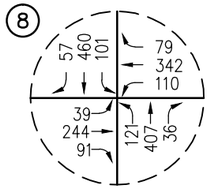
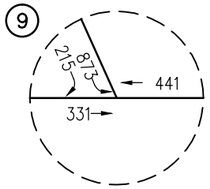
MIRADA RD



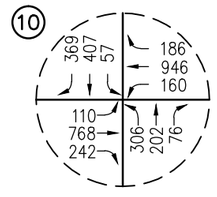
VICTORIA AVE @
DATE ST



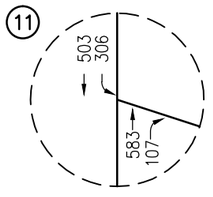
STERLING AVE @
HIGHLAND AVE



SR-210 EB OFF-RAMP @
HIGHLAND AVE



ARDEN AVE @
HIGHLAND AVE



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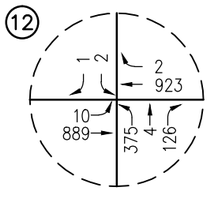
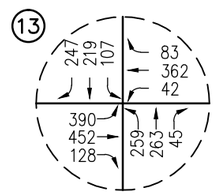
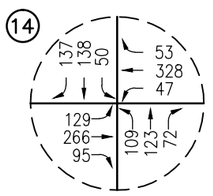


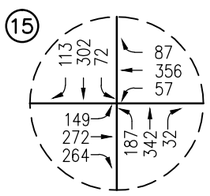
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

n:\3700\2163777 - san manuel hotel and casino expansion, san bernardino county\6 - dwg\3777 f6-11.dwg LDP 15:27:56 01-24-2018 besa

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

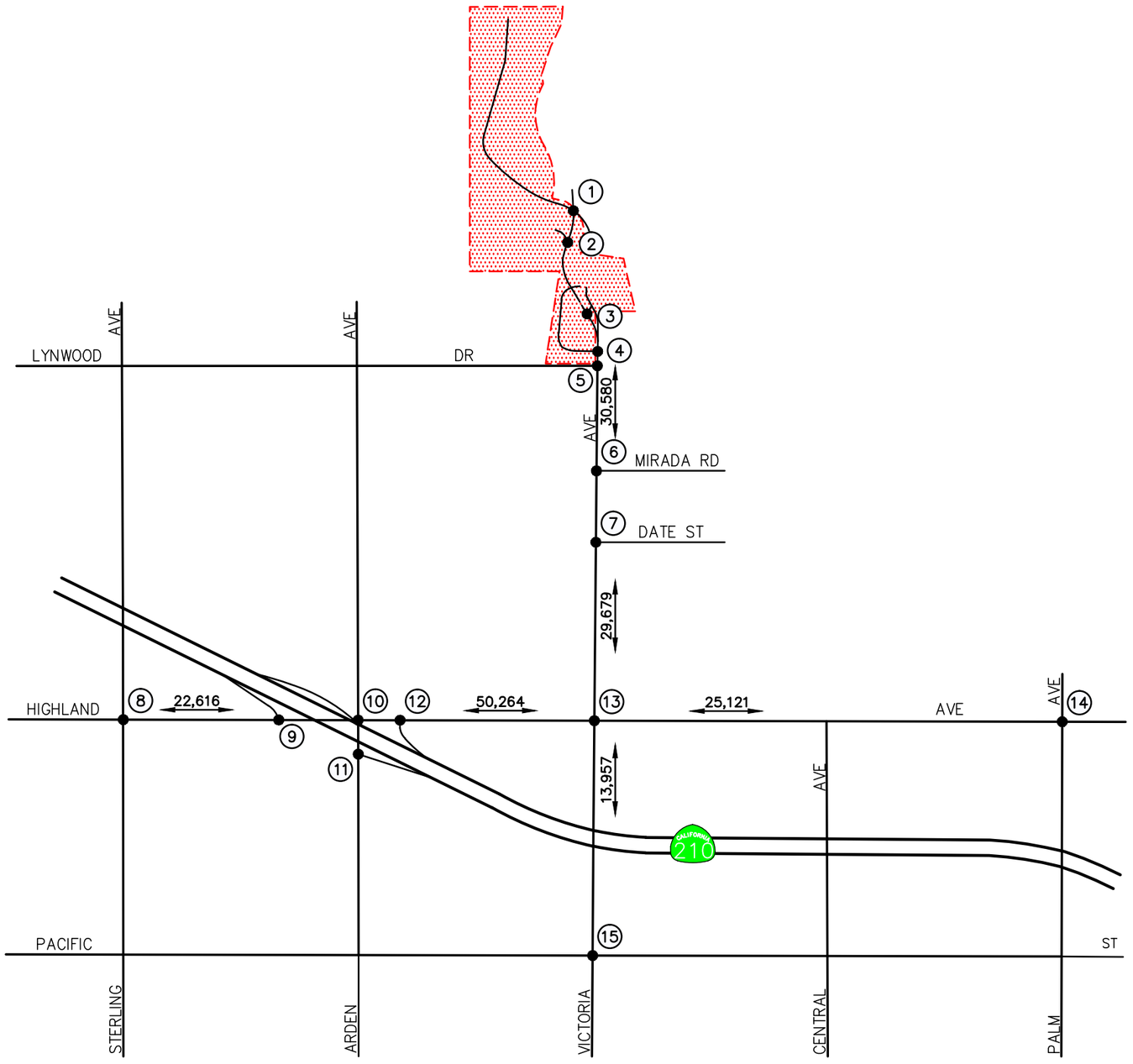
(#) = STUDY INTESECTION

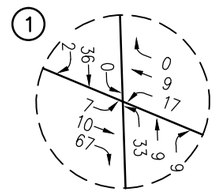
= PROJECT SITE

FIGURE 6-11

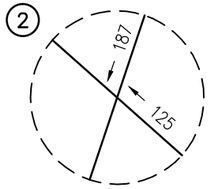
YEAR 2020 WITHOUT PROJECT WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

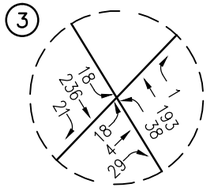




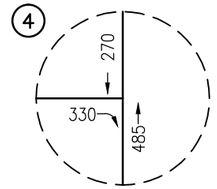
VICTORIA AVE @
ROAD A (ON–SITE)



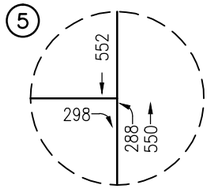
VICTORIA AVE @
ROAD B (ON–SITE)



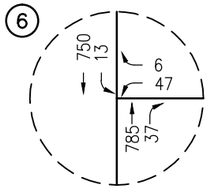
VICTORIA AVE @
DRIVEWAY C (ON–SITE)



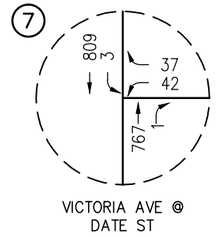
VICTORIA AVE @
DRIVEWAY D (ON–SITE)



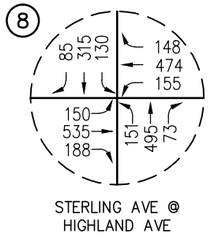
VICTORIA AVE @
LYNWOOD DR



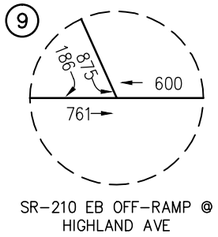
VICTORIA AVE @
MIRADA RD



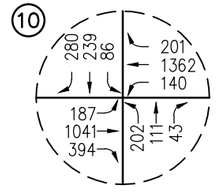
VICTORIA AVE @
DATE ST



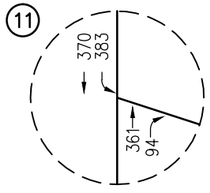
STERLING AVE @
HIGHLAND AVE



SR–210 EB OFF–RAMP @
HIGHLAND AVE



ARDEN AVE @
HIGHLAND AVE



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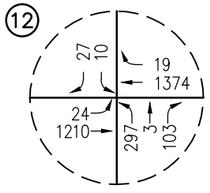
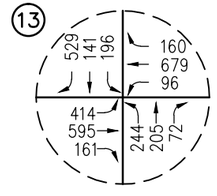
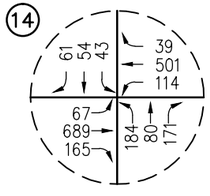
SR–210 EB ON–RAMP



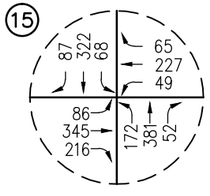
SR–210 WB OFF–RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

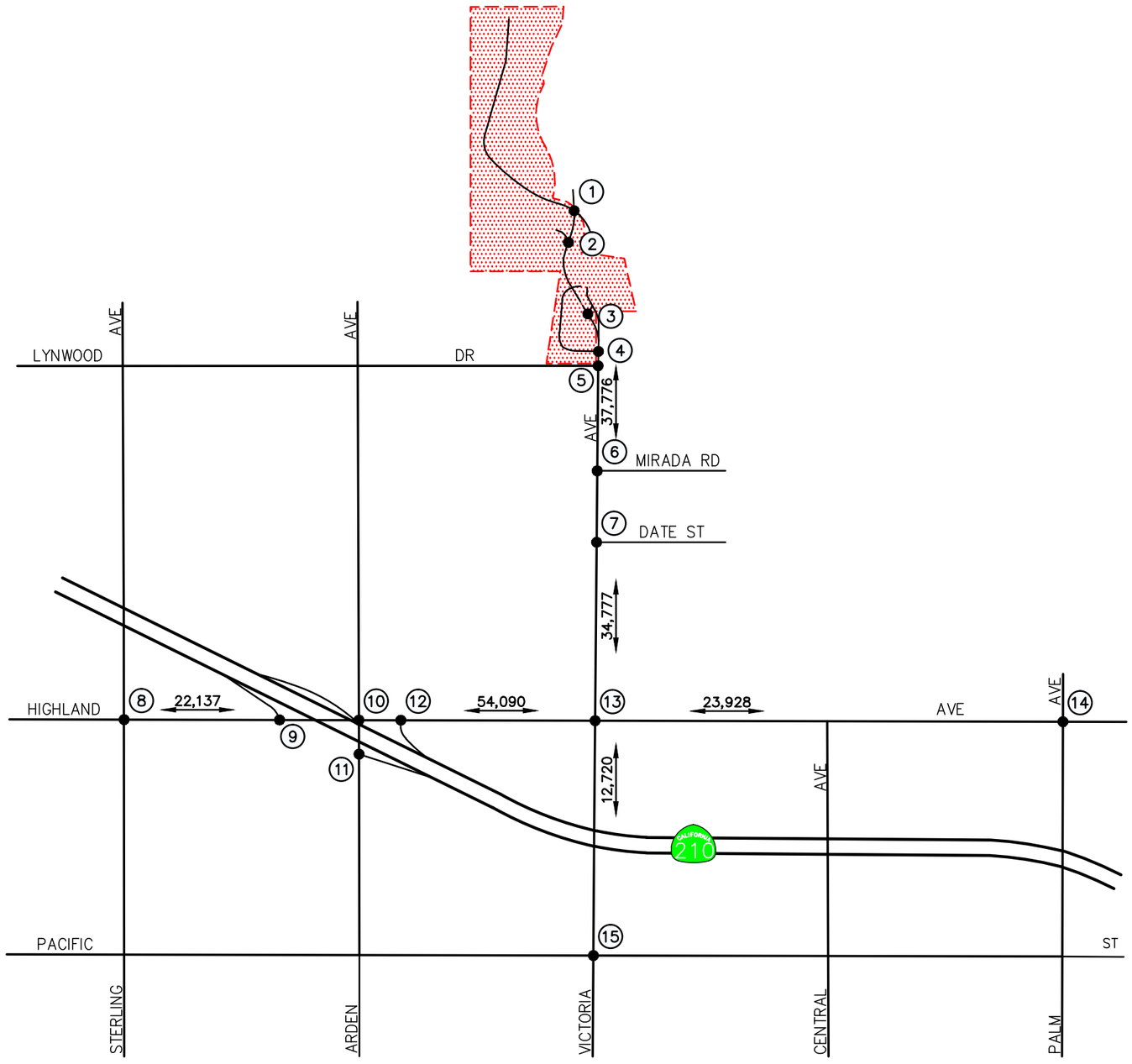
XX,XXX = DAILY TRAFFIC VOLUMES

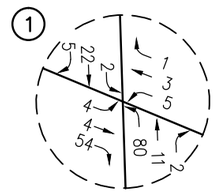
= PROJECT SITE

FIGURE 6–12

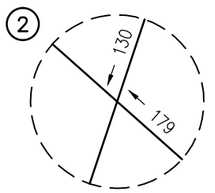
YEAR 2020 WITHOUT PROJECT WEEKDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

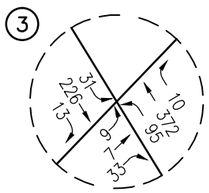




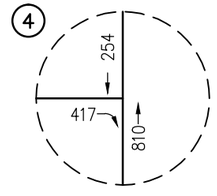
VICTORIA AVE @
ROAD A (ON–SITE)



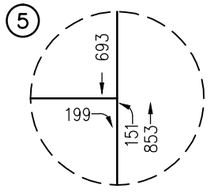
VICTORIA AVE @
ROAD B (ON–SITE)



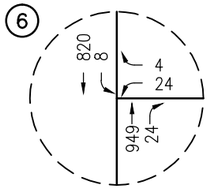
VICTORIA AVE @
DRIVEWAY C (ON–SITE)



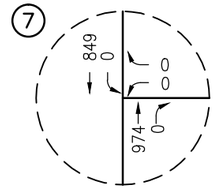
VICTORIA AVE @
DRIVEWAY D (ON–SITE)



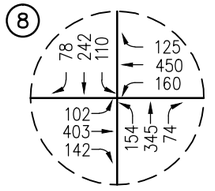
VICTORIA AVE @
LYNWOOD DR



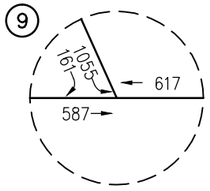
VICTORIA AVE @
MIRADA RD



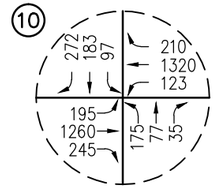
VICTORIA AVE @
DATE ST



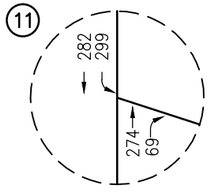
STERLING AVE @
HIGHLAND AVE



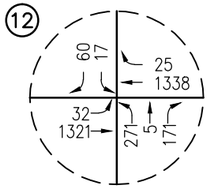
SR–210 EB OFF–RAMP @
HIGHLAND AVE



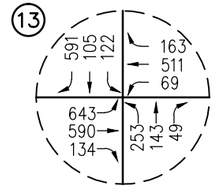
ARDEN AVE @
HIGHLAND AVE



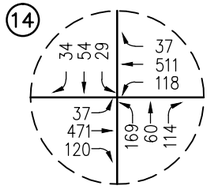
ARDEN AVE @
SR–210 EB ON–RAMP



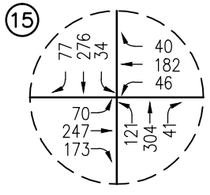
SR–210 WB OFF–RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

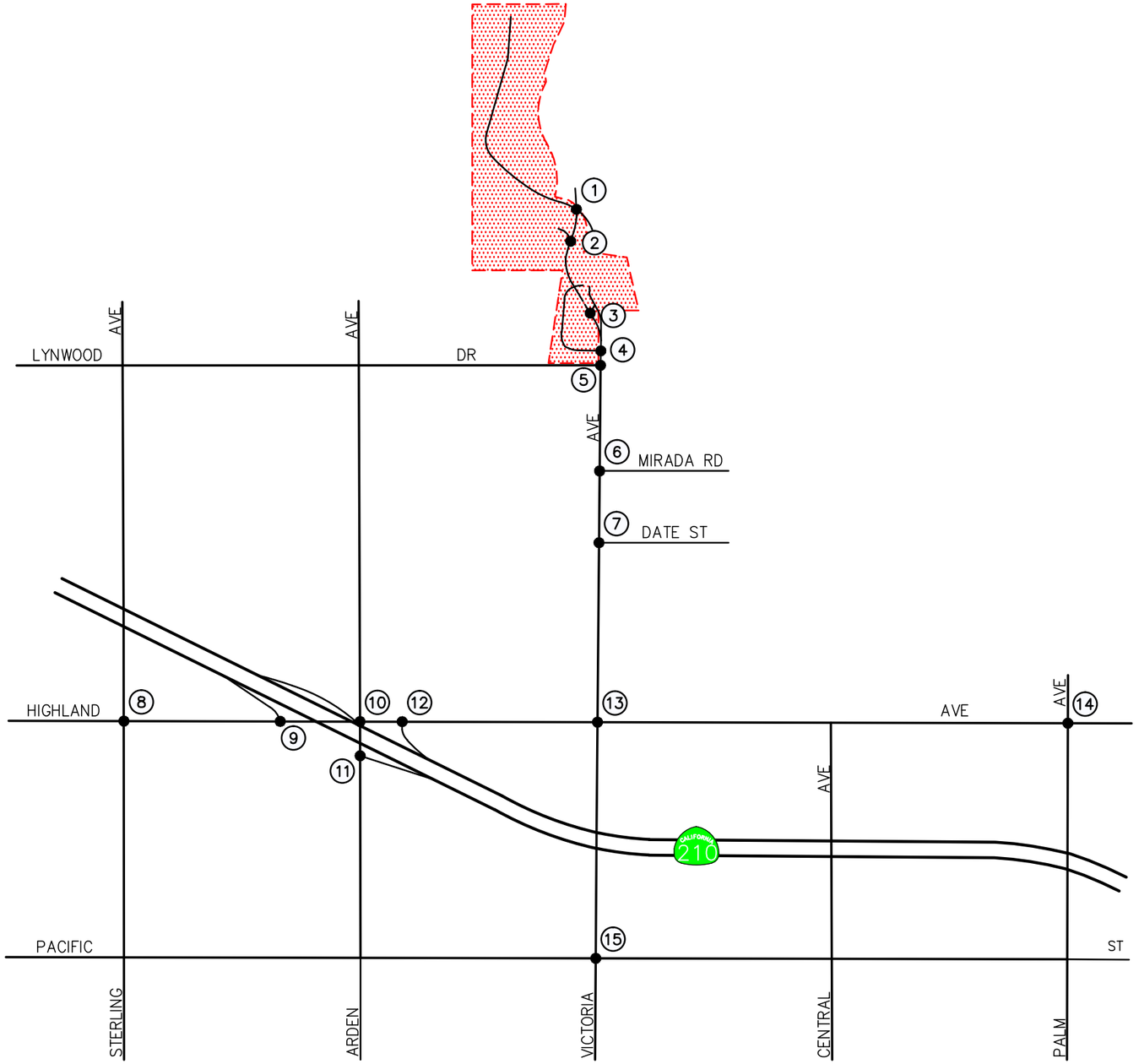
XX,XXX = DAILY TRAFFIC VOLUMES

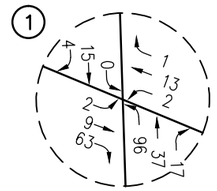
= PROJECT SITE

FIGURE 6–13

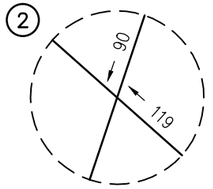
YEAR 2020 WITHOUT PROJECT
SATURDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

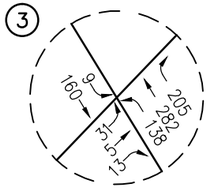




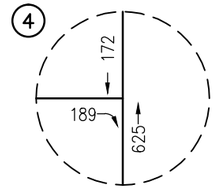
VICTORIA AVE @
ROAD A (ON-SITE)



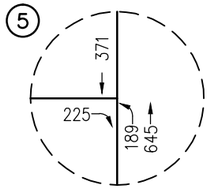
VICTORIA AVE @
ROAD B (ON-SITE)



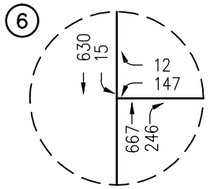
VICTORIA AVE @
DRIVEWAY C (ON-SITE)



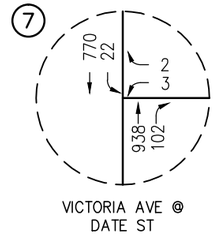
VICTORIA AVE @
DRIVEWAY D (ON-SITE)



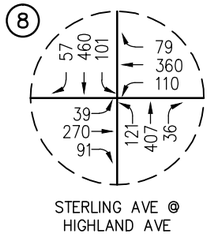
VICTORIA AVE @
LYNWOOD DR



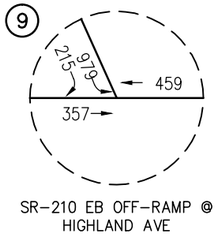
VICTORIA AVE @
MIRADA RD



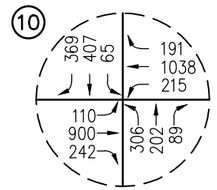
VICTORIA AVE @
DATE ST



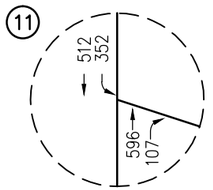
STERLING AVE @
HIGHLAND AVE



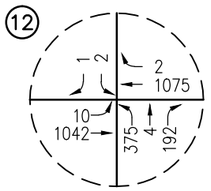
SR-210 EB OFF-RAMP @
HIGHLAND AVE



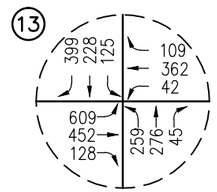
ARDEN AVE @
HIGHLAND AVE



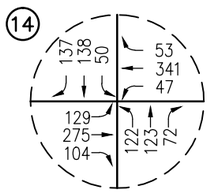
ARDEN AVE @
SR-210 EB ON-RAMP



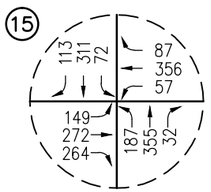
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

n:\3700\2163777 - san manuel hotel and casino expansion, san bernardino county\6 - dwg\3777 f6-14.dwg LDP 15:29:18 01-24-2018 besa

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

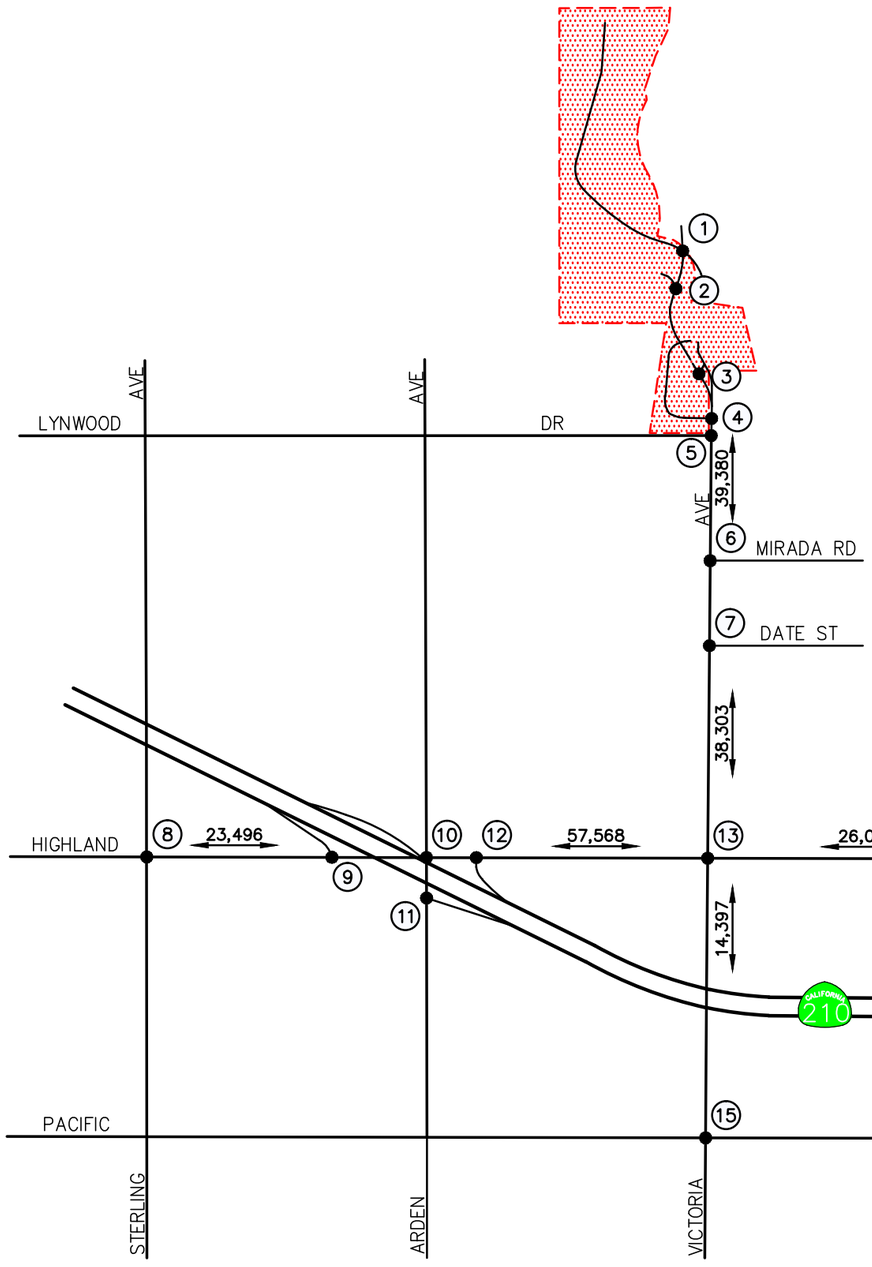
(#) = STUDY INTESECTION

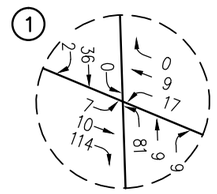
= PROJECT SITE

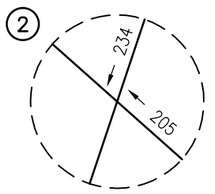
FIGURE 6-14

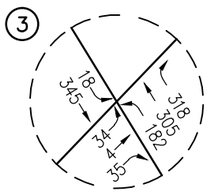
YEAR 2020 WITH PROJECT (PHASE 1) WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES

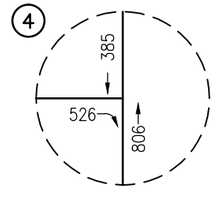
SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

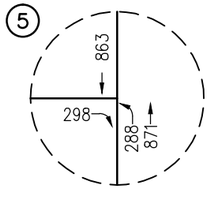


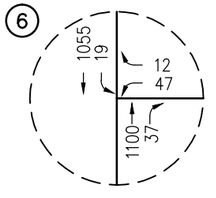


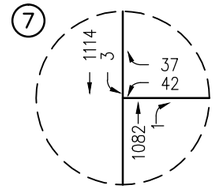


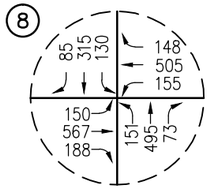


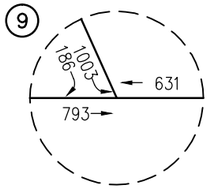


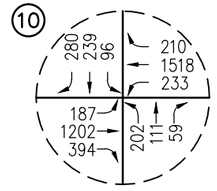


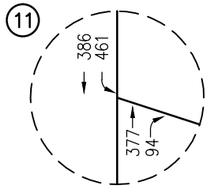


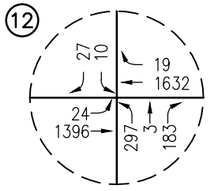


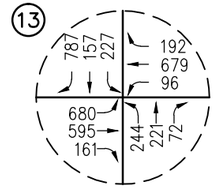


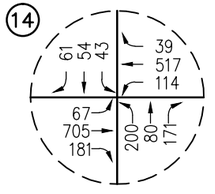


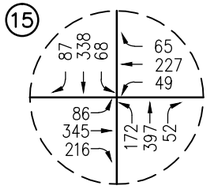












n:\3700\2163777 - san manuel hotel and casino expansion, san bernardino county\6 - dwg\3777 f6-15.dwg LDP 15:29:50 01-24-2018 besa

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

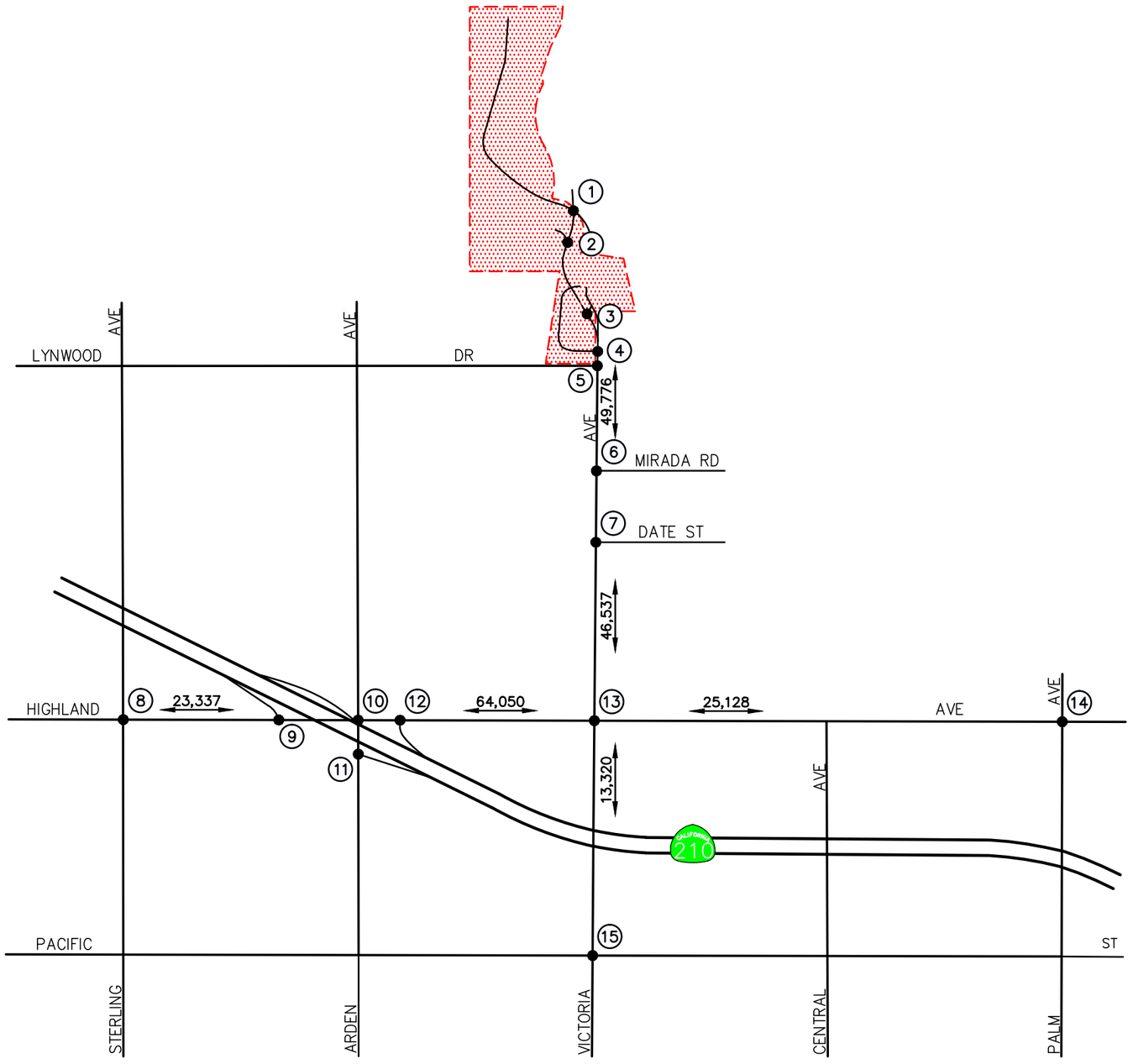
XX,XXX = DAILY TRAFFIC VOLUMES

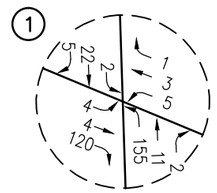
= PROJECT SITE

FIGURE 6-15

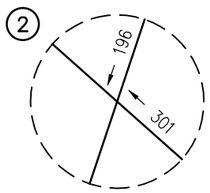
YEAR 2020 WITH PROJECT (PHASE 1) WEEKDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

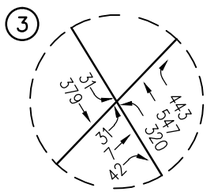




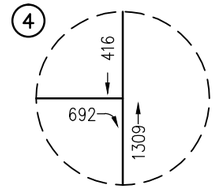
VICTORIA AVE @
ROAD A (ON-SITE)



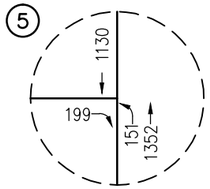
VICTORIA AVE @
ROAD B (ON-SITE)



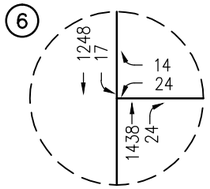
VICTORIA AVE @
DRIVEWAY C (ON-SITE)



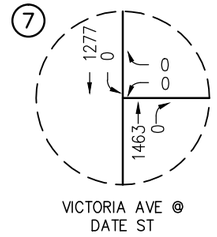
VICTORIA AVE @
DRIVEWAY D (ON-SITE)



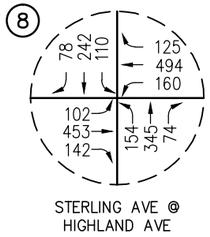
VICTORIA AVE @
LYNWOOD DR



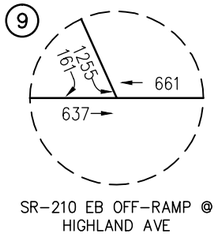
VICTORIA AVE @
MIRADA RD



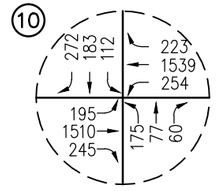
VICTORIA AVE @
DATE ST



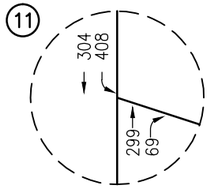
STERLING AVE @
HIGHLAND AVE



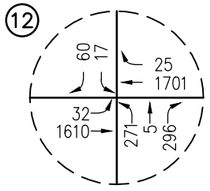
SR-210 EB OFF-RAMP @
HIGHLAND AVE



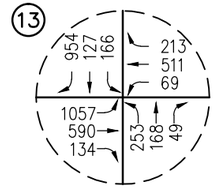
ARDEN AVE @
HIGHLAND AVE



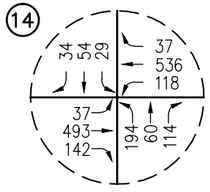
ARDEN AVE @
SR-210 EB ON-RAMP



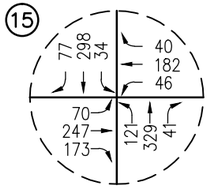
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

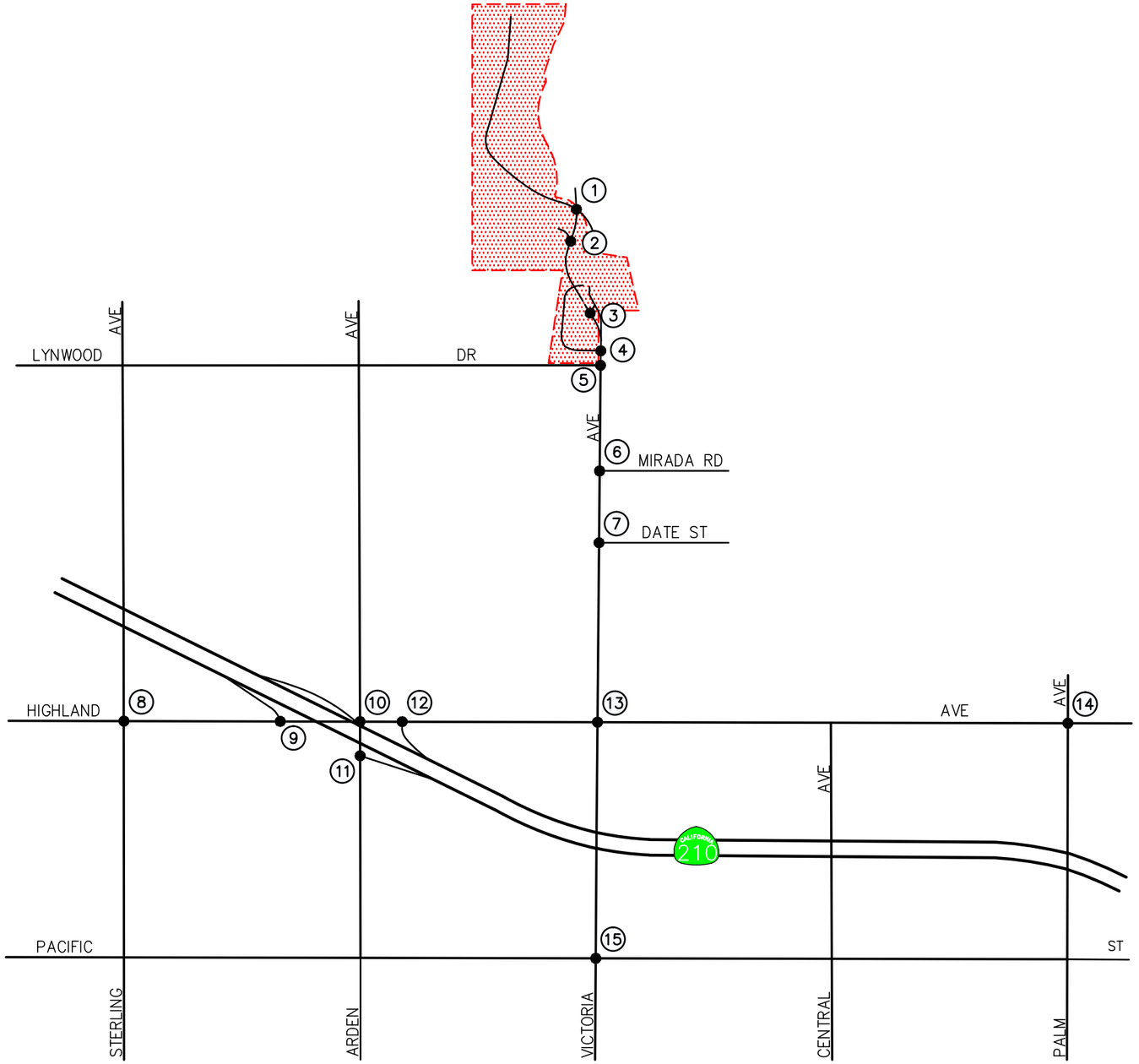
XX,XXX = DAILY TRAFFIC VOLUMES

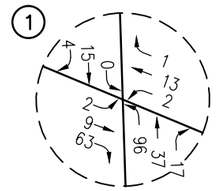
= PROJECT SITE

FIGURE 6-16

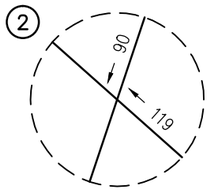
YEAR 2020 WITH PROJECT (PHASE 1) SATURDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

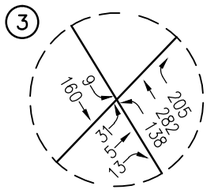




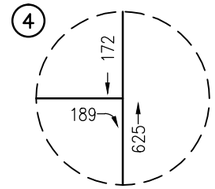
VICTORIA AVE @
ROAD A (ON-SITE)



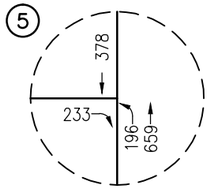
VICTORIA AVE @
ROAD B (ON-SITE)



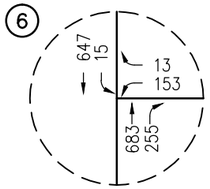
VICTORIA AVE @
DRIVEWAY C (ON-SITE)



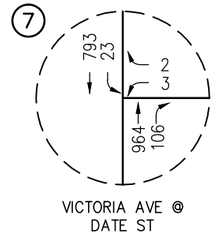
VICTORIA AVE @
DRIVEWAY D (ON-SITE)



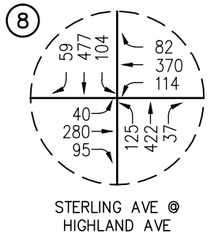
VICTORIA AVE @
LYNWOOD DR



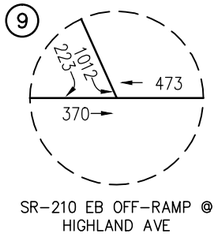
VICTORIA AVE @
MIRADA RD



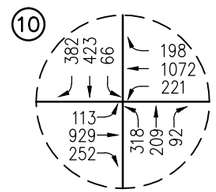
VICTORIA AVE @
DATE ST



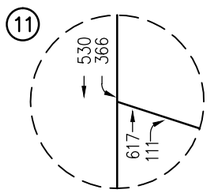
STERLING AVE @
HIGHLAND AVE



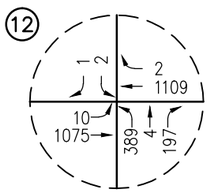
SR-210 EB OFF-RAMP @
HIGHLAND AVE



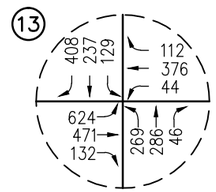
ARDEN AVE @
HIGHLAND AVE



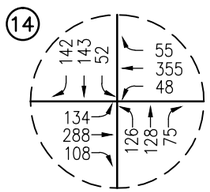
ARDEN AVE @
SR-210 EB ON-RAMP



SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



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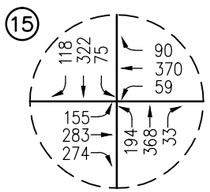
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

n:\3700\2163777 - san manuel hotel and casino expansion, san bernardino county\6 - dwg\3777 f6-17.dwg LDP 15:30:42 01-24-2018 besa

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

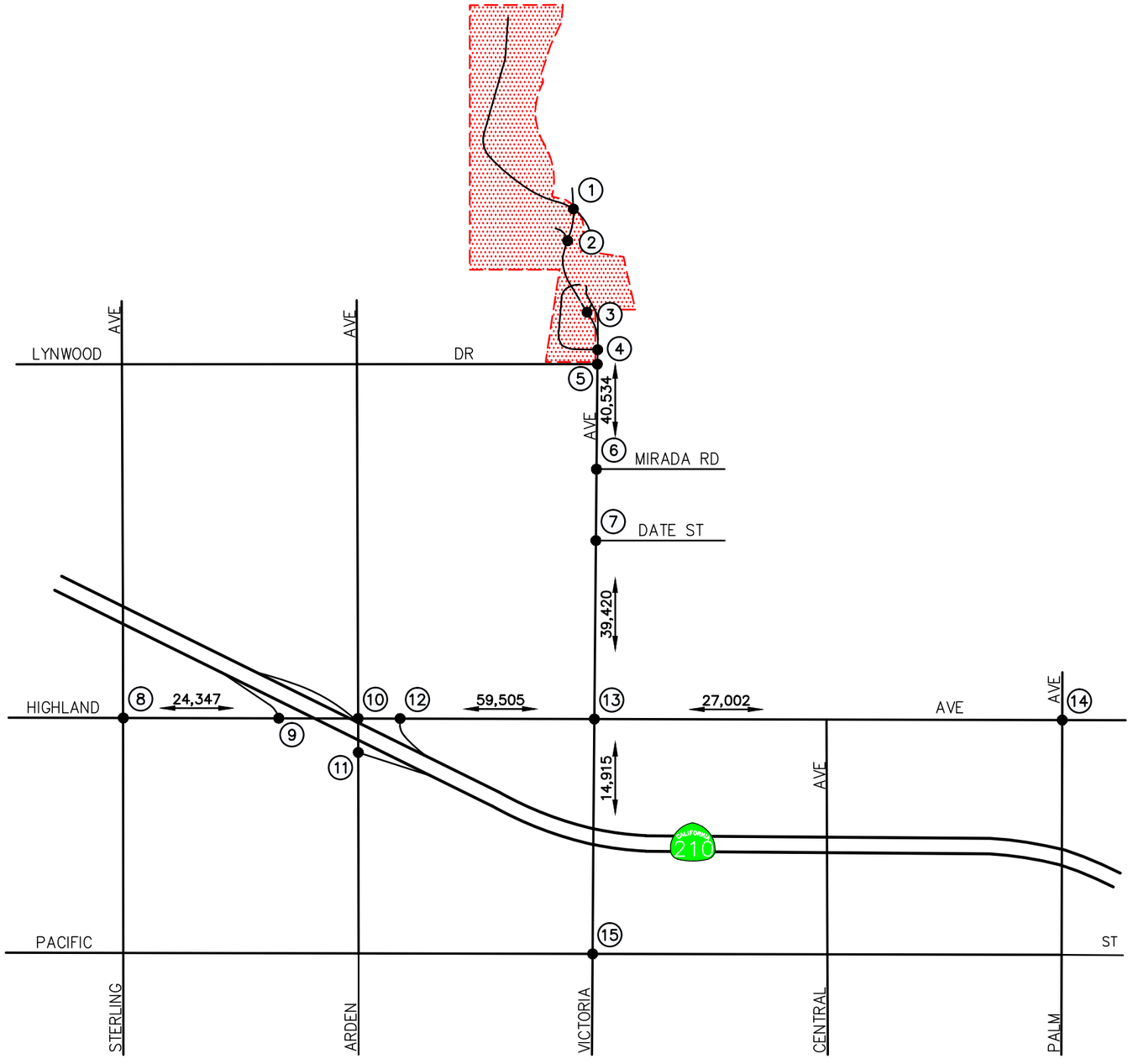
(#) = STUDY INTESECTION

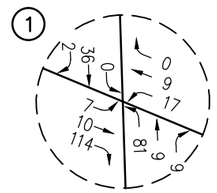
= PROJECT SITE

FIGURE 6-17

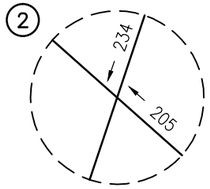
YEAR 2022 WITHOUT PROJECT WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

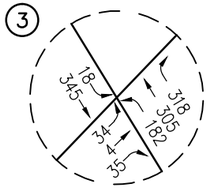




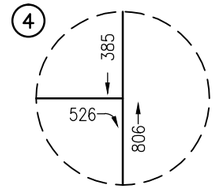
VICTORIA AVE @
ROAD A (ON-SITE)



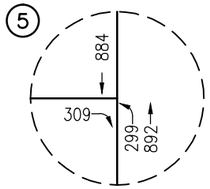
VICTORIA AVE @
ROAD B (ON-SITE)



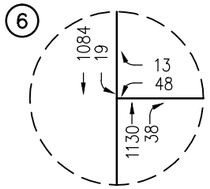
VICTORIA AVE @
DRIVEWAY C (ON-SITE)



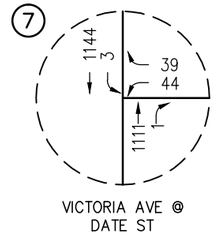
VICTORIA AVE @
DRIVEWAY D (ON-SITE)



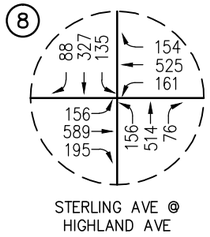
VICTORIA AVE @
LYNWOOD DR



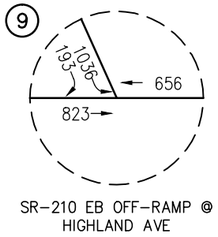
VICTORIA AVE @
MIRADA RD



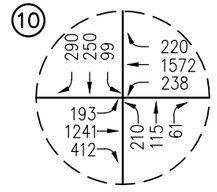
VICTORIA AVE @
DATE ST



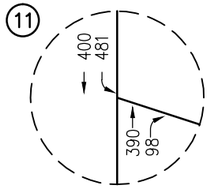
STERLING AVE @
HIGHLAND AVE



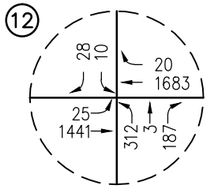
SR-210 EB OFF-RAMP @
HIGHLAND AVE



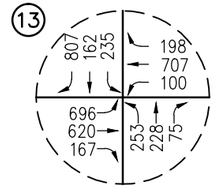
ARDEN AVE @
HIGHLAND AVE



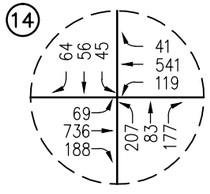
ARDEN AVE @
SR-210 EB ON-RAMP



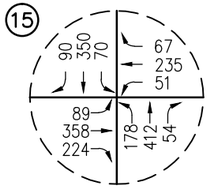
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

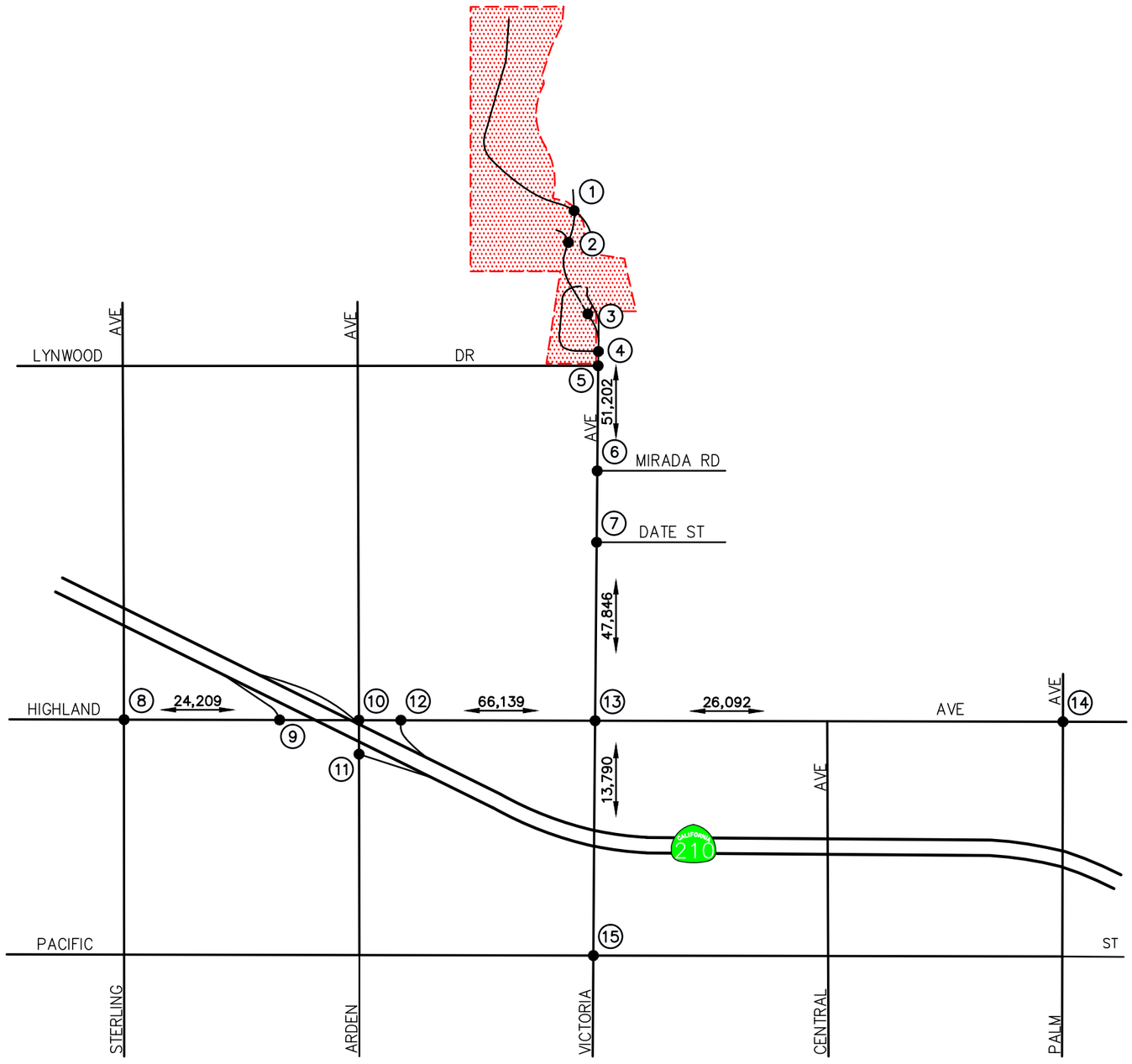
XX,XXX = DAILY TRAFFIC VOLUMES

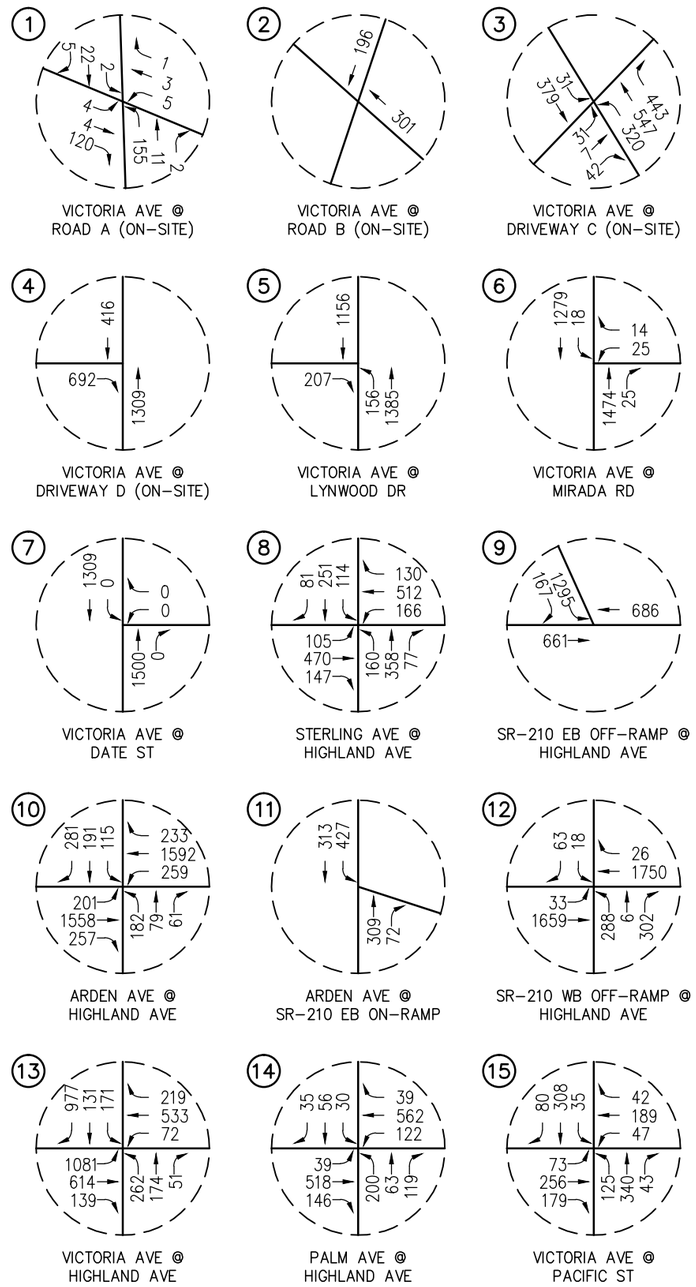
= PROJECT SITE

FIGURE 6-18

YEAR 2022 WITHOUT PROJECT WEEKDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY





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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

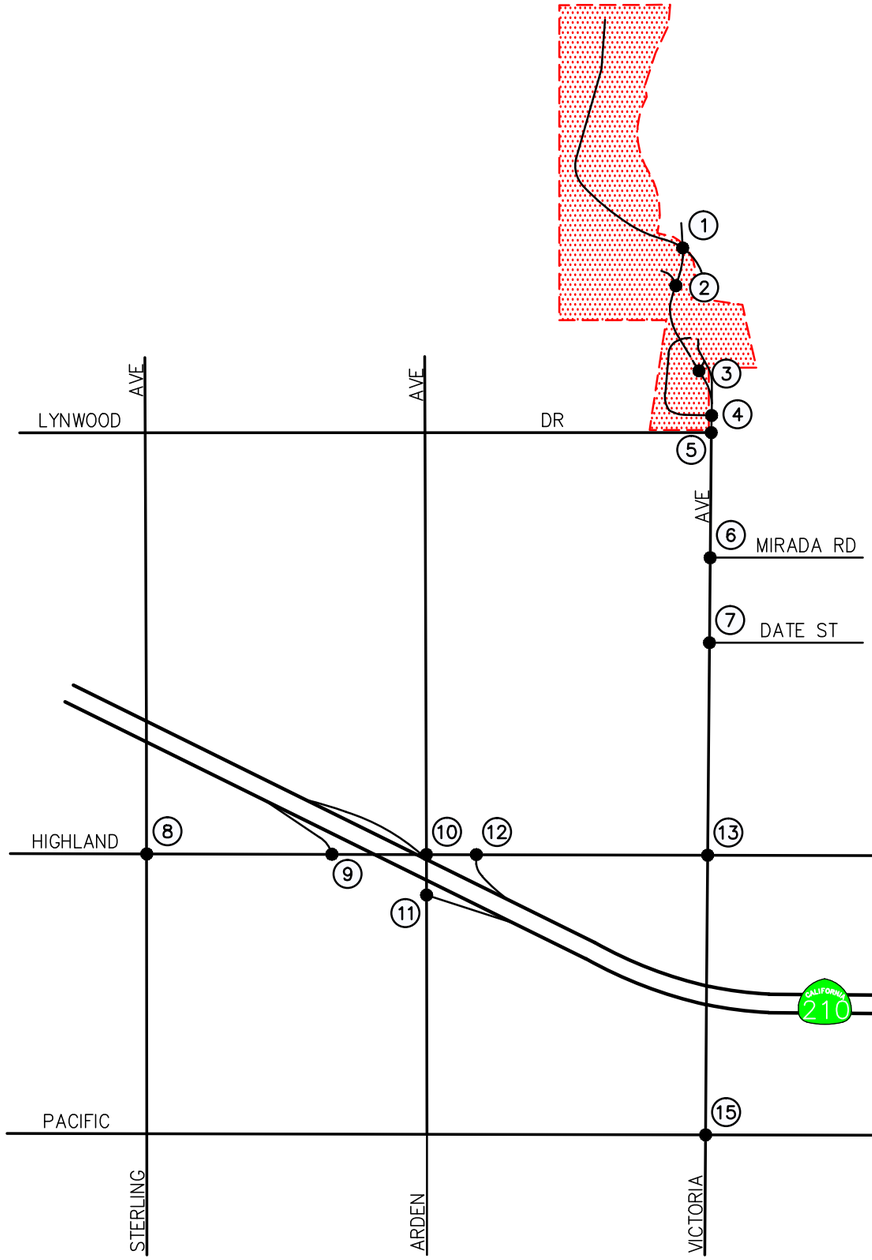
XX,XXX = DAILY TRAFFIC VOLUMES

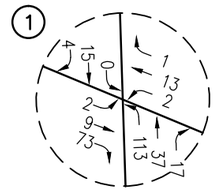
= PROJECT SITE

FIGURE 6-19

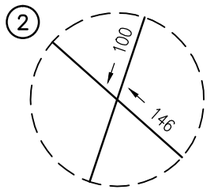
YEAR 2022 WITHOUT PROJECT SATURDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

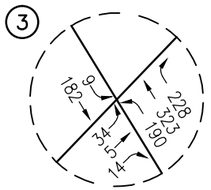




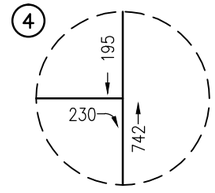
VICTORIA AVE @
ROAD A (ON-SITE)



VICTORIA AVE @
ROAD B (ON-SITE)



VICTORIA AVE @
DRIVEWAY C (ON-SITE)



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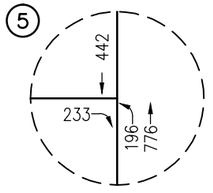
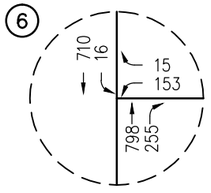
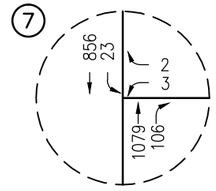
DRIVEWAY D (ON-SITE)



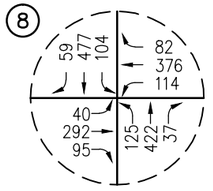
VICTORIA AVE @
LYNWOOD DR



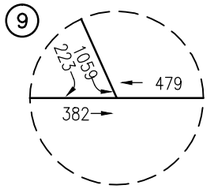
VICTORIA AVE @
MIRADA RD



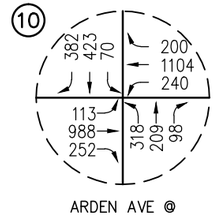
VICTORIA AVE @
DATE ST



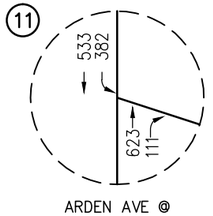
STERLING AVE @
HIGHLAND AVE



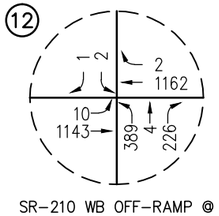
SR-210 EB OFF-RAMP @
HIGHLAND AVE



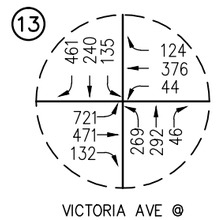
ARDEN AVE @
HIGHLAND AVE



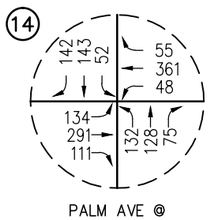
ARDEN AVE @
SR-210 EB ON-RAMP



SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE

VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

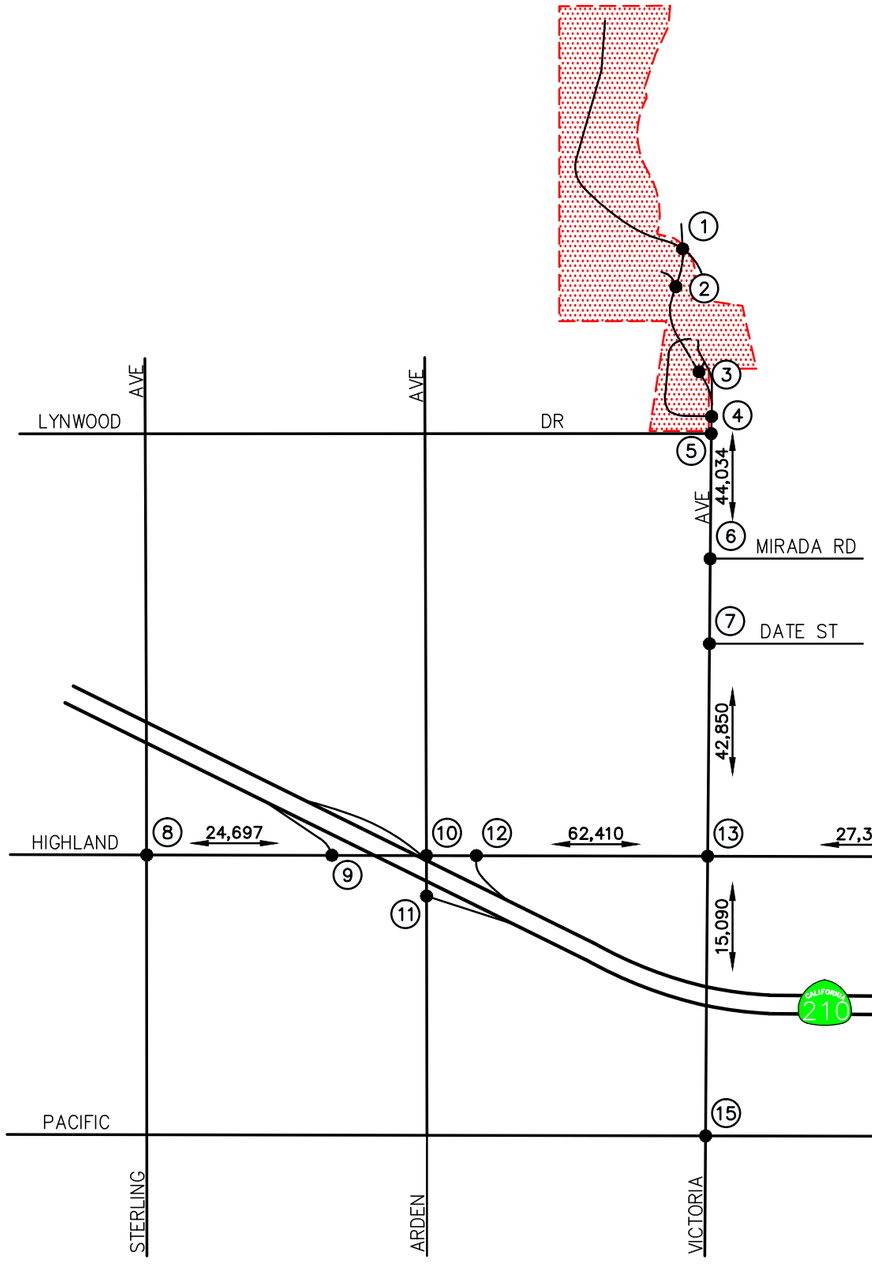
(#) = STUDY INTESECTION

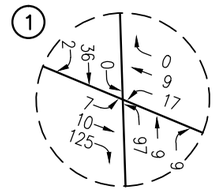
= PROJECT SITE

FIGURE 6-20

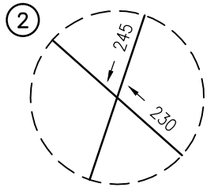
YEAR 2022 WITH PROJECT (PHASE 2) WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

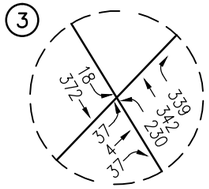




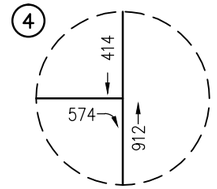
VICTORIA AVE @
ROAD A (ON–SITE)



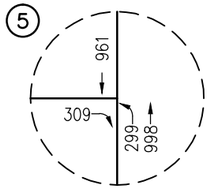
VICTORIA AVE @
ROAD B (ON–SITE)



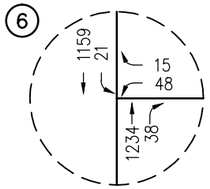
VICTORIA AVE @
DRIVEWAY C (ON–SITE)



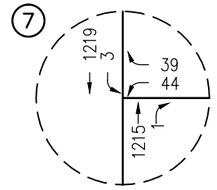
VICTORIA AVE @
DRIVEWAY D (ON–SITE)



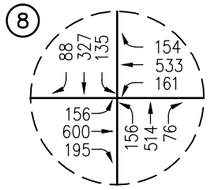
VICTORIA AVE @
LYNWOOD DR



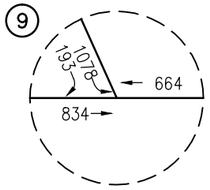
VICTORIA AVE @
MIRADA RD



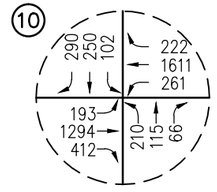
VICTORIA AVE @
DATE ST



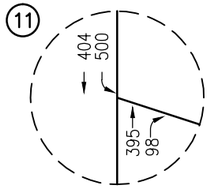
STERLING AVE @
HIGHLAND AVE



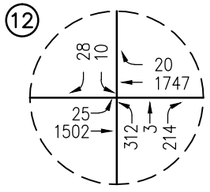
SR–210 EB OFF–RAMP @
HIGHLAND AVE



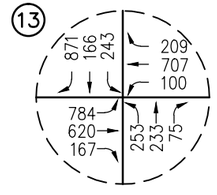
ARDEN AVE @
HIGHLAND AVE



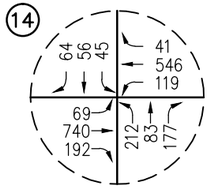
ARDEN AVE @
SR–210 EB ON–RAMP



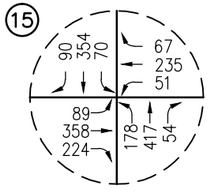
SR–210 WB OFF–RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

n:\3700\2163777 – san manuel hotel and casino expansion, san bernardino county\6 – dwg\3777 f6–21.dwg LDP 15:32:41 01–24–2018 besa

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

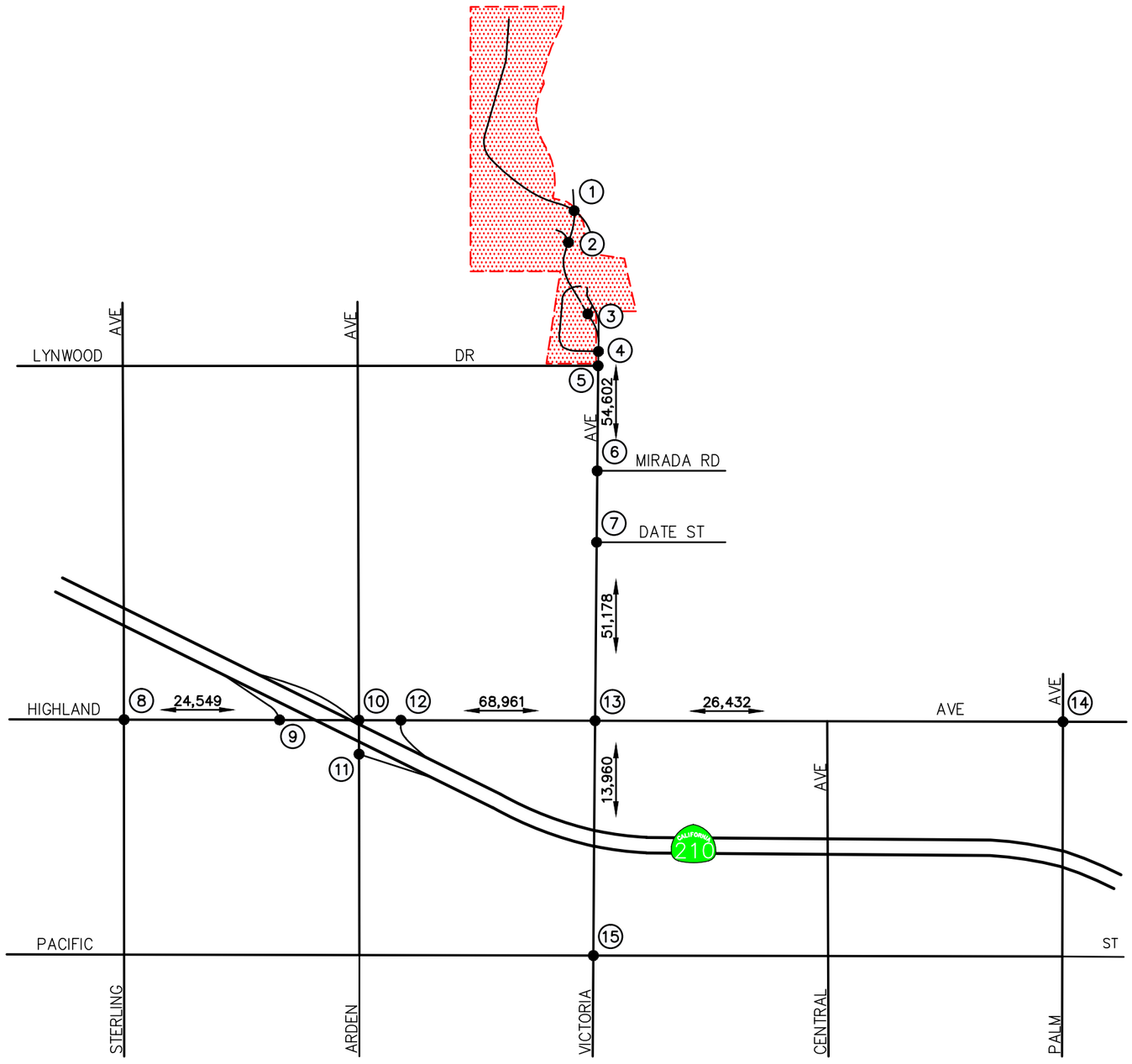
XX,XXX = DAILY TRAFFIC VOLUMES

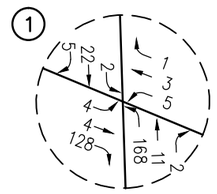
= PROJECT SITE

FIGURE 6–21

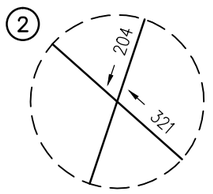
YEAR 2022 WITH PROJECT (PHASE 2) WEEKDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

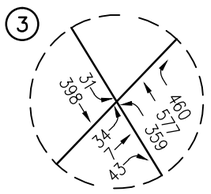




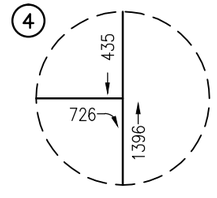
VICTORIA AVE @
ROAD A (ON-SITE)



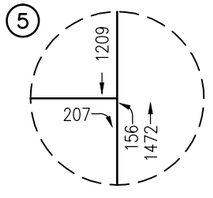
VICTORIA AVE @
ROAD B (ON-SITE)



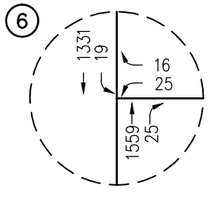
VICTORIA AVE @
DRIVEWAY C (ON-SITE)



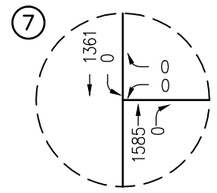
VICTORIA AVE @
DRIVEWAY D (ON-SITE)



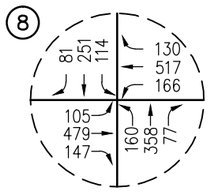
VICTORIA AVE @
LYNWOOD DR



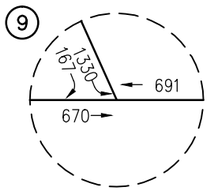
VICTORIA AVE @
MIRADA RD



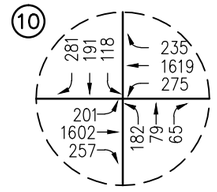
VICTORIA AVE @
DATE ST



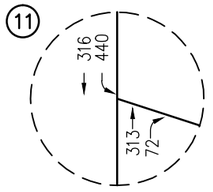
STERLING AVE @
HIGHLAND AVE



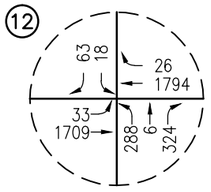
SR-210 EB OFF-RAMP @
HIGHLAND AVE



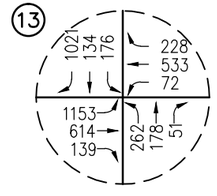
ARDEN AVE @
HIGHLAND AVE



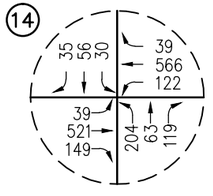
ARDEN AVE @
SR-210 EB ON-RAMP



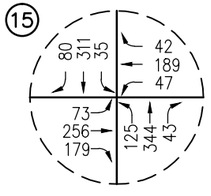
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

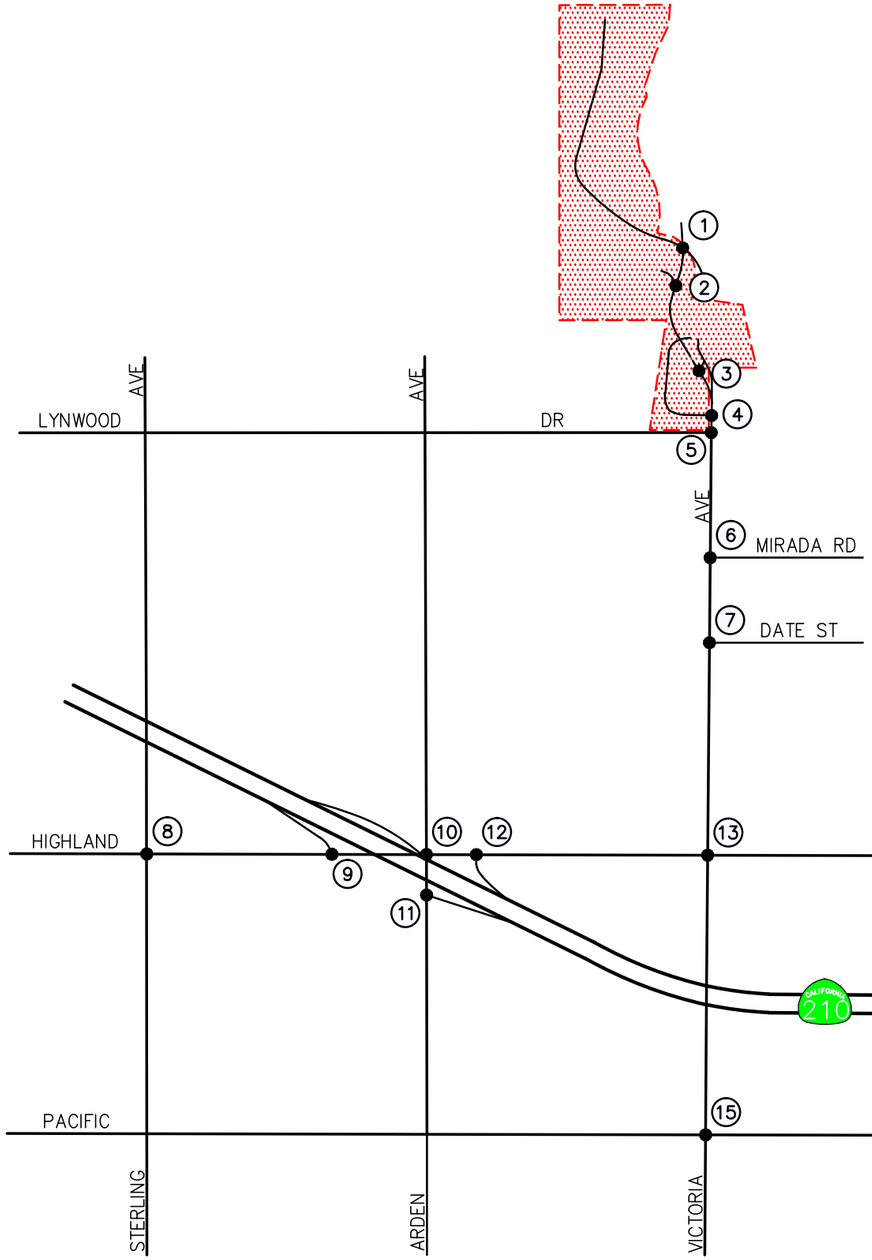
XX,XXX = DAILY TRAFFIC VOLUMES

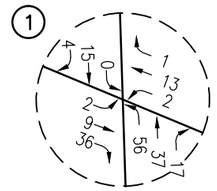
= PROJECT SITE

FIGURE 6-22

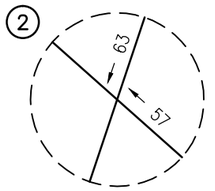
YEAR 2022 WITH PROJECT (PHASE 2) SATURDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

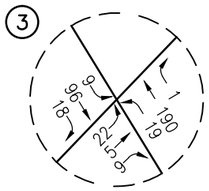




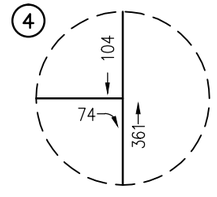
VICTORIA AVE @
ROAD A (ON-SITE)



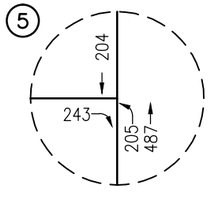
VICTORIA AVE @
ROAD B (ON-SITE)



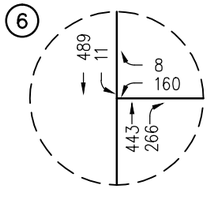
VICTORIA AVE @
DRIVEWAY C (ON-SITE)



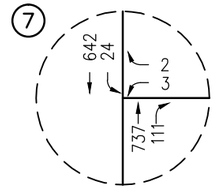
VICTORIA AVE @
DRIVEWAY D (ON-SITE)



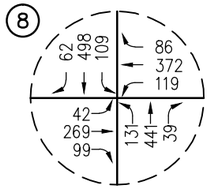
VICTORIA AVE @
LYNWOOD DR



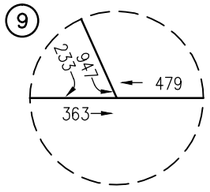
VICTORIA AVE @
MIRADA RD



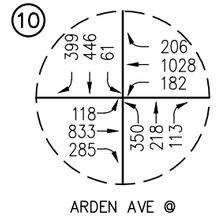
VICTORIA AVE @
DATE ST



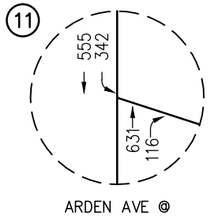
STERLING AVE @
HIGHLAND AVE



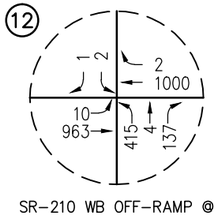
SR-210 EB OFF-RAMP @
HIGHLAND AVE



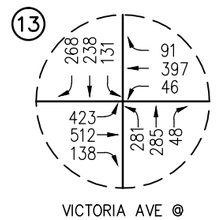
ARDEN AVE @
HIGHLAND AVE



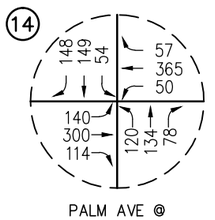
ARDEN AVE @
SR-210 EB ON-RAMP



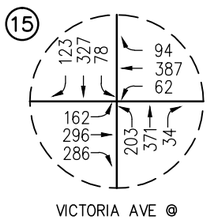
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

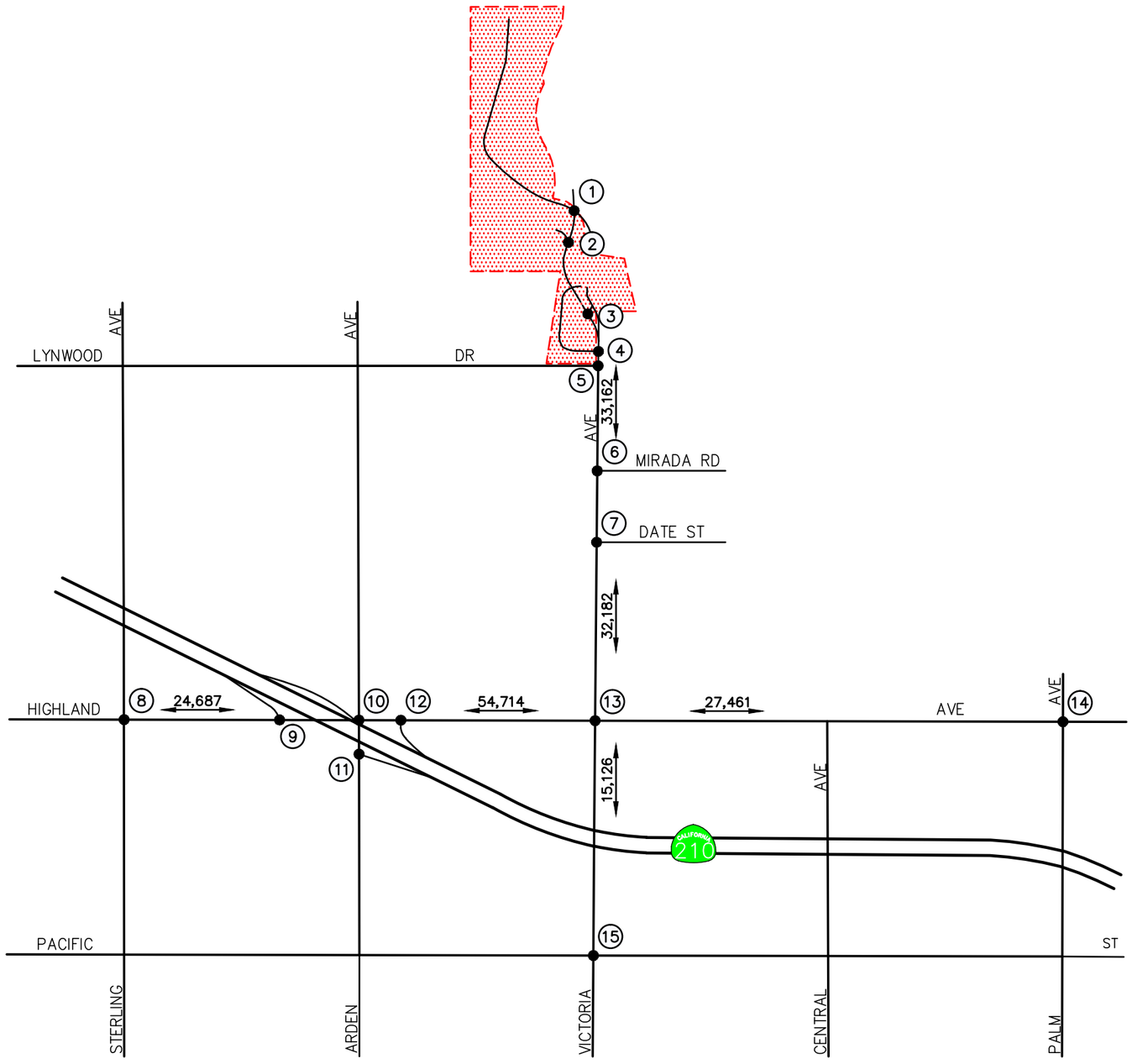
(#) = STUDY INTESECTION

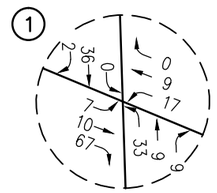
= PROJECT SITE

FIGURE 6-23

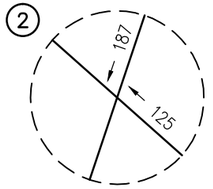
YEAR 2040 WITHOUT PROJECT WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

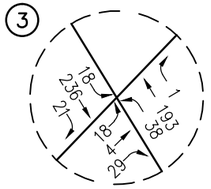




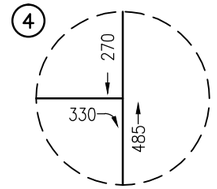
VICTORIA AVE @
ROAD A (ON–SITE)



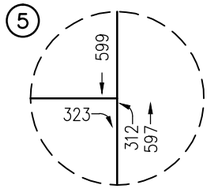
VICTORIA AVE @
ROAD B (ON–SITE)



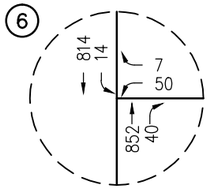
VICTORIA AVE @
DRIVEWAY C (ON–SITE)



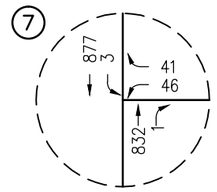
VICTORIA AVE @
DRIVEWAY D (ON–SITE)



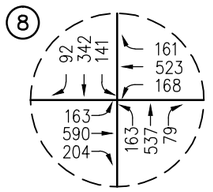
VICTORIA AVE @
LYNWOOD DR



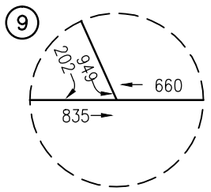
VICTORIA AVE @
MIRADA RD



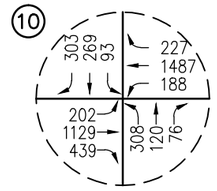
VICTORIA AVE @
DATE ST



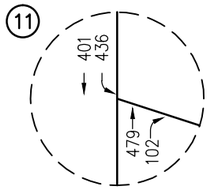
STERLING AVE @
HIGHLAND AVE



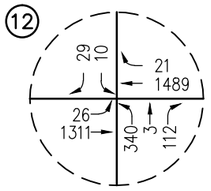
SR–210 EB OFF–RAMP @
HIGHLAND AVE



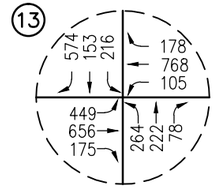
ARDEN AVE @
HIGHLAND AVE



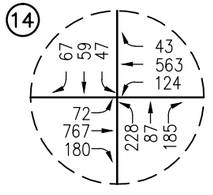
ARDEN AVE @
SR–210 EB ON–RAMP



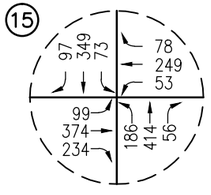
SR–210 WB OFF–RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

n:\3700\2163777 – san manuel hotel and casino expansion, san bernardino county\6 – dwg\3777 f6–24.dwg LDP 15:34:09 01–24–2018 besa

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

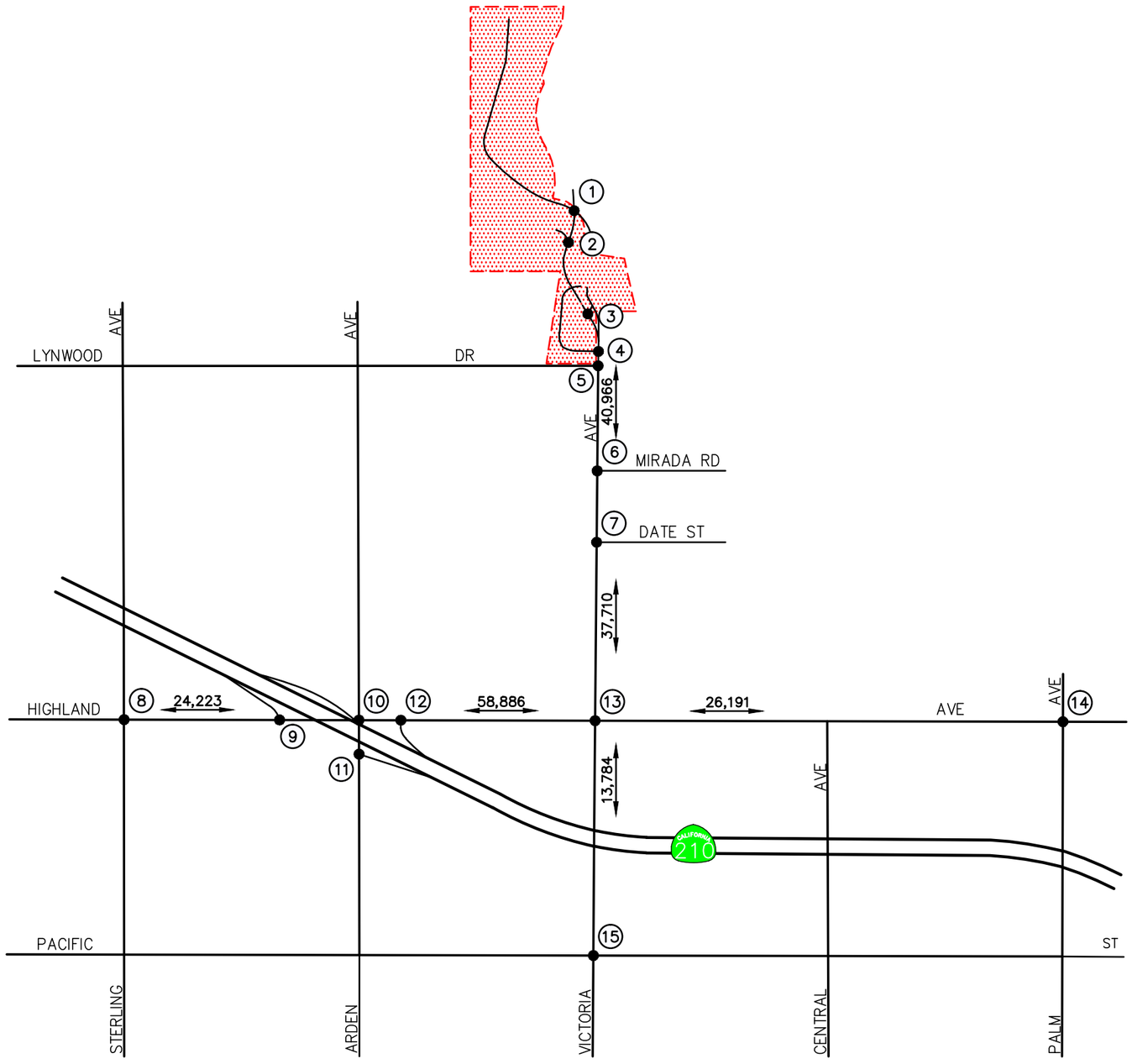
XX,XXX = DAILY TRAFFIC VOLUMES

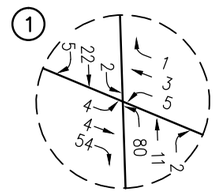
= PROJECT SITE

FIGURE 6–24

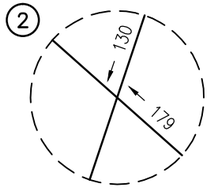
YEAR 2040 WITHOUT PROJECT WEEKDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

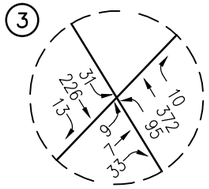




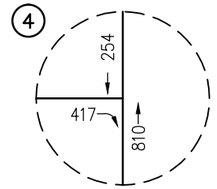
VICTORIA AVE @
ROAD A (ON-SITE)



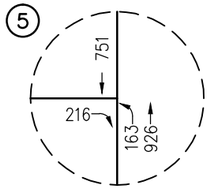
VICTORIA AVE @
ROAD B (ON-SITE)



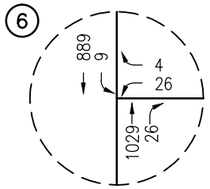
VICTORIA AVE @
DRIVEWAY C (ON-SITE)



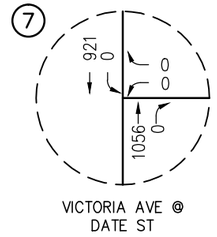
VICTORIA AVE @
DRIVEWAY D (ON-SITE)



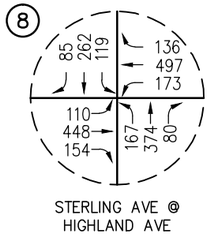
VICTORIA AVE @
LYNWOOD DR



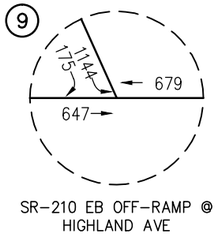
VICTORIA AVE @
MIRADA RD



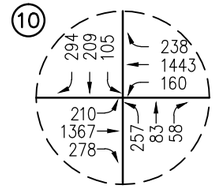
VICTORIA AVE @
DATE ST



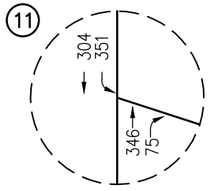
STERLING AVE @
HIGHLAND AVE



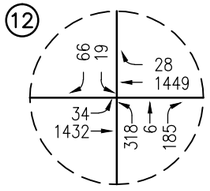
SR-210 EB OFF-RAMP @
HIGHLAND AVE



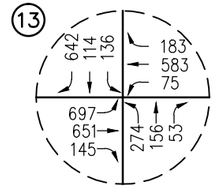
ARDEN AVE @
HIGHLAND AVE



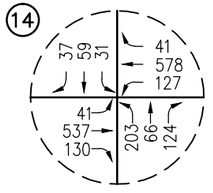
ARDEN AVE @
SR-210 EB ON-RAMP



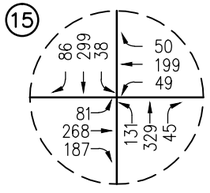
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

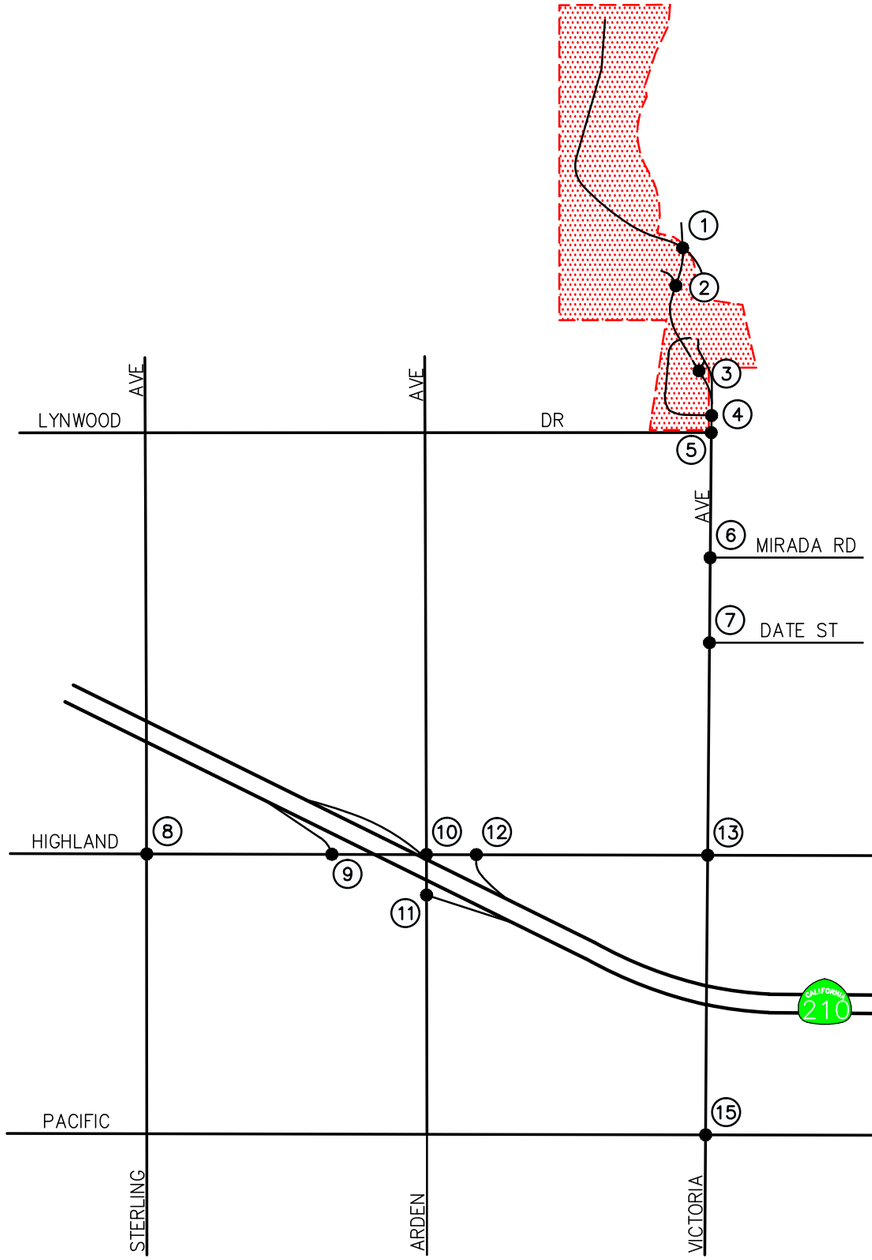
XX,XXX = DAILY TRAFFIC VOLUMES

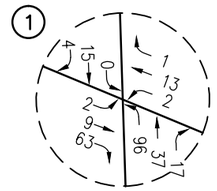
= PROJECT SITE

FIGURE 6-25

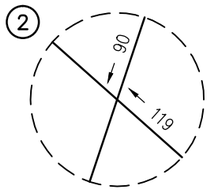
YEAR 2040 WITHOUT PROJECT SATURDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

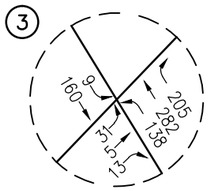




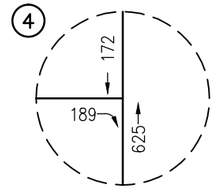
VICTORIA AVE @
ROAD A (ON-SITE)



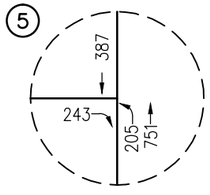
VICTORIA AVE @
ROAD B (ON-SITE)



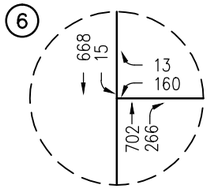
VICTORIA AVE @
DRIVEWAY C (ON-SITE)



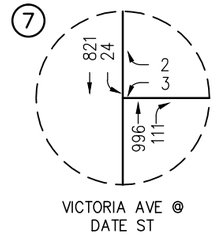
VICTORIA AVE @
DRIVEWAY D (ON-SITE)



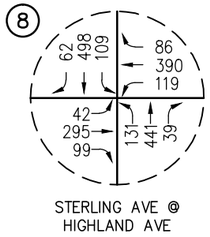
VICTORIA AVE @
LYNWOOD DR



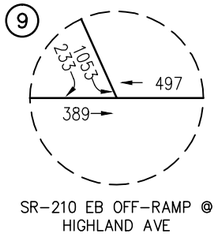
VICTORIA AVE @
MIRADA RD



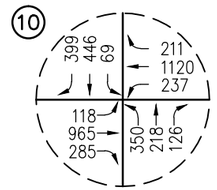
VICTORIA AVE @
DATE ST



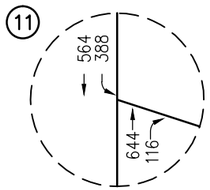
STERLING AVE @
HIGHLAND AVE



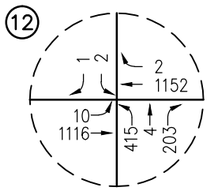
SR-210 EB OFF-RAMP @
HIGHLAND AVE



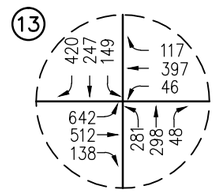
ARDEN AVE @
HIGHLAND AVE



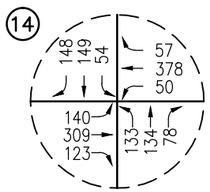
ARDEN AVE @
SR-210 EB ON-RAMP



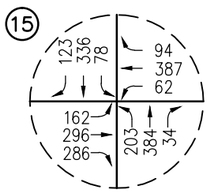
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

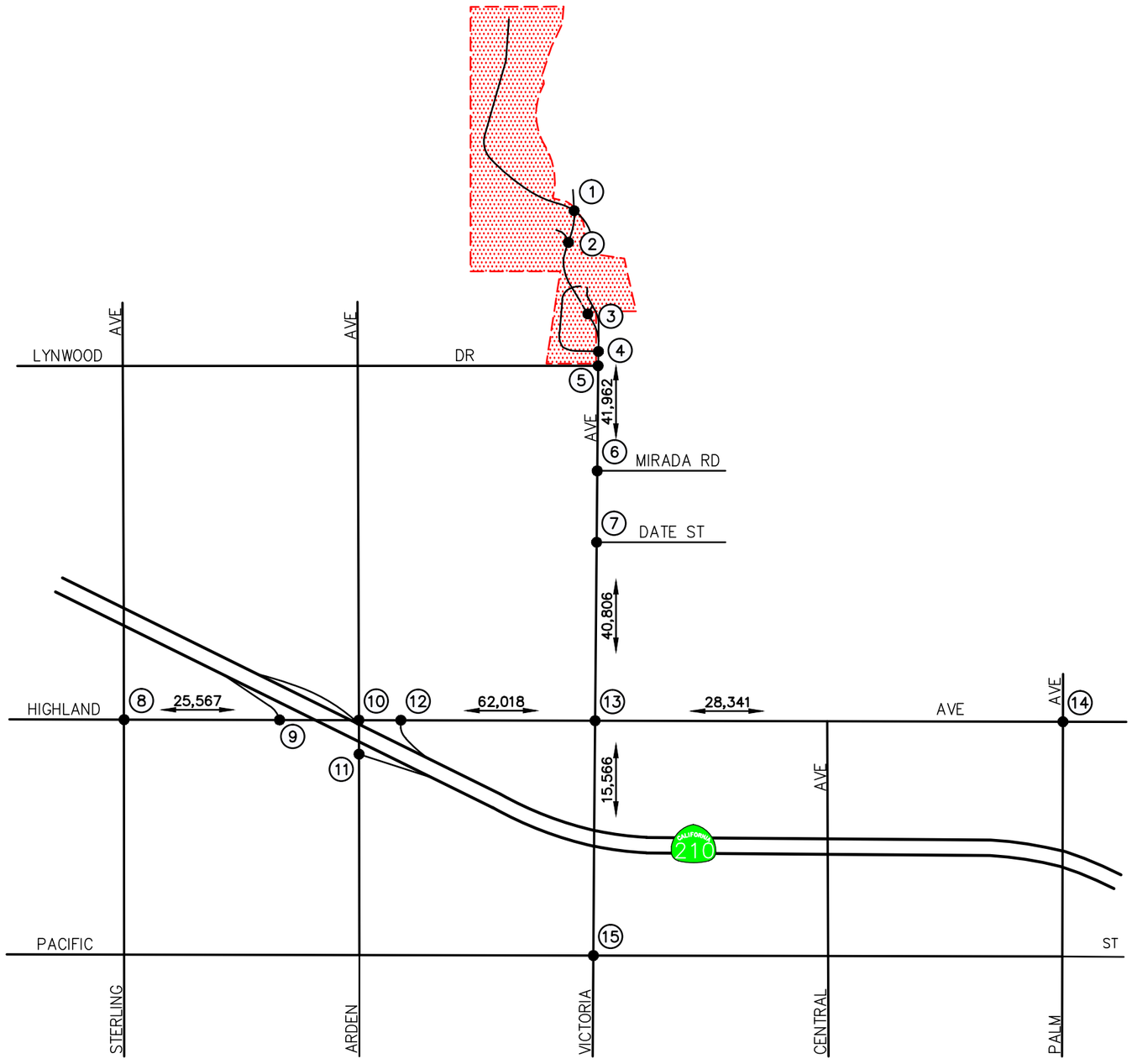
(#) = STUDY INTESECTION

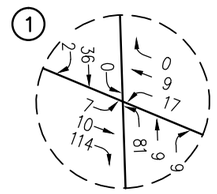
= PROJECT SITE

FIGURE 6-26

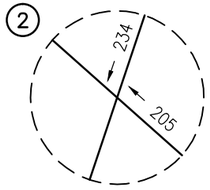
YEAR 2040 WITH PROJECT (PHASE 1) WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

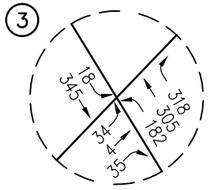




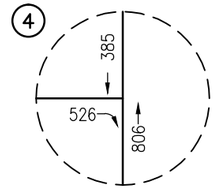
VICTORIA AVE @
ROAD A (ON-SITE)



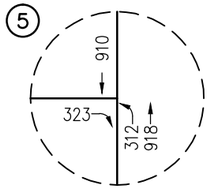
VICTORIA AVE @
ROAD B (ON-SITE)



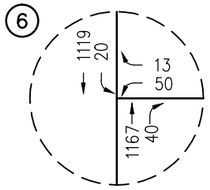
VICTORIA AVE @
DRIVEWAY C (ON-SITE)



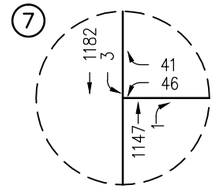
VICTORIA AVE @
DRIVEWAY D (ON-SITE)



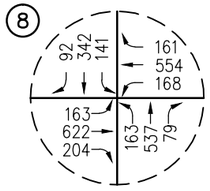
VICTORIA AVE @
LYNWOOD DR



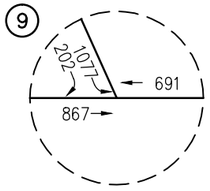
VICTORIA AVE @
MIRADA RD



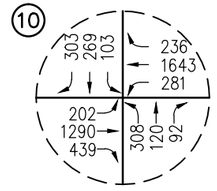
VICTORIA AVE @
DATE ST



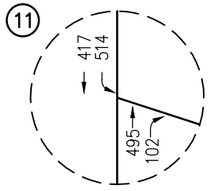
STERLING AVE @
HIGHLAND AVE



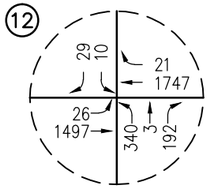
SR-210 EB OFF-RAMP @
HIGHLAND AVE



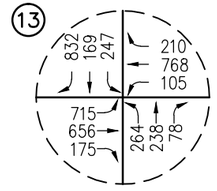
ARDEN AVE @
HIGHLAND AVE



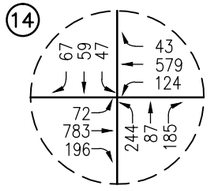
ARDEN AVE @
SR-210 EB ON-RAMP



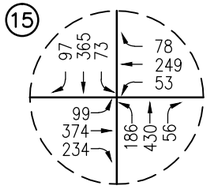
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

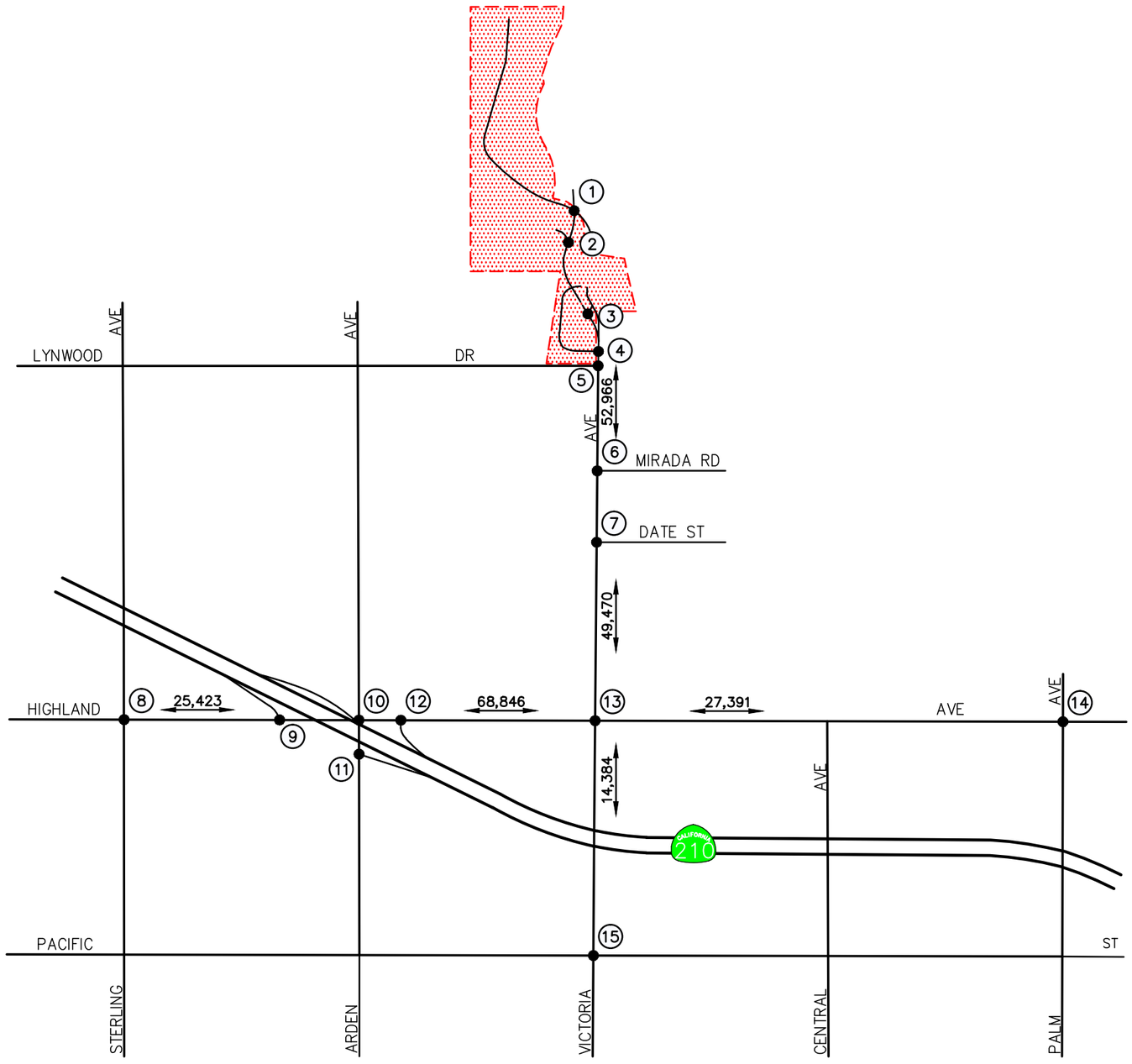
XX,XXX = DAILY TRAFFIC VOLUMES

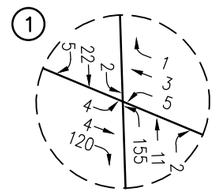
= PROJECT SITE

FIGURE 6-27

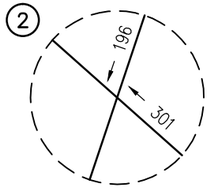
YEAR 2040 WITH PROJECT (PHASE 1) WEEKDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

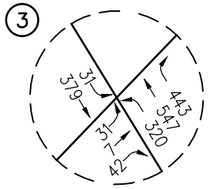




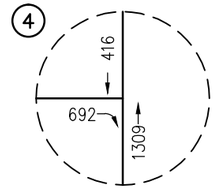
VICTORIA AVE @
ROAD A (ON-SITE)



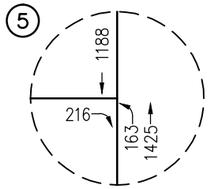
VICTORIA AVE @
ROAD B (ON-SITE)



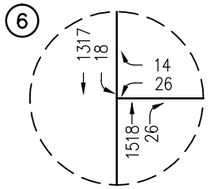
VICTORIA AVE @
DRIVEWAY C (ON-SITE)



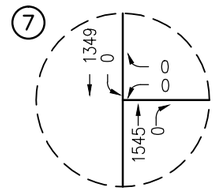
VICTORIA AVE @
DRIVEWAY D (ON-SITE)



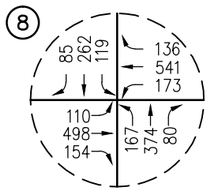
VICTORIA AVE @
LYNWOOD DR



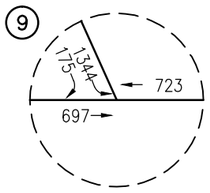
VICTORIA AVE @
MIRADA RD



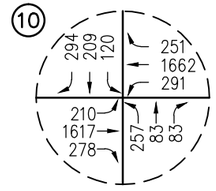
VICTORIA AVE @
DATE ST



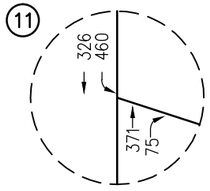
STERLING AVE @
HIGHLAND AVE



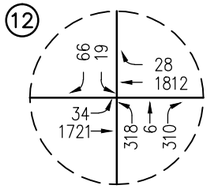
SR-210 EB OFF-RAMP @
HIGHLAND AVE



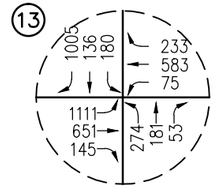
ARDEN AVE @
HIGHLAND AVE



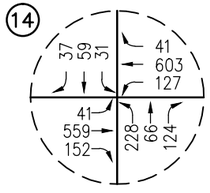
ARDEN AVE @
SR-210 EB ON-RAMP



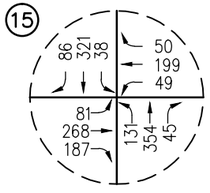
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

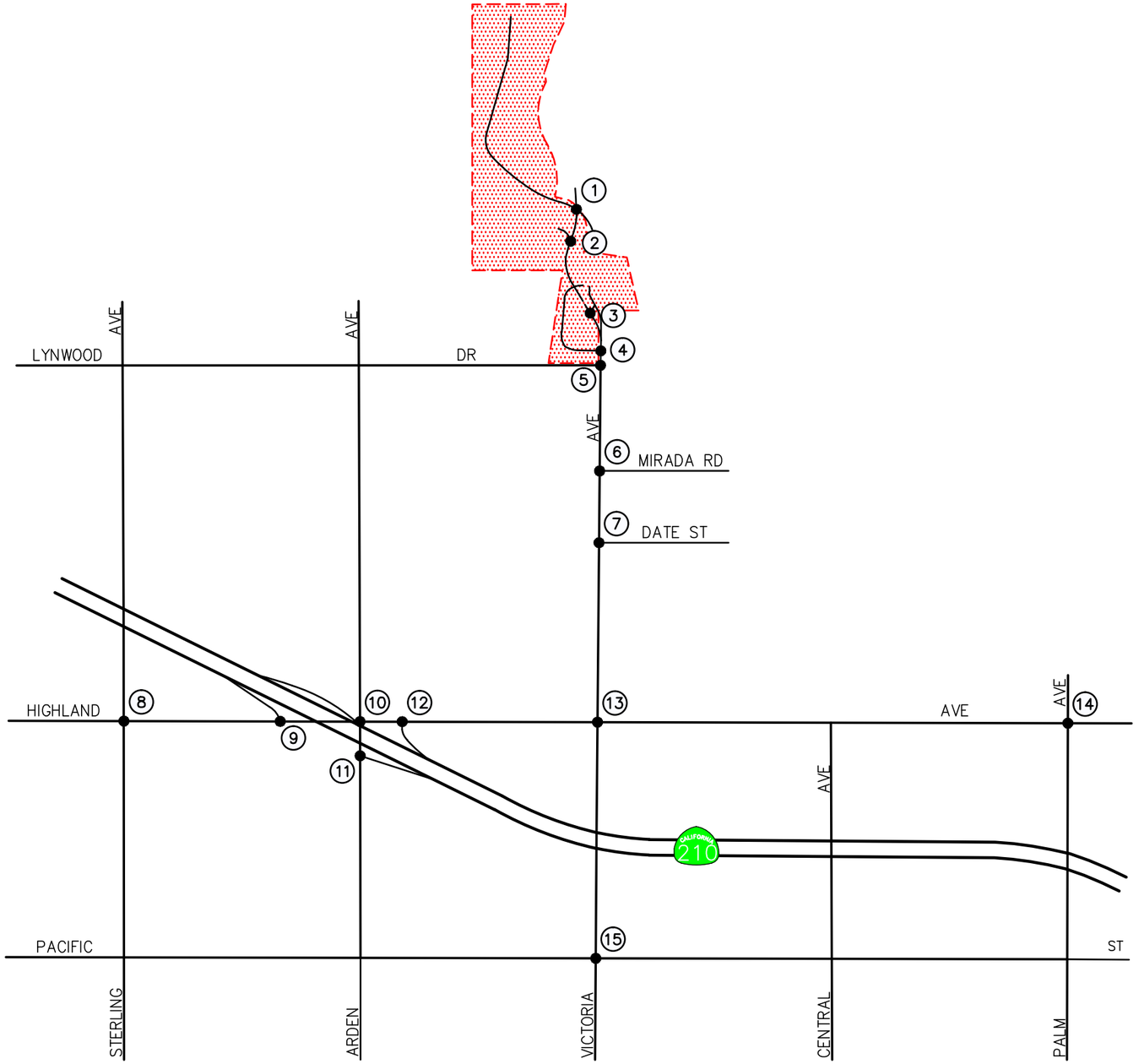
XX,XXX = DAILY TRAFFIC VOLUMES

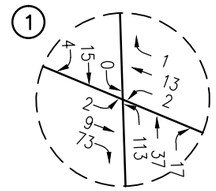
= PROJECT SITE

FIGURE 6-28

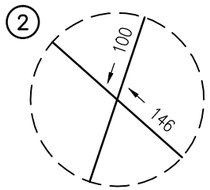
YEAR 2040 WITH PROJECT (PHASE 1) SATURDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

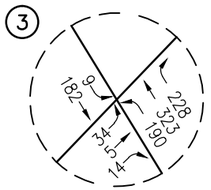




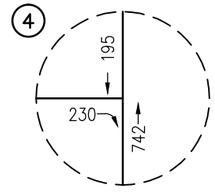
VICTORIA AVE @
ROAD A (ON-SITE)



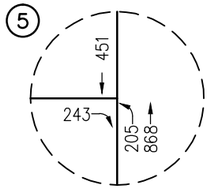
VICTORIA AVE @
ROAD B (ON-SITE)



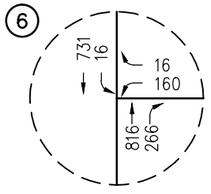
VICTORIA AVE @
DRIVEWAY C (ON-SITE)



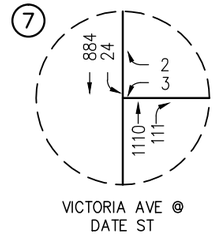
VICTORIA AVE @
DRIVEWAY D (ON-SITE)



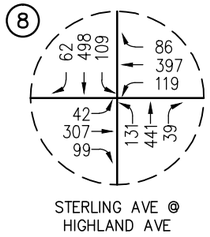
VICTORIA AVE @
LYNWOOD DR



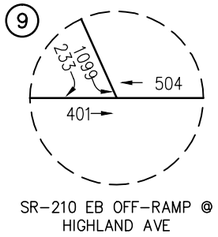
VICTORIA AVE @
MIRADA RD



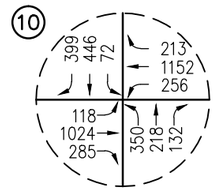
VICTORIA AVE @
DATE ST



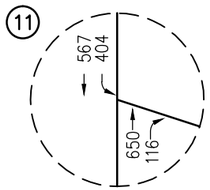
STERLING AVE @
HIGHLAND AVE



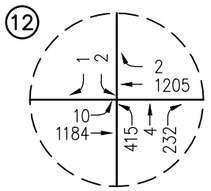
SR-210 EB OFF-RAMP @
HIGHLAND AVE



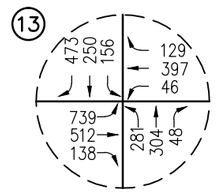
ARDEN AVE @
HIGHLAND AVE



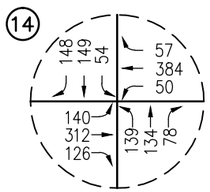
ARDEN AVE @
SR-210 EB ON-RAMP



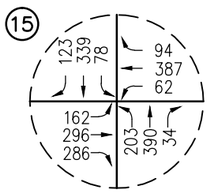
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

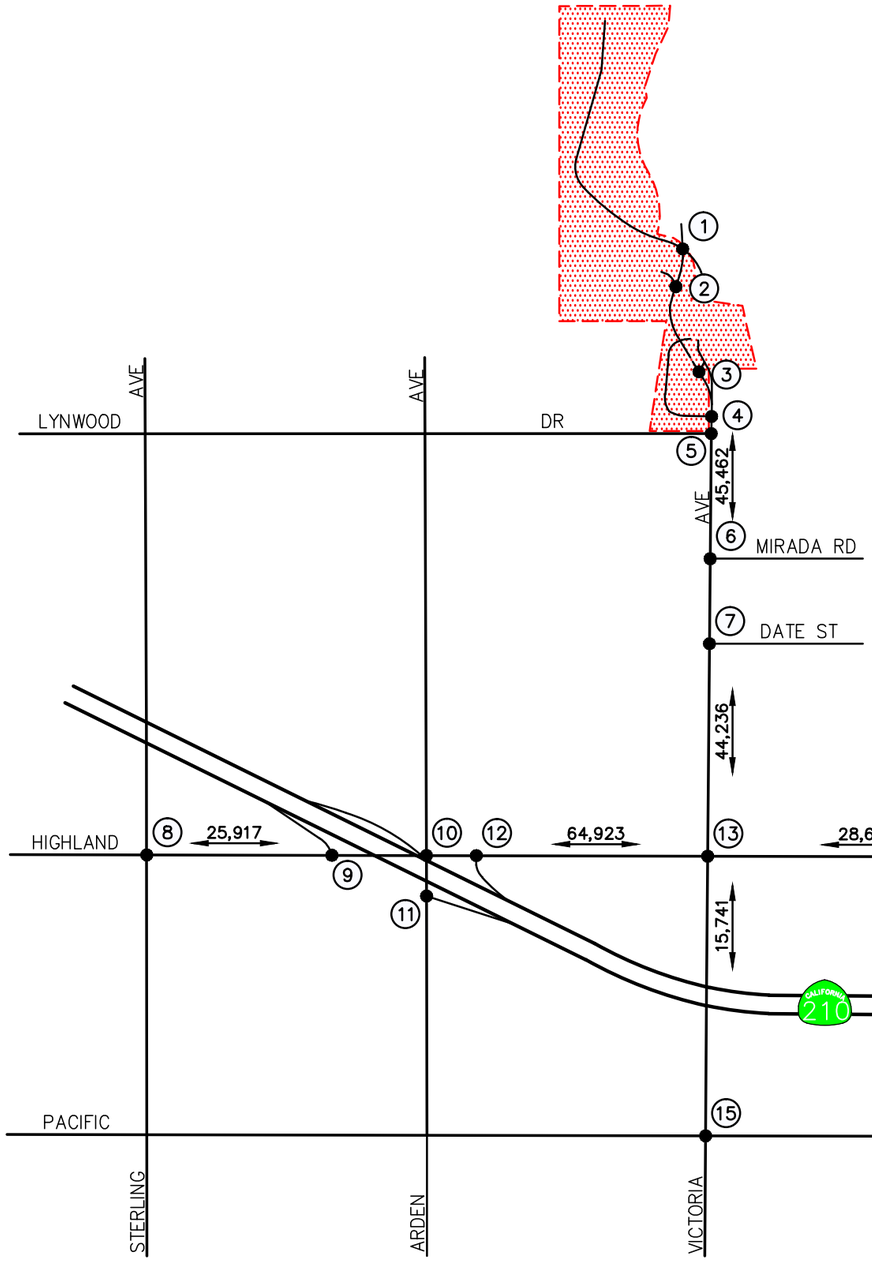
(#) = STUDY INTESECTION

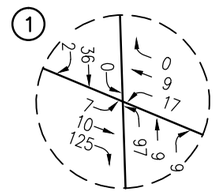
= PROJECT SITE

FIGURE 6-29

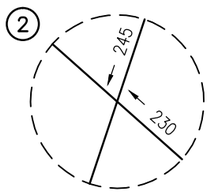
YEAR 2040 WITH PROJECT (PHASE 2) WEEKDAY AM PEAK HOUR TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

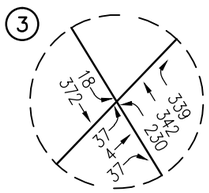




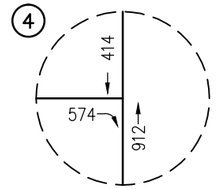
VICTORIA AVE @
ROAD A (ON-SITE)



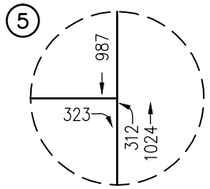
VICTORIA AVE @
ROAD B (ON-SITE)



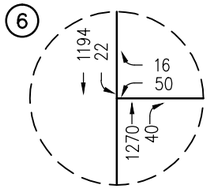
VICTORIA AVE @
DRIVEWAY C (ON-SITE)



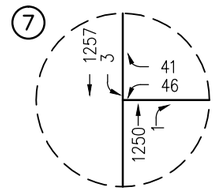
VICTORIA AVE @
DRIVEWAY D (ON-SITE)



VICTORIA AVE @
LYNWOOD DR



VICTORIA AVE @
MIRADA RD



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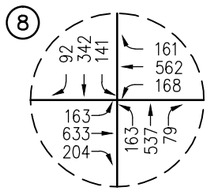
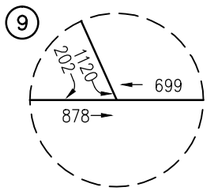
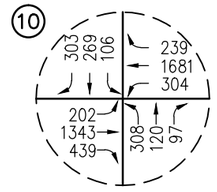
DATE ST



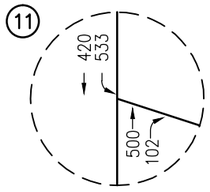
STERLING AVE @
HIGHLAND AVE



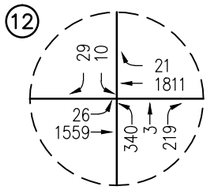
SR-210 EB OFF-RAMP @
HIGHLAND AVE



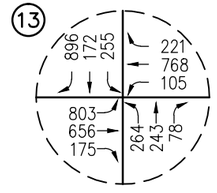
ARDEN AVE @
HIGHLAND AVE



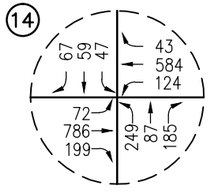
ARDEN AVE @
SR-210 EB ON-RAMP



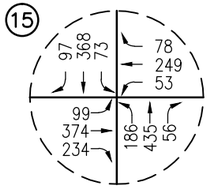
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

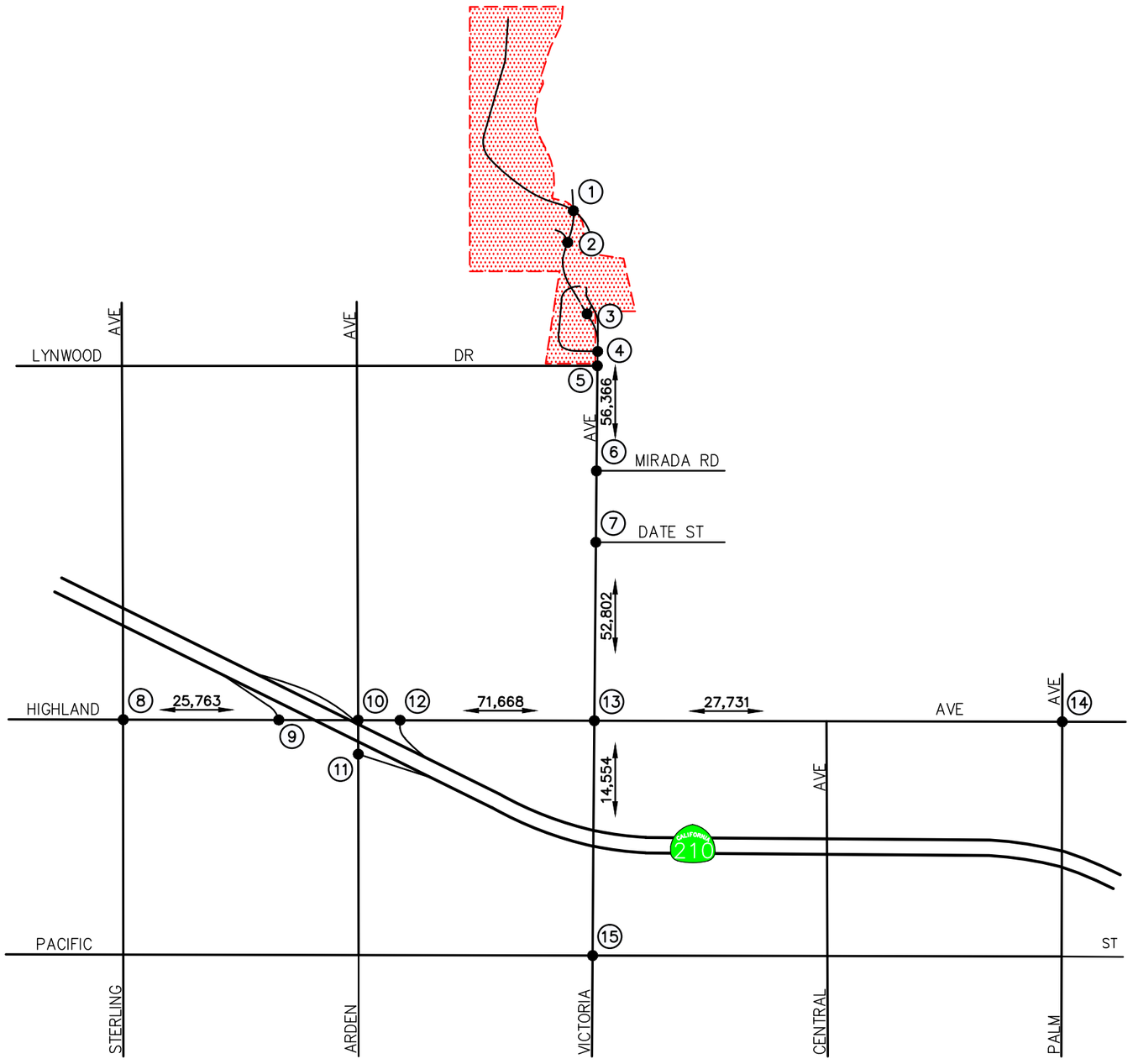
XX,XXX = DAILY TRAFFIC VOLUMES

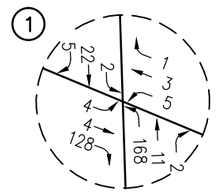
= PROJECT SITE

FIGURE 6-30

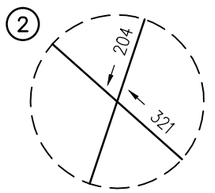
YEAR 2040 WITH PROJECT (PHASE 2) WEEKDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

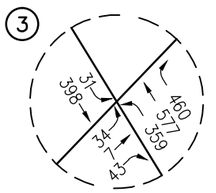




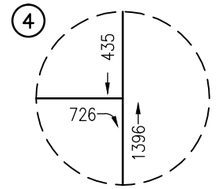
VICTORIA AVE @
ROAD A (ON-SITE)



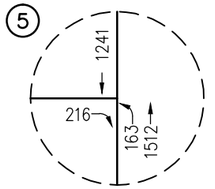
VICTORIA AVE @
ROAD B (ON-SITE)



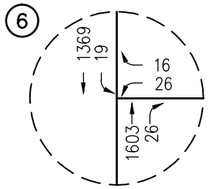
VICTORIA AVE @
DRIVEWAY C (ON-SITE)



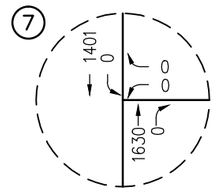
VICTORIA AVE @
DRIVEWAY D (ON-SITE)



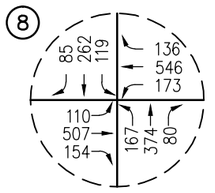
VICTORIA AVE @
LYNWOOD DR



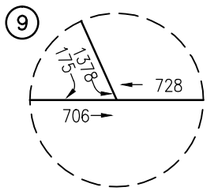
VICTORIA AVE @
MIRADA RD



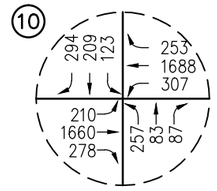
VICTORIA AVE @
DATE ST



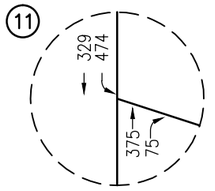
STERLING AVE @
HIGHLAND AVE



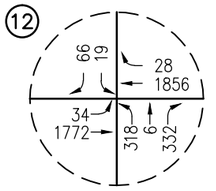
SR-210 EB OFF-RAMP @
HIGHLAND AVE



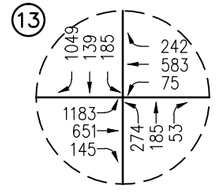
ARDEN AVE @
HIGHLAND AVE



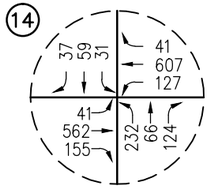
ARDEN AVE @
SR-210 EB ON-RAMP



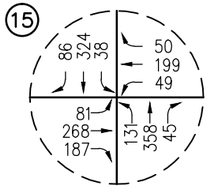
SR-210 WB OFF-RAMP @
HIGHLAND AVE



VICTORIA AVE @
HIGHLAND AVE



PALM AVE @
HIGHLAND AVE



VICTORIA AVE @
PACIFIC ST

n:\3700\2163777 - san manuel hotel and casino expansion, san bernardino county\6 - dwg\3777 f6-31.dwg LDP 15:37:35 01-24-2018 besa

LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

(#) = STUDY INTESECTION

XX,XXX = DAILY TRAFFIC VOLUMES

= PROJECT SITE

FIGURE 6-31

YEAR 2040 WITH PROJECT (PHASE 2) SATURDAY PM PEAK HOUR AND DAILY TRAFFIC VOLUMES

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

7.0 EXISTING CONDITIONS TRAFFIC IMPACT ANALYSIS

The existing conditions traffic analysis establishes the basis for the future forecasts for the Project (Phase 1) and Project (Phase 2). This analysis was based on existing intersection and roadway segment counts collected in December 2016. The existing conditions analysis reflects these counts as well as existing lane configurations for all analyzed intersections and roadway segments.

7.1 Existing Conditions Intersection Capacity Analysis

Table 7-1 summarizes the peak hour Level of Service results at the fifteen (15) key study intersections for existing traffic conditions, with and without the Project. The first column (1) of Delay/LOS values in *Table 7-1* presents a summary of Existing Weekday AM, Weekday PM, and Saturday PM peak hour traffic conditions. The second column (2) in *Table 7-1* presents forecast Existing With Project (Phase 1) traffic conditions. The third column (3) of *Table 7-1* shows whether the traffic associated with the Project (Phase 1) will have a significant impact based on the LOS standards and the significant impact criteria defined in this report. The fourth column (4) of *Table 7-1* presents the Level of Service with the implementation of traffic mitigation improvements, if necessary. The fifth column (5) of *Table 7-1* presents forecast Existing With Project (Phase 2) traffic conditions. The sixth column (6) of *Table 7-1* shows whether the traffic associated with the Project (Phase 2) will have a significant impact based on the LOS standards and the significant impact criteria defined in this report. The seventh column (7) of *Table 7-1* presents the Level of Service with the implementation of traffic mitigation improvements, if necessary.

Project-specific improvements, which are discussed in more detail in ***Section 11.0*** of this report, have been assumed for the "With Project" scenarios for the intersections listed below:

- 3. Victoria Avenue at Driveway "C"
- 4. Victoria Avenue at Driveway "D"

7.1.1 *Existing Traffic Conditions*

Review of column (1) of *Table 7-1* indicates that for the Existing traffic conditions, all fifteen (15) key study intersections currently operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours when compared to the LOS standards defined in this report.

7.1.2 *Existing With Project (Phase 1) Traffic Conditions*

Review of columns (2) and (3) of *Table 7-1* indicate that the Existing With Project (Phase 1) traffic conditions will not significantly impact any of the fifteen (15) key study intersections. All fifteen (15) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours when compared to the LOS standards defined in this report.

7.1.3 *Existing With Project (Phase 2) Traffic Conditions*

Review of column (5) of *Table 7-1* indicates that for the Existing With Project (Phase 2) traffic conditions, one (1) of the fifteen (15) key study intersections is forecast to operate at an unacceptable level of service during the Weekday AM peak hour when compared to the LOS standards defined in this report. The remaining fourteen (14) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours. The intersection operating at an adverse level of service is:

	Weekday AM Peak Hour		**Weekday PM Peak Hour**		**Saturday PM Peak Hour**	
Key Intersection	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
10. Arden Avenue at Highland Avenue	57.0	E	--	--	--	--

Review of column (6) of *Table 7-1* indicates that one (1) of the fifteen (15) key study intersections will have a significant impact under the Existing With Project (Phase 2) traffic conditions when compared to the LOS criteria defined in this report. However, as shown in column (7) of *Table 7-1*, the implementation of recommended mitigation measures at the impacted intersection mitigates the impacts of the proposed Project (Phase 2). After implementation of the recommended mitigation measures, the impacted intersection is forecast to operate at an acceptable LOS based on the LOS standards outlined in this report.

Appendix C contains the Delay/LOS calculation worksheets for the Existing Traffic Conditions.

TABLE 7-1

EXISTING WITH PROJECT CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[13]

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing With Project (Phase 1) Traffic Conditions		(3) Significant Impact	(4) Existing With Project (Phase 1) With Mitigation		(5) Existing With Project (Phase 2) Traffic Conditions[14]		(6) Significant Impact	(7) Existing With Project (Phase 2) With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
1. Victoria Avenue at Road "A"	D	Weekday AM	8.0	A	8.5	A	No	--	--	8.8	A	No	--	--
		Weekday PM	8.0	A	8.7	A	No	--	--	9.0	A	No	--	--
		Saturday PM	8.4	A	10.1	B	No	--	--	10.5	B	No	--	--
2. Victoria Avenue at Road "B"	D	Weekday AM	9.7	A	10.4	B	No	--	--	10.7	B	No	--	--
		Weekday PM	12.5	B	16.0	B	No	--	--	17.5	C	No	--	--
		Saturday PM	12.2	B	17.3	C	No	--	--	18.6	C	No	--	--
3. Victoria Avenue at Driveway "C"	D	Weekday AM	8.3	A	9.9	A	No	--	--	10.8	B	No	--	--
		Weekday PM	9.1	A	13.2	B	No	--	--	15.1	C	No	--	--
		Saturday PM	10.1	B	24.6	C	No	--	--	30.9	D	No	--	--
4. Victoria Avenue at Driveway "D"	D	Weekday AM	8.7	A	9.2	A	No	--	--	9.4	A	No	--	--
		Weekday PM	10.2	B	12.0	B	No	--	--	12.6	B	No	--	--
		Saturday PM	10.5	B	13.9	B	No	--	--	14.0	B	No	--	--
5. Victoria Avenue at Lynwood Drive	D	Weekday AM	21.6	C	16.7	B	No	--	--	15.5	B	No	--	--
		Weekday PM	20.9	C	18.8	B	No	--	--	18.5	B	No	--	--
		Saturday PM	12.8	B	11.5	B	No	--	--	11.5	B	No	--	--
6. Victoria Avenue at Mirada Road	D	Weekday AM	9.6	A	9.2	A	No	--	--	9.4	A	No	--	--
		Weekday PM	3.9	A	4.2	A	No	--	--	4.4	A	No	--	--
		Saturday PM	2.8	A	4.0	A	No	--	--	4.2	A	No	--	--
7. Victoria Avenue at Date Street	D	Weekday AM	14.3	B	18.2	C	No	--	--	20.4	C	No	--	--
		Weekday PM	14.4	B	19.4	C	No	--	--	21.7	C	No	--	--
		Saturday PM	14.7	B	22.0	C	No	--	--	23.8	C	No	--	--
8. Sterling Avenue at Highland Avenue	D	Weekday AM	32.3	C	32.0	C	No	--	--	31.8	C	No	--	--
		Weekday PM	31.9	C	31.8	C	No	--	--	31.8	C	No	--	--
		Saturday PM	30.9	C	31.7	C	No	--	--	31.6	C	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards as defined in this report
- LOS = Level of Service

[13] *Appendix C* contains the Delay/LOS calculation worksheets for all study intersections.

[14] Includes Phase 1 traffic and recommended improvements from Existing With Project (Phase 1), if applicable.

TABLE 7-1 (CONTINUED)

EXISTING WITH PROJECT CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[15]

Key Intersection		Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Existing With Project (Phase 1) Traffic Conditions		(3) Significant Impact	(4) Existing With Project (Phase 1) With Mitigation		(5) Existing With Project (Phase 2) Traffic Conditions[16]		(6) Significant Impact	(7) Existing With Project (Phase 2) With Mitigation	
				Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
9.	SR-210 EB Off-Ramp at Highland Avenue	D	Weekday AM	21.8	C	21.4	C	No	--	--	21.2	C	No	--	--
			Weekday PM	18.6	B	19.2	B	No	--	--	19.4	B	No	--	--
			Saturday PM	19.8	B	20.2	C	No	--	--	20.3	C	No	--	--
10.	Arden Avenue at Highland Avenue	D	Weekday AM	43.0	D	52.1	D	No	--	--	**57.0**	**E**	**Yes**	42.6	D
			Weekday PM	30.2	C	35.1	D	No	--	--	38.5	D	No	30.4	C
			Saturday PM	28.2	C	38.9	D	No	--	--	41.8	D	No	34.4	C
11.	Arden Avenue at SR-210 EB On-Ramp	D	Weekday AM	11.3	B	12.5	B	No	--	--	12.9	B	No	--	--
			Weekday PM	14.9	B	16.0	B	No	--	--	16.3	B	No	--	--
			Saturday PM	15.5	B	17.4	B	No	--	--	17.5	B	No	--	--
12.	SR-210 WB Off-Ramp at Highland Avenue	D	Weekday AM	12.7	B	13.6	B	No	--	--	14.2	B	No	--	--
			Weekday PM	13.9	B	16.4	B	No	--	--	17.9	B	No	--	--
			Saturday PM	16.4	B	25.5	C	No	--	--	27.8	C	No	--	--
13.	Victoria Avenue at Highland Avenue	D	Weekday AM	26.5	C	29.7	C	No	--	--	32.4	C	No	--	--
			Weekday PM	26.6	C	33.3	C	No	--	--	34.7	C	No	--	--
			Saturday PM	29.2	C	36.8	D	No	--	--	40.7	D	No	--	--
14.	Palm Avenue at Highland Avenue	D	Weekday AM	27.8	C	27.7	C	No	--	--	27.7	C	No	--	--
			Weekday PM	22.8	C	22.8	C	No	--	--	22.9	C	No	--	--
			Saturday PM	21.5	C	21.4	C	No	--	--	21.3	C	No	--	--
15.	Victoria Avenue at Pacific Street	D	Weekday AM	33.6	C	33.7	C	No	--	--	33.7	C	No	--	--
			Weekday PM	29.6	C	29.8	C	No	--	--	29.8	C	No	--	--
			Saturday PM	29.4	C	29.6	C	No	--	--	29.7	C	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards as defined in this report
- LOS = Level of Service

[15] *Appendix C* contains the Delay/LOS calculation worksheets for all study intersections.

[16] Includes Phase 1 traffic and recommended improvements from Existing With Project (Phase 1), if applicable.

7.2 Existing Conditions Roadway Segment Analysis

Table 7-2 summarizes the daily level of service results at the six (6) key study roadway segments during a "typical" weekday and Saturday for the existing traffic conditions with and without the Project. *Table 7-2* presents the type of arterial, the LOS E capacity values from the *City of San Bernardino General Plan*, and the number of travel lanes for each of the six (6) daily roadway segments. The first column (1) indicates the Existing daily traffic volumes, Volume to Capacity (V/C) ratio and Level of Service (LOS). The second column (2) in *Table 7-2* forecasts the Existing With Project (Phase 1) traffic conditions. The third column (3) of *Table 7-2* indicates whether the roadway segment operates at an adverse level of service based on the LOS standards and the impact criteria defined in this report. The fourth column (4) forecasts the Existing With Project (Phase 2) traffic conditions. The fifth column (5) indicates whether the roadway segment operates at an adverse level of service based on the LOS standards and the impact criteria defined in this report.

7.2.1 *Existing Traffic Conditions*

Review of column (1) of *Table 7-2* indicates that for the Existing traffic conditions, three (3) of the six (6) key study roadway segments currently operate at unacceptable levels of service on a Weekday daily basis and Saturday daily basis when compared to the LOS standards defined in this report. The remaining three (3) key study roadway segments currently operate at acceptable levels of service LOS A or better on a Weekday daily basis and Saturday daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Victoria Ave, *between* Lynwood Dr and Mirada Rd	**28,849**	**0.962**	**E**	**35,638**	**1.188**	**F**
2. Victoria Ave, *between* Date St and Highland Ave	**27,922**	**0.931**	**E**	**32,728**	**1.091**	**F**
5. Highland Ave, *between* SR-210 WB Off-Ramp and Victoria Ave	**46,792**	**1.170**	**F**	**50,427**	**1.261**	**F**

7.2.2 *Existing With Project (Phase 1) Traffic Conditions*

Review of column (2) of *Table 7-2* indicates that for the Existing With Project (Phase 1) traffic conditions, three (3) of the six (6) key study roadway segments are forecast to operate at unacceptable levels of service on a Weekday daily basis and Saturday daily basis when compared to the LOS standards defined in this report. The remaining three (3) key study roadway segments are forecast to operate at acceptable levels of service LOS B or better on a Weekday daily basis and Saturday daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Victoria Ave, *between* Lynwood Dr and Mirada Rd	**37,649**	**1.255**	**F**	**47,638**	**1.588**	**F**
2. Victoria Ave, *between* Date St and Highland Ave	**36,546**	**1.218**	**F**	**44,488**	**1.483**	**F**
5. Highland Ave, *between* SR-210 WB Off-Ramp and Victoria Ave	**54,096**	**1.352**	**F**	**60,387**	**1.510**	**F**

To determine if the Project (Phase 1) creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies. As presented in ***Table 7-3***, these study roadway segments are forecast to operate at LOS A during the Weekday AM, Weekday PM, and Saturday PM peak hours. As a result, the key study roadway segments are not significantly impacted by Existing With Project (Phase 1) traffic and therefore no improvements are required.

7.2.3 *Existing With Project (Phase 2) Traffic Conditions*

Review of column (4) of *Table 7-2* indicates that for the Existing With Project (Phase 2) traffic conditions, three (3) of the six (6) key study roadway segments are forecast to operate at unacceptable levels of service on a Weekday daily basis and Saturday daily basis when compared to the LOS standards defined in this report. The remaining three (3) key study roadway segments are forecast to operate at acceptable levels of service LOS B or better on a Weekday daily basis and Saturday daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Victoria Ave, *between* Lynwood Dr and Mirada Rd	**41,149**	**1.372**	**F**	**51,038**	**1.701**	**F**
2. Victoria Ave, *between* Date St and Highland Ave	**39,976**	**1.333**	**F**	**47,820**	**1.594**	**F**
5. Highland Ave, *between* SR-210 WB Off-Ramp and Victoria Ave	**57,001**	**1.425**	**F**	**63,209**	**1.580**	**F**

To determine if the Project (Phase 2) creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies. As presented in ***Table 7-4***, these study roadway segments are forecast to operate at LOS A during the Weekday AM, Weekday PM, and Saturday PM peak hours. As a result, the key study roadway segments are not significantly impacted by Existing With Project (Phase 2) traffic and therefore no improvements are required.

TABLE 7-2

EXISTING WITH PROJECT CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Type of Arterial	LOS E Capacity[17] (VPD)	Lanes	(1) Existing Traffic Conditions			(2) Existing With Project (Phase 1) Traffic Conditions			(3) Adverse	(4) Existing With Project (Phase 2) Traffic Conditions			(5) Adverse
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Yes/No	Daily Volume	V/C Ratio	LOS	Yes/No
1. Victoria Avenue, *between* Lynwood Drive and Mirada Road	Weekday	Secondary Arterial	30,000	4D	**28,849**	**0.962**	**E**	**37,649**	**1.255**	**F**	**Yes**	**41,149**	**1.372**	**F**	**Yes**
	Saturday				**35,638**	**1.188**	**F**	**47,638**	**1.588**	**F**	**Yes**	**51,038**	**1.701**	**F**	**Yes**
2. Victoria Avenue, *between* Date Street and Highland Avenue	Weekday	Secondary Arterial	30,000	4D	**27,922**	**0.931**	**E**	**36,546**	**1.218**	**F**	**Yes**	**39,976**	**1.333**	**F**	**Yes**
	Saturday				**32,728**	**1.091**	**F**	**44,488**	**1.483**	**F**	**Yes**	**47,820**	**1.594**	**F**	**Yes**
3. Victoria Avenue, *between* Highland Avenue and Pacific Street	Weekday	Secondary Arterial	30,000	4D	12,936	0.431	A	13,376	0.446	A	No	13,551	0.452	A	No
	Saturday				11,752	0.392	A	12,352	0.412	A	No	12,522	0.417	A	No
4. Highland Avenue, *between* Sterling Avenue and SR-210 EB Off-Ramp	Weekday	Major Arterial	40,000	4D	19,622	0.491	A	20,502	0.513	A	No	20,852	0.521	A	No
	Saturday				19,988	0.500	A	21,188	0.530	A	No	21,528	0.538	A	No
5. Highland Avenue, *between* SR-210 WB Off-Ramp and Victoria Avenue	Weekday	Major Arterial	40,000	4D	**46,792**	**1.170**	**F**	**54,096**	**1.352**	**F**	**Yes**	**57,001**	**1.425**	**F**	**Yes**
	Saturday				**50,427**	**1.261**	**F**	**60,387**	**1.510**	**F**	**Yes**	**63,209**	**1.580**	**F**	**Yes**
6. Highland Avenue, *between* Victoria Avenue and Central Avenue	Weekday	Major Arterial	40,000	4D	23,381	0.585	A	24,261	0.607	B	No	24,611	0.615	B	No
	Saturday				22,302	0.558	A	23,502	0.588	A	No	23,842	0.596	A	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards as defined in this report

[17] Source: *City of San Bernardino General Plan.*

TABLE 7-3

EXISTING WITH PROJECT (PHASE 1) CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	(1) Type of Arterial	(2) Time Period	(3) Approach	(4) Segment Capacity (VPHPL)	(5) Lanes	(6) Total Segment Capacity (VPH)	(7) Existing With Project (Phase 1) Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
1. Victoria Avenue, *between* Lynwood Drive and Mirada Road	Secondary Arterial	Weekday AM	NB	1,600	2	3,200	801	0.250	A
			SB	1,600	2	3,200	618	0.193	A
		Weekday PM	NB	1,600	2	3,200	1,112	0.348	A
			SB	1,600	2	3,200	1,031	0.322	A
		Saturday PM	NB	1,600	2	3,200	1,446	0.452	A
			SB	1,600	2	3,200	1,219	0.381	A
2. Victoria Avenue, *between* Date Street and Highland Avenue	Secondary Arterial	Weekday AM	NB	1,600	2	3,200	994	0.311	A
			SB	1,600	2	3,200	718	0.224	A
		Weekday PM	NB	1,600	2	3,200	1,038	0.324	A
			SB	1,600	2	3,200	1,120	0.350	A
		Saturday PM	NB	1,600	2	3,200	1,405	0.439	A
			SB	1,600	2	3,200	1,198	0.374	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service

TABLE 7-3 (CONTINUED)

EXISTING WITH PROJECT (PHASE 1) CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	(1) Type of Arterial	(2) Time Period	(3) Approach	(4) Segment Capacity (VPHPL)	(5) Lanes	(6) Total Segment Capacity (VPH)	(7) Existing With Project (Phase 1) Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
5. Highland Avenue, *between* SR-210 WB Off-Ramp and Victoria Avenue	Major Arterial	Weekday AM	EB	1,600	2	3,200	1,116	0.349	A
			WB	1,600	2	3,200	1,005	0.314	A
		Weekday PM	EB	1,600	2	3,200	1,348	0.421	A
			WB	1,600	2	3,200	1,556	0.486	A
		Saturday PM	EB	1,600	2	3,200	1,681	0.525	A
			WB	1,600	2	3,200	1,630	0.509	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service

TABLE 7-4

EXISTING WITH PROJECT (PHASE 2) CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	(1) Type of Arterial	(2) Time Period	(3) Approach	(4) Segment Capacity (VPHPL)	(5) Lanes	(6) Total Segment Capacity (VPH)	(7) Existing With Project (Phase 2) Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
1. Victoria Avenue, *between* Lynwood Drive and Mirada Road	Secondary Arterial	Weekday AM	NB	1,600	2	3,200	918	0.287	A
			SB	1,600	2	3,200	682	0.213	A
		Weekday PM	NB	1,600	2	3,200	1,218	0.381	A
			SB	1,600	2	3,200	1,108	0.346	A
		Saturday PM	NB	1,600	2	3,200	1,533	0.479	A
			SB	1,600	2	3,200	1,272	0.398	A
2. Victoria Avenue, *between* Date Street and Highland Avenue	Secondary Arterial	Weekday AM	NB	1,600	2	3,200	1,108	0.346	A
			SB	1,600	2	3,200	781	0.244	A
		Weekday PM	NB	1,600	2	3,200	1,141	0.357	A
			SB	1,600	2	3,200	1,195	0.373	A
		Saturday PM	NB	1,600	2	3,200	1,490	0.466	A
			SB	1,600	2	3,200	1,250	0.391	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service

TABLE 7-4 (CONTINUED)

EXISTING WITH PROJECT (PHASE 2) CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	(1) Type of Arterial	(2) Time Period	(3) Approach	(4) Segment Capacity (VPHPL)	(5) Lanes	(6) Total Segment Capacity (VPH)	(7) Existing With Project (Phase 2) Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
5. Highland Avenue, *between* SR-210 WB Off-Ramp and Victoria Avenue	Major Arterial	Weekday AM	EB	1,600	2	3,200	1,213	0.379	A
			WB	1,600	2	3,200	1,058	0.331	A
		Weekday PM	EB	1,600	2	3,200	1,436	0.449	A
			WB	1,600	2	3,200	1,620	0.506	A
		Saturday PM	EB	1,600	2	3,200	1,753	0.548	A
			WB	1,600	2	3,200	1,674	0.523	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service

8.0 YEAR 2020 CONDITIONS TRAFFIC IMPACT ANALYSIS

The relative impacts of the added Project (Phase 1) traffic volumes generated by proposed Project (Phase 1) during the peak hour and Daily conditions was evaluated based on analysis of future Year 2020 operating conditions at the fifteen (15) key study intersections and six (6) key roadway segments, with and without the proposed Project (Phase 1). The previously discussed capacity analysis procedures were utilized to investigate the future Delay/V/C relationships and service level characteristics at each study intersection and roadway segment. The significance of the potential impacts of the Project (Phase 1) at each key intersection and roadway segment was then evaluated using the traffic impact criteria mentioned in this report.

8.1 Year 2020 Conditions Intersection Capacity Analysis

Table 8-1 summarizes the Weekday AM, Weekday PM, and Saturday PM peak hour Level of Service results at the fifteen (15) key study intersections for the Year 2020 traffic conditions. The first column (1) of Delay/LOS values in *Table 8-1* presents a summary of existing Weekday AM, Weekday PM, and Saturday PM peak hour traffic conditions (which were also presented in *Table 7-1*). The second column (2) presents forecast Year 2020 Without Project traffic conditions and the third column (3) identifies forecast Year 2020 With Project (Phase 1) traffic conditions. The fourth column (4) indicates whether the traffic associated with the Project (Phase 1) will have a significant impact based on the significant impact criteria mentioned in this report. The fifth column (5) presents the resultant level of service with the inclusion of recommended improvements, where needed, to achieve an acceptable level of service.

Project-specific improvements, which are discussed in more detail in *Section 11.0* of this report, have been assumed for the "With" Project scenarios for the intersections listed below:

- 3. Victoria Avenue at Driveway "C"
- 4. Victoria Avenue at Driveway "D"

8.1.1 *Year 2020 Without Project Traffic Conditions*

Review of column (2) of *Table 8-1* indicates that for the Year 2020 Without Project traffic conditions, all fifteen (15) key study intersections are forecast to operate at an acceptable level of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hour when compared to the LOS standards defined in this report.

8.1.2 *Year 2020 With Project (Phase 1) Traffic Conditions*

Review of columns (3) and (4) of *Table 8-1* indicates that the Year 2020 With Project (Phase 1) traffic conditions will not significantly impact any of the fifteen (15) key study intersections. All fifteen (15) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours when compared to the LOS standards defined in this report.

Appendix D contains the Delay/LOS calculation worksheets for the Year 2020 Traffic Conditions.

TABLE 8-1

YEAR 2020 WITH PROJECT (PHASE 1) CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[18]

Key Intersection		Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2020 Without Project Traffic Conditions		(3) Year 2020 With Project (Phase 1) Traffic Conditions		(4) Significant Impact	(5) Year 2020 With Project (Phase 1) With Mitigation	
				Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
1.	Victoria Avenue at Road "A"	D	Weekday AM	8.0	A	8.0	A	8.5	A	No	--	--
			Weekday PM	8.0	A	8.0	A	8.7	A	No	--	--
			Saturday PM	8.4	A	8.4	A	10.1	B	No	--	--
2.	Victoria Avenue at Road "B"	D	Weekday AM	9.7	A	9.7	A	10.4	B	No	--	--
			Weekday PM	12.5	B	12.5	B	16.0	C	No	--	--
			Saturday PM	12.2	B	12.2	B	17.3	C	No	--	--
3.	Victoria Avenue at Driveway "C"	D	Weekday AM	8.3	A	8.3	A	9.9	A	No	--	--
			Weekday PM	9.1	A	9.1	A	13.2	B	No	--	--
			Saturday PM	10.1	B	10.1	B	24.6	C	No	--	--
4.	Victoria Avenue at Driveway "D"	D	Weekday AM	8.7	A	8.7	A	9.2	A	No	--	--
			Weekday PM	10.2	B	10.2	B	12.0	B	No	--	--
			Saturday PM	10.5	B	10.5	B	13.9	B	No	--	--
5.	Victoria Avenue at Lynwood Drive	D	Weekday AM	21.6	C	21.6	C	16.9	B	No	--	--
			Weekday PM	20.9	C	21.3	C	20.3	C	No	--	--
			Saturday PM	12.8	B	13.2	B	12.2	B	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards as defined in this report
- LOS = Level of Service

[18] *Appendices C* and *D* contain the Delay/LOS calculation worksheets for all study intersections.

TABLE 8-1 (CONTINUED)

YEAR 2020 WITH PROJECT (PHASE 1) CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[19]

Key Intersection		Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2020 Without Project Traffic Conditions		(3) Year 2020 With Project (Phase 1) Traffic Conditions		(4) Significant Impact	(5) Year 2020 With Project (Phase 1) With Mitigation	
				Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
6.	Victoria Avenue at Mirada Road	D	Weekday AM	9.6	A	9.2	A	8.6	A	No	--	--
			Weekday PM	3.9	A	4.1	A	4.5	A	No	--	--
			Saturday PM	2.8	A	2.9	A	4.2	A	No	--	--
7.	Victoria Avenue at Date Street	D	Weekday AM	14.3	B	13.6	B	16.6	C	No	--	--
			Weekday PM	14.4	B	15.4	C	21.3	C	No	--	--
			Saturday PM	14.7	B	15.1	C	22.5	C	No	--	--
8.	Sterling Avenue at Highland Avenue	D	Weekday AM	32.3	C	31.4	C	31.1	C	No	--	--
			Weekday PM	31.9	C	32.6	C	32.6	C	No	--	--
			Saturday PM	30.9	C	32.3	C	31.8	C	No	--	--
9.	SR-210 EB Off-Ramp at Highland Avenue	D	Weekday AM	21.8	C	20.8	C	20.6	C	No	--	--
			Weekday PM	18.6	B	18.6	B	19.3	B	No	--	--
			Saturday PM	19.8	B	19.8	B	20.5	C	No	--	--
10.	Arden Avenue at Highland Avenue	D	Weekday AM	43.0	D	43.9	D	52.0	D	No	--	--
			Weekday PM	30.2	C	34.5	C	42.3	D	No	--	--
			Saturday PM	28.2	C	32.7	C	52.4	D	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards as defined in this report
- LOS = Level of Service

[19] *Appendices C* and *D* contain the Delay/LOS calculation worksheets for all study intersections.

TABLE 8-1 (CONTINUED)

YEAR 2020 WITH PROJECT (PHASE 1) CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[20]

Key Intersection		Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2020 Without Project Traffic Conditions		(3) Year 2020 With Project (Phase 1) Traffic Conditions		(4) Significant Impact	(5) Year 2020 With Project (Phase 1) With Mitigation	
				Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
11.	Arden Avenue at SR-210 EB On-Ramp	D	Weekday AM	11.3	B	11.2	B	12.2	B	No	--	--
			Weekday PM	14.9	B	15.0	B	16.1	B	No	--	--
			Saturday PM	15.5	B	15.3	B	17.0	B	No	--	--
12.	SR-210 WB Off-Ramp at Highland Avenue	D	Weekday AM	12.7	B	14.4	B	15.0	B	No	--	--
			Weekday PM	13.9	B	15.5	B	18.6	B	No	--	--
			Saturday PM	16.4	B	17.9	B	30.0	C	No	--	--
13.	Victoria Avenue at Highland Avenue	D	Weekday AM	26.5	C	26.4	C	29.5	C	No	--	--
			Weekday PM	26.6	C	28.9	C	37.8	D	No	--	--
			Saturday PM	29.2	C	29.8	C	41.8	D	No	--	--
14.	Palm Avenue at Highland Avenue	D	Weekday AM	27.8	C	27.5	C	27.4	C	No	--	--
			Weekday PM	22.8	C	23.4	C	23.4	C	No	--	--
			Saturday PM	21.5	C	21.3	C	21.3	C	No	--	--
15.	Victoria Avenue at Pacific Street	D	Weekday AM	33.6	C	30.3	C	30.3	C	No	--	--
			Weekday PM	29.6	C	29.9	C	30.1	C	No	--	--
			Saturday PM	29.4	C	29.4	C	29.7	C	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards as defined in this report
- LOS = Level of Service

[20] *Appendices C* and *D* contain the Delay/LOS calculation worksheets for all study intersections.

8.2 Year 2020 Conditions Roadway Segment Analysis

Table 8-2 summarizes the daily level of service results at the six (6) key study roadway segments during a "typical" weekday and Saturday for the Year 2020 traffic conditions. *Table 8-2* presents the type of arterial, the LOS E capacity values from the *City of San Bernardino General Plan,* and the number of travel lanes for each of the six (6) daily roadway segments. The first column (1) indicates the Existing daily traffic volumes, Volume to Capacity (V/C) ratio and Level of Service (LOS) (which were also presented in *Table 7-2*). The second column (2) forecasts Year 2020 Without Project traffic conditions. The third column (3) in *Table 8-2* forecasts the Year 2020 With Project (Phase 1) traffic conditions. The fourth column (4) of *Table 8-2* indicates whether the roadway segment operates at an adverse level of service based on the LOS standards and the impact criteria defined in this report.

8.2.1 *Year 2020 Without Project Traffic Conditions*

Review of column (2) of *Table 8-2* indicates that for the Year 2020 Without Project traffic conditions, three (3) of the six (6) key study roadway segments are forecast to operate at unacceptable levels of service on a Weekday daily basis and Saturday daily basis when compared to the LOS standards defined in this report. The remaining three (3) key study roadway segments are forecast to operate at acceptable levels of service LOS B or better on a Weekday daily basis and Saturday daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Victoria Ave, *between* Lynwood Dr and Mirada Rd	**30,580**	**1.019**	**F**	**37,776**	**1.259**	**F**
2. Victoria Ave, *between* Date St and Highland Ave	**29,679**	**0.989**	**E**	**34,777**	**1.159**	**F**
5. Highland Ave, *between* SR-210 WB Off-Ramp and Victoria Ave	**50,264**	**1.257**	**F**	**54,090**	**1.352**	**F**

8.2.2 *Year 2020 With Project (Phase 1) Traffic Conditions*

Review of column (3) of *Table 8-2* indicates that for the Year 2020 With Project (Phase 1) traffic conditions, three (3) of the six (6) key study roadway segments are forecast to operate at unacceptable levels of service on a Weekday daily basis and Saturday daily basis when compared to the LOS standards defined in this report. The remaining three (3) key study roadway segments are forecast to operate at acceptable levels of service LOS B or better on a daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Victoria Ave, *between* Lynwood Dr and Mirada Rd	**39,380**	**1.313**	**F**	**49,776**	**1.659**	**F**
2. Victoria Ave, *between* Date St and Highland Ave	**38,303**	**1.277**	**F**	**46,537**	**1.551**	**F**
5. Highland Ave, *between* SR-210 WB Off-Ramp and Victoria Ave	**57,568**	**1.439**	**F**	**64,050**	**1.601**	**F**

To determine if the Project (Phase 1) creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies. As presented in ***Table 8-3***, these study roadway segments are forecast to operate at LOS A or better

during the Weekday AM, Weekday PM, and Saturday PM peak hours. As a result, the key study roadway segments are not significantly impacted by Year 2020 With Project (Phase 1) traffic and therefore no improvements are required.

TABLE 8-2

YEAR 2020 WITH PROJECT (PHASE 1) CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Type of Arterial	LOS E Capacity[21] (VPD)	Lanes	(1) Existing Traffic Conditions			(2) Year 2020 Without Project Traffic Conditions			(3) Year 2020 With Project (Phase 1) Traffic Conditions			(4) Adverse
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Yes/No
1. Victoria Avenue, *between* Lynwood Drive and Mirada Road	Weekday	Secondary Arterial	30,000	4D	**28,849**	**0.962**	**E**	**30,580**	**1.019**	**F**	**39,380**	**1.313**	**F**	**Yes**
	Saturday				**35,638**	**1.188**	**F**	**37,776**	**1.259**	**F**	**49,776**	**1.659**	**F**	**Yes**
2. Victoria Avenue, *between* Date Street and Highland Avenue	Weekday	Secondary Arterial	30,000	4D	**27,922**	**0.931**	**E**	**29,679**	**0.989**	**E**	**38,303**	**1.277**	**F**	**Yes**
	Saturday				**32,728**	**1.091**	**F**	**34,777**	**1.159**	**F**	**46,537**	**1.551**	**F**	**Yes**
3. Victoria Avenue, *between* Highland Avenue and Pacific Street	Weekday	Secondary Arterial	30,000	4D	12,936	0.431	A	13,957	0.465	A	14,397	0.480	A	No
	Saturday				11,752	0.392	A	12,720	0.424	A	13,320	0.444	A	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards as defined in this report

[21] Source: *City of San Bernardino General Plan.*

TABLE 8-2 (CONTINUED)

YEAR 2020 WITH PROJECT (PHASE 1) CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Type of Arterial	LOS E Capacity[22] (VPD)	Lanes	(1) Existing Traffic Conditions			(2) Year 2020 Without Project Traffic Conditions			(3) Year 2020 With Project (Phase 1) Traffic Conditions			(4) Adverse
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Yes/No
4. Highland Avenue, *between* Sterling Avenue and SR-210 EB Off-Ramp	Weekday	Major Arterial	40,000	4D	19,622	0.491	A	22,616	0.565	A	23,496	0.587	A	No
	Saturday				19,988	0.500	A	22,137	0.553	A	23,337	0.583	A	No
5. Highland Avenue, *between* SR-210 WB Off-Ramp and Victoria Avenue	Weekday	Major Arterial	40,000	4D	**46,792**	**1.170**	**F**	**50,264**	**1.257**	**F**	**57,568**	**1.439**	**F**	**Yes**
	Saturday				**50,427**	**1.261**	**F**	**54,090**	**1.352**	**F**	**64,050**	**1.601**	**F**	**Yes**
6. Highland Avenue, *between* Victoria Avenue and Central Avenue	Weekday	Major Arterial	40,000	4D	23,381	0.585	A	25,121	0.628	B	26,001	0.650	B	No
	Saturday				22,302	0.558	A	23,928	0.598	A	25,128	0.628	B	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards as defined in this report

[22] Source: *City of San Bernardino General Plan.*

TABLE 8-3

YEAR 2020 WITH PROJECT (PHASE 1) CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	(1) Type of Arterial	(2) Time Period	(3) Approach	(4) Segment Capacity (VPHPL)	(5) Lanes	(6) Total Segment Capacity (VPH)	(7) Year 2020 With Project (Phase 1) Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
1. Victoria Avenue, *between* Lynwood Drive and Mirada Road	Secondary Arterial	Weekday AM	NB	1,600	2	3,200	834	0.261	A
			SB	1,600	2	3,200	645	0.202	A
		Weekday PM	NB	1,600	2	3,200	1,159	0.362	A
			SB	1,600	2	3,200	1,074	0.336	A
		Saturday PM	NB	1,600	2	3,200	1,503	0.470	A
			SB	1,600	2	3,200	1,265	0.395	A
2. Victoria Avenue, *between* Date Street and Highland Avenue	Secondary Arterial	Weekday AM	NB	1,600	2	3,200	1,040	0.325	A
			SB	1,600	2	3,200	752	0.235	A
		Weekday PM	NB	1,600	2	3,200	1,083	0.338	A
			SB	1,600	2	3,200	1,171	0.366	A
		Saturday PM	NB	1,600	2	3,200	1,463	0.457	A
			SB	1,600	2	3,200	1,247	0.390	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service

TABLE 8-2 (CONTINUED)

YEAR 2020 WITH PROJECT (PHASE 1) CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	(1) Type of Arterial	(2) Time Period	(3) Approach	(4) Segment Capacity (VPHPL)	(5) Lanes	(6) Total Segment Capacity (VPH)	(7) Year 2020 With Project (Phase 1) Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
5. Highland Avenue, *between* SR-210 WB Off-Ramp and Victoria Avenue	Major Arterial	Weekday AM	EB	1,600	2	3,200	1,189	0.372	A
			WB	1,600	2	3,200	1,077	0.337	A
		Weekday PM	EB	1,600	2	3,200	1,436	0.449	A
			WB	1,600	2	3,200	1,651	0.516	A
		Saturday PM	EB	1,600	2	3,200	1,781	0.557	A
			WB	1,600	2	3,200	1,726	0.539	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service

9.0 YEAR 2022 CONDITIONS TRAFFIC IMPACT ANALYSIS

The relative impacts of the added Project (Phase 2) traffic volumes generated by proposed Project (Phase 2) during the peak hour and Daily conditions was evaluated based on analysis of future Year 2022 operating conditions at the fifteen (15) key study intersections and six (6) key roadway segments, with and without the proposed Project (Phase 2). The previously discussed capacity analysis procedures were utilized to investigate the future Delay/V/C relationships and service level characteristics at each study intersection and roadway segment. The significance of the potential impacts of the Project (Phase 2) at each key intersection and roadway segment was then evaluated using the traffic impact criteria mentioned in this report.

It should be noted that Year 2022 Without Project traffic volumes include the traffic from Project (Phase 1) in the background traffic conditions.

9.1 Year 2022 Conditions Intersection Capacity Analysis

Table 9-1 summarizes the Weekday AM, Weekday PM, and Saturday PM peak hour Level of Service results at the fifteen (15) key study intersections for the Year 2022 traffic conditions. The first column (1) of Delay/LOS values in *Table 9-1* presents a summary of existing Weekday AM, Weekday PM, and Saturday PM peak hour traffic conditions (which were also presented in *Tables 7-1* and *8-1*). The second column (2) presents forecast Year 2022 Without Project traffic conditions (which includes the traffic from Project (Phase 1)) and the third column (3) identifies forecast Year 2022 With Project (Phase 2) traffic conditions. The fourth column (4) indicates whether the traffic associated with the Project (Phase 2) will have a significant impact based on the significant impact criteria mentioned in this report. The fifth column (5) presents the resultant level of service with the inclusion of recommended improvements, where needed, to achieve an acceptable level of service.

Project-specific improvements, which are discussed in more detail in *Section 11.0* of this report, have been assumed for the "With" Project scenarios for the intersections listed below:

- 3. Victoria Avenue at Driveway "C"
- 4. Victoria Avenue at Driveway "D"

9.1.1 *Year 2022 Without Project Traffic Conditions*

Review of column (2) of *Table 9-1* indicates that for the Year 2022 Without Project, which includes the traffic from Project (Phase 1) traffic conditions, one (1) of the fifteen (15) key study intersections is forecast to operate at an unacceptable level of service during the Weekday AM and Saturday PM peak hours when compared to the LOS standards defined in this report. The remaining fourteen (14) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours. The intersection operating at an adverse level of service is:

	Weekday AM Peak Hour		Weekday PM Peak Hour		Saturday PM Peak Hour	
Key Intersection	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
10. Arden Avenue at Highland Avenue	56.0	E	--	--	60.7	E

9.1.2 *Year 2022 With Project (Phase 2) Traffic Conditions*

Review of column (3) of *Table 9-1* indicates that for the Year 2022 With Project (Phase 2) traffic conditions, one (1) of the fifteen (15) key study intersections is forecast to operate at an unacceptable level of service during the Weekday AM and Saturday PM peak hours when compared to the LOS standards defined in this report. The remaining fourteen (14) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours. The intersection operating at an adverse level of service is:

	Weekday AM Peak Hour		**Weekday PM Peak Hour**		**Saturday PM Peak Hour**	
Key Intersection	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
10. Arden Avenue at Highland Avenue	61.3	E	--	--	62.2	E

Review of column (4) of *Table 9-1* indicates that one (1) of the fifteen (15) key study intersections will have a significant impact under the Year 2022 With Project (Phase 2) traffic conditions when compared to the LOS criteria defined in this report. However, as shown in column (5) of *Table 9-1*, the implementation of recommended mitigation measures at the impacted intersection mitigates the impacts of the proposed Project (Phase 2). After implementation of the recommended mitigation measures, the impacted intersection is forecast to operate at an acceptable LOS based on the LOS standards outlined in this report.

Appendix E contains the Delay/LOS calculation worksheets for the Year 2022 Traffic Conditions.

TABLE 9-1

YEAR 2022 WITH PROJECT (PHASE 2) CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[23]

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2022 Without Project Traffic Conditions[24]		(3) Year 2022 With Project (Phase 2) Traffic Conditions		(4) Significant Impact	(5) Year 2022 With Project (Phase 2) With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
1. Victoria Avenue at Road "A"	D	Weekday AM	8.0	A	8.5	A	8.8	A	No	--	--
		Weekday PM	8.0	A	8.7	A	9.0	A	No	--	--
		Saturday PM	8.4	A	10.1	B	10.5	B	No	--	--
2. Victoria Avenue at Road "B"	D	Weekday AM	9.7	A	10.4	B	10.7	B	No	--	--
		Weekday PM	12.5	B	16.0	C	17.5	C	No	--	--
		Saturday PM	12.2	B	17.3	C	18.6	C	No	--	--
3. Victoria Avenue at Driveway "C"	D	Weekday AM	8.3	A	9.9	A	10.8	B	No	--	--
		Weekday PM	9.1	A	13.2	B	15.1	C	No	--	--
		Saturday PM	10.1	B	24.6	C	30.9	D	No	--	--
4. Victoria Avenue at Driveway "D"	D	Weekday AM	8.7	A	9.2	A	9.4	A	No	--	--
		Weekday PM	10.2	B	12.0	B	12.6	B	No	--	--
		Saturday PM	10.5	B	13.9	B	14.0	B	No	--	--
5. Victoria Avenue at Lynwood Drive	D	Weekday AM	21.6	C	17.1	B	16.1	B	No	--	--
		Weekday PM	20.9	C	21.0	C	20.0	B	No	--	--
		Saturday PM	12.8	B	12.7	B	12.7	B	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards as defined in this report
- LOS = Level of Service

[23] *Appendices C* and *E* contain the Delay/LOS calculation worksheets for all study intersections.

[24] Includes Phase 1 traffic and recommended improvements from Year 2020 With Project (Phase 1), if applicable.

TABLE 9-1 (CONTINUED)

YEAR 2022 WITH PROJECT (PHASE 2) CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[25]

Key Intersection		Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2022 Without Project Traffic Conditions[26]		(3) Year 2022 With Project (Phase 2) Traffic Conditions		(4) Significant Impact	(5) Year 2022 With Project (Phase 2) With Mitigation	
				Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
6.	Victoria Avenue at Mirada Road	D	Weekday AM	9.6	A	8.8	A	8.8	A	No	--	--
			Weekday PM	3.9	A	4.6	A	4.8	A	No	--	--
			Saturday PM	2.8	A	4.3	A	4.5	A	No	--	--
7.	Victoria Avenue at Date Street	D	Weekday AM	14.3	B	17.0	C	18.8	C	No	--	--
			Weekday PM	14.4	B	22.4	C	25.5	D	No	--	--
			Saturday PM	14.7	B	23.2	C	25.1	D	No	--	--
8.	Sterling Avenue at Highland Avenue	D	Weekday AM	32.3	C	31.2	C	31.1	C	No	--	--
			Weekday PM	31.9	C	33.1	C	33.2	C	No	--	--
			Saturday PM	30.9	C	32.2	C	32.1	C	No	--	--
9.	SR-210 EB Off-Ramp at Highland Avenue	D	Weekday AM	21.8	C	20.5	C	20.4	C	No	--	--
			Weekday PM	18.6	B	19.5	B	19.8	B	No	--	--
			Saturday PM	19.8	B	20.7	C	20.9	C	No	--	--
10.	Arden Avenue at Highland Avenue	D	Weekday AM	43.0	D	**56.0**	**E**	**61.3**	**E**	**Yes**	45.0	D
			Weekday PM	30.2	C	45.1	D	49.5	D	No	39.1	D
			Saturday PM	28.2	C	**60.7**	**E**	**62.2**	**E**	**Yes**	47.9	D

Notes:

- s/v = seconds per vehicle (delay)
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards as defined in this report
- LOS = Level of Service

25 *Appendices C* and *E* contain the Delay/LOS calculation worksheets for all study intersections.

26 Includes Phase 1 traffic and recommended improvements from Year 2020 With Project (Phase 1), if applicable.

TABLE 9-1 (CONTINUED)

YEAR 2022 WITH PROJECT (PHASE 2) CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[27]

Key Intersection		Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2022 Without Project Traffic Conditions[28]		(3) Year 2022 With Project (Phase 2) Traffic Conditions		(4) Significant Impact	(5) Year 2022 With Project (Phase 2) With Mitigation	
				Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
11.	Arden Avenue at SR-210 EB On-Ramp	D	Weekday AM	11.3	B	12.3	B	12.6	B	No	--	--
			Weekday PM	14.9	B	16.1	B	16.4	B	No	--	--
			Saturday PM	15.5	B	17.0	B	17.2	B	No	--	--
12.	SR-210 WB Off-Ramp at Highland Avenue	D	Weekday AM	12.7	B	15.2	B	15.6	B	No	--	--
			Weekday PM	13.9	B	19.6	B	21.6	C	No	--	--
			Saturday PM	16.4	B	30.9	C	35.1	D	No	--	--
13.	Victoria Avenue at Highland Avenue	D	Weekday AM	26.5	C	29.6	C	31.0	C	No	--	--
			Weekday PM	26.6	C	39.0	D	41.6	D	No	--	--
			Saturday PM	29.2	C	45.1	D	53.5	D	No	--	--
14.	Palm Avenue at Highland Avenue	D	Weekday AM	27.8	C	27.5	C	27.4	C	No	--	--
			Weekday PM	22.8	C	23.8	C	23.7	C	No	--	--
			Saturday PM	21.5	C	21.5	C	21.5	C	No	--	--
15.	Victoria Avenue at Pacific Street	D	Weekday AM	33.6	C	30.6	C	30.6	C	No	--	--
			Weekday PM	29.6	C	30.2	C	30.2	C	No	--	--
			Saturday PM	29.4	C	29.7	C	29.7	C	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards as defined in this report
- LOS = Level of Service

[27] *Appendices C* and *E* contain the Delay/LOS calculation worksheets for all study intersections.

[28] Includes Phase 1 traffic and recommended improvements from Year 2020 With Project (Phase 1), if applicable.

9.2 Year 2022 Conditions Roadway Segment Analysis

Table 9-2 summarizes the daily level of service results at the six (6) key study roadway segments during a "typical" weekday and Saturday for the Year 2022 traffic conditions. *Table 9-2* presents the type of arterial, the LOS E capacity values from the *City of San Bernardino General Plan,* and the number of travel lanes for each of the six (6) daily roadway segments. The first column (1) indicates the Existing daily traffic volumes, Volume to Capacity (V/C) ratio and Level of Service (LOS) (which were also presented in *Table 7-2* and *Table 8-2*). The second column (2) forecasts Year 2022 Without Project traffic conditions (which include the traffic from Project (Phase 1)). The third column (3) in *Table 9-2* forecasts the Year 2022 With Project (Phase 2) traffic conditions. The fourth column (4) of *Table 9-2* indicates whether the roadway segment operates at an adverse level of service based on the LOS standards and the impact criteria defined in this report.

9.2.1 *Year 2022 Without Project Traffic Conditions*

Review of column (2) of *Table 9-2* indicates that for the Year 2022 Without Project traffic conditions, three (3) of the six (6) key study roadway segments are forecast to operate at unacceptable levels of service on a Weekday daily basis and Saturday daily basis when compared to the LOS standards defined in this report. The remaining three (3) key study roadway segments are forecast to operate at acceptable levels of service LOS B or better on a Weekday daily basis and Saturday daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Victoria Ave, *between* Lynwood Dr and Mirada Rd	**40,534**	**1.351**	**F**	**51,202**	**1.707**	**F**
2. Victoria Ave, *between* Date St and Highland Ave	**39,420**	**1.314**	**F**	**47,846**	**1.595**	**F**
5. Highland Ave, *between* SR-210 WB Off-Ramp and Victoria Ave	**47,846**	**1.595**	**F**	**66,139**	**1.653**	**F**

9.2.2 *Year 2022 With Project (Phase 2) Traffic Conditions*

Review of column (3) of *Table 9-2* indicates that for the Year 2022 With Project (Phase 2) traffic conditions, three (3) of the six (6) key study roadway segments are forecast to operate at unacceptable levels of service on a Weekday daily basis and Saturday daily basis when compared to the LOS standards defined in this report. The remaining three (3) key study roadway segments are forecast to operate at acceptable levels of service LOS B or better on a Weekday daily basis and Saturday daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Victoria Ave, *between* Lynwood Dr and Mirada Rd	**44,034**	**1.468**	**F**	**54,602**	**1.820**	**F**
2. Victoria Ave, *between* Date St and Highland Ave	**42,850**	**1.428**	**F**	**51,178**	**1.706**	**F**
5. Highland Ave, *between* SR-210 WB Off-Ramp and Victoria Ave	**62,410**	**1.560**	**F**	**68,961**	**1.724**	**F**

To determine if the Project (Phase 2) creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies.

As presented in ***Table 9-3***, these study roadway segments are forecast to operate at LOS A or better during the Weekday AM, Weekday PM, and Saturday PM peak hours. As a result, the key study roadway segments are not significantly impacted by Year 2022 With Project (Phase 2) traffic and therefore no improvements are required.

TABLE 9-2

YEAR 2022 WITH PROJECT (PHASE 2) CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Type of Arterial	LOS E Capacity[29] (VPD)	Lanes	(1) Existing Traffic Conditions			(2) Year 2022 Without Project (Phase 2) Traffic Conditions[30]			(3) Year 2022 With Project (Phase 2) Traffic Conditions			(4) Adverse
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Yes/No
1. Victoria Avenue, *between* Lynwood Drive and Mirada Road	Weekday	Secondary Arterial	30,000	4D	**28,849**	**0.962**	**E**	**40,534**	**1.351**	**F**	**44,034**	**1.468**	**F**	**Yes**
	Saturday				**35,638**	**1.188**	**F**	**51,202**	**1.707**	**F**	**54,602**	**1.820**	**F**	**Yes**
2. Victoria Avenue, *between* Date Street and Highland Avenue	Weekday	Secondary Arterial	30,000	4D	**27,922**	**0.931**	**E**	**39,420**	**1.314**	**F**	**42,850**	**1.428**	**F**	**Yes**
	Saturday				**32,728**	**1.091**	**F**	**47,846**	**1.595**	**F**	**51,178**	**1.706**	**F**	**Yes**
3. Victoria Avenue, *between* Highland Avenue and Pacific Street	Weekday	Secondary Arterial	30,000	4D	12,936	0.431	A	14,915	0.497	A	15,090	0.503	A	No
	Saturday				11,752	0.392	A	13,790	0.460	A	13,960	0.465	A	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards as defined in this report

[29] Source: *City of San Bernardino General Plan.*

[30] Includes Phase 1 traffic and recommended improvements from Year 2020 With Project (Phase 1), if applicable.

TABLE 9-2 (CONTINUED)

YEAR 2022 WITH PROJECT (PHASE 2) CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Type of Arterial	LOS E Capacity[31] (VPD)	Lanes	(1) Existing Traffic Conditions			(2) Year 2022 Without Project (Phase 2) Traffic Conditions[32]			(3) Year 2022 With Project (Phase 2) Traffic Conditions			(4) Adverse
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Yes/No
4. Highland Avenue, *between* Sterling Avenue and SR-210 EB Off-Ramp	Weekday	Major Arterial	40,000	4D	19,622	0.491	A	24,347	0.609	B	24,697	0.617	B	No
	Saturday				19,988	0.500	A	24,209	0.605	B	24,549	0.614	B	No
5. Highland Avenue, *between* SR-210 WB Off-Ramp and Victoria Avenue	Weekday	Major Arterial	40,000	4D	**46,792**	**1.170**	**F**	**59,505**	**1.488**	**F**	**62,410**	**1.560**	**F**	**Yes**
	Saturday				**50,427**	**1.261**	**F**	**66,139**	**1.653**	**F**	**68,961**	**1.724**	**F**	**Yes**
6. Highland Avenue, *between* Victoria Avenue and Central Avenue	Weekday	Major Arterial	40,000	4D	23,381	0.585	A	27,002	0.675	B	27,352	0.684	B	No
	Saturday				22,302	0.558	A	26,092	0.652	B	26,432	0.661	B	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards as defined in this report

[31] Source: *City of San Bernardino General Plan.*

[32] Includes Phase 1 traffic and recommended improvements from Year 2020 With Project (Phase 1), if applicable.

TABLE 9-3

YEAR 2022 WITH PROJECT (PHASE 2) CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	(1) Type of Arterial	(2) Time Period	(3) Approach	(4) Segment Capacity (VPHPL)	(5) Lanes	(6) Total Segment Capacity (VPH)	(7) Year 2022 With Project (Phase 2) Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
1. Victoria Avenue, *between* Lynwood Drive and Mirada Road	Secondary Arterial	Weekday AM	NB	1,600	2	3,200	972	0.304	A
			SB	1,600	2	3,200	726	0.227	A
		Weekday PM	NB	1,600	2	3,200	1,297	0.405	A
			SB	1,600	2	3,200	1,180	0.369	A
		Saturday PM	NB	1,600	2	3,200	1,628	0.509	A
			SB	1,600	2	3,200	1,350	0.422	A
2. Victoria Avenue, *between* Date Street and Highland Avenue	Secondary Arterial	Weekday AM	NB	1,600	2	3,200	1,185	0.370	A
			SB	1,600	2	3,200	836	0.261	A
		Weekday PM	NB	1,600	2	3,200	1,216	0.380	A
			SB	1,600	2	3,200	1,280	0.400	A
		Saturday PM	NB	1,600	2	3,200	1,585	0.495	A
			SB	1,600	2	3,200	1,331	0.416	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service

TABLE 9-3 (CONTINUED)

YEAR 2022 WITH PROJECT (PHASE 2) CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	(1) Type of Arterial	(2) Time Period	(3) Approach	(4) Segment Capacity (VPHPL)	(5) Lanes	(6) Total Segment Capacity (VPH)	(7) Year 2022 With Project (Phase 2) Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
5. Highland Avenue, *between* SR-210 WB Off-Ramp and Victoria Avenue	Major Arterial	Weekday AM	EB	1,600	2	3,200	1,324	0.414	A
			WB	1,600	2	3,200	1,164	0.364	A
		Weekday PM	EB	1,600	2	3,200	1,571	0.491	A
			WB	1,600	2	3,200	1,767	0.552	A
		Saturday PM	EB	1,600	2	3,200	1,906	0.596	A
			WB	1,600	2	3,200	1,820	0.569	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service

10.0 YEAR 2040 CONDITIONS TRAFFIC IMPACT ANALYSIS

The relative impacts of the added Project (Phase 1) and Project (Phase 2) traffic volumes generated by proposed Project (Phase 2) during the peak hour and Daily conditions was evaluated based on analysis of future Year 2040 operating conditions at the fifteen (15) key study intersections and six (6) key roadway segments, with and without the proposed Project (Phase 1) and Project (Phase 2). The previously discussed capacity analysis procedures were utilized to investigate the future Delay/V/C relationships and service level characteristics at each study intersection and roadway segment. The significance of the potential impacts of the Project (Phase 1) and Project (Phase 2) at each key intersection and roadway segment was then evaluated using the traffic impact criteria mentioned in this report.

10.1 Year 2040 Conditions Intersection Capacity Analysis

Table 10-1 summarizes the Weekday AM, Weekday PM, and Saturday PM peak hour Level of Service results at the fifteen (15) key study intersections for the Year 2040 traffic conditions. The first column (1) of Delay/LOS values in *Table 10-1* presents a summary of existing Weekday AM, Weekday PM, and Saturday PM peak hour traffic conditions (which were also presented in *Tables 7-1*, *8-1* and *9-1*). The second column (2) presents forecast Year 2040 Without Project traffic conditions and the third column (3) identifies forecast Year 2040 With Project (Phase 1) traffic conditions. The fourth column (4) indicates whether the traffic associated with the Project (Phase 1) will have a significant impact based on the significant impact criteria mentioned in this report. The fifth column (5) presents the resultant level of service with the inclusion of recommended improvements, where needed, to achieve an acceptable level of service. The sixth column (6) of *Table 10-1* presents forecast Year 2040 With Project (Phase 2) traffic conditions. The seventh column (7) shows whether the traffic associated with the Project (Phase 2) will have a significant impact based on the LOS standards and the significant impact criteria defined in this report. The eighth column (8) of *Table 10-1* presents the Level of Service with the implementation of traffic mitigation improvements, if necessary.

Project-specific improvements, which are discussed in more detail in *Section 11.0* of this report, have been assumed for the "With" Project scenarios for the intersections listed below:

- 3. Victoria Avenue at Driveway "C"
- 4. Victoria Avenue at Driveway "D"

10.1.1 *Year 2040 Without Project Traffic Conditions*

Review of column (2) of *Table 10-1* indicates that for the Year 2040 Without Project traffic conditions, all fifteen (15) key study intersections are forecast to operate at an acceptable level of service during the Weekday AM, Weekday PM, and Saturday PM peak hours when compared to the LOS standards defined in this report.

10.1.2 *Year 2040 With Project (Phase 1) Traffic Conditions*

Review of column (3) of *Table 10-1* indicates that for the Year 2040 With Project (Phase 1) traffic conditions, one (1) of the fifteen (15) key study intersections are forecast to operate at unacceptable levels of service during the Weekday AM, Weekday PM, and Saturday PM peak hours when compared to the LOS standards defined in this report. The remaining fourteen (14) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours. The intersections operating at adverse levels of service are:

	Weekday AM Peak Hour		**Weekday PM Peak Hour**		**Saturday PM Peak Hour**	
Key Intersection	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**	**Delay (s/v)**	**LOS**
10. Arden Avenue at Highland Avenue	57.0	E	56.4	E	74.0	E

Review of column (4) of *Table 10-1* indicates that one (1) of the fifteen (15) key study intersections will have a significant impact under the Year 2040 With Project (Phase 1) traffic conditions when compared to the LOS criteria defined in this report. However, as shown in column (5) of *Table 10-1*, the implementation of recommended mitigation measures at the impacted intersection mitigates the impacts of the proposed Project (Phase 1). After implementation of the recommended mitigation measures, the impacted intersection is forecast to operate at an acceptable LOS based on the LOS standards outlined in this report.

10.1.3 *Year 2040 With Project (Phase 2) Traffic Conditions*

Review of column (6) of *Table 10-1* indicates that the Year 2040 With Project (Phase 2) traffic conditions will not significantly impact any of the fifteen (15) key study intersections. All fifteen (15) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours when compared to the LOS standards defined in this report. Please note that Year 2040 With Project (Phase 1) recommended mitigation measures are included in Year 2040 With Project (Phase 2) traffic conditions.

Appendix F contains the Delay/LOS calculation worksheets for the Year 2040 Traffic Conditions.

TABLE 10-1

YEAR 2040 WITH PROJECT CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[33]

Key Intersection	Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2040 Without Project Traffic Conditions		(3) Year 2040 With Project (Phase 1) Traffic Conditions		(4) Significant Impact	(5) Year 2040 With Project (Phase 1) With Mitigation		(6) Year 2040 With Project (Phase 2) Traffic Conditions[34]		(7) Significant Impact	(8) Year 2040 With Project (Phase 2) With Mitigation	
			Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
1. Victoria Avenue at Road "A"	D	Weekday AM	8.0	A	8.0	A	8.5	A	No	--	--	8.8	A	No	--	--
		Weekday PM	8.0	A	8.0	A	8.7	A	No	--	--	9.0	A	No	--	--
		Saturday PM	8.4	A	8.4	A	10.1	B	No	--	--	10.5	B	No	--	--
2. Victoria Avenue at Road "B"	D	Weekday AM	9.7	A	9.7	A	10.4	B	No	--	--	10.7	B	No	--	--
		Weekday PM	12.5	B	12.5	B	16.0	C	No	--	--	17.5	C	No	--	--
		Saturday PM	12.2	B	12.2	B	17.3	C	No	--	--	18.6	C	No	--	--
3. Victoria Avenue at Driveway "C"	D	Weekday AM	8.3	A	8.3	A	9.9	A	No	--	--	10.8	B	No	--	--
		Weekday PM	9.1	A	9.1	A	13.2	B	No	--	--	15.1	C	No	--	--
		Saturday PM	10.1	B	10.1	B	24.6	C	No	--	--	30.9	D	No	--	--
4. Victoria Avenue at Driveway "D"	D	Weekday AM	8.7	A	8.7	A	9.2	A	No	--	--	9.4	A	No	--	--
		Weekday PM	10.2	B	10.2	B	12.0	B	No	--	--	12.6	B	No	--	--
		Saturday PM	10.5	B	10.5	B	13.9	B	No	--	--	14.0	B	No	--	--
5. Victoria Avenue at Lynwood Drive	D	Weekday AM	21.6	C	20.3	C	16.5	B	No	--	--	15.6	B	No	--	--
		Weekday PM	20.9	C	21.3	C	19.8	B	No	--	--	19.6	B	No	--	--
		Saturday PM	12.8	B	13.3	B	12.4	B	No	--	--	12.5	B	No	--	--
6. Victoria Avenue at Mirada Road	D	Weekday AM	9.6	A	9.2	A	8.7	A	No	--	--	8.7	A	No	--	--
		Weekday PM	3.9	A	4.1	A	4.5	A	No	--	--	4.8	A	No	--	--
		Saturday PM	2.8	A	3.0	A	4.2	A	No	--	--	4.3	A	No	--	--
7. Victoria Avenue at Date Street	D	Weekday AM	14.3	B	14.3	B	17.6	C	No	--	--	19.4	C	No	--	--
		Weekday PM	14.4	B	16.6	C	23.7	C	No	--	--	27.2	D	No	--	--
		Saturday PM	14.7	B	19.6	C	24.2	C	No	--	--	26.2	D	No	--	--
8. Sterling Avenue at Highland Avenue	D	Weekday AM	32.3	C	31.1	C	30.9	C	No	--	--	30.8	C	No	--	--
		Weekday PM	31.9	C	32.7	C	32.7	C	No	--	--	32.8	C	No	--	--
		Saturday PM	30.9	C	16.1	C	31.7	C	No	--	--	31.7	C	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards as defined in this report
- LOS = Level of Service

[33] *Appendices C* and *F* contain the Delay/LOS calculation worksheets for all study intersections.

[34] Includes Phase 1 traffic and recommended improvements from Year 2040 With Project (Phase 1), if applicable.

TABLE 10-1 (CONTINUED)
YEAR 2040 WITH PROJECT CONDITIONS PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY[35]

Key Intersection		Minimum Acceptable LOS	Time Period	(1) Existing Traffic Conditions		(2) Year 2040 Without Project Traffic Conditions		(3) Year 2040 With Project (Phase 1) Traffic Conditions		(4) Significant Impact	(5) Year 2040 With Project (Phase 1) With Mitigation		(6) Year 2040 With Project (Phase 2) Traffic Conditions[36]		(7) Significant Impact	(8) Year 2040 With Project (Phase 2) With Mitigation	
				Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS	Delay (s/v)	LOS	Yes/No	Delay (s/v)	LOS
9.	SR-210 EB Off-Ramp at Highland Avenue	D	Weekday AM	21.8	C	20.5	C	20.3	C	No	--	--	20.3	C	No	--	--
			Weekday PM	18.6	B	18.5	B	19.3	B	No	--	--	19.5	B	No	--	--
			Saturday PM	19.8	B	19.7	B	20.5	C	No	--	--	20.6	C	No	--	--
10.	Arden Avenue at Highland Avenue	D	Weekday AM	43.0	D	49.2	D	**57.0**	**E**	**Yes**	43.9	D	46.2	D	No	--	--
			Weekday PM	30.2	C	45.3	D	**56.4**	**E**	**Yes**	42.0	D	44.3	D	No	--	--
			Saturday PM	28.2	C	42.4	D	**74.0**	**E**	**Yes**	48.7	D	52.2	D	No	--	--
11.	Arden Avenue at SR-210 EB On-Ramp	D	Weekday AM	11.3	B	11.3	B	12.2	B	No	--	--	12.5	B	No	--	--
			Weekday PM	14.9	B	14.9	B	15.9	B	No	--	--	16.1	B	No	--	--
			Saturday PM	15.5	B	15.3	B	16.8	B	No	--	--	16.9	B	No	--	--
12.	SR-210 WB Off-Ramp at Highland Avenue	D	Weekday AM	12.7	B	14.6	B	15.1	B	No	--	--	15.4	B	No	--	--
			Weekday PM	13.9	B	16.3	B	19.2	B	No	--	--	21.1	C	No	--	--
			Saturday PM	16.4	B	18.7	B	30.5	C	No	--	--	33.1	C	No	--	--
13.	Victoria Avenue at Highland Avenue	D	Weekday AM	26.5	C	26.2	C	29.3	C	No	--	--	30.8	C	No	--	--
			Weekday PM	26.6	C	27.5	C	38.1	D	No	--	--	40.8	D	No	--	--
			Saturday PM	29.2	C	30.9	C	43.7	D	No	--	--	49.3	D	No	--	--
14.	Palm Avenue at Highland Avenue	D	Weekday AM	27.8	C	27.1	C	27.0	C	No	--	--	27.0	C	No	--	--
			Weekday PM	22.8	C	23.7	C	23.7	C	No	--	--	23.7	C	No	--	--
			Saturday PM	21.5	C	21.4	C	21.5	C	No	--	--	21.5	C	No	--	--
15.	Victoria Avenue at Pacific Street	D	Weekday AM	33.6	C	30.2	C	30.3	C	No	--	--	30.3	C	No	--	--
			Weekday PM	29.6	C	29.8	C	29.9	C	No	--	--	29.9	C	No	--	--
			Saturday PM	29.4	C	29.2	C	29.4	C	No	--	--	29.5	C	No	--	--

Notes:

- s/v = seconds per vehicle (delay)
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards as defined in this report
- LOS = Level of Service

[35] *Appendices C* and *F* contain the Delay/LOS calculation worksheets for all study intersections.
[36] Includes Phase 1 traffic and recommended improvements from Year 2040 With Project (Phase 1), if applicable.

10.2 Year 2040 Conditions Roadway Segment Analysis

Table 10-2 summarizes the daily level of service results at the six (6) key study roadway segments during a "typical" weekday and Saturday for the Year 2040 traffic conditions. *Table 10-2* presents the type of arterial, the LOS E capacity values from the *City of San Bernardino General Plan,* and the number of travel lanes for each of the six (6) daily roadway segments. The first column (1) indicates the Existing daily traffic volumes, Volume to Capacity (V/C) ratio and Level of Service (LOS) (which were also presented in *Tables 7-2*, *8-2* and *9-2*). The second column (2) forecasts Year 2040 Without Project traffic conditions. The third column (3) in *Table 10-2* forecasts the Year 2040 With Project (Phase 1) traffic conditions. The fourth column (4) of *Table 10-2* indicates whether the roadway segment operates at an adverse level of service based on the LOS standards and the impact criteria defined in this report. The fifth column (5) forecasts the Year 2040 With Project (Phase 2) traffic conditions. The sixth column (6) indicates whether the roadway segment operates at an adverse level of service based on the LOS standards and the impact criteria defined in this report.

10.2.1 *Year 2040 Without Project Traffic Conditions*

Review of column (2) of *Table 10-2* indicates that for the Year 2040 Without Project traffic conditions, three (3) of the six (6) key study roadway segments are forecast to operate at unacceptable levels of service on a Weekday daily basis and Saturday daily basis when compared to the LOS standards defined in this report. The remaining three (3) key study roadway segments are forecast to operate at acceptable levels of service LOS B or better on a Weekday daily basis and Saturday daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Victoria Ave, *between* Lynwood Dr and Mirada Rd	**33,162**	**1.105**	**F**	**40,966**	**1.366**	**F**
2. Victoria Ave, *between* Date St and Highland Ave	**32,182**	**1.073**	**F**	**37,710**	**1.257**	**F**
5. Highland Ave, *between* SR-210 WB Off-Ramp and Victoria Ave	**54,714**	**1.368**	**F**	**58,886**	**1.472**	**F**

10.2.2 *Year 2040 With Project (Phase 1) Traffic Conditions*

Review of column (3) of *Table 10-2* indicates that for the Year 2040 With Project (Phase 1) traffic conditions, three (3) of the six (6) key study roadway segments are forecast to operate at unacceptable levels of service on a Weekday daily basis and Saturday daily basis when compared to the LOS standards defined in this report. The remaining three (3) key study roadway segments are forecast to operate at acceptable levels of service LOS C or better on a Weekday daily basis and Saturday daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Victoria Ave, *between* Lynwood Dr and Mirada Rd	**41,962**	**1.399**	**F**	**52,966**	**1.766**	**F**
2. Victoria Ave, *between* Date St and Highland Ave	**40,806**	**1.360**	**F**	**49,470**	**1.649**	**F**
5. Highland Ave, *between* SR-210 WB Off-Ramp and Victoria Ave	**62,018**	**1.550**	**F**	**68,846**	**1.721**	**F**

To determine if the Project (Phase 1) creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies. As presented in ***Table 10-3***, these study roadway segments are forecast to operate at LOS A or better during the Weekday AM, Weekday PM, and Saturday PM peak hours. As a result, the key study roadway segments are not significantly impacted by Year 2040 With Project (Phase 1) traffic and therefore no improvements are required.

10.2.3 *Year 2040 With Project (Phase 2) Traffic Conditions*

Review of column (5) of *Table 10-2* indicates that for the Year 2040 With Project (Phase 2) traffic conditions, three (3) of the six (6) key study roadway segments are forecast to operate at unacceptable levels of service on a Weekday daily basis and Saturday daily basis when compared to the LOS standards defined in this report. The remaining three (3) key study roadway segments are forecast to operate at acceptable levels of service LOS C or better on a Weekday daily basis and Saturday daily basis. The roadway segments operating at adverse levels of service are:

	Weekday Daily			Saturday Daily		
Key Roadway Segment	**Volume**	**V/C Ratio**	**LOS**	**Volume**	**V/C Ratio**	**LOS**
1. Victoria Ave, *between* Lynwood Dr and Mirada Rd	**45,462**	**1.515**	**F**	**56,366**	**1.879**	**F**
2. Victoria Ave, *between* Date St and Highland Ave	**44,236**	**1.475**	**F**	**52,802**	**1.760**	**F**
5. Highland Ave, *between* SR-210 WB Off-Ramp and Victoria Ave	**64,923**	**1.623**	**F**	**71,668**	**1.792**	**F**

To determine if the Project (Phase 2) creates a significant impact, these adverse roadway segments are further analyzed under peak hour conditions to determine if there are any peak hour deficiencies. As presented in ***Table 10-4***, these study roadway segments are forecast to operate at LOS B or better during the Weekday AM, Weekday PM, and Saturday PM peak hours. As a result, the key study roadway segments are not significantly impacted by Year 2040 With Project (Phase 2) traffic and therefore no improvements are required.

TABLE 10-2

YEAR 2040 WITH PROJECT CONDITIONS DAILY ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	Time Period	Type of Arterial	LOS E Capacity[37] (VPD)	Lanes	(1) Existing Traffic Conditions			(2) Year 2040 Without Project Traffic Conditions			(3) Year 2040 With Project (Phase 1) Traffic Conditions			(4) Adverse	(5) Year 2040 With Project (Phase 2) Traffic Conditions			(6) Adverse
					Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Daily Volume	V/C Ratio	LOS	Yes/No	Daily Volume	V/C Ratio	LOS	Yes/No
1. Victoria Avenue, *between* Lynwood Drive and Mirada Road	Weekday	Secondary Arterial	30,000	4D	**28,849**	**0.962**	**E**	**33,162**	**1.105**	**F**	**41,962**	**1.399**	**F**	**Yes**	**45,462**	**1.515**	**F**	**Yes**
	Saturday				**35,638**	**1.188**	**F**	**40,966**	**1.366**	**F**	**52,966**	**1.766**	**F**	**Yes**	**56,366**	**1.879**	**F**	**Yes**
2. Victoria Avenue, *between* Date Street and Highland Avenue	Weekday	Secondary Arterial	30,000	4D	**27,922**	**0.931**	**E**	**32,182**	**1.073**	**F**	**40,806**	**1.360**	**F**	**Yes**	**44,236**	**1.475**	**F**	**Yes**
	Saturday				**32,728**	**1.091**	**F**	**37,710**	**1.257**	**F**	**49,470**	**1.649**	**F**	**Yes**	**52,802**	**1.760**	**F**	**Yes**
3. Victoria Avenue, *between* Highland Avenue and Pacific Street	Weekday	Secondary Arterial	30,000	4D	12,936	0.431	A	15,126	0.504	A	15,566	0.519	A	No	15,741	0.525	A	No
	Saturday				11,752	0.392	A	13,784	0.459	A	14,384	0.479	A	No	14,554	0.485	A	No
4. Highland Avenue, *between* Sterling Avenue and SR-210 EB Off-Ramp	Weekday	Major Arterial	40,000	4D	19,622	0.491	A	24,687	0.617	B	25,567	0.639	B	No	25,917	0.648	B	No
	Saturday				19,988	0.500	A	24,223	0.606	B	25,423	0.636	B	No	25,763	0.644	B	No
5. Highland Avenue, *between* SR-210 WB Off-Ramp and Victoria Avenue	Weekday	Major Arterial	40,000	4D	**46,792**	**1.170**	**F**	**54,714**	**1.368**	**F**	**62,018**	**1.550**	**F**	**Yes**	**64,923**	**1.623**	**F**	**Yes**
	Saturday				**50,427**	**1.261**	**F**	**58,886**	**1.472**	**F**	**68,846**	**1.721**	**F**	**Yes**	**71,668**	**1.792**	**F**	**Yes**
6. Highland Avenue, *between* Victoria Avenue and Central Avenue	Weekday	Major Arterial	40,000	4D	23,381	0.585	A	27,461	0.687	B	28,341	0.709	C	No	28,691	0.717	C	No
	Saturday				22,302	0.558	A	26,191	0.655	B	27,391	0.685	B	No	27,731	0.693	B	No

Notes:

- VPD = Vehicles Per Day
- D = Divided; U = Undivided
- V/C = Volume to Capacity Ratio
- **Bold "V/C"/LOS values** indicate adverse service levels based on the LOS standards as defined in this report

[37] Source: *City of San Bernardino General Plan.*

TABLE 10-3

YEAR 2040 WITH PROJECT (PHASE 1) CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	(1) Type of Arterial	(2) Time Period	(3) Approach	(4) Segment Capacity (VPHPL)	(5) Lanes	(6) Total Segment Capacity (VPH)	(7) Year 2040 With Project (Phase 1) Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
1. Victoria Avenue, *between* Lynwood Drive and Mirada Road	Secondary Arterial	Weekday AM	NB	1,600	2	3,200	956	0.299	A
			SB	1,600	2	3,200	683	0.213	A
		Weekday PM	NB	1,600	2	3,200	1,230	0.384	A
			SB	1,600	2	3,200	1,139	0.356	A
		Saturday PM	NB	1,600	2	3,200	1,588	0.496	A
			SB	1,600	2	3,200	1,335	0.417	A
2. Victoria Avenue, *between* Date Street and Highland Avenue	Secondary Arterial	Weekday AM	NB	1,600	2	3,200	1,107	0.346	A
			SB	1,600	2	3,200	816	0.255	A
		Weekday PM	NB	1,600	2	3,200	1,148	0.359	A
			SB	1,600	2	3,200	1,248	0.39	A
		Saturday PM	NB	1,600	2	3,200	1,545	0.483	A
			SB	1,600	2	3,200	1,321	0.413	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service

TABLE 10-3 (CONTINUED)

YEAR 2040 WITH PROJECT (PHASE 1) CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	(1) Type of Arterial	(2) Time Period	(3) Approach	(4) Segment Capacity (VPHPL)	(5) Lanes	(6) Total Segment Capacity (VPH)	(7) Year 2040 With Project (Phase 1) Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
5. Highland Avenue, *between* SR-210 WB Off-Ramp and Victoria Avenue	Major Arterial	Weekday AM	EB	1,600	2	3,200	1,292	0.404	A
			WB	1,600	2	3,200	1,154	0.361	A
		Weekday PM	EB	1,600	2	3,200	1,546	0.483	A
			WB	1,600	2	3,200	1,768	0.553	A
		Saturday PM	EB	1,600	2	3,200	1,907	0.596	A
			WB	1,600	2	3,200	1,840	0.575	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service

TABLE 10-4

YEAR 2040 WITH PROJECT (PHASE 2) CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	(1) Type of Arterial	(2) Time Period	(3) Approach	(4) Segment Capacity (VPHPL)	(5) Lanes	(6) Total Segment Capacity (VPH)	(7) Year 2040 With Project (Phase 2) Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
1. Victoria Avenue, *between* Lynwood Drive and Mirada Road	Secondary Arterial	Weekday AM	NB	1,600	2	3,200	1,073	0.335	A
			SB	1,600	2	3,200	747	0.233	A
		Weekday PM	NB	1,600	2	3,200	1,336	0.418	A
			SB	1,600	2	3,200	1,216	0.380	A
		Saturday PM	NB	1,600	2	3,200	1,675	0.523	A
			SB	1,600	2	3,200	1,388	0.434	A
2. Victoria Avenue, *between* Date Street and Highland Avenue	Secondary Arterial	Weekday AM	NB	1,600	2	3,200	1,221	0.382	A
			SB	1,600	2	3,200	879	0.275	A
		Weekday PM	NB	1,600	2	3,200	1,251	0.391	A
			SB	1,600	2	3,200	1,323	0.413	A
		Saturday PM	NB	1,600	2	3,200	1,630	0.509	A
			SB	1,600	2	3,200	1,373	0.429	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service

TABLE 10-4 (CONTINUED)

YEAR 2040 WITH PROJECT (PHASE 2) CONDITIONS PEAK HOUR ROADWAY SEGMENT CAPACITY ANALYSIS SUMMARY

Key Roadway Segment	(1) Type of Arterial	(2) Time Period	(3) Approach	(4) Segment Capacity (VPHPL)	(5) Lanes	(6) Total Segment Capacity (VPH)	(7) Year 2040 With Project (Phase 2) Traffic Conditions		
							Peak Hour Volume	V/C Ratio	LOS
5. Highland Avenue, *between* SR-210 WB Off-Ramp and Victoria Avenue	Major Arterial	Weekday AM	EB	1,600	2	3,200	1,389	0.434	A
			WB	1,600	2	3,200	1,207	0.377	A
		Weekday PM	EB	1,600	2	3,200	1,634	0.511	A
			WB	1,600	2	3,200	1,832	0.573	A
		Saturday PM	EB	1,600	2	3,200	1,979	0.618	B
			WB	1,600	2	3,200	1,884	0.589	A

Notes:

- VPHPL = Vehicles Per Hour Per Lane
- VPH = Vehicles Per Hour
- V/C = Volume to Capacity Ratio
- LOS = Level of Service

11.0 PLANNED AND RECOMMENDED IMPROVEMENTS

For those intersections and roadway segments where projected traffic volumes are expected to result in significant impacts, this report recommends improvements that change the intersection and/or roadway segments geometry to increase capacity. These capacity improvements involve roadway widening and/or re-striping to reconfigure (add lanes) roadways to specific approaches of a key intersection and/or roadway segments. The identified improvements are expected to:

- Address the impact of existing traffic, Project traffic and future non-project (ambient traffic growth and related projects) traffic, and
- Improve Levels of Service to an acceptable range and/or to pre-project conditions.

Figures 11-1, ***11-2***, ***11-3*** and ***11-4*** present the planned and recommended improvements and intersection controls at the key study intersections for the Existing With Project, Year 2020, Year 2022, and Year 2040, respectively. These are discussed in more detail in the sections below.

11.1 Project-Specific Improvements

11.1.1 *Intersections*

The Project-specific improvements listed below are anticipated to be completed in conjunction with the Project development and have been assumed in the Existing With Project (Phase 1), Existing With Project (Phase 2), Year 2020 With Project (Phase 1), Year 2022 Without Project (includes Phase 1), Year 2022 With Project (Phase 2), Year 2040 With Project (Phase 1), and Year 2040 With Project (Phase 2) traffic conditions:

- Intersection 3. Victoria Avenue at Driveway "C": Restripe exclusive northbound left-turn lane to a shared through-left-turn lane, exclusive northbound through lane to a shared through-right-turn lane, and northbound shared through-right-turn lane to exclusive right-turn lane. Remove southbound right-turn lane. Construct new entrance to proposed parking structure with an eastbound shared through-left-right-turn lane and exclusive right-turn lane. Remove crosswalks on north and east legs and stripe a crosswalk on south leg.
- Intersection 4. Victoria Avenue at Driveway "D": Remove one northbound through lane.

11.1.2 *Roadway Segments*

There are no Project-Specific improvements for the roadway segments.

11.2 Recommended Improvements

11.2.1 *Existing With Project (Phase 1) Traffic Conditions*

The results of the Existing With Project (Phase 1) traffic conditions level of service analyses indicate that the proposed Project (Phase 1) will not have a significant impact at any of the fifteen (15) key study intersections. All fifteen (15) key study intersections are forecast to operate at acceptable

levels of service LOS D or better under the Existing With Project (Phase 1) traffic conditions. Hence, no mitigation measures have been recommended.

11.2.2 *Existing With Project (Phase 2) Traffic Conditions*

The results of the Existing With Project (Phase 2) traffic conditions level of service analyses indicate that the proposed Project (Phase 2) will significantly impact one (1) of the fifteen (15) key study intersections. The remaining fourteen (14) key study intersections are forecast to operate at acceptable levels of service LOS D or better under the Existing With Project (Phase 2) traffic conditions. The improvements listed below have been identified to address the traffic impacts at the intersection significantly impacted by the Existing With Project (Phase 2) traffic:

- Intersection 10. Arden Avenue at Highland Avenue: Restripe the northbound through lane to a 2nd northbound left-turn lane and restripe the northbound right-turn lane to a northbound shared through-right-turn lane on Arden Avenue. Modify the existing traffic signal and include the northbound and southbound left-turn movements as lead-lag traffic signal operation to avoid conflict.

11.2.3 *Year 2020 With Project (Phase 1) Traffic Conditions*

The results of the Year 2020 With Project (Phase 1) traffic conditions level of service analyses indicate that the proposed Project (Phase 1) will not have a significant impact at any of the fifteen (15) key study intersections. All fifteen (15) key study intersections are forecast to operate at acceptable levels of service LOS D or better under the Year 2020 With Project (Phase 1) traffic conditions. Hence, no mitigation measures have been recommended.

11.2.4 *Year 2022 With Project (Phase 2) Traffic Conditions*

The results of the Year 2022 With Project (Phase 2) traffic conditions level of service analyses indicate that the proposed Project (Phase 1) will significantly impact one (1) of the of fifteen (15) key study intersections. The remaining fourteen (14) key study intersections are forecast to operate at acceptable levels of service LOS D or better under the Year 2022 With Project (Phase 2) traffic conditions. The improvements listed below have been identified to address the traffic impacts at the intersection significantly impacted by the Year 2022 With Project (Phase 2) traffic:

- Intersection 10. Arden Avenue at Highland Avenue: Restripe the northbound through lane to a 2nd northbound left-turn lane and restripe the northbound right-turn lane to a northbound shared through-right-turn lane on Arden Avenue. Modify the existing traffic signal and include the northbound and southbound left-turn movements as lead-lag traffic signal operation to avoid conflict.

11.2.5 *Year 2040 With Project (Phase 1) Traffic Conditions*

The results of the Year 2040 With Project (Phase 1) traffic conditions level of service analyses indicate that the proposed Project (Phase 1) will significantly impact one (1) of the of fifteen (15) key study intersections. The remaining fourteen (14) key study intersections are forecast to operate at acceptable levels of service LOS D or better under the Year 2040 With Project (Phase 1) traffic

conditions. The improvements listed below have been identified to address the traffic impacts at the intersection significantly impacted by the Year 2040 With Project (Phase 1) traffic:

- Intersection 10. Arden Avenue at Highland Avenue: Restripe the northbound through lane to a 2nd northbound left-turn lane and restripe the northbound right-turn lane to a northbound shared through-right-turn lane on Arden Avenue. Modify the existing traffic signal and include the northbound and southbound left-turn movements as lead-lag traffic signal operation to avoid conflict.

11.2.6 *Year 2040 With Project (Phase 2) Traffic Conditions*

The results of the Year 2040 With Project (Phase 2) traffic conditions level of service analyses indicate that the proposed Project (Phase 2) will not have a significant impact at any of the fifteen (15) key study intersections. All the fifteen (15) key study intersections are forecast to operate at acceptable levels of service LOS D or better under the Year 2040 With Project (Phase 2) traffic conditions. It should be noted that the recommended improvements from the Year 2040 With Project (Phase 1) With Mitigation traffic conditions have been included in the traffic conditions for Year 2040 With Project (Phase 2). Hence, no mitigation measures have been recommended.

11.3 Improvement Costs

This section of the report summarizes the improvements and associated costs required to meet level of service requirements for the Existing With Project (Phase 1), Existing With Project (Phase 2), Year 2020 With Project (Phase 1), Year 2022 With Project (Phase 2), Year 2040 With Project (Phase 1), and Year 2040 With Project (Phase 2) analyses. The improvement costs have been estimated using cost guidelines contained in *Appendix G of the San Bernardino County CMP*. The Project's fair share contribution for the improvements at each location is identified in *Section 12.0* of this report.

Table 11-1 identifies the incremental intersection improvements needed by the corresponding analysis years to maintain, where possible, acceptable service levels based on the LOS standards defined in this report. The improvements listed in *Table 11-1* are comprised of striping and modification of signals. *Table 11-1* provides order of magnitude cost estimates for these improvements and are subject to change based on future detailed engineering estimates.

11.3.1 *Existing With Project (Phase 1) Improvement Costs*

As presented in column (1) of *Table 11-1*, no improvements are recommended for Existing With Project (Phase 1) traffic conditions.

11.3.2 *Existing With Project (Phase 2) Improvement Costs*

As presented in column (2) of *Table 11-1*, the cost to implement recommended intersection improvements identified in this report to mitigate the Existing With Project (Phase 2) traffic impacts is estimated to total ***$100,000.00***.

11.3.3 *Year 2020 With Project (Phase 1) Improvement Costs*

As presented in column (3) of *Table 11-1*, no improvements are recommended for Year 2020 With Project (Phase 1) traffic conditions.

11.3.4 *Year 2022 With Project (Phase 2) Improvement Costs*

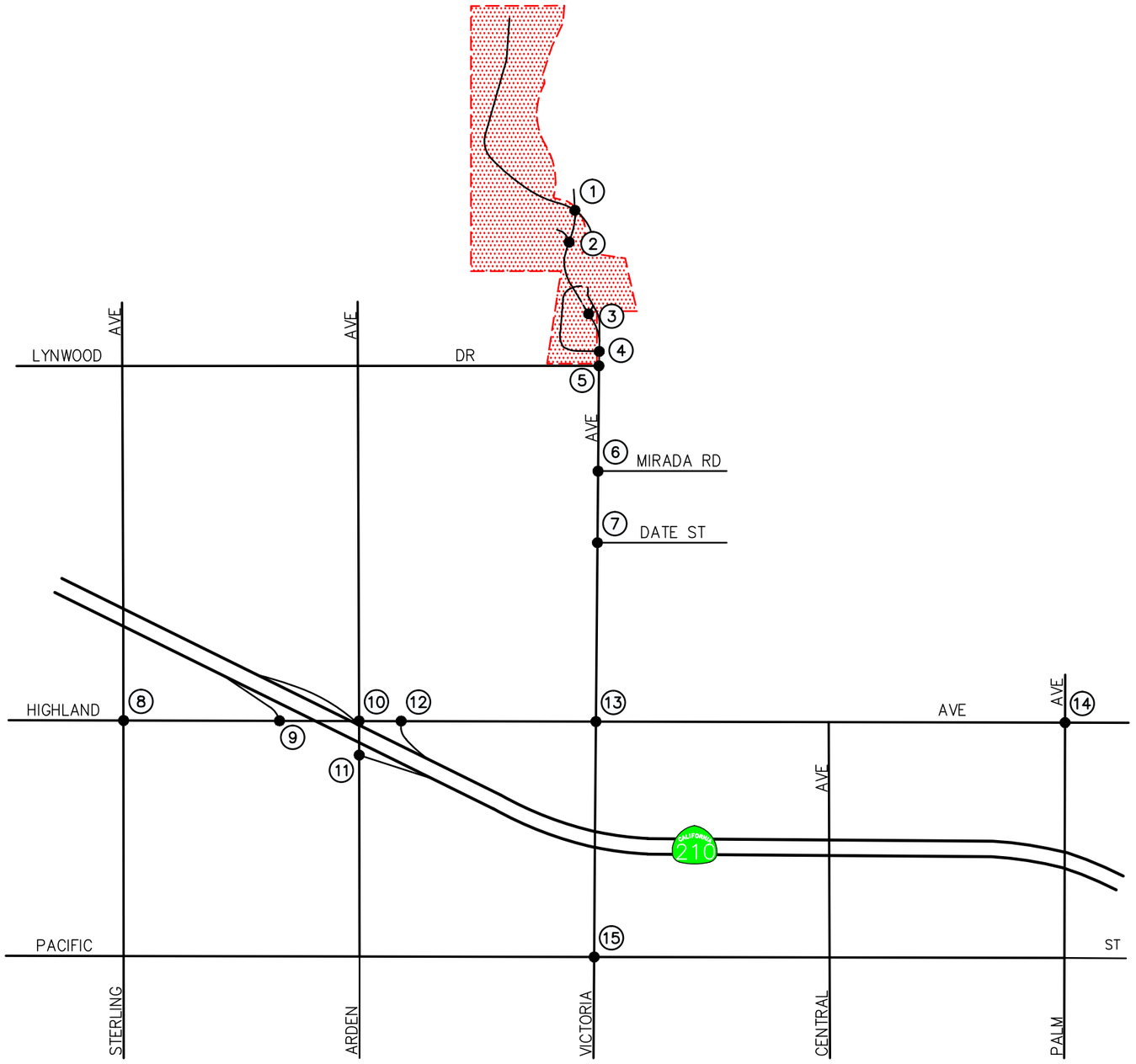
As presented in column (4) of *Table 11-1*, the cost to implement recommended intersection improvements identified in this report to mitigate the Year 2022 With Project (Phase 2) traffic impacts is estimated to total ***$0.00*** given the improvements recommended for the Existing With Project (Phase 2) mitigate the near-term cumulative traffic impacts.

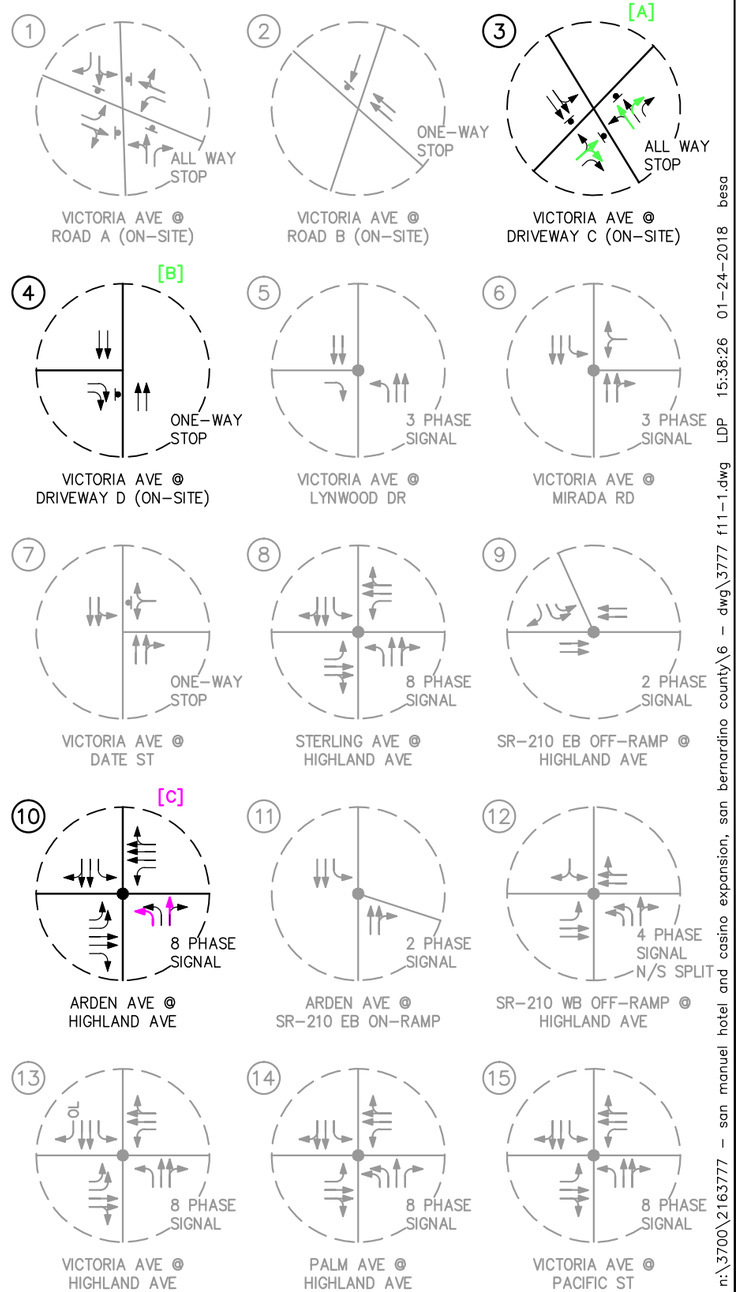
11.3.5 *Year 2040 With Project (Phase 1) Improvement Costs*

As presented in column (5) of *Table 11-1*, the cost to implement recommended intersection improvements identified in this report to mitigate the Year 2040 With Project (Phase 1) traffic impacts is estimated to total ***$0.00*** given the improvements recommended for the Existing With Project (Phase 2) mitigate the long-term cumulative traffic impacts.

11.3.6 *Year 2040 With Project (Phase 2) Improvement Costs*

As presented in column (6) of *Table 11-1*, no improvements are recommended for Year 2040 With Project (Phase 2) traffic conditions. It should be noted that the recommended improvements from the Year 2040 With Project (Phase 1) With Mitigation traffic conditions have been included in the traffic conditions for Year 2040 With Project (Phase 2).





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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

= PROJECT SPECIFIC IMPROVEMENTS

= EXISTING WITH PROJECT (PHASE 2) RECOMMENDED IMPROVEMENTS

● = TRAFFIC SIGNAL, ● = STOP SIGN

= PROJECT SITE

NOTES

[A] REMOVE EXCLUSIVE SOUTHBOUND RIGHT-TURN LANE. REMOVE NORTH AND EAST LEG CROSSWALKS. ADD SOUTH LEG CROSSWALK. ADD SECOND WESTBOUND DEPARTURE LANE.

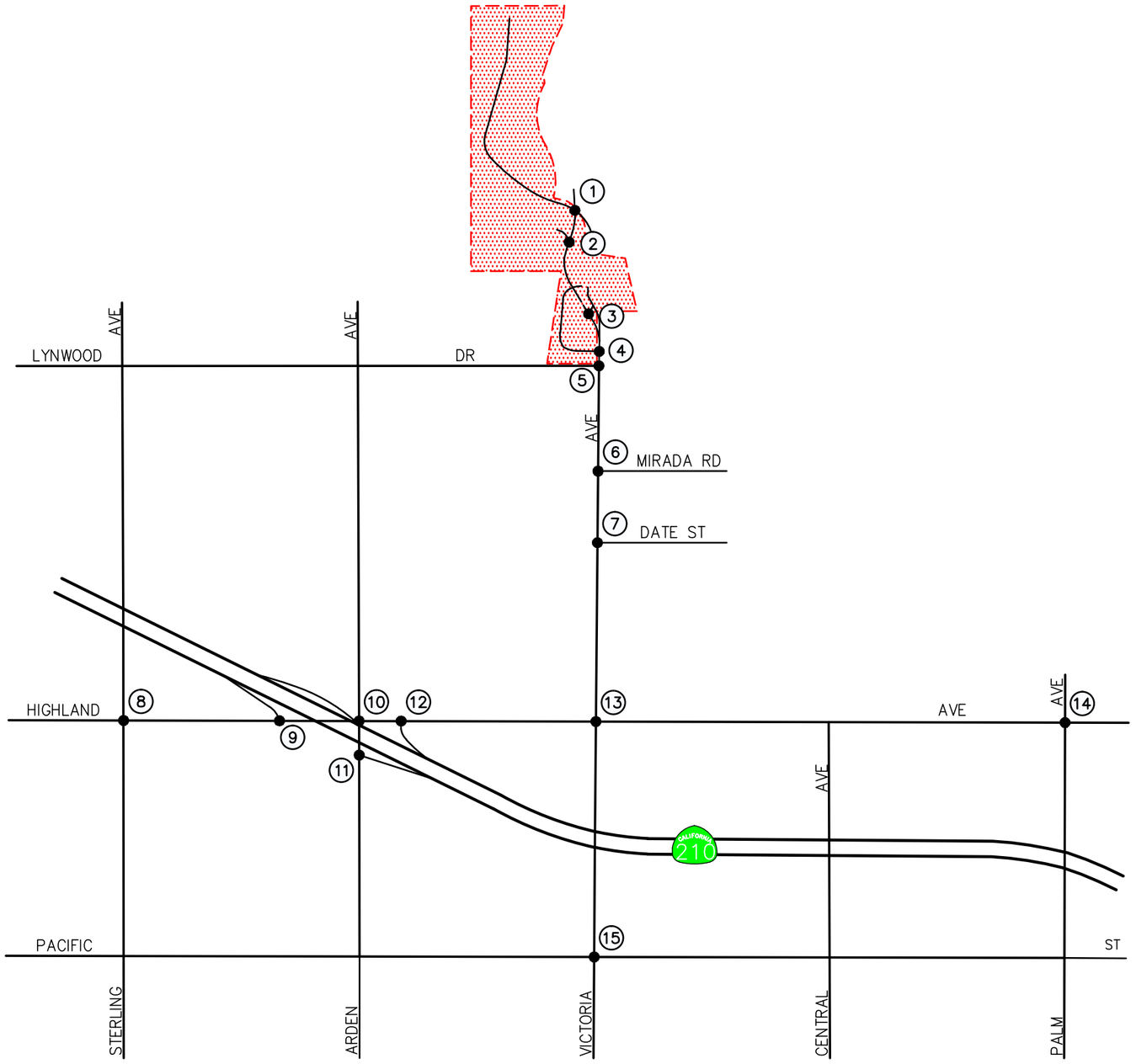
[B] REMOVE ONE OF THE NORTHBOUND THROUGH LANES (INCLUDING BOTH THE APPROACH AND DEPARTURE). TWO NORTHBOUND THROUGH LANES WILL REMAIN.

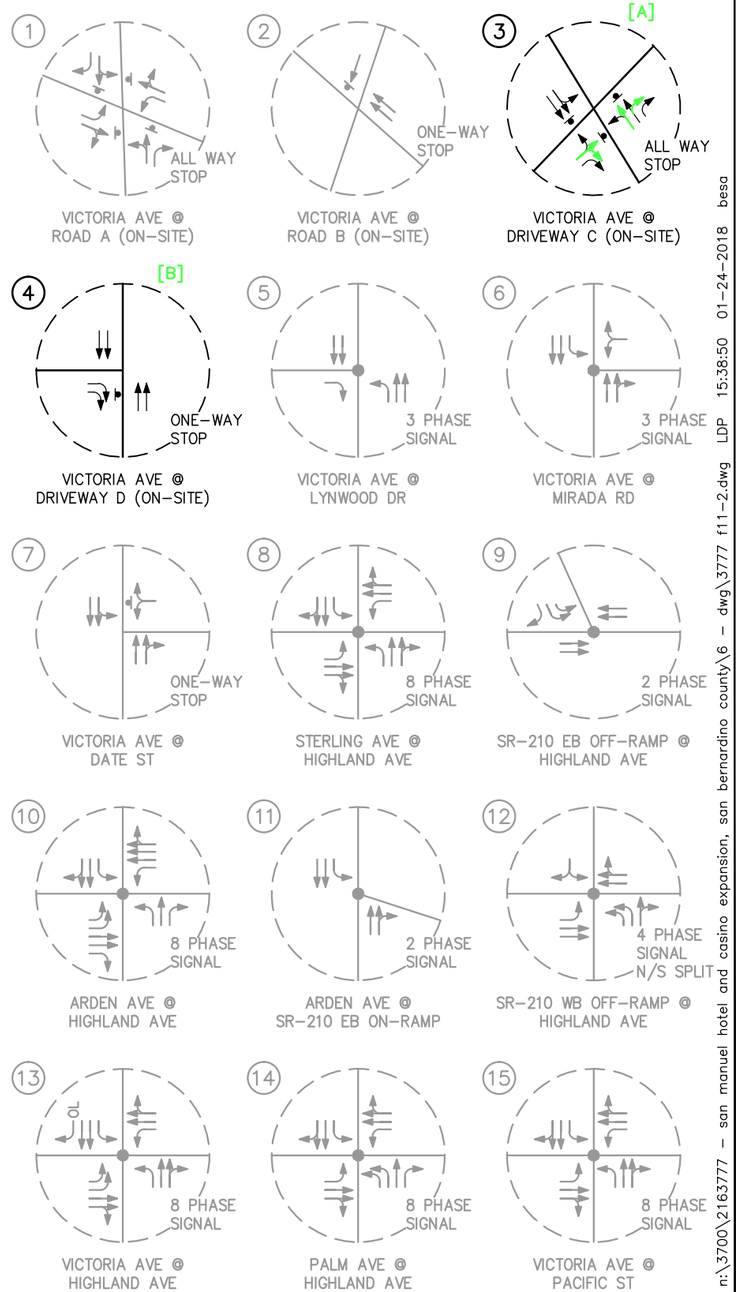
[C] MODIFY THE TRAFFIC SIGNAL TO ESTABLISH THE NORTHBOUND LEFT-TURN AS THE LEAD PHASE AND THE SOUTHBOUND LEFT-TURN AS THE LAG PHASE.

FIGURE 11-1

EXISTING WITH PROJECT (PHASE 2) PLANNED AND RECOMMENDED IMPROVEMENTS

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY





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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

= PROJECT SPECIFIC IMPROVEMENTS
= TRAFFIC SIGNAL, = STOP SIGN
= PROJECT SITE

NOTES

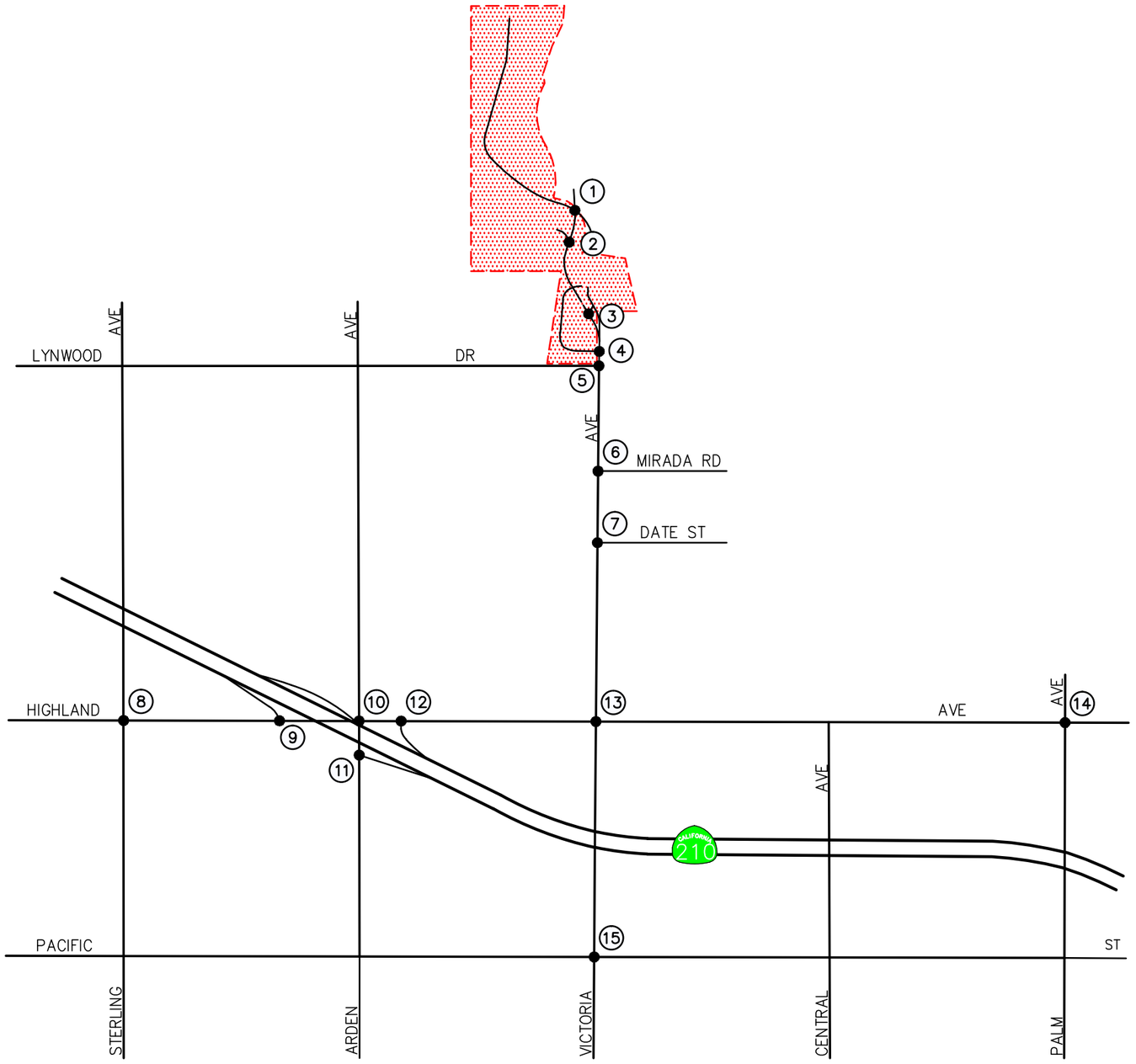
[A] REMOVE EXCLUSIVE SOUTHBOUND RIGHT-TURN LANE. REMOVE NORTH AND EAST LEG CROSSWALKS. ADD SOUTH LEG CROSSWALK. ADD SECOND WESTBOUND DEPARTURE LANE.

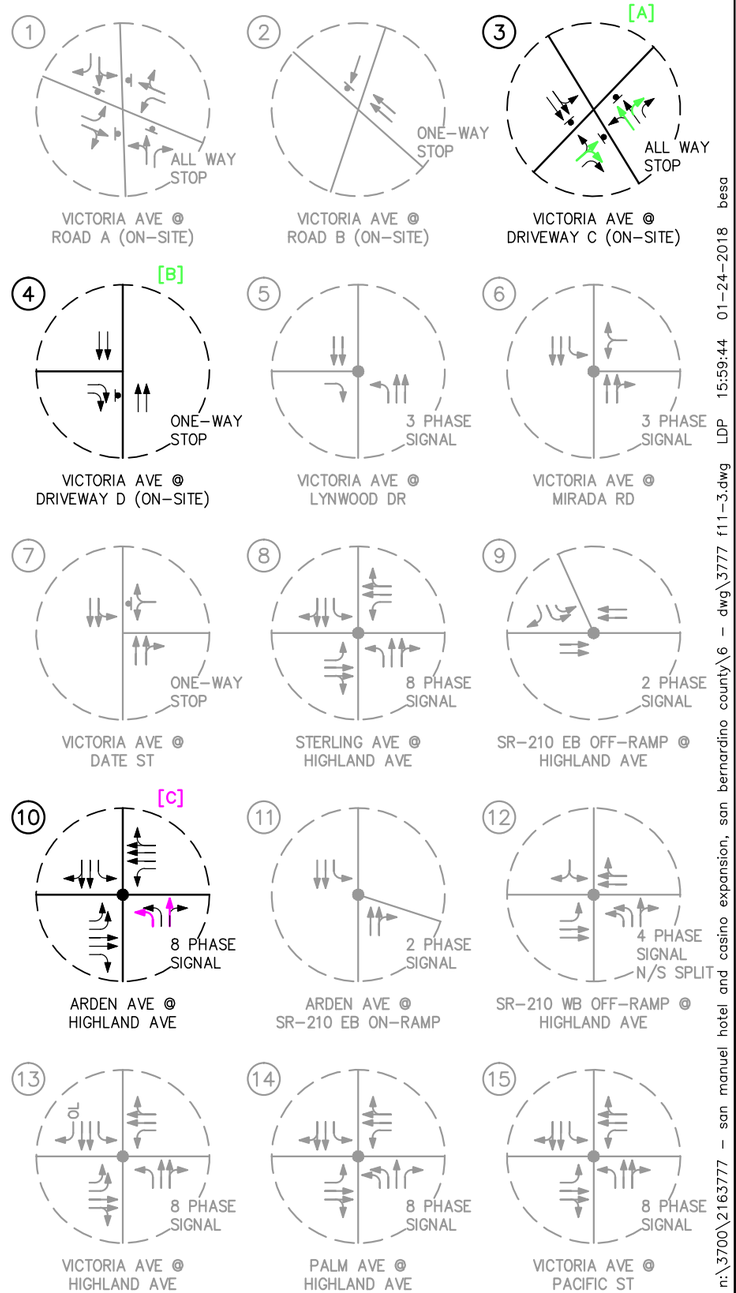
[B] REMOVE ONE OF THE NORTHBOUND THROUGH LANES (INCLUDING BOTH THE APPROACH AND DEPARTURE). TWO NORTHBOUND THROUGH LANES WILL REMAIN.

FIGURE 11-2

YEAR 2020 WITH PROJECT (PHASE 1) PLANNED AND RECOMMENDED IMPROVEMENTS

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY





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N NO SCALE

KEY

- = PROJECT SPECIFIC IMPROVEMENTS
- = YEAR 2022 WITH PROJECT (PHASE 2) RECOMMENDED IMPROVEMENTS
- = TRAFFIC SIGNAL, = STOP SIGN
- = PROJECT SITE

NOTES

[A] REMOVE EXCLUSIVE SOUTHBOUND RIGHT-TURN LANE. REMOVE NORTH AND EAST LEG CROSSWALKS. ADD SOUTH LEG CROSSWALK. ADD SECOND WESTBOUND DEPARTURE LANE.

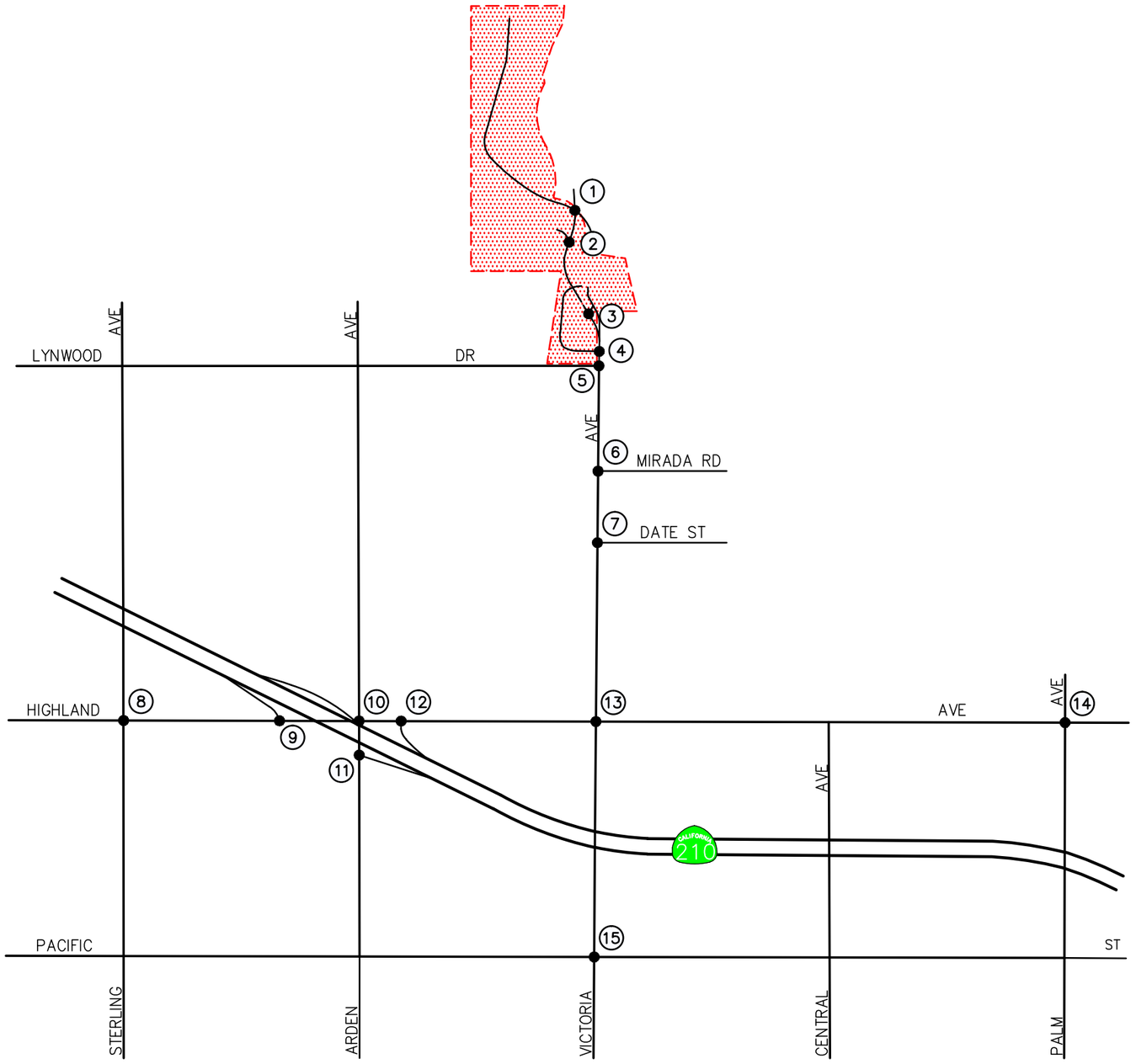
[B] REMOVE ONE OF THE NORTHBOUND THROUGH LANES (INCLUDING BOTH THE APPROACH AND DEPARTURE). TWO NORTHBOUND THROUGH LANES WILL REMAIN.

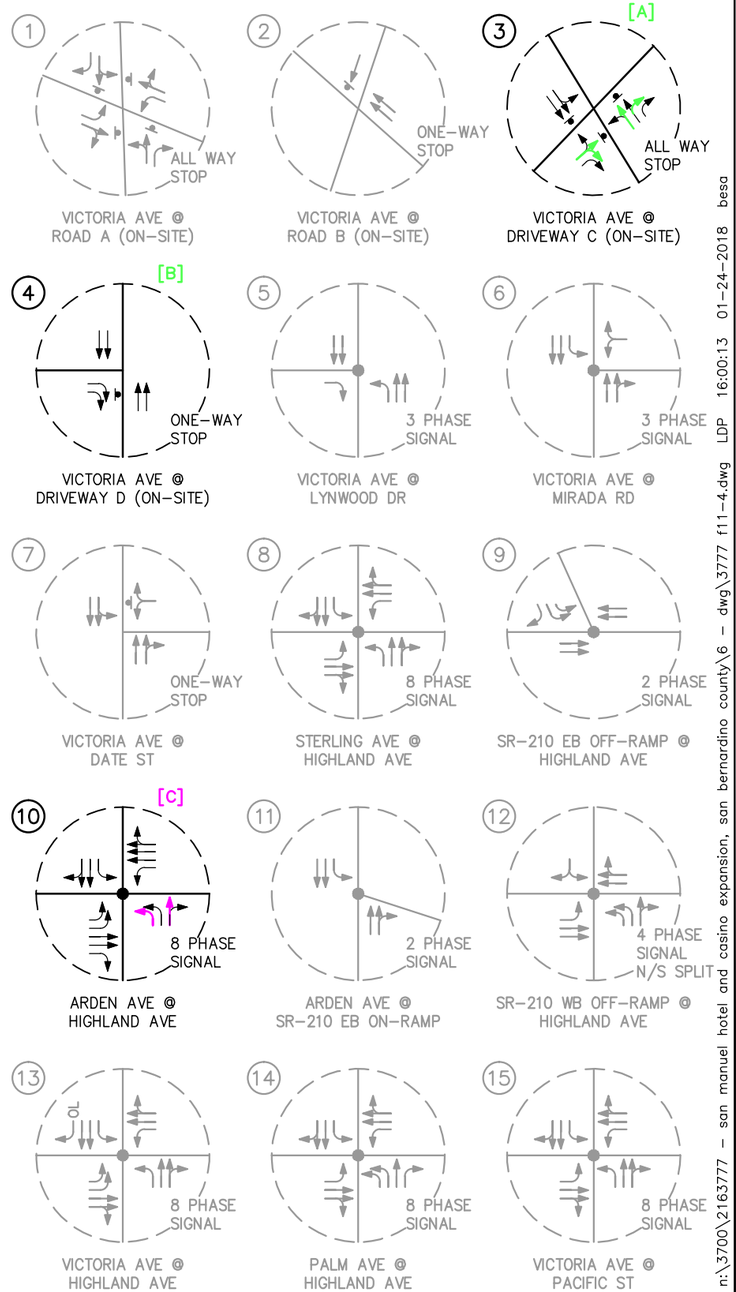
[C] MODIFY THE TRAFFIC SIGNAL TO ESTABLISH THE NORTHBOUND LEFT-TURN AS THE LEAD PHASE AND THE SOUTHBOUND LEFT-TURN AS THE LAG PHASE.

FIGURE 11-3

YEAR 2022 WITH PROJECT (PHASE 2) PLANNED AND RECOMMENDED IMPROVEMENTS

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY





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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

KEY

= PROJECT SPECIFIC IMPROVEMENTS

= YEAR 2040 WITH PROJECT (PHASE 1) RECOMMENDED IMPROVEMENTS

= TRAFFIC SIGNAL, = STOP SIGN

= PROJECT SITE

NOTES

[A] REMOVE EXCLUSIVE SOUTHBOUND RIGHT-TURN LANE. REMOVE NORTH AND EAST LEG CROSSWALKS. ADD SOUTH LEG CROSSWALK. ADD SECOND WESTBOUND DEPARTURE LANE.

[B] REMOVE ONE OF THE NORTHBOUND THROUGH LANES (INCLUDING BOTH THE APPROACH AND DEPARTURE). TWO NORTHBOUND THROUGH LANES WILL REMAIN.

[C] MODIFY THE TRAFFIC SIGNAL TO ESTABLISH THE NORTHBOUND LEFT-TURN AS THE LEAD PHASE AND THE SOUTHBOUND LEFT-TURN AS THE LAG PHASE.

FIGURE 11-4

YEAR 2040 WITH PROJECT (PHASE 2) PLANNED AND RECOMMENDED IMPROVEMENTS

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

TABLE 11-1

RECOMMENDED INTERSECTION IMPROVEMENTS AND COSTS[38]

Key Intersection	Jurisdiction	Improvement Description	Improvement Cost	Improvements by Scenario					
				(1) Existing With Project (Phase 1)	(2) Existing With Project (Phase 2)	(3) Year 2020 With Project (Phase 1)	(4) Year 2022 With Project (Phase 2)	(5) Year 2040 With Project (Phase 1)	(6) Year 2040 With Project (Phase 2)
10. Arden Avenue at Highland Avenue	San Bernardino	- Restripe NB through to provide 2nd NB left-turn lane and restripe NB right-turn lane to shared NB through/right-turn lane.	$25,000.00	--	✓	--	X	X	--
		- Modify existing traffic signal and also include the NB and SB left-turn lanes as lead-lag traffic signal operation to avoid conflict.	$75,000.00	--	✓	--	X	X	--
			Total:	$0.00	$100,000.00	$0.00	$0.00	$0.00	$0.00
TOTAL ESTIMATED COST OF RECOMMENDED IMPROVEMENTS				$0.00	$100,000.00	$0.00	$0.00	$0.00	$0.00

Notes:

✓ = Denotes that the improvement is implemented in the scenario.

X = Denotes that the improvement carries over from the previous scenario and is assumed to be already implemented, and therefore is not considered in the cost.

[38] The improvement costs have been estimated using cost guidelines contained in *Appendix G of the San Bernardino County CMP, 2009 Update*.

12.0 PROJECT FAIR SHARE ANALYSIS

The transportation impacts associated with the development of the proposed Project were determined based on the future conditions analysis with and without the proposed Project. The key study locations forecast to operate at adverse levels of service are discussed below. As such, the proposed Project's "fair share" of the recommended improvements has been calculated for the key study locations that are forecast to operate at adverse levels of service in the Existing With Project (Phase 1), Existing With Project (Phase 2), Year 2020 With Project (Phase 1), Year 2022 With Project (Phase 2), Year 2040 With Project (Phase 1), and/or Year 2040 With Project (Phase 2) traffic conditions.

12.1 Existing With Project (Phase 1) Traffic Conditions

12.1.1 *Intersections*

The results of the intersection analyses indicate that the proposed Project (Phase 1) is not forecast to have a significant impact at any of the fifteen (15) key study intersections for the Existing With Project (Phase 1) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

12.1.2 *Roadway Segments*

The results of the roadway segment analyses indicate that the proposed Project (Phase 1) is not forecast to have a significant impact at any of the six (6) key roadway segments for the Existing With Project (Phase 1) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

12.2 Existing With Project (Phase 2) Traffic Conditions

12.2.1 *Intersections*

Table 12-1 presents the Weekday AM, Weekday PM, and/or Saturday PM peak hour percentage of net traffic impact at the one (1) intersection significantly impacted by the Project (Phase 1) for Existing traffic conditions. These fair share calculations are based on the recommended methodology contained in the San Bernardino County CMP.

As presented in this table, the first column (1) presents a total of all intersection peak hour movements for existing conditions. The second column (2) presents Project (Phase 2) traffic only. The third column (3) presents Existing traffic conditions with Project (Phase 2) traffic. The fourth column (4) represents what percentage of total intersection peak hour traffic is project-related traffic. Columns (5) and (6) present the cost of the recommended mitigation measures, and the project's fair-share contribution, respectively.

The Project (Phase 2) fair share percentages (worse time period impacted) for the one (1) impacted intersection for the Existing With Project (Phase 2) traffic conditions are shown below:

- 10. Arden Avenue at Highland Avenue 100.00%

Review of *Table 12-1* shows that the Project's fair share contribution to offset all Existing With Project (Phase 2) intersection project impacts is **$100,000.00**.

12.2.2 *Roadway Segments*

The results of the roadway segment analyses indicate that the proposed Project (Phase 2) is not forecast to have a significant impact at any of the six (6) key roadway segments for the Existing With Project (Phase 2) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

12.3 Year 2020 With Project (Phase 1) Traffic Conditions

12.3.1 *Intersections*

The results of the intersection analyses indicate that the proposed Project (Phase 1) is not forecast to have a significant impact at any of the fifteen (15) key study intersections for the Year 2020 With Project (Phase 1) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

12.3.2 *Roadway Segments*

The results of the roadway segment analyses indicate that the proposed Project (Phase 1) is not forecast to have a significant impact at any of the six (6) key roadway segments for the Year 2020 With Project (Phase 1) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

12.4 Year 2022 With Project (Phase 2) Traffic Conditions

12.4.1 *Intersections*

Table 12-2 presents the Weekday AM, Weekday PM, and/or Saturday PM peak hour percentage of net traffic impact at the one (1) intersection significantly impacted by the Project (Phase 2) for Year 2022 traffic conditions. These fair share calculations are based on the recommended methodology contained in the San Bernardino County CMP.

As presented in this table, the first column (1) presents a total of all intersection peak hour movements for existing conditions. The second column (2) presents Year 2022 Without Project traffic conditions. The third column (3) presents Year 2022 traffic conditions with Project (Phase 2) traffic. The fourth column (4) represents what percentage of total intersection peak hour traffic is project-related traffic. Columns (5) and (6) present the cost of the recommended mitigation measures, and the project's fair-share contribution, respectively.

The Project (Phase 2) fair share percentages (worse time period impacted) for the one (1) impacted intersection for the Year 2022 With Project (Phase 2) traffic conditions are shown below:

- 10. Arden Avenue at Highland Avenue 12.03%

Review of *Table 12-2* shows that the Project's fair share contribution to offset all Year 2022 With Project (Phase 2) intersection project impacts is **$0.00**.

12.4.2 *Roadway Segments*

The results of the roadway segment analyses indicate that the proposed Project (Phase 2) is not forecast to have a significant impact at any of the six (6) key roadway segments for the Year 2022 With Project (Phase 2) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

12.5 Year 2040 With Project (Phase 1) Traffic Conditions

12.5.1 *Intersections*

Table 12-3 presents the Weekday AM, Weekday PM, and/or Saturday PM peak hour percentage of net traffic impact at the one (1) intersection significantly impacted by the Project (Phase 1) for Year 2040 traffic conditions. These fair share calculations are based on the recommended methodology contained in the San Bernardino County CMP.

As presented in this table, the first column (1) presents a total of all intersection peak hour movements for existing conditions. The second column (2) presents Year 2040 Without Project traffic conditions. The third column (3) presents Year 2040 traffic conditions with Project (Phase 1) traffic. The fourth column (4) represents what percentage of total intersection peak hour traffic is project-related traffic. Columns (5) and (6) present the cost of the recommended mitigation measures, and the project's fair-share contribution, respectively.

The Project (Phase 1) fair share percentages (worse time period impacted) for the one (1) impacted intersection for the Year 2040 With Project (Phase 1) traffic conditions are shown below:

- 10. Arden Avenue at Highland Avenue 41.86%

Review of *Table 12-3* shows that the Project's fair share contribution to offset all Year 2040 With Project (Phase 1) intersection project impacts is **$0.00**.

12.5.2 *Roadway Segments*

The results of the roadway segment analyses indicate that the proposed Project (Phase 1) is not forecast to have a significant impact at any of the six (6) key roadway segments for the Year 2040 With Project (Phase 1) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

12.6 Year 2040 With Project (Phase 2) Traffic Conditions

12.6.1 *Intersections*

The results of the intersection analyses indicate that the proposed Project (Phase 2) is not forecast to have a significant impact at any of the fifteen (15) key study intersections for the Year 2040 With Project (Phase 2) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed. It should be noted that the recommended improvements from the Year 2040 With Project (Phase 1) With Mitigation traffic conditions have been included in the traffic conditions for Year 2040 With Project (Phase 2).

12.6.2 *Roadway Segments*

The results of the roadway segment analyses indicate that the proposed Project (Phase 1) is not forecast to have a significant impact at any of the six (6) key roadway segments for the Year 2040 With Project (Phase 2) traffic conditions. As there are no significant impacts, no Project fair share calculation is needed.

TABLE 12-1

EXISTING WITH PROJECT (PHASE 2) TRAFFIC CONDITIONS INTERSECTION FAIR SHARE CONTRIBUTION

Key Intersection	Impacted Time Period	(1) Existing Traffic	(2) Project (Phase 2) Only	(3) Existing With Project (Phase 2)	(4) Net Project Percent Increase	(5) Total Improvement Cost	(6) Project Fair Share Contribution
10. Arden Avenue at Highland Avenue	Weekday AM	3,383	426	3,809	**100.00%**	$100,000.00	**$100,000.00**
	Weekday PM	--	--	--	--		
	Saturday PM	--	--	--	--		
Total Fair-Share Cost Contribution							**$100,000.00**

Notes:

- Net Project Percent Increase (4) = [Column (2)] / [Column (3) – Column (1)]
- **Bold Net Project Percent Increase** is based on worse case.

TABLE 12-2

YEAR 2022 WITH PROJECT (PHASE 2) TRAFFIC CONDITIONS INTERSECTION FAIR SHARE CONTRIBUTION

Key Intersection	Impacted Time Period	(1) Existing Traffic	(2) Year 2022 Without Project (Phase 2) Traffic[39]	(3) Year 2022 With Project (Phase 2) Traffic	(4) Net Project Percent Increase	(5) Total Improvement Cost	(6) Project Fair Share Contribution
10. Arden Avenue at Highland Avenue	Weekday AM	3,383	4,275	4,397	**12.03%**	$0.00[40]	**$0.00**
	Weekday PM	--	--	--	--		
	Saturday PM	3,795	5,009	5,105	7.33%		
Total Fair-Share Cost Contribution							**$0.00**

Notes:

- Net Project Percent Increase (4) = [Column (3) – Column (2)] / [Column (3) – Column (1)]
- **Bold Net Project Percent Increase** is based on worse case.

[39] Includes Phase 1 traffic.

[40] The total improvement cost for this location is $0.00 because the improvements identified under the Existing With Project (Phase 2) have been carried over to the Year 2022 With Project (Phase 2).

TABLE 12-3

YEAR 2040 WITH PROJECT (PHASE 1) TRAFFIC CONDITIONS INTERSECTION FAIR SHARE CONTRIBUTION

Key Intersection	Impacted Time Period	(1) Existing Traffic	(2) Year 2040 Without Project (Phase 1) Traffic	(3) Year 2040 With Project (Phase 1) Traffic	(4) Net Project Percent Increase	(5) Total Improvement Cost	(6) Project Fair Share Contribution
10. Arden Avenue at Highland Avenue	Weekday AM	3,383	4,239	4,544	26.27%	$0.00[41]	**$0.00**
	Weekday PM	3,918	4,841	5,286	32.53%		
	Saturday PM	3,795	4,702	5,355	**41.86%**		
Total Fair-Share Cost Contribution							**$0.00**

Notes:

- Net Project Percent Increase (4) = [Column (3) – Column (2)] / [Column (3) – Column (1)]
- **Bold Net Project Percent Increase** is based on worse case.

[41] The total improvement cost for this location is $0.00 because the improvements identified under the Existing With Project (Phase 2) have been carried over to the Year 2040 With Project (Phase 1).

13.0 SITE ACCESS AND INTERNAL CIRCULATION EVALUATION

13.1 Site Access

Located at 777 San Manuel Boulevard, the San Manuel Casino is accessed from the intersection of Victoria Street at Lynwood Drive. Regionally, the San Manuel Casino can be accessed from the Highland Avenue exit off of the SR-210 Freeway.

Table 13-1 summarizes the levels of service at the four (4) internal (on-site) key study intersections for Existing With Project (Phase 1), Existing With Project (Phase 2), Year 2020 With Project (Phase 1), Year 2022 With Project (Phase 2), Year 2040 With Project (Phase 1), and Year 2040 With Project (Phase 2) traffic conditions. The operations analysis for the four (4) internal key study intersections is based on the *Highway Capacity Manual 6* (HCM 6) Method of Analysis for unsignalized intersections.

13.1.1 *Existing With Project (Phase 1) Traffic Conditions*

As shown in column (1) of *Table 13-1* the four (4) internal (on-site) key study intersections are forecast to operate at acceptable levels of service LOS C or better during the Weekday AM, Weekday PM, and Saturday PM peak hours under the Existing With Project (Phase 1) traffic conditions. ***Appendix G*** contains the Delay/LOS calculation worksheets for the Existing With Project (Phase 1) Traffic Conditions.

13.1.2 *Existing With Project (Phase 2) Traffic Conditions*

As shown in column (2) of *Table 13-1* the four (4) internal (on-site) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours under the Existing With Project (Phase 2) traffic conditions. *Appendix G* contains the Delay/LOS calculation worksheets for the Existing With Project (Phase 2) Traffic Conditions.

13.1.3 *Year 2020 With Project (Phase 1) Traffic Conditions*

As shown in column (3) of *Table 13-1* the four (4) internal (on-site) key study intersections are forecast to operate at acceptable levels of service LOS C or better during the Weekday Am, Weekday PM, and Saturday PM peak hours under the Year 2020 With Project (Phase 1) traffic conditions. *Appendix G* contains the Delay/LOS calculation worksheets for the Year 2020 With Project (Phase 1) Traffic Conditions.

13.1.4 *Year 2022 With Project (Phase 2) Traffic Conditions*

As shown in column (4) of *Table 13-1* the four (4) internal (on-site) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours under the Year 2022 With Project (Phase 2) traffic conditions. *Appendix G* contains the Delay/LOS calculation worksheets for the Year 2022 With Project (Phase 2) Traffic Conditions.

13.1.5 *Year 2040 With Project (Phase 1) Traffic Conditions*

As shown in column (5) of *Table 13-1* the four (4) internal (on-site) key study intersections are forecast to operate at acceptable levels of service LOS C or better during the Weekday AM, Weekday PM, and Saturday PM peak hours under the Year 2040 With Project (Phase 1) traffic conditions. *Appendix G* contains the Delay/LOS calculation worksheets for the Year 2040 With Project (Phase 1) Traffic Conditions.

13.1.6 *Year 2040 With Project (Phase 2) Traffic Conditions*

As shown in column (6) of *Table 13-1* the four (4) internal (on-site) key study intersections are forecast to operate at acceptable levels of service LOS D or better during the Weekday AM, Weekday PM, and Saturday PM peak hours under the Year 2040 With Project (Phase 2) traffic conditions. *Appendix G* contains the Delay/LOS calculation worksheets for the Year 2040 With Project (Phase 2) Traffic Conditions.

TABLE 13-1

PEAK HOUR INTERNAL (ON-SITE) INTERSECTION CAPACITY ANALYSIS SUMMARY[42]

Key Intersection	Time Period	(1) Existing With Project (Phase 1) Traffic Conditions		(2) Existing With Project (Phase 2) Traffic Conditions		(3) Year 2020 With Project (Phase 1) Traffic Conditions		(4) Year 2022 With Project (Phase 2) Traffic Conditions		(5) Year 2040 With Project (Phase 1) Traffic Conditions		(6) Year 2040 With Project (Phase 2) Traffic Conditions	
		Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS	Delay (s/v)	LOS
1. Victoria Avenue at Road "A"	Weekday AM	8.5	A	8.8	A	8.5	A	8.8	A	8.5	A	8.8	A
	Weekday PM	8.7	A	9.0	A	8.7	A	9.0	A	8.7	A	9.0	A
	Saturday PM	10.1	B	10.5	B	10.1	B	10.5	B	10.1	B	10.5	B
2. Victoria Avenue at Road "B"	Weekday AM	10.4	B	10.7	B	10.4	B	10.7	B	10.4	B	10.7	B
	Weekday PM	16.0	B	17.5	C	16.0	C	17.5	C	16.0	C	17.5	C
	Saturday PM	17.3	C	18.6	C	17.3	C	18.6	C	17.3	C	18.6	C
3. Victoria Avenue at Driveway "C"	Weekday AM	9.9	A	10.8	B	9.9	A	10.8	B	9.9	A	10.8	B
	Weekday PM	13.2	B	15.1	C	13.2	B	15.1	C	13.2	B	15.1	C
	Saturday PM	24.6	C	30.9	D	24.6	C	30.9	D	24.6	C	30.9	D
4. Victoria Avenue at Driveway "D"	Weekday AM	9.2	A	9.4	A	9.2	A	9.4	A	9.2	A	9.4	A
	Weekday PM	12.0	B	12.6	B	12.0	B	12.6	B	12.0	B	12.6	B
	Saturday PM	13.9	B	14.0	B	13.9	B	14.0	B	13.9	B	14.0	B

Notes:

- s/v = seconds per vehicle (delay)
- LOS = Level of Service
- **Bold Delay/LOS values** indicate adverse service levels based on the LOS standards as defined in this report

[42] *Appendix G* contains the Delay/LOS calculation worksheets for the Project driveways.

13.2 Internal Circulation Evaluation

The on-site and off-site circulation was evaluated in terms of vehicle-pedestrian conflicts. Based on our review of the preliminary site plan, the overall layout does not create significant vehicle-pedestrian conflict points and the driveway throat lengths are sufficient such that access to the parking structures, hotel, and casino areas are not impacted by internal vehicle queuing/stacking. Project traffic is not anticipated to cause significant queuing/stacking at the internal (on-site) intersections. The on-site circulation is acceptable based on our review of the proposed site plan. The alignment, spacing and throat length of the internal (on-site) intersections are also deemed adequate. Turning movements into and out of the Project site at the intersection of Victoria Avenue at Lynwood Drive are anticipated to operate at an acceptable service level. As such, motorists entering and exiting the Project site from this intersection will be able to do so comfortably, safely, and without undue congestion.

14.0 EXISTING CONDITIONS CALTRANS FACILITIES ANALYSIS

Caltrans requires the use of methods provided in the *HCM 6* for the analysis of basic freeway segments and freeway merge and diverge segments. The minimum required level of service to be maintained at Caltrans ramp intersections is LOS D as identified by Caltrans District 8 staff.

Basic Freeway Segment Analysis for freeway mainlines was conducted for the following four (4) Caltrans freeway segments:

1. SR-210 Eastbound *west* of Highland Avenue
2. SR-210 Eastbound *east* of Highland Avenue
3. SR-210 Westbound *east* of Highland Avenue
4. SR-210 Westbound *west* of Highland Avenue

Additionally, Freeway Merge And Diverge Segment Analysis for ramp junctions was conducted for the following four (4) Caltrans freeway merge and diverge segments:

1. SR-210 Eastbound Off-Ramp *to* Highland Avenue
2. SR-210 Eastbound On-Ramp *from* Arden Avenue
3. SR-210 Westbound Off-Ramp *to* Highland Avenue
4. SR-210 Westbound On-Ramp *from* Highland Avenue

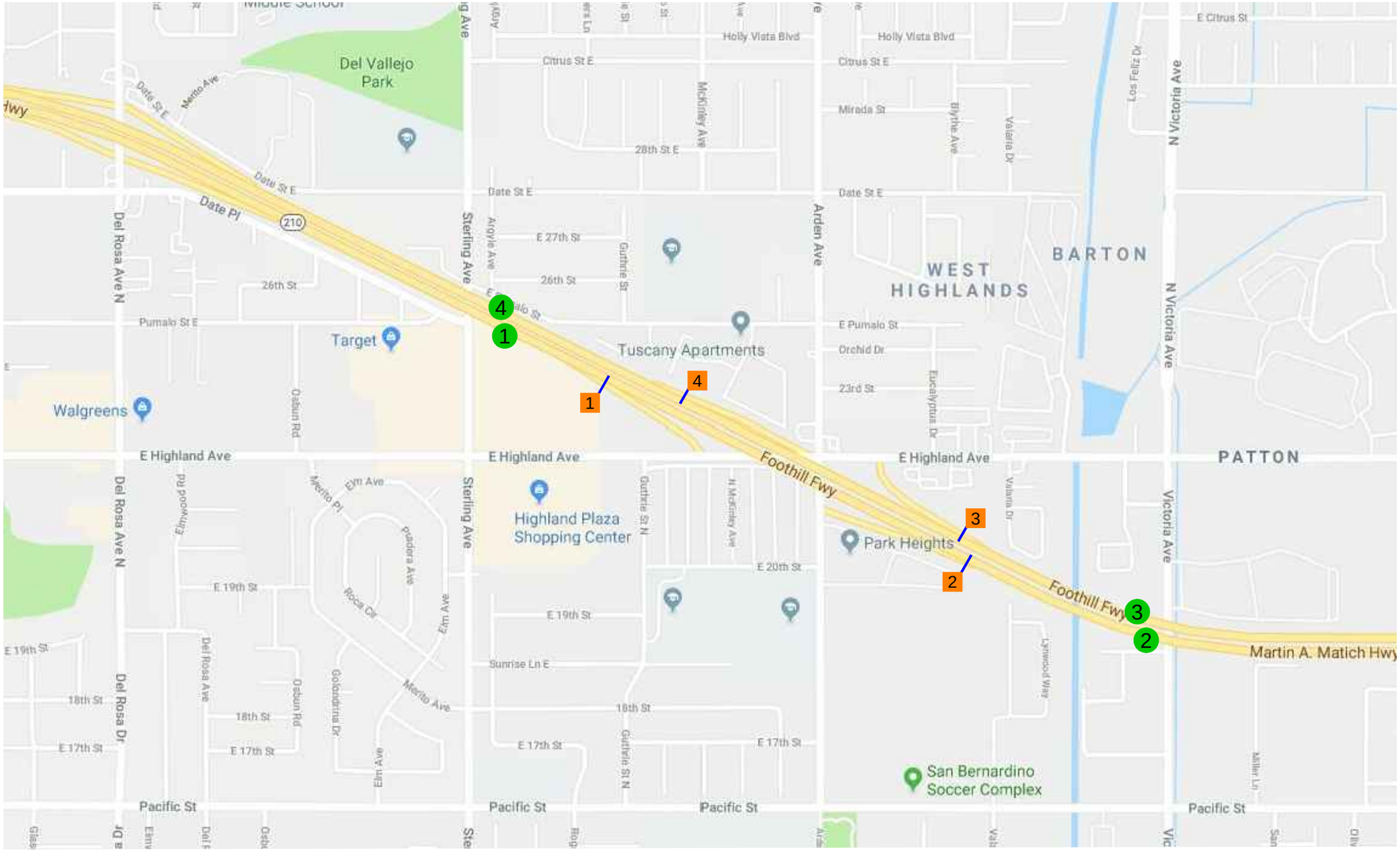
Figure 14-1 presents a Vicinity Map illustrating the general location of the four (4) Caltrans freeway mainline segments and the four (4) Caltrans merge/diverge segments.

14.1 Existing Conditions Basic Freeway Segment Capacity Analysis

Table 14-1 summarizes the peak hour Level of Service results at the four (4) basic freeway segments for the Existing traffic conditions. The first column (1) lists Existing traffic conditions. The second column (2) lists Existing With Project (Phase 1) traffic conditions. The third column (3) shows whether the traffic associated with the Project (Phase 1) will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The fourth column (4) presents the Level of Service with the implementation of improvements, if necessary. The fifth column (5) presents Existing With Project (Phase 2) traffic conditions. The sixth column (6) shows whether the traffic associated with the Project (Phase 2) will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The seventh column (7) presents the Level of Service with the implementation of improvements, if necessary.

14.1.1 *Existing Traffic Conditions*

Review of column (1) of *Table 14-1* indicates that all four (4) basic freeway segments currently operate at acceptable LOS D or better during the AM and PM peak hours under the Existing traffic conditions.



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LINSCOTT LAW & GREENSPAN engineers

N NO SCALE

SOURCE: GOOGLE

KEY

(#) = STUDY FREEWAY SEGMENT

[#] = STUDY MERGE/DIVERGE LOCATION

FIGURE 14-1

FREEWAY SEGMENT AND RAMP LOCATIONS

SAN MANUEL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

14.1.2 *Existing With Project (Phase 1) Traffic Conditions*

Review of column (2) of *Table 14-1* indicates that all four (4) basic freeway segments are forecast to operate at acceptable levels of service LOS D or better under the Existing With Project (Phase 1) traffic conditions based on the LOS standards defined in this report.

Review of column (3) of *Table 14-1* indicates that none of the four (4) basic freeway segments will have a significant impact under the Existing With Project (Phase 1) traffic conditions when compared to the LOS criteria defined in this report.

14.1.3 *Existing With Project (Phase 2) Traffic Conditions*

Review of column (5) of *Table 14-1* indicates that all four (4) basic freeway segments are forecast to operate at acceptable levels of service LOS D or better under the Existing With Project (Phase 2) traffic conditions based on the LOS standards defined in this report.

Review of column (6) of *Table 14-1* indicates that none of the four (4) basic freeway segments will have a significant impact under the Existing With Project (Phase 2) traffic conditions when compared to the LOS criteria defined in this report.

Appendix H contains the Basic Freeway Segments Analysis Calculation Worksheets for the Existing Traffic Conditions.

TABLE 14-1

EXISTING WITH PROJECT CONDITIONS PEAK HOUR BASIC FREEWAY SEGMENTS CAPACITY ANALYSIS SUMMARY[43]

Key Basic Freeway Segment	Time Period	Lanes	(1) Existing Traffic Conditions			(2) Existing With Project (Phase 1) Traffic Conditions			(3) Significant Impact	(4) Existing With Project (Phase 1) With Mitigation			(5) Existing With Project (Phase 2) Traffic Conditions[44]			(6) Significant Impact	(7) Existing With Project (Phase 2) With Mitigation		
			Peak Hour Volume	Density (pc/mi/ln)	LOS	Peak Hour Volume	Density (pc/mi/ln)	LOS	Yes/No	Peak Hour Volume	Density (pc/mi/ln)	LOS	Peak Hour Volume	Density (pc/mi/ln)	LOS	Yes/No	Peak Hour Volume	Density (pc/mi/ln)	LOS
1. SR-210 Eastbound *west of* Highland Avenue	AM	3	4,144	21.5	C	4,250	22.1	C	No	--	--	--	4,296	22.4	C	No	--	--	--
	PM		3,581	18.3	C	3,709	19.0	C	No	--	--	--	3,752	19.2	C	No	--	--	--
2. SR-210 Eastbound *east of* Highland Avenue	AM	2	3,484	28.9	D	3,530	29.4	D	No	--	--	--	3,546	29.6	D	No	--	--	--
	PM		3,010	23.8	C	3,088	24.5	C	No	--	--	--	3,107	24.7	C	No	--	--	--
3. SR-210 Westbound *east of* Highland Avenue	AM	2	2,577	19.9	C	2,643	20.5	C	No	--	--	--	2,672	20.7	C	No	--	--	--
	PM		2,921	22.9	C	3,001	23.7	C	No	--	--	--	3,028	23.9	C	No	--	--	--
4. SR-210 Westbound *west of* Highland Avenue	AM	3	3,325	17.0	B	3,398	17.4	B	No	--	--	--	3,424	17.5	B	No	--	--	--
	PM		3,771	19.4	C	3,895	20.0	C	No	--	--	--	3,926	20.2	C	No	--	--	--

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

[43] *Appendix H* contains the Density/LOS calculation worksheets for all study basic freeway segments.

[44] Includes Phase 1 traffic and recommended improvements from Existing With Project (Phase 1), if applicable.

14.2 Existing Conditions Freeway Merge And Diverge Segments Capacity Analysis

Table 14-2 summarizes the peak hour Level of Service results at the four (4) freeway merge and diverge segments for the Existing traffic conditions. *Table 14-2* presents the type of analysis, i.e. merge or diverge analysis, the number of ramp lanes, and analysis time period. The first column (1) of *Table 14-2* lists Existing traffic conditions. The second column (2) lists Existing With Project (Phase 1) traffic conditions. The third column (3) of *Table 14-2* shows whether the traffic associated with the Project (Phase 1) will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The fourth (4) column shows the Level of Service with the implementation of improvements, if necessary. The fifth column (5) presents Existing With Project (Phase 2) traffic conditions. The sixth column (6) shows whether the traffic associated with the Project (Phase 2) will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The seventh column (7) presents the Level of Service with the implementation of improvements, if necessary.

14.2.1 *Existing Traffic Conditions*

Review of column (1) of *Table 14-2* indicates that all four (4) freeway merge and diverge segments currently operate at acceptable levels of service LOS D or better under the Existing traffic conditions based on the LOS standards defined in this report.

14.2.2 *Existing With Project (Phase 1) Traffic Conditions*

Review of column (2) of *Table 14-2* indicates that all four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS D or better under the Existing With Project (Phase 1) traffic conditions based on the LOS standards defined in this report.

Review of column (3) of *Table 14-2* indicates that none of the four (4) freeway merge and diverge segments will have a significant impact under the Existing With Project (Phase 1) traffic conditions when compared to the LOS criteria defined in this report.

14.2.3 *Existing With Project (Phase 2) Traffic Conditions*

Review of column (5) of *Table 14-2* indicates that all four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS D or better under the Existing With Project (Phase 2) traffic conditions based on the LOS standards defined in this report.

Review of column (6) of *Table 14-2* indicates that none of the four (4) freeway merge and diverge segments will have a significant impact under the Existing With Project (Phase 2) traffic conditions when compared to the LOS criteria defined in this report.

Appendix I contains the Freeway Merge and Diverge Segments Analysis Calculation Worksheets for the Existing Traffic Conditions.

TABLE 14-2

EXISTING WITH PROJECT CONDITIONS PEAK HOUR FREEWAY MERGE AND DIVERGE SEGMENTS CAPACITY ANALYSIS SUMMARY[45]

Key Freeway Merge or Diverge Segment	Analysis Type	Ramp Lanes	Time Period	(1) Existing Traffic Conditions				(2) Existing With Project (Phase 1) Traffic Conditions				(3) Significant Impact	(4) Existing With Project (Phase 1) With Mitigation				(5) Existing With Project (Phase 2) Traffic Conditions[46]				(6) Significant Impact	(7) Existing With Project (Phase 2) With Mitigation			
				Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Yes/No	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Yes/No	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS
1. SR-210 Eastbound Off-Ramp *to* Highland Avenue	Diverge Analysis	1	AM	4,144	1,027	17.5	B	4,250	1,133	18.2	B	No	--	--	--	--	4,296	1,179	18.5	B	No	--	--	--	--
			PM	3,581	1,000	14.6	B	3,709	1,128	15.6	B	No	--	--	--	--	3,752	1,171	15.9	B	No	--	--	--	--
2. SR-210 Eastbound On-Ramp *from* Arden Avenue	Merge Analysis	1	AM	3,117	367	30.3	D	3,117	413	30.7	D	No	--	--	--	--	3,117	429	30.8	D	No	--	--	--	--
			PM	2,581	429	26.3	C	2,581	507	26.9	C	No	--	--	--	--	2,581	526	27.1	C	No	--	--	--	--
3. SR-210 Westbound Off-Ramp *to* Highland Avenue	Diverge Analysis	1	AM	2,577	397	26.3	C	2,643	463	27.0	C	No	--	--	--	--	2,672	492	27.2	C	No	--	--	--	--
			PM	2,921	363	29.5	D	3,001	443	30.3	D	No	--	--	--	--	3,028	470	30.5	D	No	--	--	--	--
4. SR-210 Westbound On-Ramp *from* Highland Avenue	Merge Analysis	1	AM	2,180	1,145	20.8	C	2,180	1,218	21.4	C	No	--	--	--	--	2,180	1,244	21.6	C	No	--	--	--	--
			PM	2,558	1,213	23.2	C	2,558	1,337	24.2	C	No	--	--	--	--	2,558	1,368	24.4	C	No	--	--	--	--

Notes:

- Pk Hr = Peak Hour
- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

[45] *Appendix I* contains the Density/LOS calculation worksheets for all study freeway merge and diverge segments.

[46] Includes Phase 1 traffic and recommended improvements from Existing With Project (Phase 1), if applicable.

15.0 YEAR 2020 CONDITIONS CALTRANS FACILITIES ANALYSIS

Caltrans requires the use of methods provided in the *HCM 6* for the analysis of basic freeway segments and freeway merge and diverge segments. The minimum required level of service to be maintained at Caltrans ramp intersections is LOS D as identified by Caltrans District 8 staff.

Basic Freeway Segment Analysis for freeway mainlines was conducted for the following four (4) Caltrans freeway segments:

1. SR-210 Eastbound *west* of Highland Avenue
2. SR-210 Eastbound *east* of Highland Avenue
3. SR-210 Westbound *east* of Highland Avenue
4. SR-210 Westbound *west* of Highland Avenue

Additionally, Freeway Merge And Diverge Segment Analysis for ramp junctions was conducted for the following four (4) Caltrans freeway merge and diverge segments:

1. SR-210 Eastbound Off-Ramp *to* Highland Avenue
2. SR-210 Eastbound On-Ramp *from* Arden Avenue
3. SR-210 Westbound Off-Ramp *to* Highland Avenue
4. SR-210 Westbound On-Ramp *from* Highland Avenue

It should be noted that the Basic Freeway Segment and Freeway Merge And Diverge Segment analyses include the planned improvements from the SR-210 Mixed Flow Lane Project in the Year 2020 background traffic conditions. The project proposes to widen a portion of the SR-210 with one mixed flow lane in each direction. In addition, the project would build a deceleration lane on eastbound SR-210 between Sterling Avenue undercrossing and the proposed two-lane off-ramp at Highland Avenue.

15.1 Year 2020 Conditions Basic Freeway Segment Capacity Analysis

Table 15-1 summarizes the peak hour Level of Service results at the four (4) basic freeway segments for the Year 2020 traffic conditions. The first column (1) lists Existing traffic conditions. The second column (2) lists Year 2020 Without Project traffic conditions and the third column (3) lists Year 2020 With Project (Phase 1) traffic conditions. The fourth column (4) shows whether the traffic associated with the Project (Phase 1) will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The fifth column (5) presents the Level of Service with the implementation of improvements, if necessary.

It should be noted that the Basic Freeway Segment analysis includes the planned improvements from the SR-210 Mixed Flow Lane Project in the Year 2020 background traffic conditions.

15.1.1 *Year 2020 Without Project Traffic Conditions*

Review of column (2) of *Table 15-1* indicates that all four (4) basic freeway segments currently operate at acceptable LOS C or better during the AM and PM peak hours under the Year 2020 Without Project traffic conditions.

15.1.2 *Year 2020 With Project (Phase 1) Traffic Conditions*

Review of columns (3) and (4) of *Table 15-1* indicates that the Year 2020 With Project (Phase 1) traffic conditions will not significantly impact any of the four (4) basic freeway segments. All four (4) basic freeway segments are forecast to operate at acceptable levels of service LOS C or better during the AM and PM peak hours when compared to the LOS standards defined in this report.

Appendix J contains the Basic Freeway Segments Analysis Calculation Worksheets for the Year 2020 Traffic Conditions.

TABLE 15-1

YEAR 2020 WITH PROJECT (PHASE 1) CONDITIONS PEAK HOUR BASIC FREEWAY SEGMENTS CAPACITY ANALYSIS SUMMARY[47,48]

	Key Basic Freeway Segment	Time Period	Lanes	(1) Existing Traffic Conditions			(2) Year 2020 Without Project Traffic Conditions			(3) Year 2020 With Project (Phase 1) Traffic Conditions			(4) Significant Impact	(5) Year 2020 With Project (Phase 1) With Mitigation		
				Peak Hour Volume	Density (pc/mi/ln)	LOS	Peak Hour Volume	Density (pc/mi/ln)	LOS	Peak Hour Volume	Density (pc/mi/ln)	LOS	Yes/No	Peak Hour Volume	Density (pc/mi/ln)	LOS
1.	SR-210 Eastbound *west of* Highland Avenue	AM	3	4,144	21.5	C	4,429	23.2	C	4,535	23.9	C	No	--	--	--
		PM		3,581	18.3	C	3,865	19.9	C	3,993	20.6	C	No	--	--	--
2.	SR-210 Eastbound *east of* Highland Avenue	AM	3	3,484	28.9	D	3,754	19.3	C	3,800	19.5	C	No	--	--	--
		PM		3,010	23.8	C	3,281	16.8	B	3,359	17.2	B	No	--	--	--
3.	SR-210 Westbound *east of* Highland Avenue	AM	3	2,577	19.9	C	2,854	14.6	B	2,920	14.9	B	No	--	--	--
		PM		2,921	22.9	C	3,178	16.3	B	3,258	16.7	B	No	--	--	--
4.	SR-210 Westbound *west of* Highland Avenue	AM	3	3,325	17.0	B	3,563	18.3	C	3,636	18.6	C	No	--	--	--
		PM		3,771	19.4	C	4,061	21.0	C	4,185	21.7	C	No	--	--	--

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

[47] *Appendices H* and *J* contain the Density/LOS calculation worksheets for all study basic freeway segments.

[48] The Basic Freeway Segment analyses include the planned improvements from the SR-210 Mixed Flow Lane Project in the Year 2020 background traffic conditions.

15.2 Year 2020 Conditions Freeway Merge And Diverge Segments Capacity Analysis

Table 15-2 summarizes the peak hour Level of Service results at the four (4) freeway merge and diverge segments for the Year 2020 traffic conditions. *Table 15-2* presents the type of analysis, i.e. merge or diverge analysis, the number of ramp lanes, and analysis time period. The first column (1) of *Table 15-2* lists Existing traffic conditions and the second column (2) lists Year 2020 Without Project traffic conditions. The third column (3) lists Year 2020 With Project (Phase 1) traffic conditions. The fourth column (4) of *Table 15-2* shows whether the traffic associated with the Project (Phase 1) will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The fifth column (5) presents the Level of Service with the implementation of improvements, if necessary.

It should be noted that the Freeway Merge And Diverge Segment analysis includes the planned improvements from the SR-210 Mixed Flow Lane Project in the Year 2020 background traffic conditions.

15.2.1 *Year 2020 Without Project Traffic Conditions*

Review of column (2) of *Table 15-2* indicates that all four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS C or better under the Year 2020 Without Project traffic conditions based on the LOS standards defined in this report.

15.2.2 *Year 2020 With Project (Phase 1) Traffic Conditions*

Review of column (3) of *Table 15-2* indicates that all four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS C or better under the Year 2020 With Project (Phase 1) traffic conditions based on the LOS standards defined in this report.

Review of column (4) of *Table 15-2* indicates that none of the four (4) freeway merge and diverge segments will have a significant impact under the Year 2020 With Project (Phase 1) traffic conditions when compared to the LOS criteria defined in this report.

Appendix K contains the Freeway Merge And Diverge Segments Analysis Calculation Worksheets for the Year 2020 Traffic Conditions.

TABLE 15-2

YEAR 2020 WITH PROJECT (PHASE 1) CONDITIONS PEAK HOUR FREEWAY MERGE AND DIVERGE SEGMENTS CAPACITY ANALYSIS SUMMARY[49,50]

	Key Freeway Merge or Diverge Segment	Analysis Type	Ramp Lanes	Time Period	(1) Existing Traffic Conditions: Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	(2) Year 2020 Without Project Traffic Conditions: Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	(3) Year 2020 With Project (Phase 1) Traffic Conditions: Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	(4) Significant Impact: Yes/No	(5) Year 2020 With Project (Phase 1) With Mitigation: Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS
1.	SR-210 Eastbound Off-Ramp *to* Highland Avenue	Diverge Analysis	2	AM	4,144	1,027	17.5	B	4,429	1,088	1.2	A	4,535	1,194	2.2	A	No	--	--	--	--
				PM	3,581	1,000	14.6	B	3,865	1,061	0.0[51]	A	3,993	1,189	0.0[51]	A	No	--	--	--	--
2.	SR-210 Eastbound On-Ramp *from* Arden Avenue	Merge Analysis	1	AM	3,117	367	30.3	D	3,341	413	21.3	C	3,341	459	21.6	C	No	--	--	--	--
				PM	2,581	429	26.3	C	2,804	477	19.1	B	2,804	555	19.7	B	No	--	--	--	--
3.	SR-210 Westbound Off-Ramp *to* Highland Avenue	Diverge Analysis	1	AM	2,577	397	26.3	C	2,854	505	21.5	C	2,920	571	22.0	C	No	--	--	--	--
				PM	2,921	363	29.5	D	3,178	403	23.1	C	3,258	483	23.6	C	No	--	--	--	--
4.	SR-210 Westbound On-Ramp *from* Highland Avenue	Merge Analysis	1	AM	2,180	1,145	20.8	C	2,349	1,214	22.2	C	2,349	1,287	22.8	C	No	--	--	--	--
				PM	2,558	1,213	23.2	C	2,775	1,286	24.9	C	2,775	1,410	25.9	C	No	--	--	--	--

Notes:

- Pk Hr = Peak Hour
- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

[49] *Appendices I* and *K* contain the Density/LOS calculation worksheets for all study freeway merge and diverge segments.

[50] The Merge and Diverge Segment analyses include the planned improvements from the SR-210 Mixed Flow Lane Project in the Year 2020 background traffic conditions.

[51] A theoretical density value of 0.0 (pc/mi/ln) can result from the freeway ramp junction calculations. A 0.0 (pc/mi/ln) value indicates that the ramp is operating optimally under peak hour conditions because when an additional ramp lane is added, there is more physical space in the ramp influence area and operating speeds of merging vehicles are expected to increase, which will reduce the overall density.

16.0 YEAR 2022 CONDITIONS CALTRANS FACILITIES ANALYSIS

Caltrans requires the use of methods provided in the *HCM 6* for the analysis of basic freeway segments and freeway merge and diverge segments. The minimum required level of service to be maintained at Caltrans ramp intersections is LOS D as identified by Caltrans District 8 staff.

Basic Freeway Segment Analysis for freeway mainlines was conducted for the following four (4) Caltrans freeway segments:

1. SR-210 Eastbound *west* of Highland Avenue
2. SR-210 Eastbound *east* of Highland Avenue
3. SR-210 Westbound *east* of Highland Avenue
4. SR-210 Westbound *west* of Highland Avenue

Additionally, Freeway Merge And Diverge Segment Analysis for ramp junctions was conducted for the following four (4) Caltrans freeway merge and diverge segments:

1. SR-210 Eastbound Off-Ramp *to* Highland Avenue
2. SR-210 Eastbound On-Ramp *from* Arden Avenue
3. SR-210 Westbound Off-Ramp *to* Highland Avenue
4. SR-210 Westbound On-Ramp *from* Highland Avenue

It should be noted that the Basic Freeway Segment and Freeway Merge And Diverge Segment analyses include the on-going planned improvements from the SR-210 Mixed Flow Lane Project in the Year 2022 background traffic conditions. The project proposes to widen a portion of the SR-210 with one mixed flow lane in each direction. In addition, the project would build a deceleration lane on eastbound SR-210 between Sterling Avenue undercrossing and the proposed two-lane off-ramp at Highland Avenue.

16.1 Year 2022 Conditions Basic Freeway Segment Capacity Analysis

Table 16-1 summarizes the peak hour Level of Service results at the four (4) basic freeway segments for the Year 2022 traffic conditions. The first column (1) lists Existing traffic conditions. The second column (2) lists Year 2022 Without Project traffic conditions and the third column (3) lists Year 2020 With Project (Phase 2) traffic conditions. The fourth column (4) shows whether the traffic associated with the Project (Phase 2) will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The fifth column (5) presents the Level of Service with the implementation of improvements, if necessary.

It should be noted that the Basic Freeway Segment analysis includes the planned improvements from the SR-210 Mixed Flow Lane Project in the Year 2022 background traffic conditions.

16.1.1 *Year 2022 Without Project Traffic Conditions*

Review of column (2) of *Table 16-1* indicates that all four (4) basic freeway segments are forecast to operate at acceptable levels of service LOS C or better under the Year 2022 Without Project traffic conditions based on the LOS standards defined in this report.

16.1.2 *Year 2022 With Project (Phase 2) Traffic Conditions*

Review of column (3) of *Table 16-1* indicates that all four (4) basic freeway segments are forecast to operate at acceptable levels of service LOS C or better under the Year 2022 With Project (Phase 2) traffic conditions based on the LOS standards defined in this report.

Review of column (4) of *Table 16-1* indicates that none of the four (4) basic freeway segments will have a significant impact under the Year 2022 With Project (Phase 2) traffic conditions when compared to the LOS criteria defined in this report.

Appendix L contains the Basic Freeway Segments Analysis Calculation Worksheets for the Year 2022 Traffic Conditions.

TABLE 16-1

YEAR 2022 WITH PROJECT (PHASE 2) CONDITIONS PEAK HOUR BASIC FREEWAY SEGMENTS CAPACITY ANALYSIS SUMMARY[52,53]

	Key Basic Freeway Segment	Time Period	Lanes	(1) Existing Traffic Conditions			(2) Year 2022 Without Project Traffic Conditions[54]			(3) Year 2022 With Project (Phase 2) Traffic Conditions			(4) Significant Impact	(5) Year 2022 With Project (Phase 2) With Mitigation		
				Peak Hour Volume	Density (pc/mi/ln)	LOS	Peak Hour Volume	Density (pc/mi/ln)	LOS	Peak Hour Volume	Density (pc/mi/ln)	LOS	Yes/No	Peak Hour Volume	Density (pc/mi/ln)	LOS
1.	SR-210 Eastbound *west of* Highland Avenue	AM	3	4,144	21.5	C	4,724	25.2	C	4,771	25.5	C	No	--	--	--
		PM		3,581	18.3	C	4,181	21.7	C	4,223	21.9	C	No	--	--	--
2.	SR-210 Eastbound *east of* Highland Avenue	AM	3	3,484	28.9	D	3,966	20.5	C	3,982	20.5	C	No	--	--	--
		PM		3,010	23.8	C	3,531	18.1	C	3,550	18.2	C	No	--	--	--
3.	SR-210 Westbound *east of* Highland Avenue	AM	3	2,577	19.9	C	3,051	15.6	B	3,080	15.8	B	No	--	--	--
		PM		2,921	22.9	C	3,423	17.5	B	3,450	17.6	B	No	--	--	--
4.	SR-210 Westbound *west of* Highland Avenue	AM	3	3,325	17.0	B	3,794	19.5	C	3,820	19.6	C	No	--	--	--
		PM		3,771	19.4	C	4,379	22.9	C	4,410	23.1	C	No	--	--	--

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

[52] *Appendices H* and *L* contain the Density/LOS calculation worksheets for all study basic freeway segments.

[53] The Basic Freeway Segment analyses include the planned improvements from the SR-210 Mixed Flow Lane Project in the Year 2022 background traffic conditions.

[54] Includes Phase 1 traffic and recommended improvements from Year 2020 With Project (Phase 1), if applicable.

16.2 Year 2022 Conditions Freeway Merge And Diverge Segments Capacity Analysis

Table 16-2 summarizes the peak hour Level of Service results at the four (4) freeway merge and diverge segments for the Year 2022 traffic conditions. *Table 16-2* presents the type of analysis, i.e. merge or diverge analysis, the number of ramp lanes, and analysis time period. The first column (1) of *Table 16-2* lists Existing traffic conditions and the second column (2) lists Year 2022 Without Project traffic conditions. The third column (3) lists Year 2022 With Project (Phase 2) traffic conditions. The fourth column (4) of *Table 16-2* shows whether the traffic associated with the Project (Phase 2) will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The fifth column (5) presents the Level of Service with the implementation of improvements, if necessary.

It should be noted that the Freeway Merge And Diverge Segment analysis includes the planned improvements from the SR-210 Mixed Flow Lane Project in the Year 2022 background traffic conditions.

16.2.1 *Year 2022 Without Project Traffic Conditions*

Review of column (2) of *Table 16-2* indicates that all four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS C or better under the Year 2022 Without Project traffic conditions based on the LOS standards defined in this report.

16.2.2 *Year 2022 With Project (Phase 2) Traffic Conditions*

Review of column (3) of *Table 16-2* indicates that all four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS C or better under the Year 2022 With Project (Phase 2) traffic conditions based on the LOS standards defined in this report.

Review of column (4) of *Table 16-2* indicates that none of the four (4) freeway merge and diverge segments will have a significant impact under the Year 2022 With Project (Phase 2) traffic conditions when compared to the LOS criteria defined in this report.

Appendix M contains the Freeway Merge and Diverge Segments Analysis Calculation Worksheets for the Year 2022 Traffic Conditions.

TABLE 16-2

YEAR 2022 WITH PROJECT (PHASE 2) CONDITIONS PEAK HOUR FREEWAY MERGE AND DIVERGE SEGMENTS CAPACITY ANALYSIS SUMMARY[55,56]

Key Freeway Merge or Diverge Segment	Analysis Type	Ramp Lanes	Time Period	(1) Existing Traffic Conditions				(2) Year 2022 Without Project Traffic Conditions[57]				(3) Year 2022 With Project (Phase 2) Traffic Conditions				(4) Significant Impact	(5) Year 2022 With Project (Phase 2) With Mitigation			
				Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS	Yes/No	Freeway Pk Hr Volume	Ramp Pk Hr Volume	Density (pc/mi/ln)	LOS
1. SR-210 Eastbound Off-Ramp *to* Highland Avenue	Diverge Analysis	2	AM	4,144	1,027	17.5	B	4,724	1,235	3.2	A	4,771	1,282	3.6	A	No	--	--	--	--
			PM	3,581	1,000	14.6	B	4,181	1,229	0.9	A	4,223	1,271	1.3	A	No	--	--	--	--
2. SR-210 Eastbound On-Ramp *from* Arden Avenue	Merge Analysis	1	AM	3,117	367	30.3	D	3,489	477	22.5	C	3,489	493	22.6	C	No	--	--	--	--
			PM	2,581	429	26.3	C	2,952	579	20.6	C	2,952	598	20.8	C	No	--	--	--	--
3. SR-210 Westbound Off-Ramp *to* Highland Avenue	Diverge Analysis	1	AM	2,577	397	26.3	C	3,051	590	22.7	C	3,080	619	23.0	C	No	--	--	--	--
			PM	2,921	363	29.5	D	3,423	502	24.5	C	3,450	529	24.7	C	No	--	--	--	--
4. SR-210 Westbound On-Ramp *from* Highland Avenue	Merge Analysis	1	AM	2,180	1,145	20.8	C	2,461	1,333	23.7	C	2,461	1,359	23.9	C	No	--	--	--	--
			PM	2,558	1,213	23.2	C	2,921	1,458	27.0	C	2,921	1,489	27.2	C	No	--	--	--	--

Notes:

- Pk Hr = Peak Hour
- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

[55] *Appendices I* and *M* contain the Density/LOS calculation worksheets for all study freeway merge and diverge segments.

[56] The Merge and Diverge Segment analyses include the planned improvements from the SR-210 Mixed Flow Lane Project in the Year 2022 background traffic conditions.

[57] Includes Phase 1 traffic and recommended improvements from Year 2020 With Project (Phase 1), if applicable.

17.0 YEAR 2040 CONDITIONS CALTRANS FACILITIES ANALYSIS

Caltrans requires the use of methods provided in the *HCM 6* for the analysis of basic freeway segments and freeway merge and diverge segments. The minimum required level of service to be maintained at Caltrans ramp intersections is LOS D as identified by Caltrans District 8 staff.

Basic Freeway Segment Analysis for freeway mainlines was conducted for the following four (4) Caltrans freeway segments:

1. SR-210 Eastbound *west* of Highland Avenue
2. SR-210 Eastbound *east* of Highland Avenue
3. SR-210 Westbound *east* of Highland Avenue
4. SR-210 Westbound *west* of Highland Avenue

Additionally, Freeway Merge And Diverge Segment Analysis for ramp junctions was conducted for the following four (4) Caltrans freeway merge and diverge segments:

1. SR-210 Eastbound Off-Ramp *to* Highland Avenue
2. SR-210 Eastbound On-Ramp *from* Arden Avenue
3. SR-210 Westbound Off-Ramp *to* Highland Avenue
4. SR-210 Westbound On-Ramp *from* Highland Avenue

It should be noted that the Basic Freeway Segment and Freeway Merge And Diverge Segment analyses include the planned improvements from the SR-210 Mixed Flow Lane Project in the Year 2040 background traffic conditions. The project proposes to widen a portion of the SR-210 with one mixed flow lane in each direction. In addition, the project would build a deceleration lane on eastbound SR-210 between Sterling Avenue undercrossing and the proposed two-lane off-ramp at Highland Avenue.

17.1 Year 2040 Conditions Basic Freeway Segment Capacity Analysis

Table 17-1 summarizes the peak hour Level of Service results at the four (4) basic freeway segments for the Year 2040 traffic conditions. The first column (1) lists Existing traffic conditions. The second column (2) lists Year 2040 Without Project traffic conditions and the third column (3) lists Year 2040 With Project (Phase 1) traffic conditions. The fourth column (4) shows whether the traffic associated with the Project (Phase 1) will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The fifth column (5) presents the Level of Service with the implementation of improvements, if necessary. The sixth column (6) lists Year 2040 With Project (Phase 2) traffic conditions. The seventh column (7) shows whether the traffic associated with the Project (Phase 2) will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The eighth column (8) presents the Level of Service with the implementation of improvements, if necessary.

It should be noted that the Basic Freeway Segment analysis includes the planned improvements from the SR-210 Mixed Flow Lane Project in the Year 2040 background traffic conditions.

17.1.1 *Year 2040 Without Project Traffic Conditions*

Review of column (2) of *Table 17-1* indicates that all four (4) basic freeway segments are forecast to operate at acceptable levels of service LOS D or better under the Year 2040 Without Project traffic conditions based on the LOS standards defined in this report.

17.1.2 *Year 2040 With Project (Phase 1) Traffic Conditions*

Review of column (3) of *Table 17-1* indicates that all four (4) basic freeway segments are forecast to operate at acceptable levels of service LOS D or better under the Year 2040 With Project (Phase 1) traffic conditions based on the LOS standards defined in this report.

Review of column (4) of *Table 17-1* indicates that none of the four (4) basic freeway segments will have a significant impact under the Year 2040 With Project (Phase 1) traffic conditions when compared to the LOS criteria defined in this report.

17.1.3 *Year 2040 With Project (Phase 2) Traffic Conditions*

Review of column (6) of *Table 17-1* indicates that all four (4) basic freeway segments are forecast to operate at acceptable levels of service LOS D or better under the Year 2040 With Project (Phase 2) traffic conditions based on the LOS standards defined in this report.

Review of column (7) of *Table 17-1* indicates that none of the four (4) basic freeway segments will have a significant impact under the Year 2040 With Project (Phase 2) traffic conditions when compared to the LOS criteria defined in this report.

Appendix N contains the Basic Freeway Segments Analysis Calculation Worksheets for the Year 2040 Traffic Conditions.

TABLE 17-1

YEAR 2040 WITH PROJECT CONDITIONS PEAK HOUR BASIC FREEWAY SEGMENTS CAPACITY ANALYSIS SUMMARY[58,59]

Key Basic Freeway Segment	Time Period	Lanes	(1) Existing Traffic Conditions			(2) Year 2040 Without Project Traffic Conditions			(3) Year 2040 With Project (Phase 1) Traffic Conditions			(4) Significant Impact	(5) Year 2040 With Project (Phase 1) With Mitigation			(6) Year 2040 With Project (Phase 2) Traffic Conditions[60]			(7) Significant Impact	(8) Year 2040 With Project (Phase 2) With Mitigation		
			Peak Hour Volume	Density (pc/mi/ln)	LOS	Peak Hour Volume	Density (pc/mi/ln)	LOS	Peak Hour Volume	Density (pc/mi/ln)	LOS	Yes/No	Peak Hour Volume	Density (pc/mi/ln)	LOS	Peak Hour Volume	Density (pc/mi/ln)	LOS	Yes/No	Peak Hour Volume	Density (pc/mi/ln)	LOS
1. SR-210 Eastbound *west of* Highland Avenue	AM	3	4,144	21.5	C	5,716	33.2	D	5,822	34.2	D	No	--	--	--	5,868	34.7	D	No	--	--	--
	PM		3,581	18.3	C	4,349	22.7	C	4,477	23.5	C	No	--	--	--	4,520	23.8	C	No	--	--	--
2. SR-210 Eastbound *east of* Highland Avenue	AM	3	3,484	28.9	D	4,994	27.1	D	5,040	27.4	D	No	--	--	--	5,056	27.5	D	No	--	--	--
	PM		3,010	23.8	C	3,736	19.2	C	3,814	19.6	C	No	--	--	--	3,833	19.7	C	No	--	--	--
3. SR-210 Westbound *east of* Highland Avenue	AM	3	2,577	19.9	C	3,190	16.3	B	3,256	16.7	B	No	--	--	--	3,285	16.8	B	No	--	--	--
	PM		2,921	22.9	C	4,785	25.6	C	4,865	26.2	D	No	--	--	--	4,892	26.3	D	No	--	--	--
4. SR-210 Westbound *west of* Highland Avenue	AM	3	3,325	17.0	B	3,951	20.4	C	4,024	20.8	C	No	--	--	--	4,050	20.9	C	No	--	--	--
	PM		3,771	19.4	C	5,724	33.2	D	5,848	34.5	D	No	--	--	--	5,879	34.8	D	No	--	--	--

Notes:

- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

[58] *Appendices H* and *N* contain the Density/LOS calculation worksheets for all study basic freeway segments.

[59] The Basic Freeway Segment analyses include the planned improvements from the SR-210 Mixed Flow Lane Project in the Year 2040 background traffic conditions.

[60] Includes Phase 1 traffic and recommended improvements from Year 2040 With Project (Phase 1), if applicable.

17.2 Year 2040 Conditions Freeway Merge And Diverge Segments Capacity Analysis

Table 17-2 summarizes the peak hour Level of Service results at the four (4) freeway merge and diverge segments for the Year 2040 traffic conditions. *Table 17-2* presents the type of analysis, i.e. merge or diverge analysis, the number of ramp lanes, and analysis time period. The first column (1) lists Existing traffic conditions and the second column (2) lists Year 2040 Without Project traffic conditions. The third column (3) lists Year 2040 With Project (Phase 1) traffic conditions. The fourth column (4) of *Table 17-2* shows whether the traffic associated with the Project (Phase 1) will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The fifth column (5) shows the Level of Service with the implementation of improvements, if necessary. The sixth column (6) presents Year 2040 With Project (Phase 2) traffic conditions. The seventh column (7) shows whether the traffic associated with the Project (Phase 2) will have a significant impact based on the LOS standards and the significance impact criteria defined in this report. The eighth column (8) presents the Level of Service with the implementation of improvements, if necessary.

It should be noted that the Freeway Merge and Diverge Segment analysis includes the planned improvements from the SR-210 Mixed Flow Lane Project in the Year 2040 background traffic conditions.

17.2.1 *Year 2040 Without Project Traffic Conditions*

Review of column (2) of *Table 17-2* indicates that all four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS D or better under the Year 2040 Without Project traffic conditions based on the LOS standards defined in this report.

17.2.2 *Year 2040 With Project (Phase 1) Traffic Conditions*

Review of column (3) of *Table 17-2* indicates that all four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS D or better under the Year 2040 With Project (Phase 1) traffic conditions based on the LOS standards defined in this report.

Review of column (4) of *Table 17-2* indicates that none of the four (4) freeway merge and diverge segments will have a significant impact under the Year 2040 With Project (Phase 1) traffic conditions when compared to the LOS criteria defined in this report.

17.2.3 *Year 2040 With Project (Phase 2) Traffic Conditions*

Review of column (6) of *Table 17-2* indicates that all four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service LOS D or better under the Year 2040 With Project (Phase 2) traffic conditions based on the LOS standards defined in this report.

Review of column (7) of *Table 17-2* indicates that none of the four (4) freeway merge and diverge segments will have a significant impact under the Year 2040 With Project (Phase 2) traffic conditions when compared to the LOS criteria defined in this report.

Appendix O contains the Freeway Merge and Diverge Segments Analysis Calculation Worksheets for the Year 2040 Traffic Conditions.

TABLE 17-2

YEAR 2040 WITH PROJECT CONDITIONS PEAK HOUR FREEWAY MERGE AND DIVERGE SEGMENTS CAPACITY ANALYSIS SUMMARY[61,62]

Key Freeway Merge or Diverge Segment	Analysis Type	Ramp Lanes	Time Period	(1) Existing Traffic Conditions				(2) Year 2040 Without Project Traffic Conditions				(3) Year 2040 With Project (Phase 1) Traffic Conditions				(4) Sig. Impact	(5) Year 2040 With Project (Phase 1) With Mitigation				(6) Year 2040 With Project (Phase 2) Traffic Conditions[63]				(7) Sig. Impact	(8) Year 2040 With Project (Phase 2) With Mitigation			
				Fwy Pk Hr Vol	Ramp Pk Hr Vol	Density (pc/mi/ln)	LOS	Fwy Pk Hr Vol	Ramp Pk Hr Vol	Density (pc/mi/ln)	LOS	Fwy Pk Hr Vol	Ramp Pk Hr Vol	Density (pc/mi/ln)	LOS	Yes/No	Fwy Pk Hr Vol	Ramp Pk Hr Vol	Density (pc/mi/ln)	LOS	Fwy Pk Hr Vol	Ramp Pk Hr Vol	Density (pc/mi/ln)	LOS	Yes/No	Fwy Pk Hr Vol	Ramp Pk Hr Vol	Density (pc/mi/ln)	LOS
1. SR-210 Eastbound Off-Ramp *to* Highland Avenue	Diverge Analysis	2	AM	4,144	1,027	17.5	B	5,716	1,180	7.4	A	5,822	1,286	8.0	A	No	--	--	--	--	5,868	1,332	8.4	A	No	--	--	--	--
			PM	3,581	1,000	14.6	B	4,349	1,151	1.2	A	4,477	1,279	2.4	A	No	--	--	--	--	4,520	1,322	2.8	A	No	--	--	--	--
2. SR-210 Eastbound On-Ramp *from* Arden Avenue	Merge Analysis	1	AM	3,117	367	30.3	D	4,536	458	27.6	C	4,536	504	27.9	C	No	--	--	--	--	4,536	520	28.1	D	No	--	--	--	--
			PM	2,581	429	26.3	C	3,198	538	21.5	C	3,198	616	22.1	C	No	--	--	--	--	3,198	635	22.3	C	No	--	--	--	--
3. SR-210 Westbound Off-Ramp *to* Highland Avenue	Diverge Analysis	1	AM	2,577	397	26.3	C	3,190	556	23.4	C	3,256	622	23.9	C	No	--	--	--	--	3,285	651	24.1	C	No	--	--	--	--
			PM	2,921	363	29.5	D	4,785	455	31.1	D	4,865	535	31.6	D	No	--	--	--	--	4,892	562	31.8	D	No	--	--	--	--
4. SR-210 Westbound On-Ramp *from* Highland Avenue	Merge Analysis	1	AM	2,180	1,145	20.8	C	2,634	1,317	24.4	C	2,634	1,390	25.0	C	No	--	--	--	--	2,634	1,416	25.2	C	No	--	--	--	--
			PM	2,558	1,213	23.2	C	4,330	1,394	33.5	D	4,330	1,518	34.5	D	No	--	--	--	--	4,330	1,549	34.8	D	No	--	--	--	--

Notes:

- Pk Hr = Peak Hour
- pc/mi/ln = Passenger cars per mile per lane (density)
- **Bold Volume/Density/LOS values** indicate adverse service levels based on the Caltrans LOS Criteria

[61] *Appendices I* and *O* contain the Density/LOS calculation worksheets for all study freeway merge and diverge segments.

[62] The Merge and Diverge Segment analyses include the planned improvements from the SR-210 Mixed Flow Lane Project in the Year 2040 background traffic conditions.

[63] Includes Phase 1 traffic and recommended improvements from Year 2040 With Project (Phase 1), if applicable.

18.0 CALTRANS FACILITIES PLANNED AND RECOMMENDED IMPROVEMENTS

For those basic freeway segments as well freeway merge and diverge segments where projected traffic volumes are expected to result in significant impacts, this report recommends improvements that change the basic freeway segments and/or freeway merge and diverge segments' geometry to increase capacity. These capacity improvements involve freeway widening and/or re-striping to reconfigure (add lanes) freeway. The identified improvements are expected to:

- Address the impact of existing traffic, Project traffic and future non-project (ambient traffic growth and related projects) traffic, and
- Improve Levels of Service to an acceptable range and/or to pre-project conditions.

18.1 SR-210 Mixed Flow Lane Project Planned Improvements

18.1.1 *Basic Freeway Segments*

The planned improvements listed below are anticipated to be completed in conjunction with the SR-210 Mixed Flow Lane Project and have been assumed in the Year 2020 Without Project, Year 2020 With Project (Phase 1), Year 2022 Without Project, Year 2022 With Project (Phase 2), Year 2040 Without Project, Year 2040 With Project (Phase 1), and Year 2040 With Project (Phase 2) traffic conditions:

- 1. SR-210 Eastbound *west* of Highland Avenue: Add one (1) mixed flow lane.
- 2. SR-210 Eastbound *east* of Highland Avenue: Add one (1) mixed flow lane.
- 3. SR-210 Westbound *east* of Highland Avenue: Add one (1) mixed flow lane.
- 4. SR-210 Westbound of Highland Avenue: Add one (1) mixed flow lane.

18.1.2 *Freeway Merge And Diverge Segments*

The planned improvements listed below are anticipated to be completed in conjunction with the SR-210 Mixed Flow Lane Project and have been assumed in the Year 2020 Without Project, Year 2020 With Project (Phase 1), Year 2022 Without Project, Year 2022 With Project (Phase 2), Year 2040 Without Project, Year 2040 With Project (Phase 1), and Year 2040 With Project (Phase 2) traffic conditions:

- 1. SR-210 Eastbound Off-Ramp *to* Highland Avenue: Add one (1) mixed flow lane and one deceleration lane for a two-lane off-ramp at Highland Avenue.
- 2. SR-210 Eastbound On-Ramp *from* Arden Avenue: Add one (1) mixed flow lane.
- 3. SR-210 Westbound Off-Ramp *to* Highland Avenue: Add one (1) mixed flow lane.
- 4. SR-210 Westbound On-Ramp *from* Highland Avenue: Add one (1) mixed flow lane.

18.2 Recommended Improvements

18.2.1 *Basic Freeway Segments*

The results of the analysis scenarios listed below indicate that the proposed Project will not have a significant impact at any of the four (4) basic freeway segments. All the four (4) basic freeway segments are forecast to operate at acceptable levels of service. Hence, no mitigation measures have been recommended. It should be noted that the planned improvements from the SR-210 Mixed Flow Lane Project have been included in the background traffic conditions for Year 2020, Year 2022 and Year 2040 traffic conditions. The analysis scenarios are:

- Existing With Project (Phase 1) Traffic Conditions
- Existing With Project (Phase 2) Traffic Conditions
- Year 2020 With Project (Phase 1) Traffic Conditions
- Year 2022 With Project (Phase 2) Traffic Conditions
- Year 2040 With Project (Phase 1) Traffic Conditions
- Year 2040 With Project (Phase 2) Traffic Conditions

18.2.2 *Freeway Merge And Diverge Segments*

The results of the analysis scenarios listed below indicate that the proposed Project will not have a significant impact at any of the four (4) freeway merge and diverge segments. All the four (4) freeway merge and diverge segments are forecast to operate at acceptable levels of service. Hence, no mitigation measures have been recommended. It should be noted that the planned improvements from the SR-210 Mixed Flow Lane Project have been included in the background traffic conditions for Year 2020, Year 2022 and Year 2040 traffic conditions. The analysis scenarios are:

- Existing With Project (Phase 1) Traffic Conditions
- Existing With Project (Phase 2) Traffic Conditions
- Year 2020 With Project (Phase 1) Traffic Conditions
- Year 2022 With Project (Phase 2) Traffic Conditions
- Year 2040 With Project (Phase 1) Traffic Conditions
- Year 2040 With Project (Phase 2) Traffic Conditions

APPENDIX A

EXISTING TRAFFIC COUNT DATA

APPENDIX A-I

INTERSECTION COUNTS

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Victoria Avenue
E/W: Victoria Avenue/Road A
Weather: Clear

File Name : CSBVIRAAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

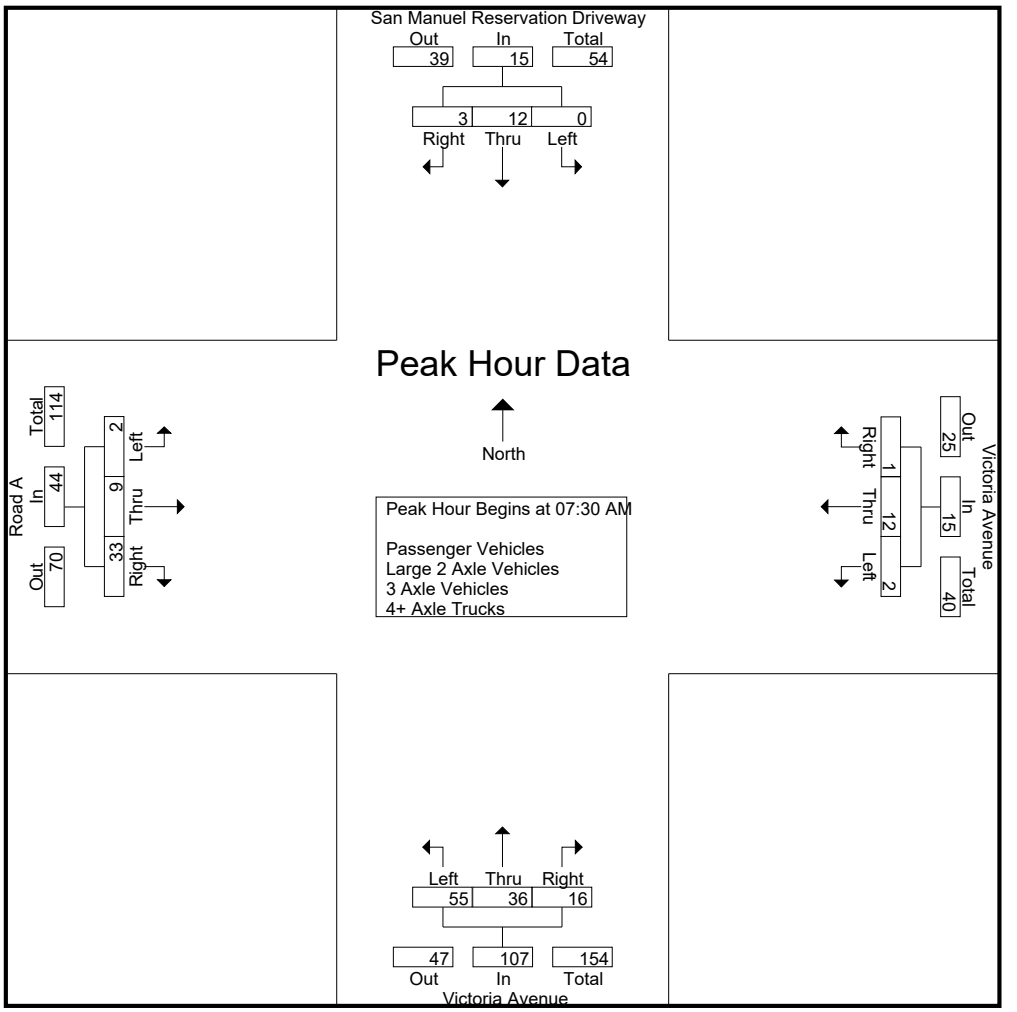
	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	2	2	0	2	0	2	17	4	3	24	0	3	7	10	38
07:15 AM	0	2	0	2	1	0	0	1	14	4	6	24	1	0	1	2	29
07:30 AM	0	3	1	4	0	5	0	5	21	7	2	30	1	1	8	10	49
07:45 AM	0	2	1	3	1	3	1	5	18	16	4	38	1	3	4	8	54
Total	0	7	4	11	2	10	1	13	70	31	15	116	3	7	20	30	170
08:00 AM	0	5	1	6	1	3	0	4	6	7	6	19	0	3	13	16	45
08:15 AM	0	2	0	2	0	1	0	1	10	6	4	20	0	2	8	10	33
08:30 AM	0	4	0	4	2	1	0	3	16	6	3	25	2	1	6	9	41
08:45 AM	0	1	0	1	2	3	0	5	6	7	11	24	1	2	2	5	35
Total	0	12	1	13	5	8	0	13	38	26	24	88	3	8	29	40	154
Grand Total	0	19	5	24	7	18	1	26	108	57	39	204	6	15	49	70	324
Apprch %	0	79.2	20.8		26.9	69.2	3.8		52.9	27.9	19.1		8.6	21.4	70		
Total %	0	5.9	1.5	7.4	2.2	5.6	0.3	8	33.3	17.6	12	63	1.9	4.6	15.1	21.6	
Passenger Vehicles	0	15	3	18	7	17	1	25	104	52	36	192	6	14	37	57	292
% Passenger Vehicles	0	78.9	60	75	100	94.4	100	96.2	96.3	91.2	92.3	94.1	100	93.3	75.5	81.4	90.1
Large 2 Axle Vehicles	0	3	2	5	0	1	0	1	4	3	3	10	0	1	12	13	29
% Large 2 Axle Vehicles	0	15.8	40	20.8	0	5.6	0	3.8	3.7	5.3	7.7	4.9	0	6.7	24.5	18.6	9
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	1.8	0	0.5	0	0	0	0	0.3
4+ Axle Trucks	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
% 4+ Axle Trucks	0	5.3	0	4.2	0	0	0	0	0	1.8	0	0.5	0	0	0	0	0.6

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	3	**1**	4	0	**5**	0	**5**	**21**	7	2	30	**1**	1	8	10	49
07:45 AM	0	2	1	3	**1**	3	**1**	5	18	**16**	4	**38**	1	**3**	4	8	**54**
08:00 AM	0	**5**	1	**6**	1	3	0	4	6	7	**6**	19	0	3	**13**	**16**	45
08:15 AM	0	2	0	2	0	1	0	1	10	6	4	20	0	2	8	10	33
Total Volume	0	12	3	15	2	12	1	15	55	36	16	107	2	9	33	44	181
% App. Total	0	80	20		13.3	80	6.7		51.4	33.6	15		4.5	20.5	75		
PHF	.000	.600	.750	.625	.500	.600	.250	.750	.655	.563	.667	.704	.500	.750	.635	.688	.838

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Victoria Avenue
E/W: Victoria Avenue/Road A
Weather: Clear

File Name : CSBVIRAAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:00 AM				07:30 AM			
+0 mins.	0	2	0	2	**1**	0	0	1	17	4	3	24	**1**	1	8	10
+15 mins.	0	3	**1**	4	0	**5**	0	**5**	14	4	**6**	24	1	**3**	4	8
+30 mins.	0	2	1	3	1	3	**1**	5	**21**	7	2	30	0	3	**13**	**16**
+45 mins.	0	**5**	1	**6**	1	3	0	4	18	**16**	4	**38**	0	2	8	10
Total Volume	0	12	3	15	3	11	1	15	70	31	15	116	2	9	33	44
% App. Total	0	80	20		20	73.3	6.7		60.3	26.7	12.9		4.5	20.5	75	
PHF	.000	.600	.750	.625	.750	.550	.250	.750	.833	.484	.625	.763	.500	.750	.635	.688

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County of San Bernardino
N/S: Victoria Avenue
E/W: Victoria Avenue/Road A
Weather: Clear

File Name : CSBVIRAAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	1	1	0	2	0	2	15	3	3	21	0	2	5	7	31
07:15 AM	0	2	0	2	1	0	0	1	14	4	6	24	1	0	0	1	28
07:30 AM	0	1	0	1	0	5	0	5	19	6	2	27	1	1	6	8	41
07:45 AM	0	1	1	2	1	2	1	4	18	16	4	38	1	3	3	7	51
Total	0	4	2	6	2	9	1	12	66	29	15	110	3	6	14	23	151
08:00 AM	0	5	1	6	1	3	0	4	6	6	4	16	0	3	11	14	40
08:15 AM	0	2	0	2	0	1	0	1	10	6	4	20	0	2	7	9	32
08:30 AM	0	3	0	3	2	1	0	3	16	5	3	24	2	1	4	7	37
08:45 AM	0	1	0	1	2	3	0	5	6	6	10	22	1	2	1	4	32
Total	0	11	1	12	5	8	0	13	38	23	21	82	3	8	23	34	141
Grand Total	0	15	3	18	7	17	1	25	104	52	36	192	6	14	37	57	292
Apprch %	0	83.3	16.7		28	68	4		54.2	27.1	18.8		10.5	24.6	64.9		
Total %	0	5.1	1	6.2	2.4	5.8	0.3	8.6	35.6	17.8	12.3	65.8	2.1	4.8	12.7	19.5	

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	1	0	1	0	**5**	0	**5**	**19**	6	2	27	**1**	1	6	8	41
07:45 AM	0	1	**1**	2	**1**	2	**1**	4	18	**16**	**4**	**38**	1	**3**	3	7	**51**
08:00 AM	0	**5**	1	**6**	1	3	0	4	6	6	4	16	0	3	**11**	**14**	40
08:15 AM	0	2	0	2	0	1	0	1	10	6	4	20	0	2	7	9	32
Total Volume	0	9	2	11	2	11	1	14	53	34	14	101	2	9	27	38	164
% App. Total	0	81.8	18.2		14.3	78.6	7.1		52.5	33.7	13.9		5.3	23.7	71.1		
PHF	.000	.450	.500	.458	.500	.550	.250	.700	.697	.531	.875	.664	.500	.750	.614	.679	.804

Counts Unlimited
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Corona, CA 92878
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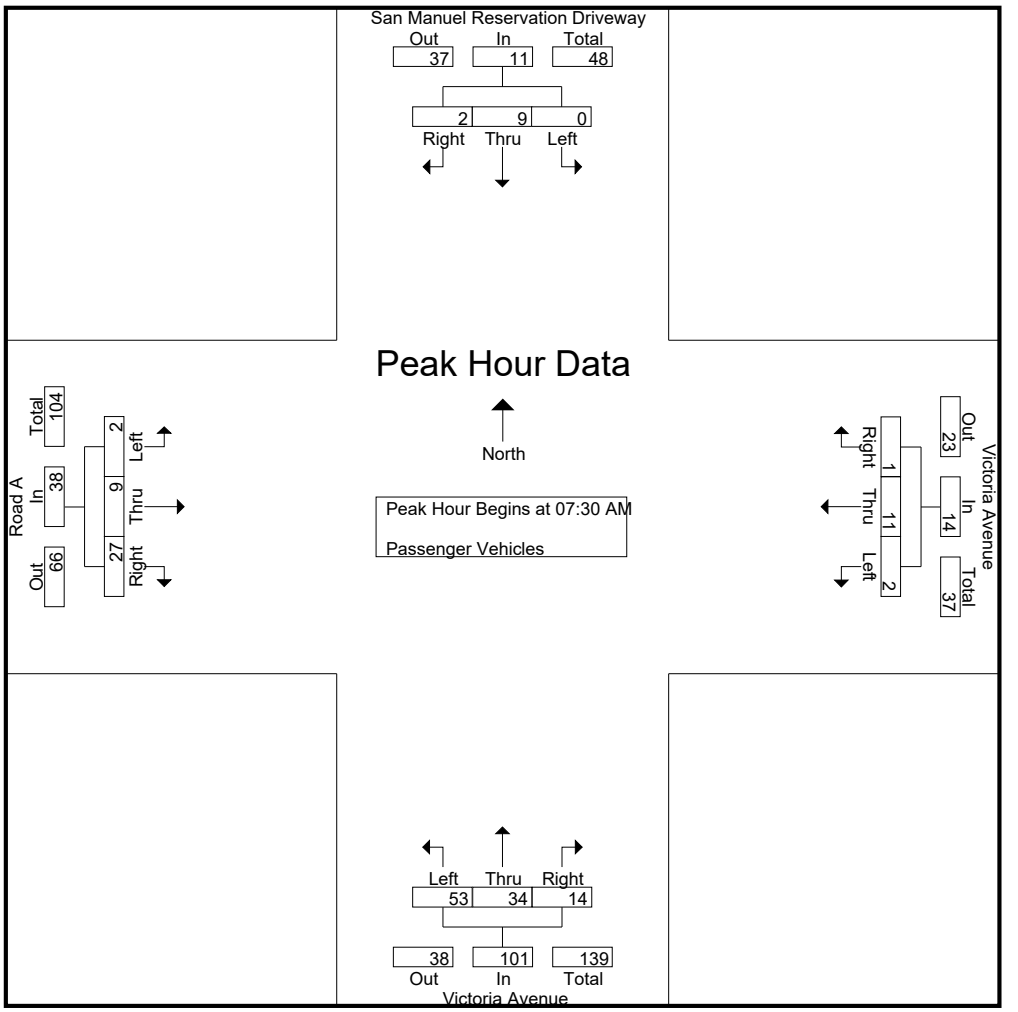
County of San Bernardino
N/S: Victoria Avenue
E/W: Victoria Avenue/Road A
Weather: Clear

File Name : CSBVIRAAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	1	0	1	0	**5**	0	**5**	**19**	6	2	27	**1**	1	6	8
+15 mins.	0	1	**1**	2	**1**	2	**1**	4	18	**16**	**4**	**38**	1	**3**	3	7
+30 mins.	0	**5**	1	**6**	1	3	0	4	6	6	4	16	0	3	**11**	**14**
+45 mins.	0	2	0	2	0	1	0	1	10	6	4	20	0	2	7	9
Total Volume	0	9	2	11	2	11	1	14	53	34	14	101	2	9	27	38
% App. Total	0	81.8	18.2		14.3	78.6	7.1		52.5	33.7	13.9		5.3	23.7	71.1	
PHF	.000	.450	.500	.458	.500	.550	.250	.700	.697	.531	.875	.664	.500	.750	.614	.679

Counts Unlimited
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County of San Bernardino
N/S: Victoria Avenue
E/W: Victoria Avenue/Road A
Weather: Clear

File Name : CSBVIRAAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	1	1	0	0	0	0	2	0	0	2	0	1	2	3	6
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
07:30 AM	0	1	1	2	0	0	0	0	2	1	0	3	0	0	2	2	7
07:45 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	1	1	3
Total	0	2	2	4	0	1	0	1	4	1	0	5	0	1	6	7	17
08:00 AM	0	0	0	0	0	0	0	0	0	1	2	3	0	0	2	2	5
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
08:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2	2	3
08:45 AM	0	0	0	0	0	0	0	0	0	1	1	2	0	0	1	1	3
Total	0	1	0	1	0	0	0	0	0	2	3	5	0	0	6	6	12
Grand Total	0	3	2	5	0	1	0	1	4	3	3	10	0	1	12	13	29
Apprch %	0	60	40		0	100	0		40	30	30		0	7.7	92.3		
Total %	0	10.3	6.9	17.2	0	3.4	0	3.4	13.8	10.3	10.3	34.5	0	3.4	41.4	44.8	

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**1**	**1**	**2**	0	0	0	0	**2**	**1**	0	**3**	0	0	**2**	**2**	**7**
07:45 AM	0	1	0	1	0	**1**	0	**1**	0	0	0	0	0	0	1	1	3
08:00 AM	0	0	0	0	0	0	0	0	0	1	**2**	3	0	0	2	2	5
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total Volume	0	2	1	3	0	1	0	1	2	2	2	6	0	0	6	6	16
% App. Total	0	66.7	33.3		0	100	0		33.3	33.3	33.3		0	0	100		
PHF	.000	.500	.250	.375	.000	.250	.000	.250	.250	.500	.250	.500	.000	.000	.750	.750	.571

Counts Unlimited
PO Box 1178
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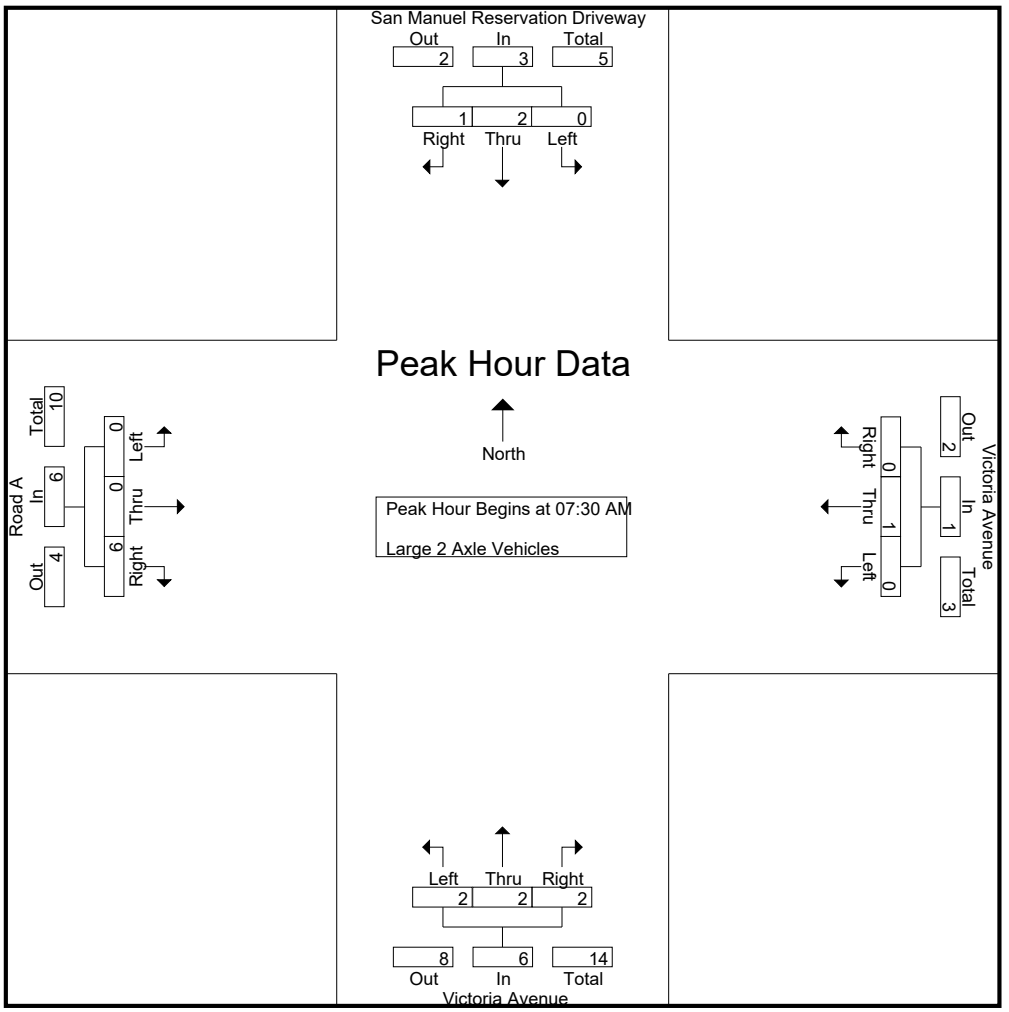
County of San Bernardino
N/S: Victoria Avenue
E/W: Victoria Avenue/Road A
Weather: Clear

File Name : CSBVIRAAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	**1**	**1**	**2**	0	0	0	0	**2**	**1**	0	**3**	0	0	**2**	**2**
+15 mins.	0	1	0	1	0	**1**	0	**1**	0	0	0	0	0	0	1	1
+30 mins.	0	0	0	0	0	0	0	0	0	1	**2**	3	0	0	2	2
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total Volume	0	2	1	3	0	1	0	1	2	2	2	6	0	0	6	6
% App. Total	0	66.7	33.3		0	100	0		33.3	33.3	33.3		0	0	100	
PHF	.000	.500	.250	.375	.000	.250	.000	.250	.250	.500	.250	.500	.000	.000	.750	.750

Counts Unlimited
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County of San Bernardino
N/S: Victoria Avenue
E/W: Victoria Avenue/Road A
Weather: Clear

File Name : CSBVIRAAM
Site Code : 05716653
Start Date : 12/7/2016

Groups Printed- 3 Axle Vehicles

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Apprch %	0	0	0		0	0	0		0	100	0		0	0	0		
Total %	0	0	0	0	0	0	0	0	0	100	0	100	0	0	0	0	

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
PO Box 1178
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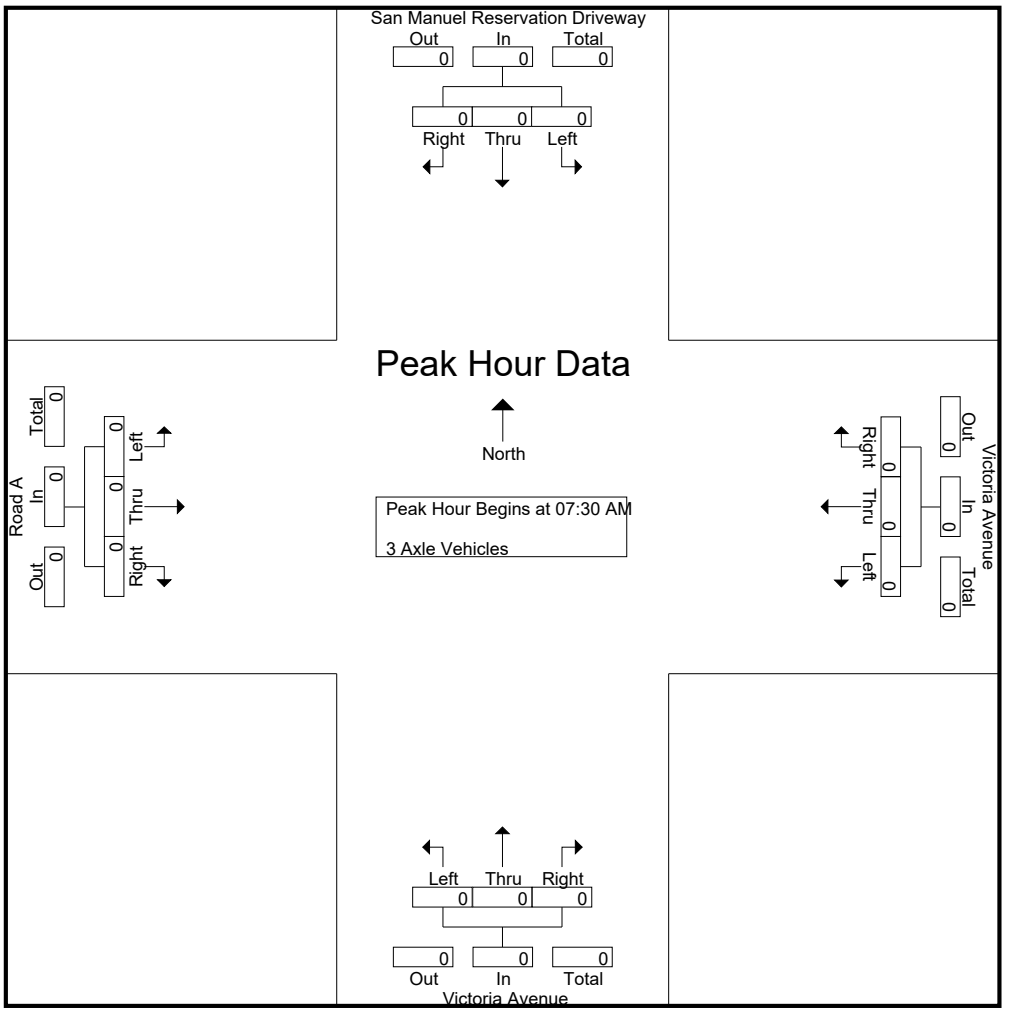
County of San Bernardino
N/S: Victoria Avenue
E/W: Victoria Avenue/Road A
Weather: Clear

File Name : CSBVIRAAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
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County of San Bernardino
N/S: Victoria Avenue
E/W: Victoria Avenue/Road A
Weather: Clear

File Name : CSBVIRAAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- 4+ Axle Trucks

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Grand Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	50	0	50	0	0	0	0	0	50	0	50	0	0	0	0	

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	**1**
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

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County of San Bernardino
N/S: Victoria Avenue
E/W: Victoria Avenue/Road A
Weather: Clear

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Site Code : 05716653
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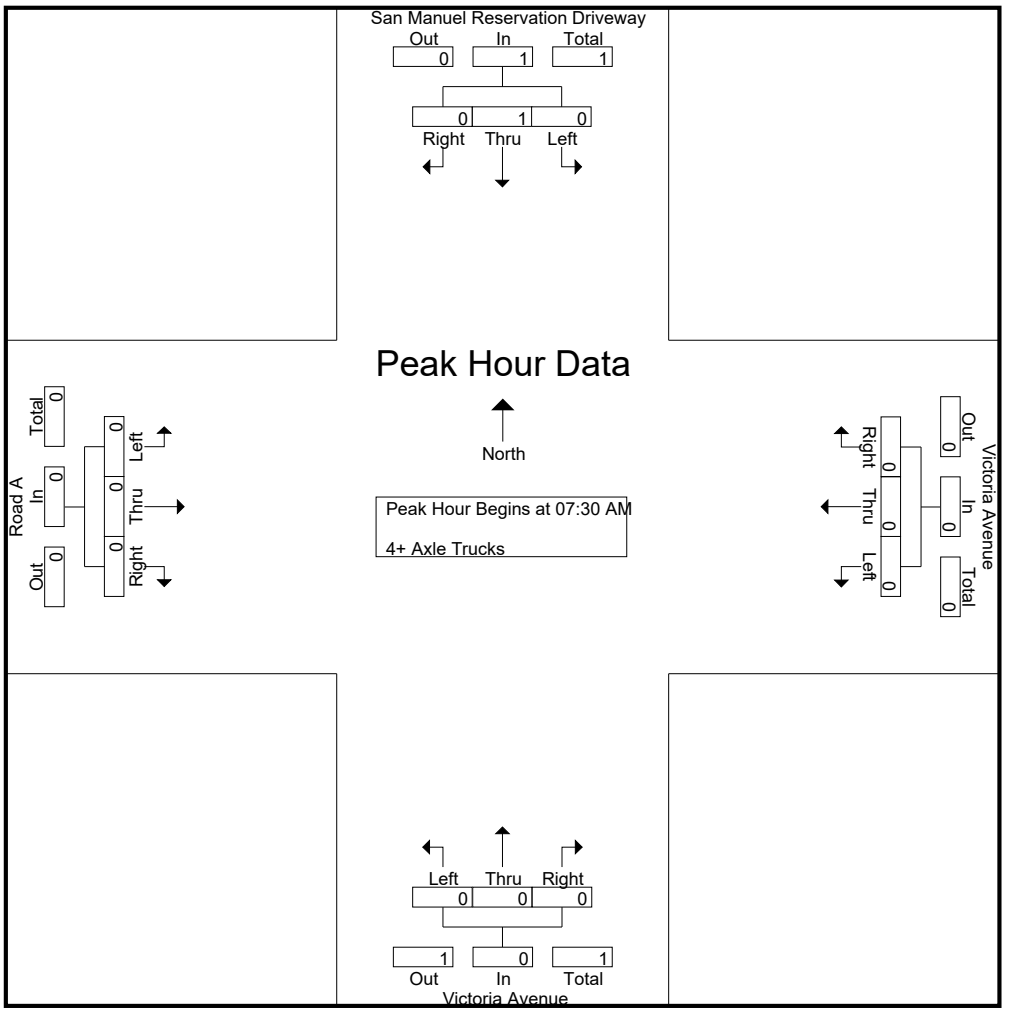

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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File Name : CSBVIRAPM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	14	0	14	4	1	0	5	8	1	3	12	2	3	32	37	68
04:15 PM	0	5	1	6	3	2	0	5	4	4	2	10	3	2	15	20	41
04:30 PM	0	12	1	13	5	5	0	10	10	1	3	14	0	2	10	12	49
04:45 PM	0	2	0	2	5	1	0	6	9	3	1	13	1	3	7	11	32
Total	0	33	2	35	17	9	0	26	31	9	9	49	6	10	64	80	190
05:00 PM	0	10	2	12	7	2	0	9	3	7	3	13	1	0	16	17	51
05:15 PM	0	7	0	7	3	1	0	4	10	1	0	11	0	2	9	11	33
05:30 PM	0	1	1	2	2	0	0	2	18	11	1	30	1	0	9	10	44
05:45 PM	0	2	1	3	4	1	0	5	20	8	0	28	2	0	8	10	46
Total	0	20	4	24	16	4	0	20	51	27	4	82	4	2	42	48	174
Grand Total	0	53	6	59	33	13	0	46	82	36	13	131	10	12	106	128	364
Apprch %	0	89.8	10.2		71.7	28.3	0		62.6	27.5	9.9		7.8	9.4	82.8		
Total %	0	14.6	1.6	16.2	9.1	3.6	0	12.6	22.5	9.9	3.6	36	2.7	3.3	29.1	35.2	
Passenger Vehicles	0	51	6	57	33	12	0	45	79	36	13	128	9	11	94	114	344
% Passenger Vehicles	0	96.2	100	96.6	100	92.3	0	97.8	96.3	100	100	97.7	90	91.7	88.7	89.1	94.5
Large 2 Axle Vehicles	0	1	0	1	0	1	0	1	3	0	0	3	1	1	12	14	19
% Large 2 Axle Vehicles	0	1.9	0	1.7	0	7.7	0	2.2	3.7	0	0	2.3	10	8.3	11.3	10.9	5.2
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% 4+ Axle Trucks	0	1.9	0	1.7	0	0	0	0	0	0	0	0	0	0	0	0	0.3

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	**14**	0	**14**	4	1	0	5	8	1	**3**	12	2	**3**	**32**	**37**	**68**
04:15 PM	0	5	**1**	6	3	2	0	5	4	**4**	2	10	**3**	2	15	20	41
04:30 PM	0	12	1	13	**5**	**5**	0	**10**	**10**	1	3	**14**	0	2	10	12	49
04:45 PM	0	2	0	2	5	1	0	6	9	3	1	13	1	3	7	11	32
Total Volume	0	33	2	35	17	9	0	26	31	9	9	49	6	10	64	80	190
% App. Total	0	94.3	5.7		65.4	34.6	0		63.3	18.4	18.4		7.5	12.5	80		
PHF	.000	.589	.500	.625	.850	.450	.000	.650	.775	.563	.750	.875	.500	.833	.500	.541	.699

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Weather: Clear

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Site Code : 05716653
Start Date : 12/7/2016
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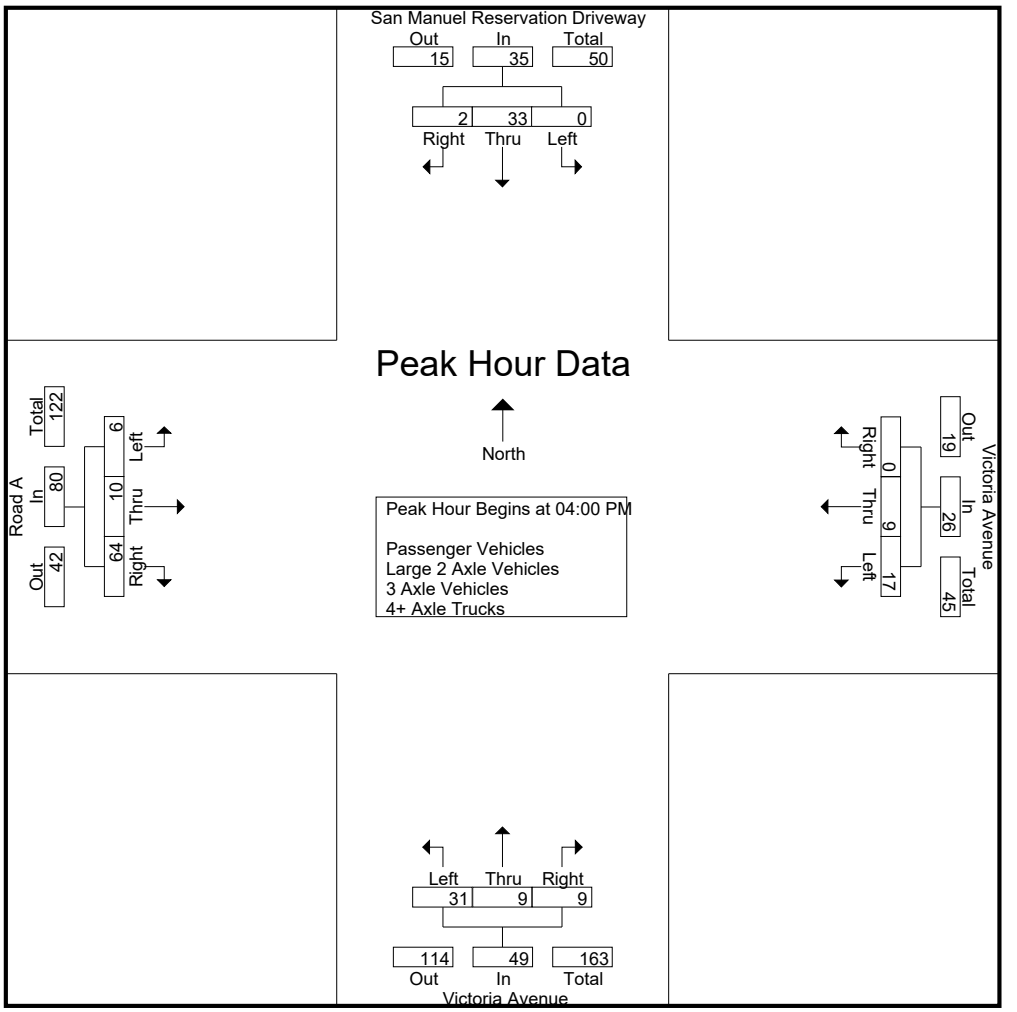

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				05:00 PM				04:00 PM			
+0 mins.	0	**14**	0	**14**	3	2	0	5	3	7	**3**	13	2	**3**	**32**	**37**
+15 mins.	0	5	**1**	6	5	**5**	0	**10**	10	1	0	11	**3**	2	15	20
+30 mins.	0	12	1	13	5	1	0	6	18	**11**	1	**30**	0	2	10	12
+45 mins.	0	2	0	2	**7**	2	0	9	**20**	8	0	28	1	3	7	11
Total Volume	0	33	2	35	20	10	0	30	51	27	4	82	6	10	64	80
% App. Total	0	94.3	5.7		66.7	33.3	0		62.2	32.9	4.9		7.5	12.5	80	
PHF	.000	.589	.500	.625	.714	.500	.000	.750	.638	.614	.333	.683	.500	.833	.500	.541

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Groups Printed- Passenger Vehicles

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	14	0	14	4	1	0	5	8	1	3	12	1	3	30	34	65
04:15 PM	0	4	1	5	3	2	0	5	2	4	2	8	3	2	14	19	37
04:30 PM	0	12	1	13	5	5	0	10	9	1	3	13	0	2	8	10	46
04:45 PM	0	1	0	1	5	1	0	6	9	3	1	13	1	3	6	10	30
Total	0	31	2	33	17	9	0	26	28	9	9	46	5	10	58	73	178
05:00 PM	0	10	2	12	7	2	0	9	3	7	3	13	1	0	14	15	49
05:15 PM	0	7	0	7	3	0	0	3	10	1	0	11	0	1	8	9	30
05:30 PM	0	1	1	2	2	0	0	2	18	11	1	30	1	0	7	8	42
05:45 PM	0	2	1	3	4	1	0	5	20	8	0	28	2	0	7	9	45
Total	0	20	4	24	16	3	0	19	51	27	4	82	4	1	36	41	166
Grand Total	0	51	6	57	33	12	0	45	79	36	13	128	9	11	94	114	344
Apprch %	0	89.5	10.5		73.3	26.7	0		61.7	28.1	10.2		7.9	9.6	82.5		
Total %	0	14.8	1.7	16.6	9.6	3.5	0	13.1	23	10.5	3.8	37.2	2.6	3.2	27.3	33.1	

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	**14**	0	**14**	4	1	0	5	8	1	**3**	12	1	**3**	**30**	**34**	**65**
04:15 PM	0	4	**1**	5	3	2	0	5	2	**4**	2	8	**3**	2	14	19	37
04:30 PM	0	12	1	13	**5**	**5**	0	**10**	**9**	1	3	**13**	0	2	8	10	46
04:45 PM	0	1	0	1	5	1	0	6	9	3	1	13	1	3	6	10	30
Total Volume	0	31	2	33	17	9	0	26	28	9	9	46	5	10	58	73	178
% App. Total	0	93.9	6.1		65.4	34.6	0		60.9	19.6	19.6		6.8	13.7	79.5		
PHF	.000	.554	.500	.589	.850	.450	.000	.650	.778	.563	.750	.885	.417	.833	.483	.537	.685

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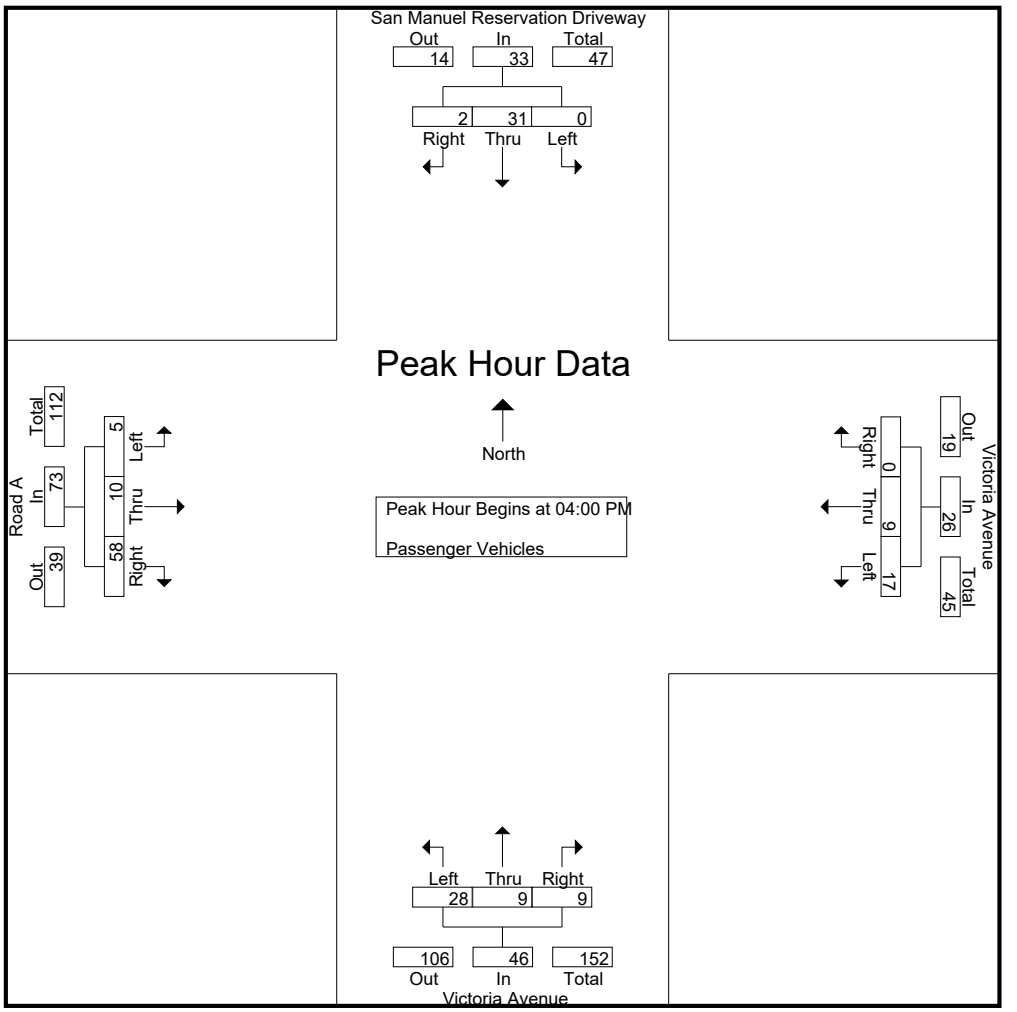

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	**14**	0	**14**	4	1	0	5	8	1	**3**	12	1	**3**	**30**	**34**
+15 mins.	0	4	**1**	5	3	2	0	5	2	**4**	2	8	**3**	2	14	19
+30 mins.	0	12	1	13	**5**	**5**	0	**10**	**9**	1	3	**13**	0	2	8	10
+45 mins.	0	1	0	1	5	1	0	6	9	3	1	13	1	3	6	10
Total Volume	0	31	2	33	17	9	0	26	28	9	9	46	5	10	58	73
% App. Total	0	93.9	6.1		65.4	34.6	0		60.9	19.6	19.6		6.8	13.7	79.5	
PHF	.000	.554	.500	.589	.850	.450	.000	.650	.778	.563	.750	.885	.417	.833	.483	.537

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Page No : 1

Groups Printed- Large 2 Axle Vehicles

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3	3
04:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	1	3
04:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2	2	3
04:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2
Total	0	1	0	1	0	0	0	0	3	0	0	3	1	0	6	7	11
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
05:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	1	2	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	1	6	7	8
Grand Total	0	1	0	1	0	1	0	1	3	0	0	3	1	1	12	14	19
Apprch %	0	100	0		0	100	0		100	0	0		7.1	7.1	85.7		
Total %	0	5.3	0	5.3	0	5.3	0	5.3	15.8	0	0	15.8	5.3	5.3	63.2	73.7	

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**2**	**3**	**3**
04:15 PM	0	0	0	0	0	0	0	0	**2**	0	0	**2**	0	0	1	1	3
04:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2	2	3
04:45 PM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	1	1	2
Total Volume	0	1	0	1	0	0	0	0	3	0	0	3	1	0	6	7	11
% App. Total	0	100	0		0	0	0		100	0	0		14.3	0	85.7		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.375	.000	.000	.375	.250	.000	.750	.583	.917

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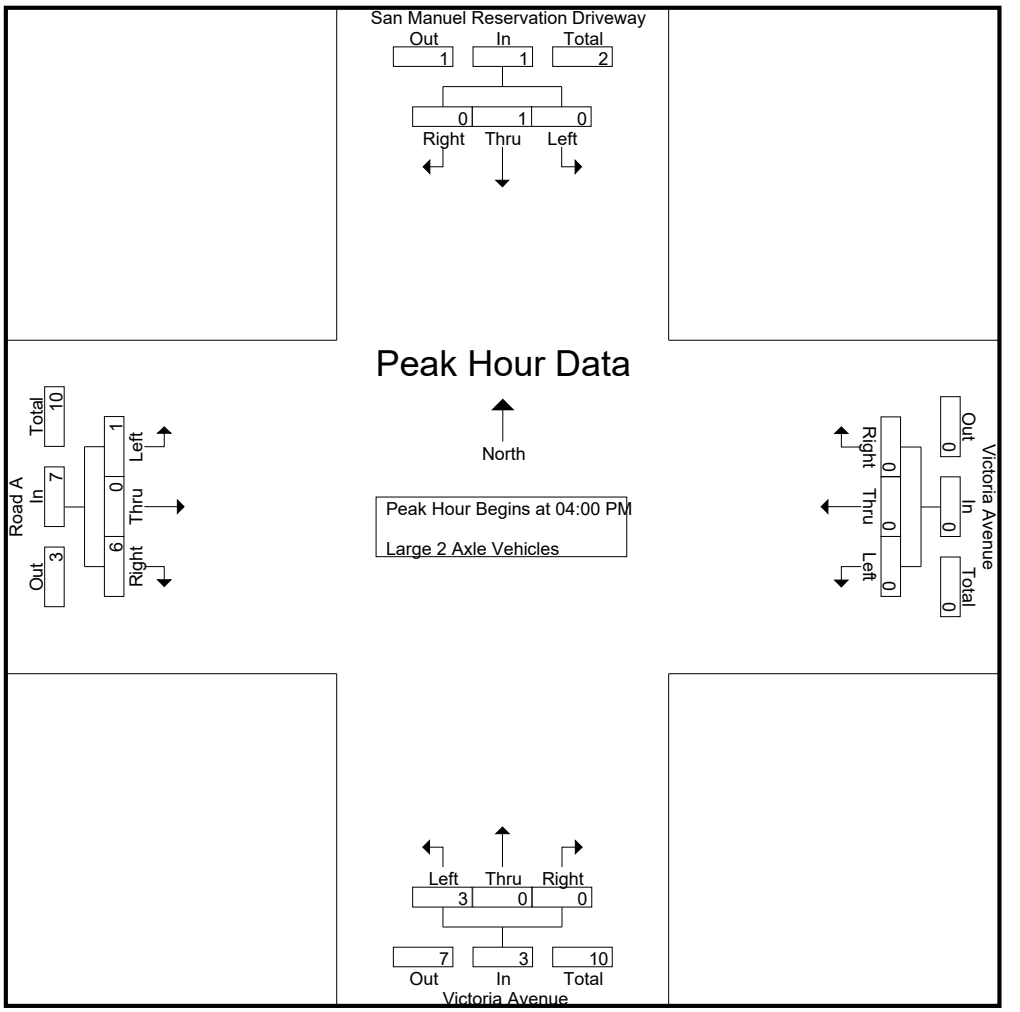

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**2**	**3**
+15 mins.	0	0	0	0	0	0	0	0	**2**	0	0	**2**	0	0	1	1
+30 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2	2
+45 mins.	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	1	1
Total Volume	0	1	0	1	0	0	0	0	3	0	0	3	1	0	6	7
% App. Total	0	100	0		0	0	0		100	0	0		14.3	0	85.7	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.375	.000	.000	.375	.250	.000	.750	.583

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Groups Printed- 3 Axle Vehicles

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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File Name : CSBVIRAPM
Site Code : 05716653
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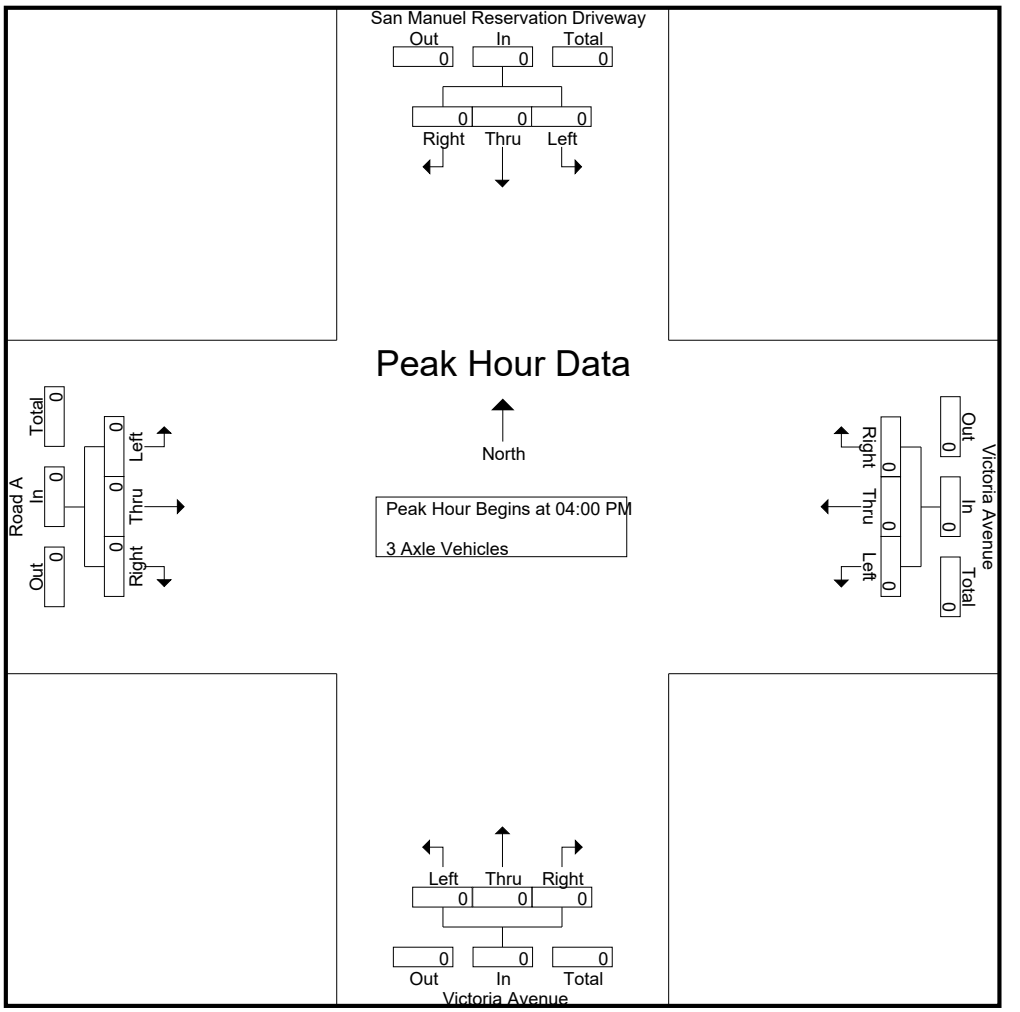

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Victoria Avenue
E/W: Victoria Avenue/Road A
Weather: Clear

File Name : CSBVIRAPM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- 4+ Axle Trucks

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Apprch %	0	100	0		0	0	0		0	0	0		0	0	0		
Total %	0	100	0	100	0	0	0	0	0	0	0	0	0	0	0	0	

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	**1**
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

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County of San Bernardino
N/S: Victoria Avenue
E/W: Victoria Avenue/Road A
Weather: Clear

File Name : CSBVIRAPM
Site Code : 05716653
Start Date : 12/7/2016
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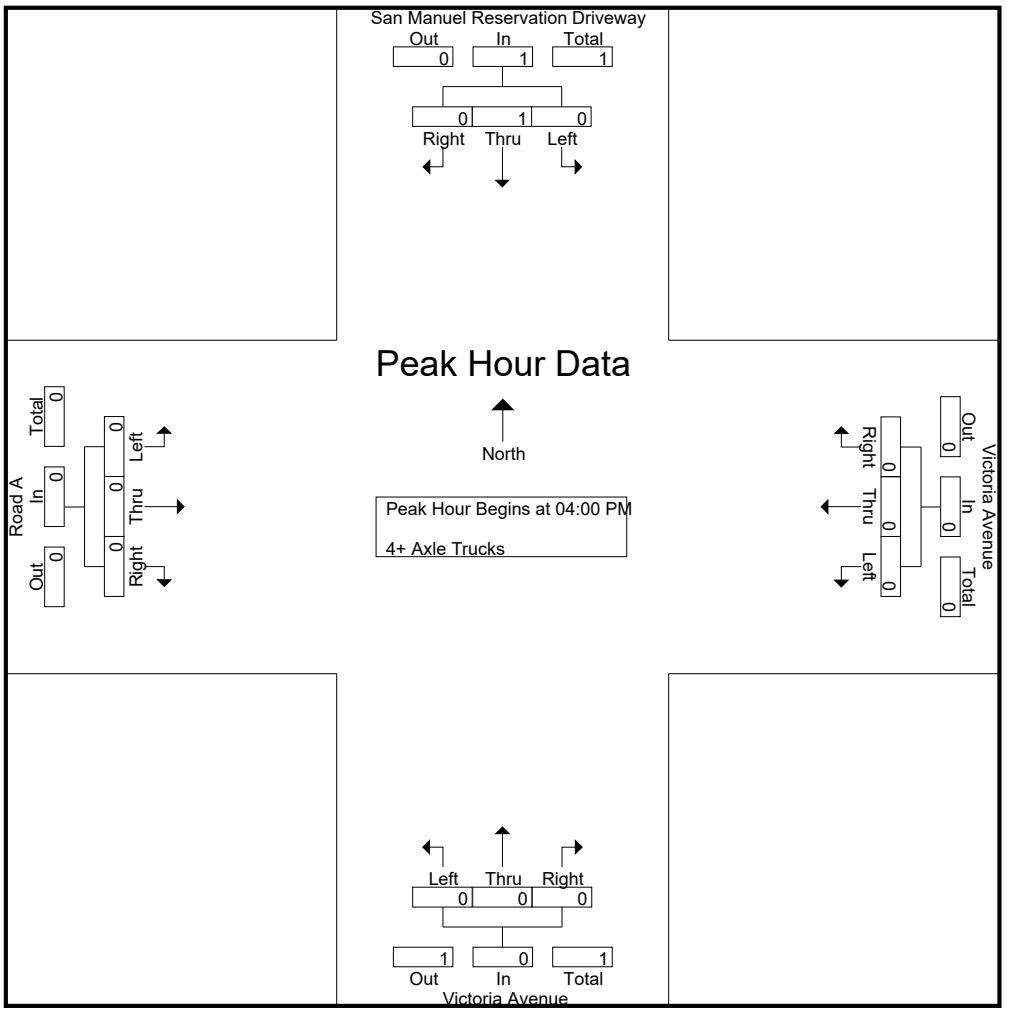

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
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Weather: Clear

File Name : CSBVIRASAT
Site Code : 05716653
Start Date : 12/10/2016
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	2	1	0	3	10	1	1	12	1	2	4	7	22
05:15 PM	0	1	0	1	1	0	0	1	26	6	0	32	2	1	7	10	44
05:30 PM	0	2	1	3	0	1	0	1	36	10	1	47	3	1	10	14	65
05:45 PM	0	1	0	1	1	0	0	1	23	5	2	30	0	2	4	6	38
Total	0	4	1	5	4	2	0	6	95	22	4	121	6	6	25	37	169
06:00 PM	0	4	0	4	2	0	0	2	21	0	0	21	2	0	8	10	37
06:15 PM	0	9	5	14	0	1	0	1	18	4	0	22	0	0	9	9	46
06:30 PM	2	8	0	10	2	2	1	5	18	2	0	20	2	2	31	35	70
06:45 PM	0	10	0	10	2	1	0	3	9	0	4	13	0	0	9	9	35
Total	2	31	5	38	6	4	1	11	66	6	4	76	4	2	57	63	188
Grand Total	2	35	6	43	10	6	1	17	161	28	8	197	10	8	82	100	357
Apprch %	4.7	81.4	14		58.8	35.3	5.9		81.7	14.2	4.1		10	8	82		
Total %	0.6	9.8	1.7	12	2.8	1.7	0.3	4.8	45.1	7.8	2.2	55.2	2.8	2.2	23	28	
Passenger Vehicles	2	35	6	43	10	6	1	17	161	28	8	197	9	7	71	87	344
% Passenger Vehicles	100	100	100	100	100	100	100	100	100	100	100	100	90	87.5	86.6	87	96.4
Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	1	1	11	13	13
% Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	10	12.5	13.4	13	3.6
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:45 PM																	
05:45 PM	0	1	0	1	1	0	0	1	**23**	**5**	**2**	**30**	0	**2**	4	6	38
06:00 PM	0	4	0	4	**2**	0	0	2	21	0	0	21	**2**	0	8	10	37
06:15 PM	0	**9**	**5**	**14**	0	1	0	1	18	4	0	22	0	0	9	9	46
06:30 PM	**2**	8	0	10	2	**2**	**1**	**5**	18	2	0	20	2	2	**31**	**35**	**70**
Total Volume	2	22	5	29	5	3	1	9	80	11	2	93	4	4	52	60	191
% App. Total	6.9	75.9	17.2		55.6	33.3	11.1		86	11.8	2.2		6.7	6.7	86.7		
PHF	.250	.611	.250	.518	.625	.375	.250	.450	.870	.550	.250	.775	.500	.500	.419	.429	.682

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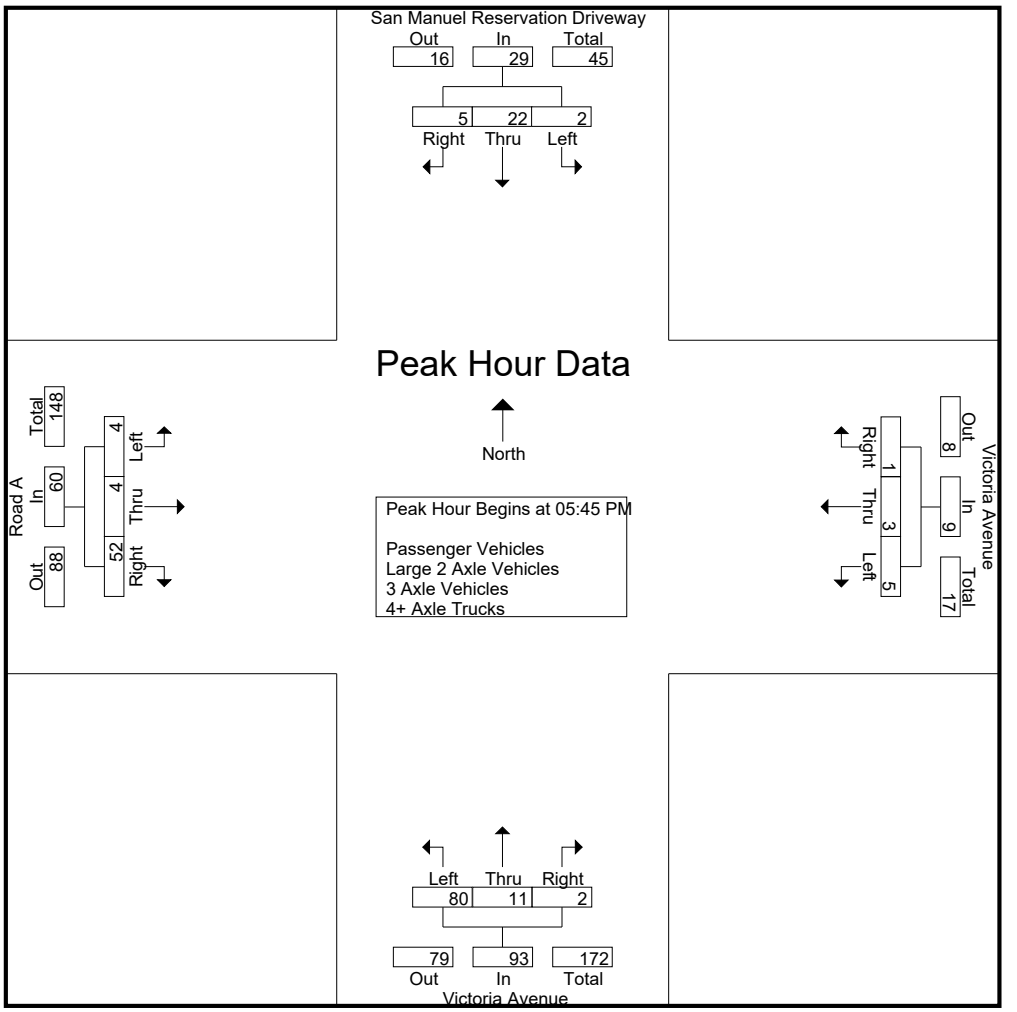
County of San Bernardino
N/S: Victoria Avenue
E/W: Victoria Avenue/Road A
Weather: Clear

File Name : CSBVIRASAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 2



Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM				06:00 PM				05:15 PM				06:00 PM			
+0 mins.	0	4	0	4	**2**	0	0	2	26	6	0	32	**2**	0	8	10
+15 mins.	0	9	**5**	**14**	0	1	0	1	**36**	**10**	1	**47**	0	0	9	9
+30 mins.	**2**	8	0	10	2	**2**	**1**	**5**	23	5	**2**	30	2	**2**	**31**	**35**
+45 mins.	0	**10**	0	10	2	1	0	3	21	0	0	21	0	0	9	9
Total Volume	2	31	5	38	6	4	1	11	106	21	3	130	4	2	57	63
% App. Total	5.3	81.6	13.2		54.5	36.4	9.1		81.5	16.2	2.3		6.3	3.2	90.5	
PHF	.250	.775	.250	.679	.750	.500	.250	.550	.736	.525	.375	.691	.500	.250	.460	.450

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Groups Printed- Passenger Vehicles

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	2	1	0	3	10	1	1	12	1	1	3	5	20
05:15 PM	0	1	0	1	1	0	0	1	26	6	0	32	2	1	6	9	43
05:30 PM	0	2	1	3	0	1	0	1	36	10	1	47	2	1	6	9	60
05:45 PM	0	1	0	1	1	0	0	1	23	5	2	30	0	2	2	4	36
Total	0	4	1	5	4	2	0	6	95	22	4	121	5	5	17	27	159
06:00 PM	0	4	0	4	2	0	0	2	21	0	0	21	2	0	8	10	37
06:15 PM	0	9	5	14	0	1	0	1	18	4	0	22	0	0	9	9	46
06:30 PM	2	8	0	10	2	2	1	5	18	2	0	20	2	2	30	34	69
06:45 PM	0	10	0	10	2	1	0	3	9	0	4	13	0	0	7	7	33
Total	2	31	5	38	6	4	1	11	66	6	4	76	4	2	54	60	185
Grand Total	2	35	6	43	10	6	1	17	161	28	8	197	9	7	71	87	344
Apprch %	4.7	81.4	14		58.8	35.3	5.9		81.7	14.2	4.1		10.3	8	81.6		
Total %	0.6	10.2	1.7	12.5	2.9	1.7	0.3	4.9	46.8	8.1	2.3	57.3	2.6	2	20.6	25.3	

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:45 PM																	
05:45 PM	0	1	0	1	1	0	0	1	**23**	**5**	**2**	**30**	0	**2**	2	4	36
06:00 PM	0	4	0	4	**2**	0	0	2	21	0	0	21	**2**	0	8	10	37
06:15 PM	0	**9**	**5**	**14**	0	1	0	1	18	4	0	22	0	0	9	9	46
06:30 PM	**2**	8	0	10	2	**2**	**1**	**5**	18	2	0	20	2	2	**30**	**34**	**69**
Total Volume	2	22	5	29	5	3	1	9	80	11	2	93	4	4	49	57	188
% App. Total	6.9	75.9	17.2		55.6	33.3	11.1		86	11.8	2.2		7	7	86		
PHF	.250	.611	.250	.518	.625	.375	.250	.450	.870	.550	.250	.775	.500	.500	.408	.419	.681

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File Name : CSBVIRASAT
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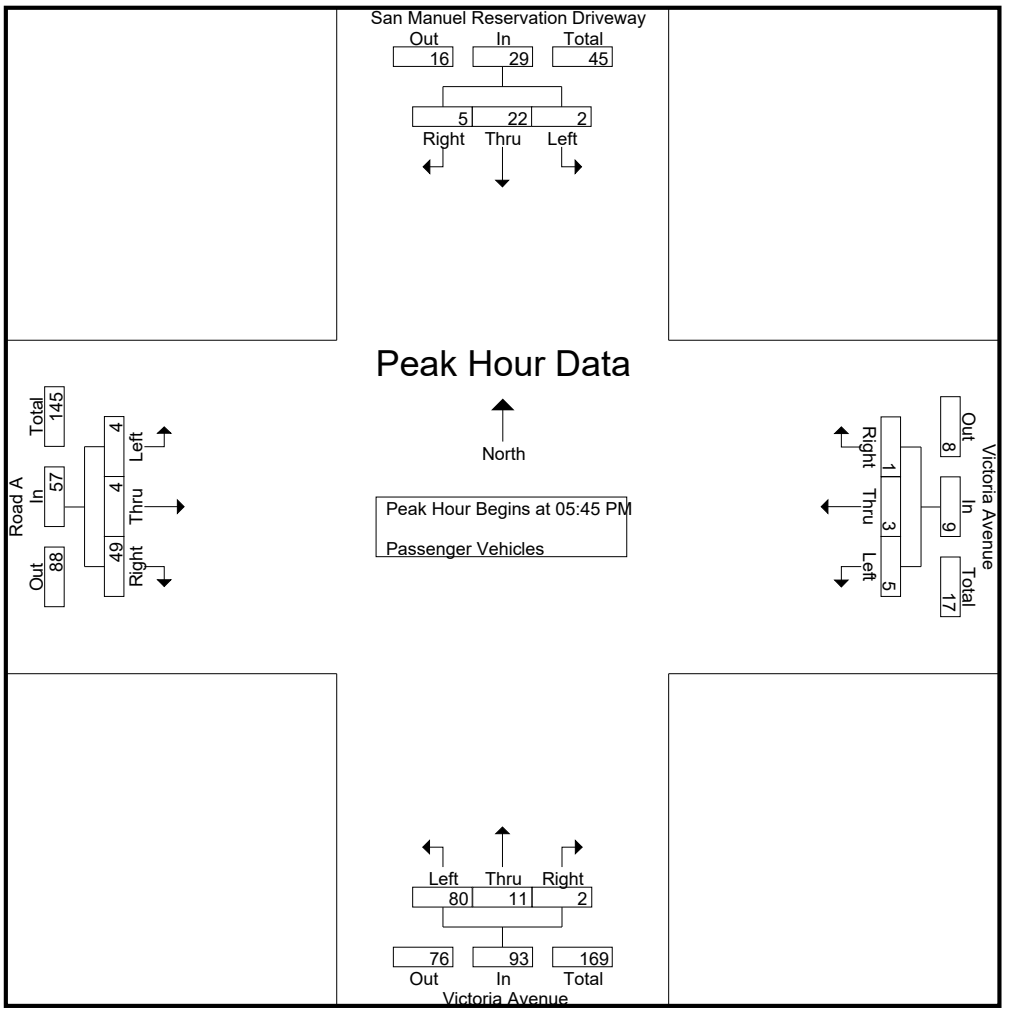

Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM				05:45 PM				05:45 PM				05:45 PM			
+0 mins.	0	1	0	1	1	0	0	1	**23**	**5**	**2**	**30**	0	**2**	2	4
+15 mins.	0	4	0	4	**2**	0	0	2	21	0	0	21	**2**	0	8	10
+30 mins.	0	**9**	**5**	**14**	0	1	0	1	18	4	0	22	0	0	9	9
+45 mins.	**2**	8	0	10	2	**2**	**1**	**5**	18	2	0	20	2	2	**30**	**34**
Total Volume	2	22	5	29	5	3	1	9	80	11	2	93	4	4	49	57
% App. Total	6.9	75.9	17.2		55.6	33.3	11.1		86	11.8	2.2		7	7	86	
PHF	.250	.611	.250	.518	.625	.375	.250	.450	.870	.550	.250	.775	.500	.500	.408	.419

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County of San Bernardino
N/S: Victoria Avenue
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Groups Printed- Large 2 Axle Vehicles

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	5	5
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	1	1	8	10	10
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	1	1	11	13	13
Apprch %	0	0	0		0	0	0		0	0	0		7.7	7.7	84.6		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	7.7	7.7	84.6	100	

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:45 PM																	
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	**2**	**2**
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	3
% App. Total	0	0	0		0	0	0		0	0	0		0	0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.375	.375	.375

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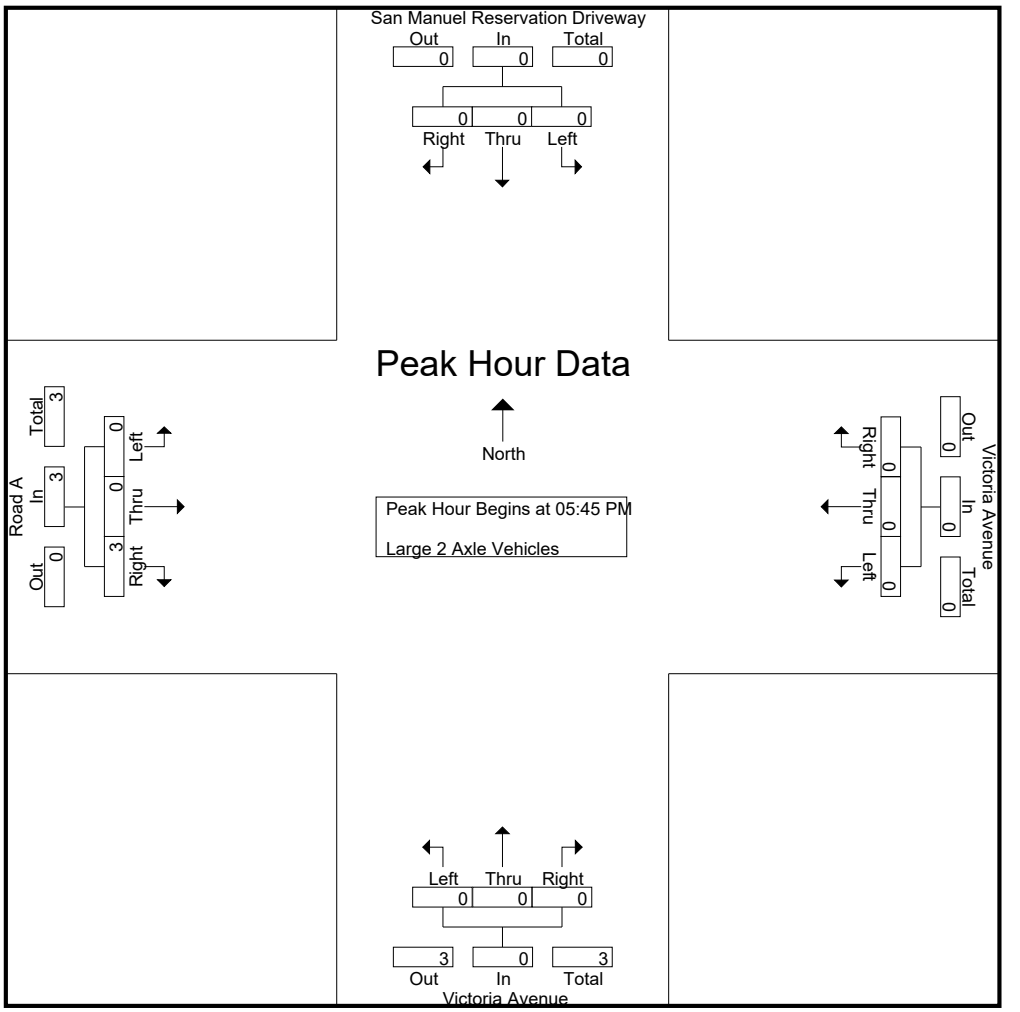

Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM				05:45 PM				05:45 PM				05:45 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	**2**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
% App. Total	0	0	0		0	0	0		0	0	0		0	0	100	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.375	.375

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County of San Bernardino
N/S: Victoria Avenue
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Weather: Clear

File Name : CSBVIRASAT
Site Code : 05716653
Start Date : 12/10/2016
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Groups Printed- 3 Axle Vehicles

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:45 PM																	
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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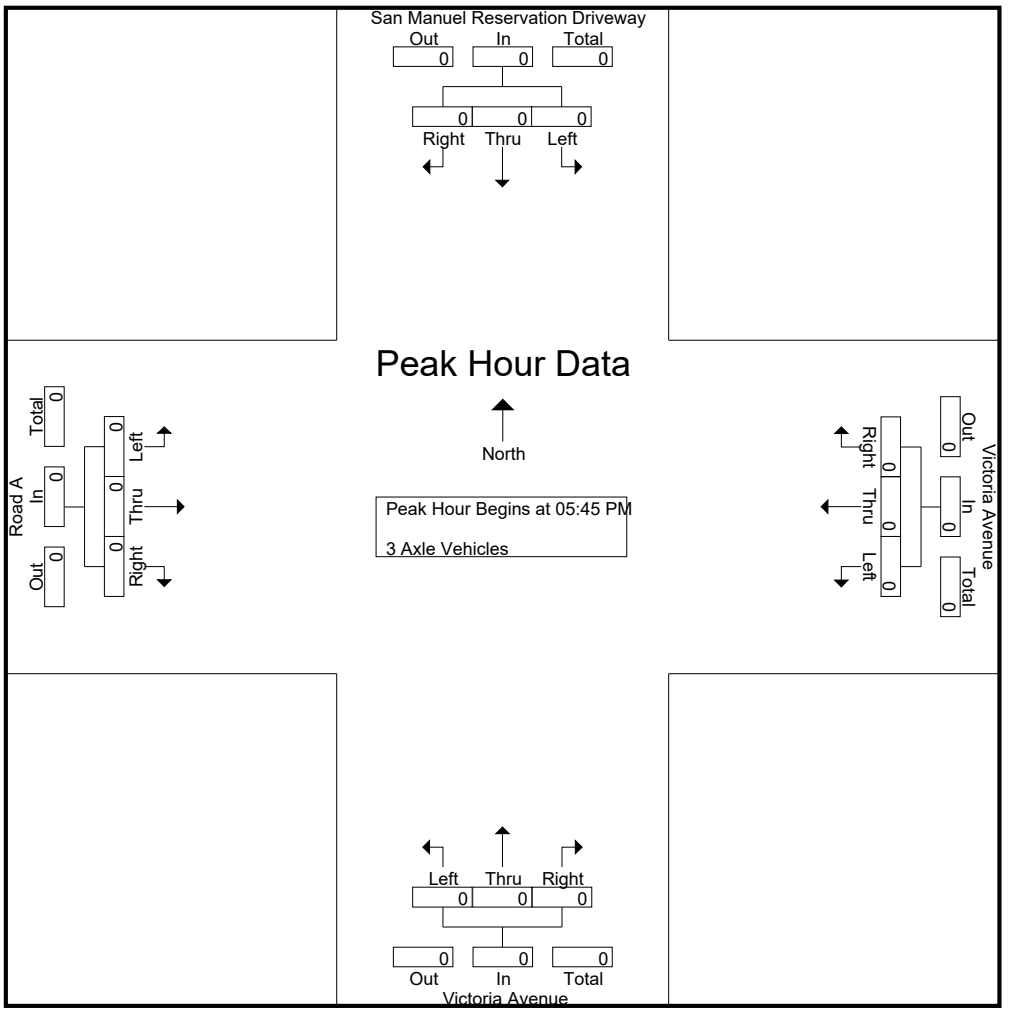

Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM				05:45 PM				05:45 PM				05:45 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	San Manuel Reservation Driveway Southbound				Victoria Avenue Westbound				Victoria Avenue Northbound				Road A Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:45 PM																	
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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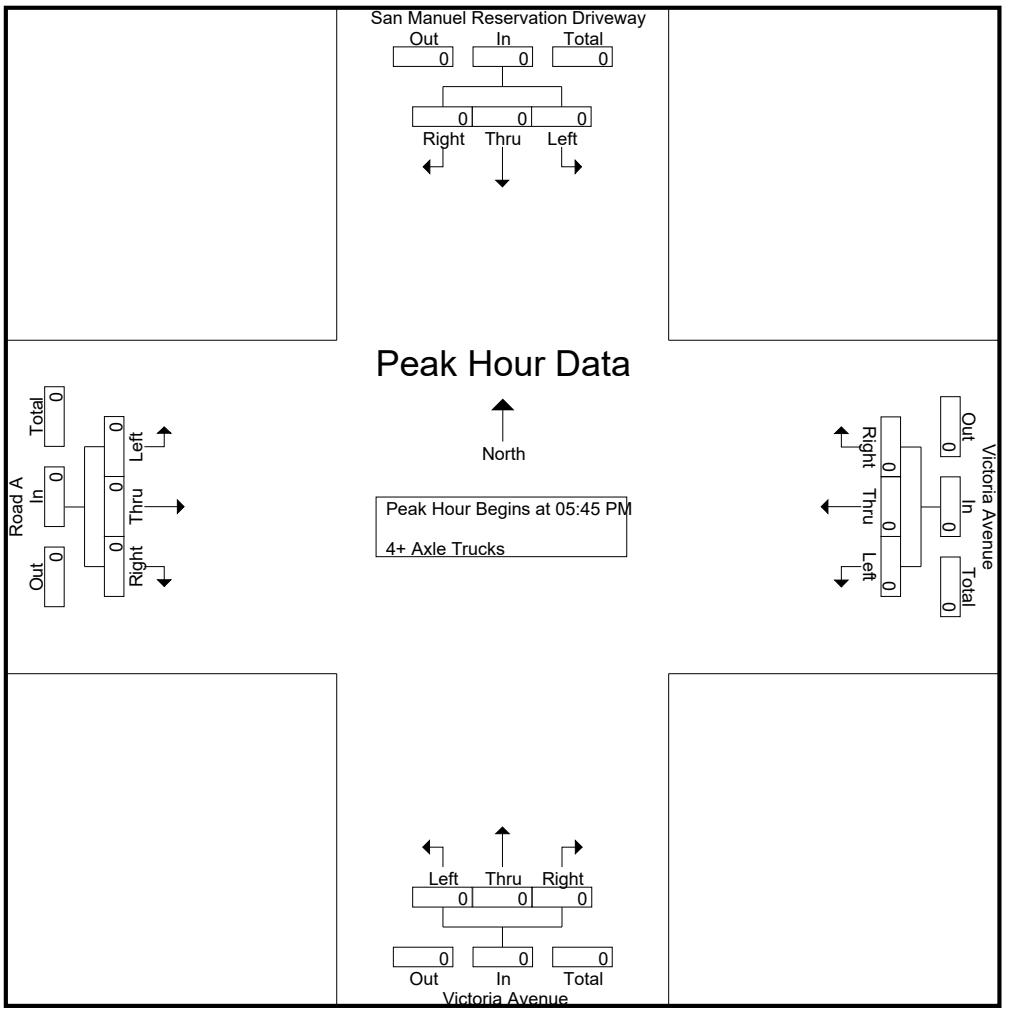

Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM				05:45 PM				05:45 PM				05:45 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Start Date : 12/7/2016
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	11	0	11	0	12	0	12	0	0	0	0	0	0	0	0	23
07:15 AM	0	6	0	6	0	9	0	9	0	0	0	0	0	0	0	0	15
07:30 AM	0	14	0	14	0	17	0	17	0	0	0	0	0	0	0	0	31
07:45 AM	0	18	0	18	0	18	0	18	0	0	0	0	0	0	0	0	36
Total	0	49	0	49	0	56	0	56	0	0	0	0	0	0	0	0	105
08:00 AM	0	22	0	22	0	13	0	13	0	0	0	0	0	0	0	0	35
08:15 AM	0	16	0	16	0	14	0	14	0	0	0	0	0	0	0	0	30
08:30 AM	0	13	0	13	0	23	0	23	0	0	0	0	0	0	0	0	36
08:45 AM	0	12	0	12	0	12	0	12	0	0	0	0	0	0	0	0	24
Total	0	63	0	63	0	62	0	62	0	0	0	0	0	0	0	0	125
Grand Total	0	112	0	112	0	118	0	118	0	0	0	0	0	0	0	0	230
Apprch %	0	100	0		0	100	0		0	0	0		0	0	0		
Total %	0	48.7	0	48.7	0	51.3	0	51.3	0	0	0	0	0	0	0	0	
Passenger Vehicles	0	80	0	80	0	116	0	116	0	0	0	0	0	0	0	0	196
% Passenger Vehicles	0	71.4	0	71.4	0	98.3	0	98.3	0	0	0	0	0	0	0	0	85.2
Large 2 Axle Vehicles	0	28	0	28	0	2	0	2	0	0	0	0	0	0	0	0	30
% Large 2 Axle Vehicles	0	25	0	25	0	1.7	0	1.7	0	0	0	0	0	0	0	0	13
3 Axle Vehicles	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% 3 Axle Vehicles	0	0.9	0	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0.4
4+ Axle Trucks	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
% 4+ Axle Trucks	0	2.7	0	2.7	0	0	0	0	0	0	0	0	0	0	0	0	1.3

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	18	0	18	0	18	0	18	0	0	0	0	0	0	0	0	**36**
08:00 AM	0	**22**	0	**22**	0	13	0	13	0	0	0	0	0	0	0	0	35
08:15 AM	0	16	0	16	0	14	0	14	0	0	0	0	0	0	0	0	30
08:30 AM	0	13	0	13	0	**23**	0	**23**	0	0	0	0	0	0	0	0	36
Total Volume	0	69	0	69	0	68	0	68	0	0	0	0	0	0	0	0	137
% App. Total	0	100	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.784	.000	.784	.000	.739	.000	.739	.000	.000	.000	.000	.000	.000	.000	.000	.951

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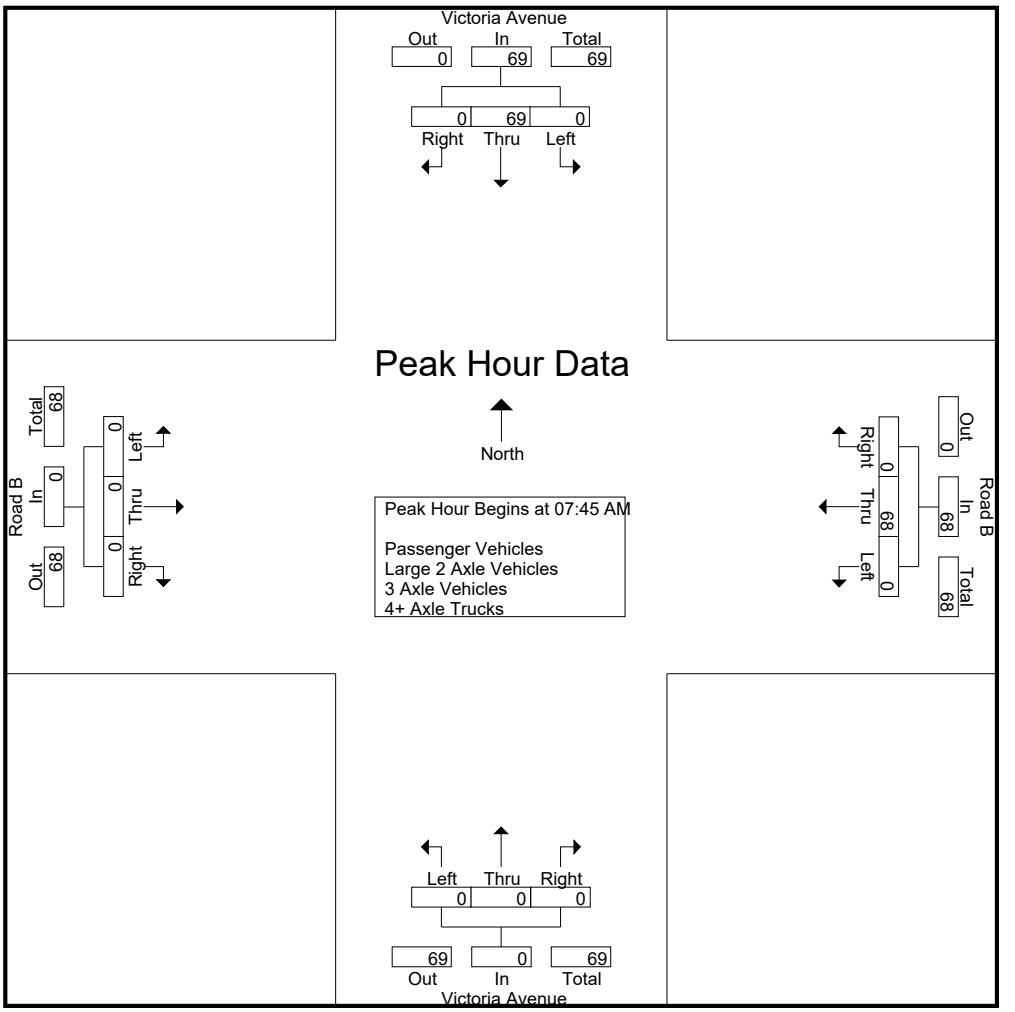

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:45 AM				07:00 AM				07:00 AM			
+0 mins.	0	14	0	14	0	18	0	18	0	0	0	0	0	0	0	0
+15 mins.	0	18	0	18	0	13	0	13	0	0	0	0	0	0	0	0
+30 mins.	0	**22**	0	**22**	0	14	0	14	0	0	0	0	0	0	0	0
+45 mins.	0	16	0	16	0	**23**	0	**23**	0	0	0	0	0	0	0	0
Total Volume	0	70	0	70	0	68	0	68	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	100	0		0	0	0		0	0	0	
PHF	.000	.795	.000	.795	.000	.739	.000	.739	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	8	0	8	0	10	0	10	0	0	0	0	0	0	0	0	18
07:15 AM	0	3	0	3	0	9	0	9	0	0	0	0	0	0	0	0	12
07:30 AM	0	10	0	10	0	17	0	17	0	0	0	0	0	0	0	0	27
07:45 AM	0	10	0	10	0	18	0	18	0	0	0	0	0	0	0	0	28
Total	0	31	0	31	0	54	0	54	0	0	0	0	0	0	0	0	85
08:00 AM	0	19	0	19	0	13	0	13	0	0	0	0	0	0	0	0	32
08:15 AM	0	13	0	13	0	14	0	14	0	0	0	0	0	0	0	0	27
08:30 AM	0	9	0	9	0	23	0	23	0	0	0	0	0	0	0	0	32
08:45 AM	0	8	0	8	0	12	0	12	0	0	0	0	0	0	0	0	20
Total	0	49	0	49	0	62	0	62	0	0	0	0	0	0	0	0	111
Grand Total	0	80	0	80	0	116	0	116	0	0	0	0	0	0	0	0	196
Apprch %	0	100	0		0	100	0		0	0	0		0	0	0		
Total %	0	40.8	0	40.8	0	59.2	0	59.2	0	0	0	0	0	0	0	0	

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	8	0	8	0	10	0	10	0	0	0	0	0	0	0	0	18
07:15 AM	0	3	0	3	0	9	0	9	0	0	0	0	0	0	0	0	12
07:30 AM	0	**10**	0	**10**	0	17	0	17	0	0	0	0	0	0	0	0	27
07:45 AM	0	10	0	10	0	**18**	0	**18**	0	0	0	0	0	0	0	0	**28**
Total Volume	0	31	0	31	0	54	0	54	0	0	0	0	0	0	0	0	85
% App. Total	0	100	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.775	.000	.775	.000	.750	.000	.750	.000	.000	.000	.000	.000	.000	.000	.000	.759

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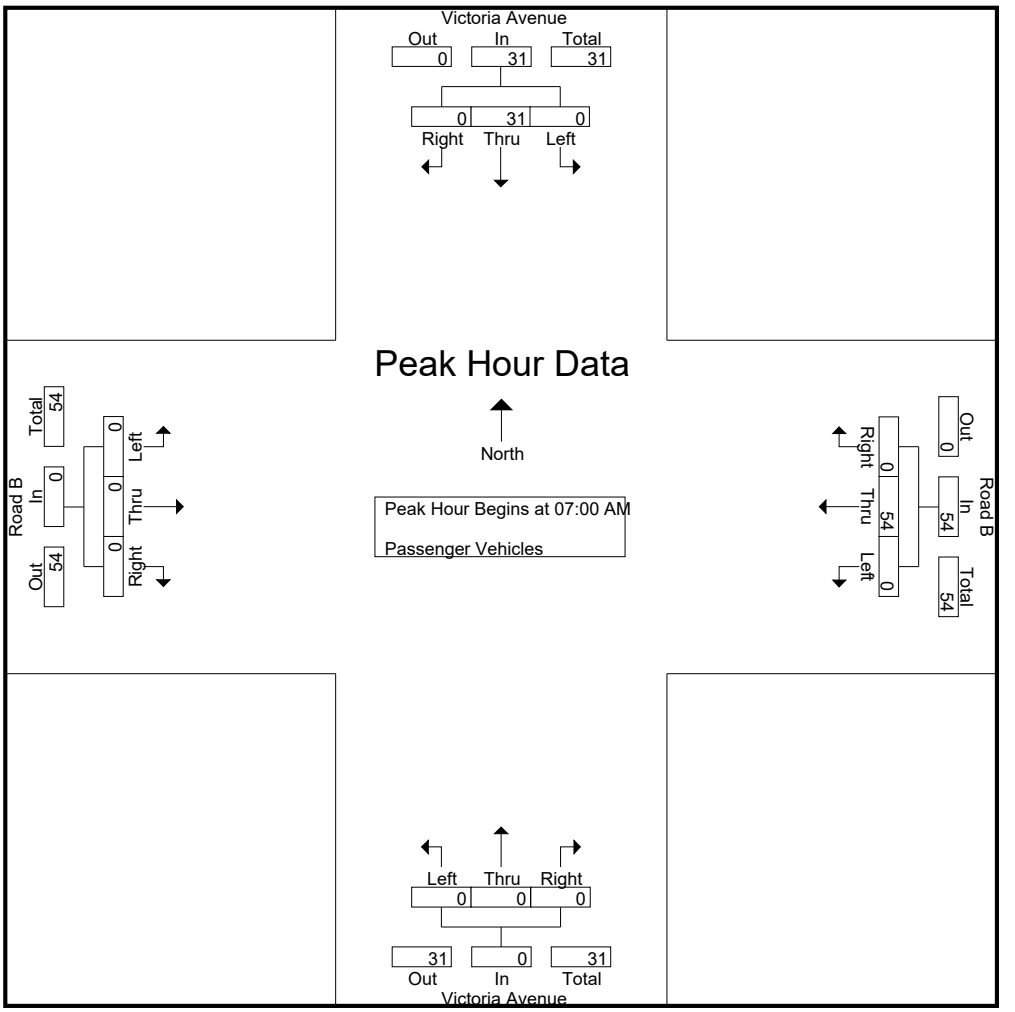

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	8	0	8	0	10	0	10	0	0	0	0	0	0	0	0
+15 mins.	0	3	0	3	0	9	0	9	0	0	0	0	0	0	0	0
+30 mins.	0	**10**	0	**10**	0	17	0	17	0	0	0	0	0	0	0	0
+45 mins.	0	10	0	10	0	**18**	0	**18**	0	0	0	0	0	0	0	0
Total Volume	0	31	0	31	0	54	0	54	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	100	0		0	0	0		0	0	0	
PHF	.000	.775	.000	.775	.000	.750	.000	.750	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	3	0	3	0	2	0	2	0	0	0	0	0	0	0	0	5
07:15 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
07:30 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
07:45 AM	0	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
Total	0	15	0	15	0	2	0	2	0	0	0	0	0	0	0	0	17
08:00 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
08:15 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
08:30 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
08:45 AM	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	13	0	13	0	0	0	0	0	0	0	0	0	0	0	0	13
Grand Total	0	28	0	28	0	2	0	2	0	0	0	0	0	0	0	0	30
Apprch %	0	100	0		0	100	0		0	0	0		0	0	0		
Total %	0	93.3	0	93.3	0	6.7	0	6.7	0	0	0	0	0	0	0	0	

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	3	0	3	0	**2**	0	**2**	0	0	0	0	0	0	0	0	5
07:15 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
07:30 AM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
07:45 AM	0	**6**	0	**6**	0	0	0	0	0	0	0	0	0	0	0	0	**6**
Total Volume	0	15	0	15	0	2	0	2	0	0	0	0	0	0	0	0	17
% App. Total	0	100	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.625	.000	.625	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.708

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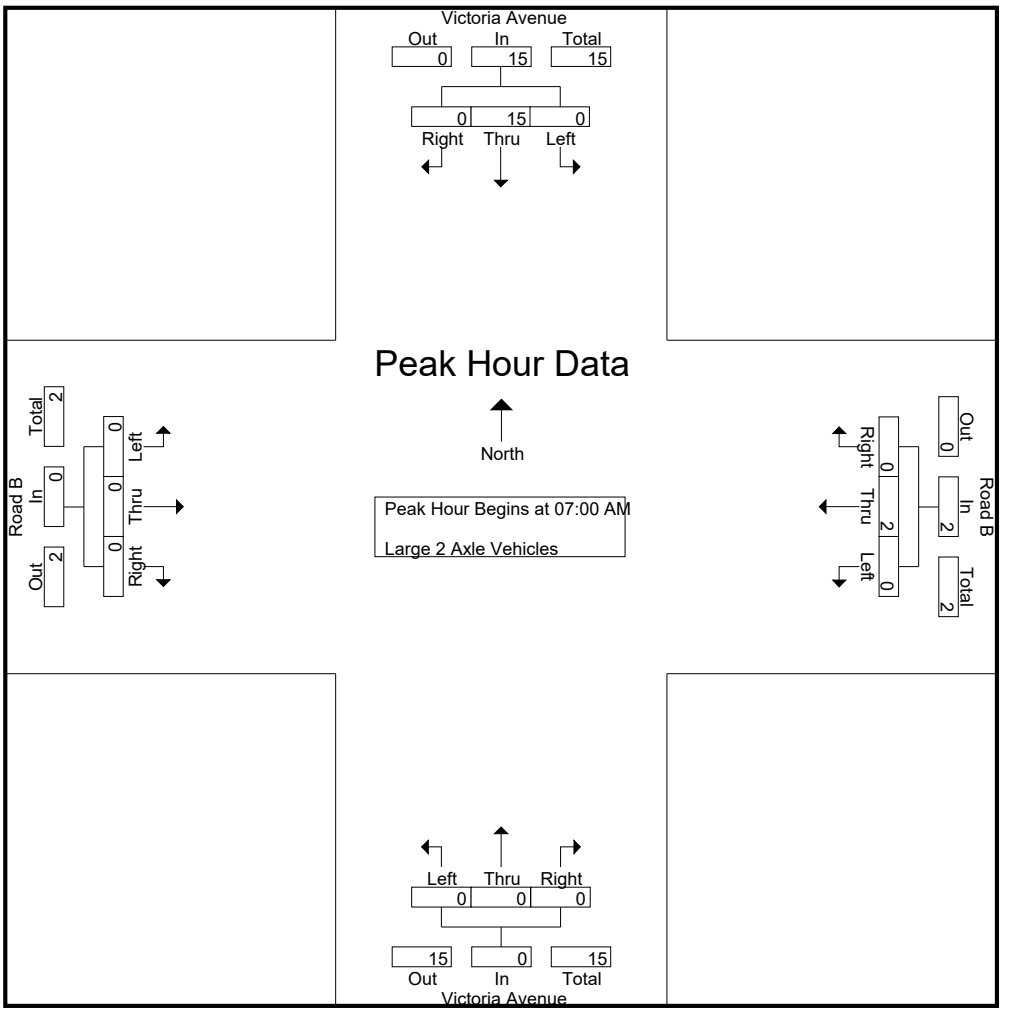

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	3	0	3	0	**2**	0	**2**	0	0	0	0	0	0	0	0
+15 mins.	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	**6**	0	**6**	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	15	0	15	0	2	0	2	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	100	0		0	0	0		0	0	0	
PHF	.000	.625	.000	.625	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000

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Weather: Clear

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Site Code : 05716653
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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Apprch %	0	100	0		0	0	0		0	0	0		0	0	0		
Total %	0	100	0	100	0	0	0	0	0	0	0	0	0	0	0	0	

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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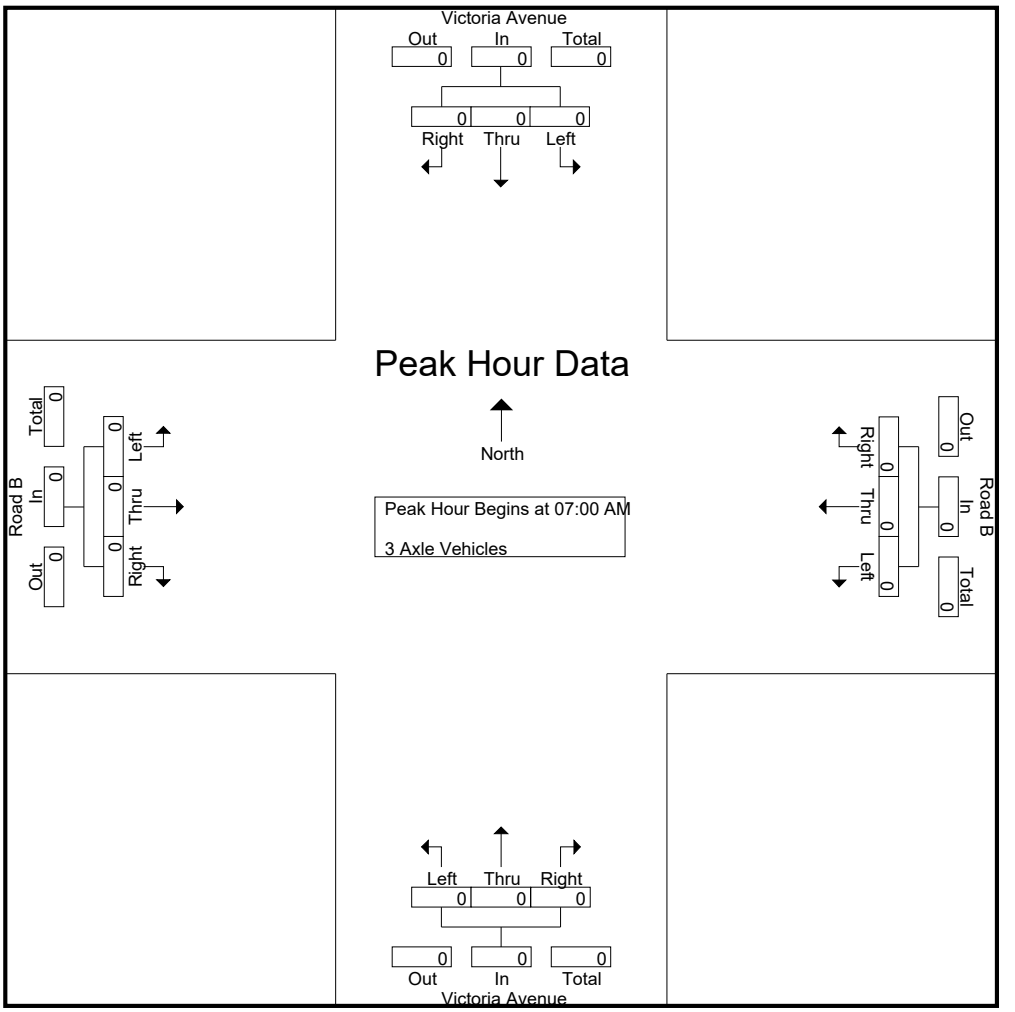

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Apprch %	0	100	0		0	0	0		0	0	0		0	0	0		
Total %	0	100	0	100	0	0	0	0	0	0	0	0	0	0	0	0	

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	**2**	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Total Volume	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.375	.000	.375	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.375

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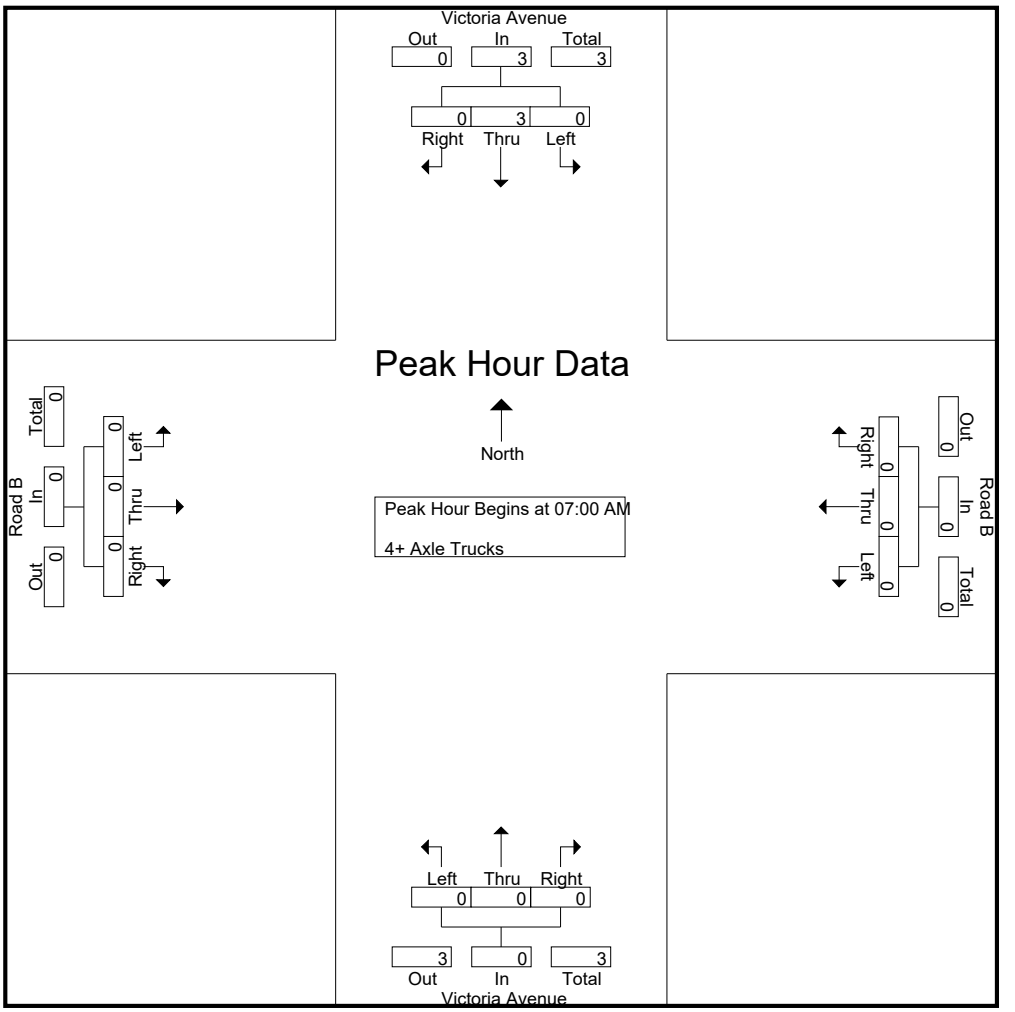

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	**2**	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.375	.000	.375	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	65	0	65	0	35	0	35	0	0	0	0	0	0	0	0	100
04:15 PM	0	38	0	38	0	34	0	34	0	0	0	0	0	0	0	0	72
04:30 PM	0	48	0	48	0	24	0	24	0	0	0	0	0	0	0	0	72
04:45 PM	0	26	0	26	0	31	0	31	0	0	0	0	0	0	0	0	57
Total	0	177	0	177	0	124	0	124	0	0	0	0	0	0	0	0	301
05:00 PM	0	44	0	44	0	36	0	36	0	0	0	0	0	0	0	0	80
05:15 PM	0	32	0	32	0	33	0	33	0	0	0	0	0	0	0	0	65
05:30 PM	0	13	0	13	0	23	0	23	0	0	0	0	0	0	0	0	36
05:45 PM	0	12	0	12	0	12	0	12	0	0	0	0	0	0	0	0	24
Total	0	101	0	101	0	104	0	104	0	0	0	0	0	0	0	0	205
Grand Total	0	278	0	278	0	228	0	228	0	0	0	0	0	0	0	0	506
Apprch %	0	100	0		0	100	0		0	0	0		0	0	0		
Total %	0	54.9	0	54.9	0	45.1	0	45.1	0	0	0	0	0	0	0	0	
Passenger Vehicles	0	249	0	249	0	225	0	225	0	0	0	0	0	0	0	0	474
% Passenger Vehicles	0	89.6	0	89.6	0	98.7	0	98.7	0	0	0	0	0	0	0	0	93.7
Large 2 Axle Vehicles	0	24	0	24	0	3	0	3	0	0	0	0	0	0	0	0	27
% Large 2 Axle Vehicles	0	8.6	0	8.6	0	1.3	0	1.3	0	0	0	0	0	0	0	0	5.3
3 Axle Vehicles	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
% 3 Axle Vehicles	0	1.4	0	1.4	0	0	0	0	0	0	0	0	0	0	0	0	0.8
4+ Axle Trucks	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% 4+ Axle Trucks	0	0.4	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0.2

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	**65**	0	**65**	0	**35**	0	**35**	0	0	0	0	0	0	0	0	**100**
04:15 PM	0	38	0	38	0	34	0	34	0	0	0	0	0	0	0	0	72
04:30 PM	0	48	0	48	0	24	0	24	0	0	0	0	0	0	0	0	72
04:45 PM	0	26	0	26	0	31	0	31	0	0	0	0	0	0	0	0	57
Total Volume	0	177	0	177	0	124	0	124	0	0	0	0	0	0	0	0	301
% App. Total	0	100	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.681	.000	.681	.000	.886	.000	.886	.000	.000	.000	.000	.000	.000	.000	.000	.753

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Site Code : 05716653
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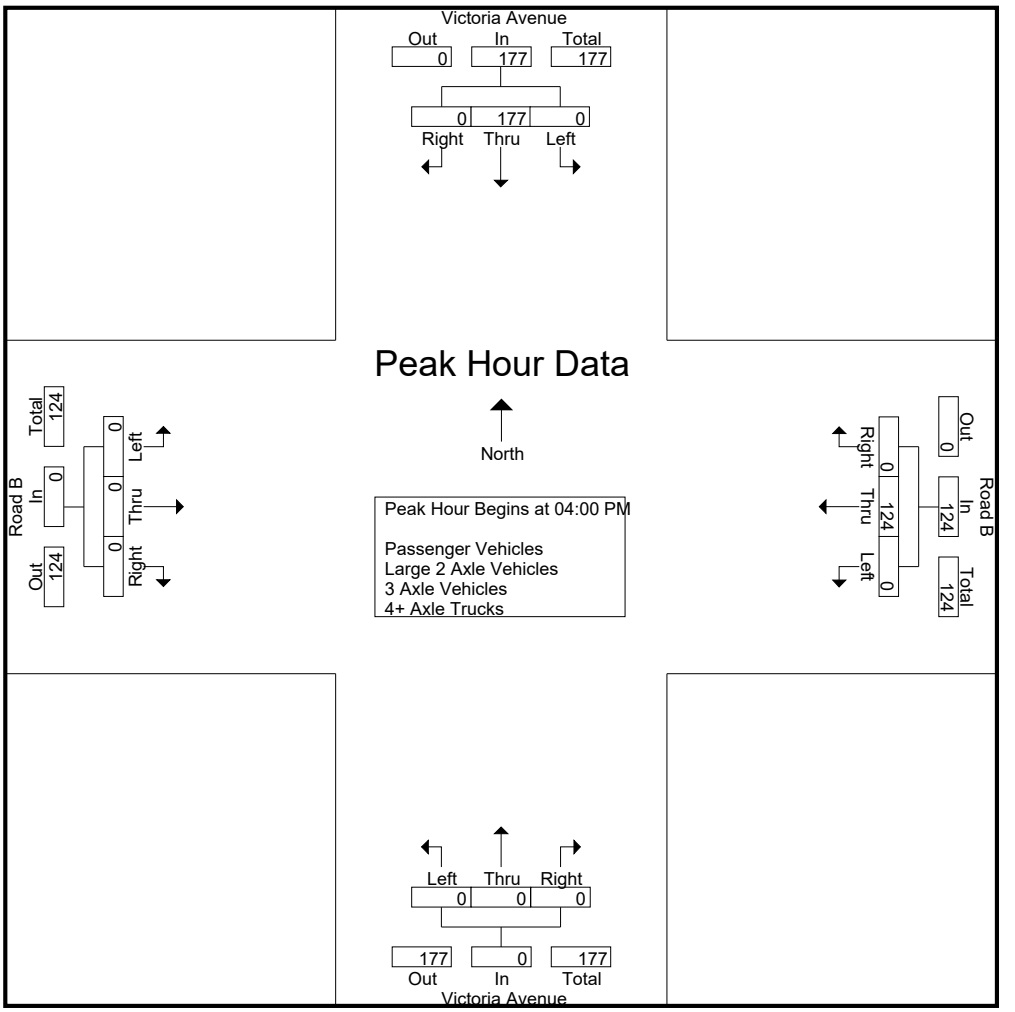

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				04:00 PM				04:00 PM			
+0 mins.	0	**65**	0	**65**	0	34	0	34	0	0	0	0	0	0	0	0
+15 mins.	0	38	0	38	0	24	0	24	0	0	0	0	0	0	0	0
+30 mins.	0	48	0	48	0	31	0	31	0	0	0	0	0	0	0	0
+45 mins.	0	26	0	26	0	**36**	0	**36**	0	0	0	0	0	0	0	0
Total Volume	0	177	0	177	0	125	0	125	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	100	0		0	0	0		0	0	0	
PHF	.000	.681	.000	.681	.000	.868	.000	.868	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	63	0	63	0	34	0	34	0	0	0	0	0	0	0	0	97
04:15 PM	0	32	0	32	0	34	0	34	0	0	0	0	0	0	0	0	66
04:30 PM	0	45	0	45	0	23	0	23	0	0	0	0	0	0	0	0	68
04:45 PM	0	22	0	22	0	31	0	31	0	0	0	0	0	0	0	0	53
Total	0	162	0	162	0	122	0	122	0	0	0	0	0	0	0	0	284
05:00 PM	0	41	0	41	0	35	0	35	0	0	0	0	0	0	0	0	76
05:15 PM	0	29	0	29	0	33	0	33	0	0	0	0	0	0	0	0	62
05:30 PM	0	9	0	9	0	23	0	23	0	0	0	0	0	0	0	0	32
05:45 PM	0	8	0	8	0	12	0	12	0	0	0	0	0	0	0	0	20
Total	0	87	0	87	0	103	0	103	0	0	0	0	0	0	0	0	190
Grand Total	0	249	0	249	0	225	0	225	0	0	0	0	0	0	0	0	474
Apprch %	0	100	0		0	100	0		0	0	0		0	0	0		
Total %	0	52.5	0	52.5	0	47.5	0	47.5	0	0	0	0	0	0	0	0	

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	**63**	0	**63**	0	**34**	0	**34**	0	0	0	0	0	0	0	0	**97**
04:15 PM	0	32	0	32	0	34	0	34	0	0	0	0	0	0	0	0	66
04:30 PM	0	45	0	45	0	23	0	23	0	0	0	0	0	0	0	0	68
04:45 PM	0	22	0	22	0	31	0	31	0	0	0	0	0	0	0	0	53
Total Volume	0	162	0	162	0	122	0	122	0	0	0	0	0	0	0	0	284
% App. Total	0	100	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.643	.000	.643	.000	.897	.000	.897	.000	.000	.000	.000	.000	.000	.000	.000	.732

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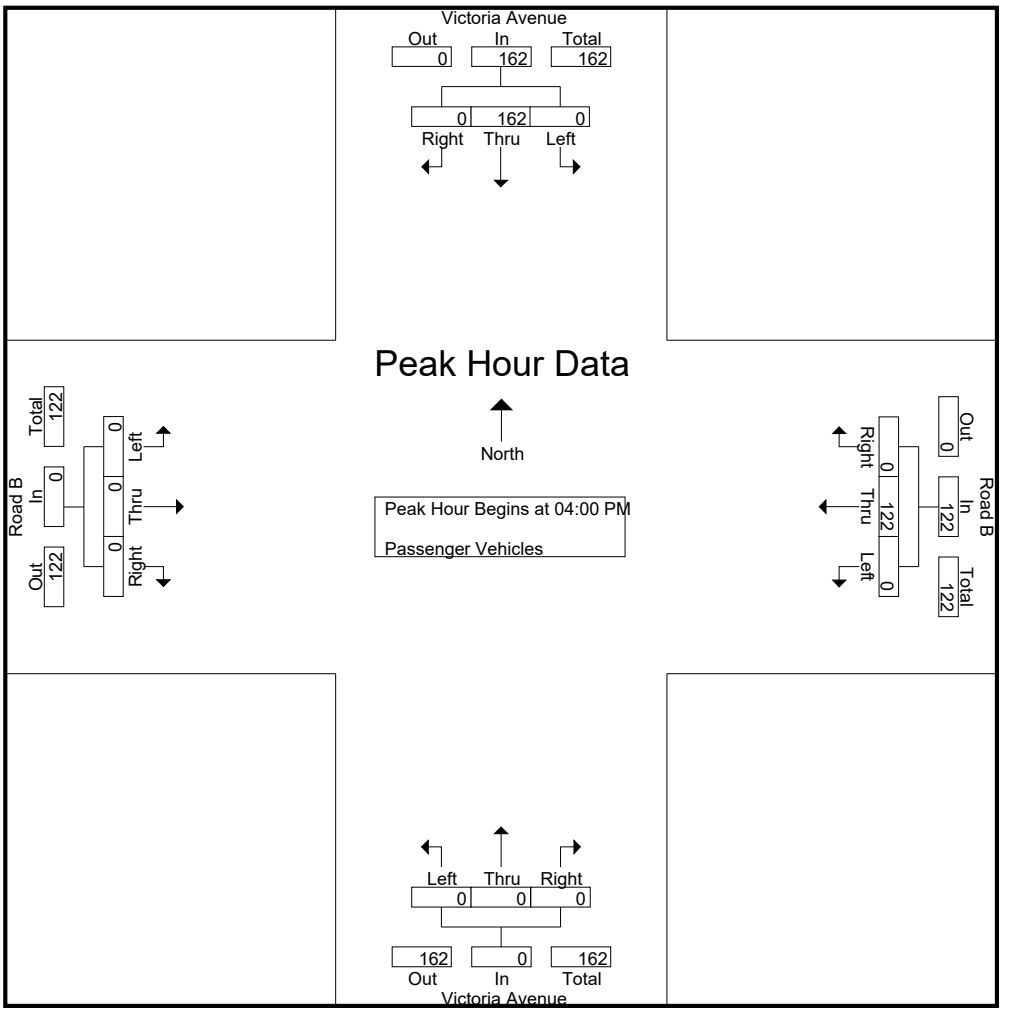

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	**63**	0	**63**	0	**34**	0	**34**	0	0	0	0	0	0	0	0
+15 mins.	0	32	0	32	0	34	0	34	0	0	0	0	0	0	0	0
+30 mins.	0	45	0	45	0	23	0	23	0	0	0	0	0	0	0	0
+45 mins.	0	22	0	22	0	31	0	31	0	0	0	0	0	0	0	0
Total Volume	0	162	0	162	0	122	0	122	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	100	0		0	0	0		0	0	0	
PHF	.000	.643	.000	.643	.000	.897	.000	.897	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
04:15 PM	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
04:30 PM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
04:45 PM	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	12	0	12	0	2	0	2	0	0	0	0	0	0	0	0	14
05:00 PM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
05:15 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:30 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:45 PM	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Total	0	12	0	12	0	1	0	1	0	0	0	0	0	0	0	0	13
Grand Total	0	24	0	24	0	3	0	3	0	0	0	0	0	0	0	0	27
Apprch %	0	100	0		0	100	0		0	0	0		0	0	0		
Total %	0	88.9	0	88.9	0	11.1	0	11.1	0	0	0	0	0	0	0	0	

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	2	0	2	0	**1**	0	**1**	0	0	0	0	0	0	0	0	3
04:15 PM	0	**4**	0	**4**	0	0	0	0	0	0	0	0	0	0	0	0	**4**
04:30 PM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
04:45 PM	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Total Volume	0	12	0	12	0	2	0	2	0	0	0	0	0	0	0	0	14
% App. Total	0	100	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.750	.000	.750	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.875

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E/W: Road B
Weather: Clear

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Site Code : 05716653
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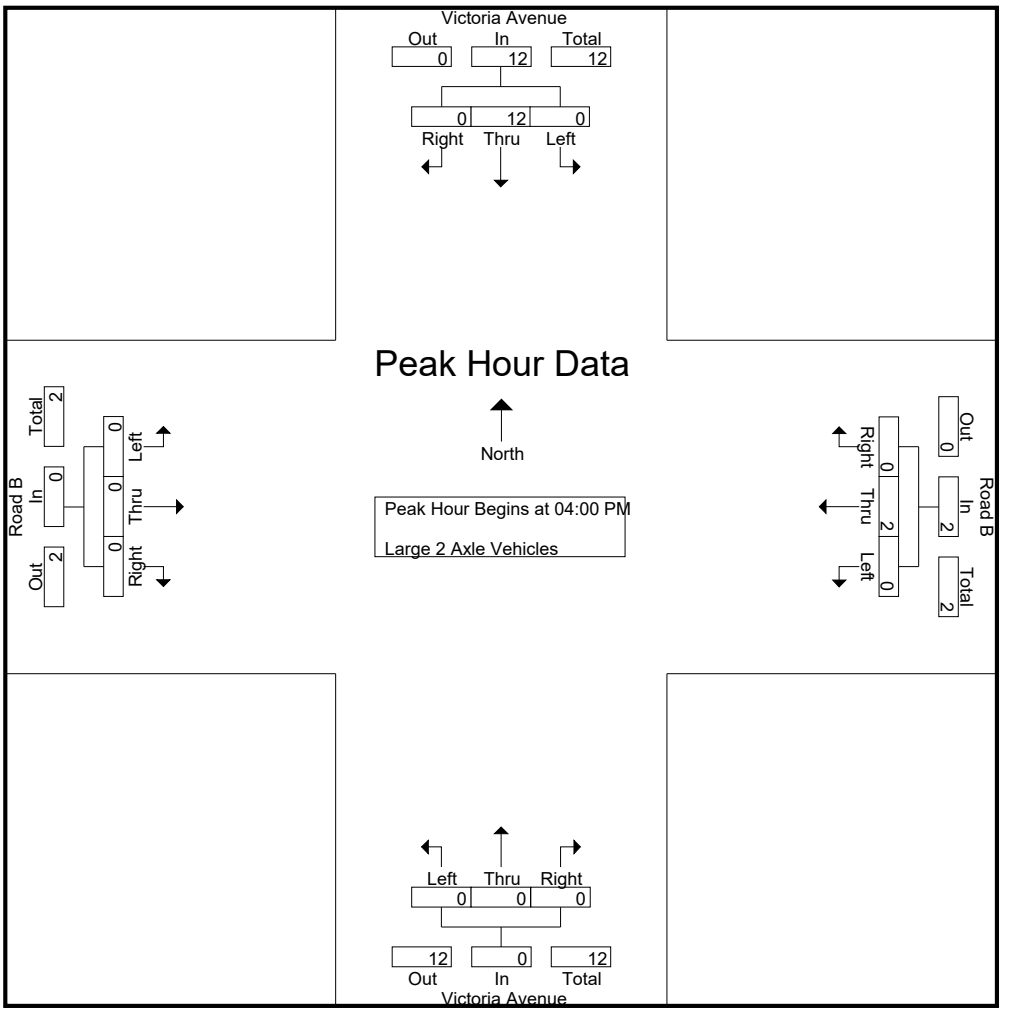

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	2	0	2	0	**1**	0	**1**	0	0	0	0	0	0	0	0
+15 mins.	0	**4**	0	**4**	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	12	0	12	0	2	0	2	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	100	0		0	0	0		0	0	0	
PHF	.000	.750	.000	.750	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Grand Total	0	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Apprch %	0	100	0		0	0	0		0	0	0		0	0	0		
Total %	0	100	0	100	0	0	0	0	0	0	0	0	0	0	0	0	

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	**1**
04:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500

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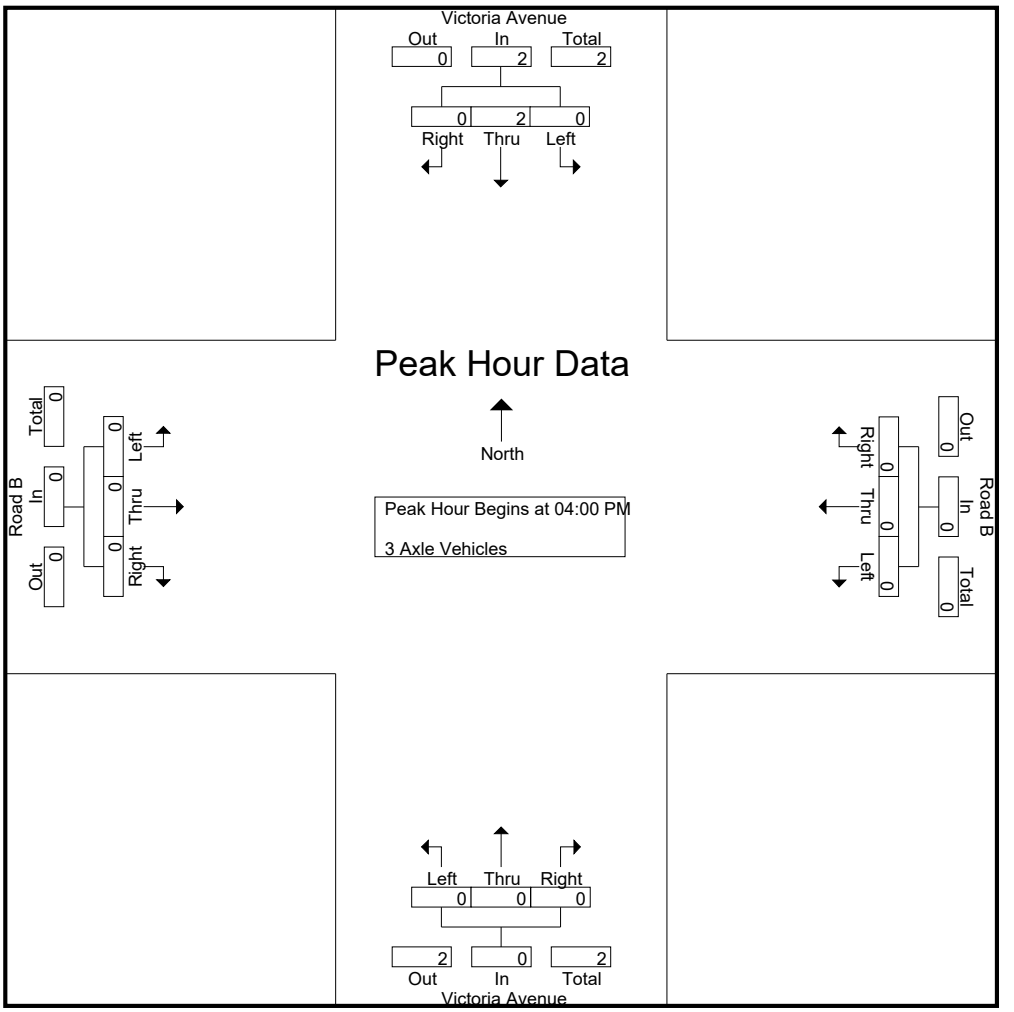

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Apprch %	0	100	0		0	0	0		0	0	0		0	0	0		
Total %	0	100	0	100	0	0	0	0	0	0	0	0	0	0	0	0	

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	**1**
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

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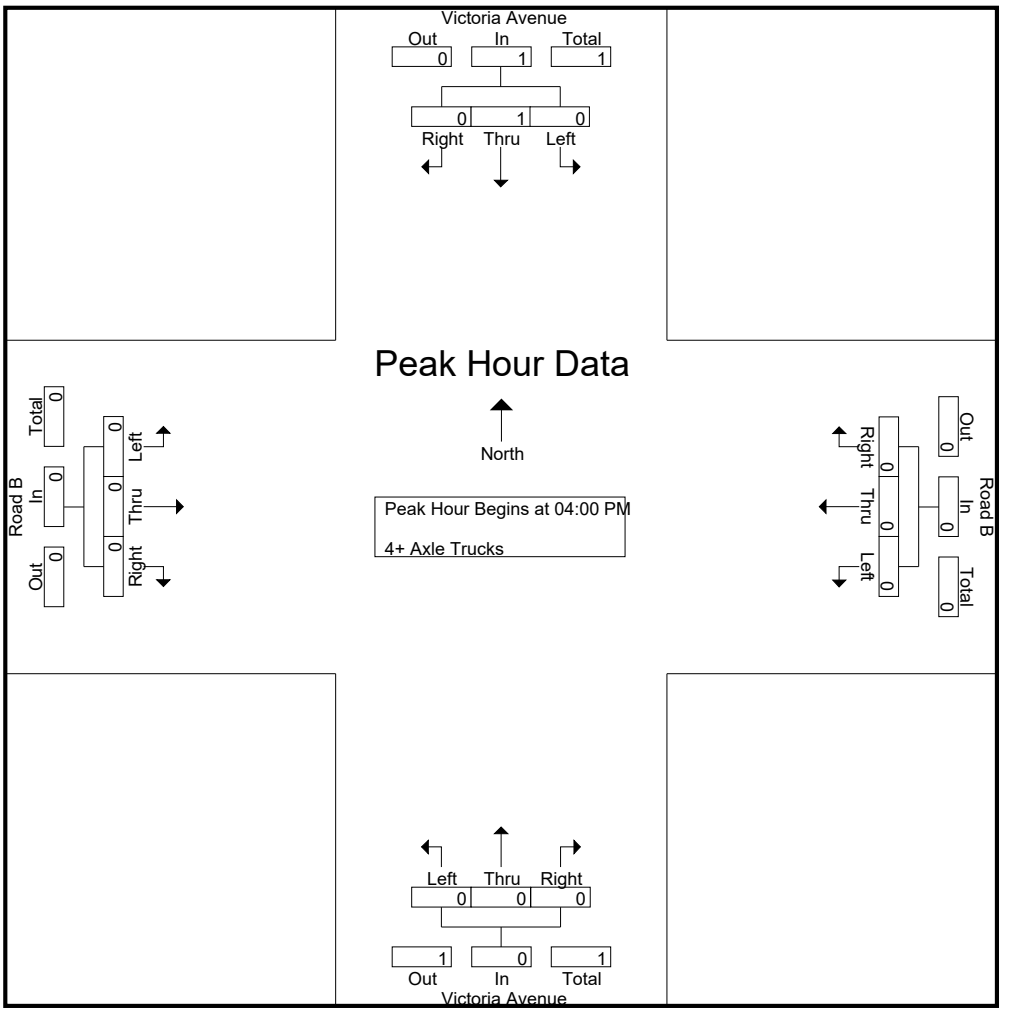

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	17	0	17	0	31	0	31	0	0	0	0	0	0	0	0	48
05:15 PM	0	10	0	10	0	32	0	32	0	0	0	0	0	0	0	0	42
05:30 PM	0	18	0	18	0	39	0	39	0	0	0	0	0	0	0	0	57
05:45 PM	0	14	0	14	0	49	0	49	0	0	0	0	0	0	0	0	63
Total	0	59	0	59	0	151	0	151	0	0	0	0	0	0	0	0	210
06:00 PM	0	27	0	27	0	45	0	45	0	0	0	0	0	0	0	0	72
06:15 PM	0	24	0	24	0	40	0	40	0	0	0	0	0	0	0	0	64
06:30 PM	0	48	0	48	0	51	0	51	0	0	0	0	0	0	0	0	99
06:45 PM	0	26	0	26	0	43	0	43	0	0	0	0	0	0	0	0	69
Total	0	125	0	125	0	179	0	179	0	0	0	0	0	0	0	0	304
Grand Total	0	184	0	184	0	330	0	330	0	0	0	0	0	0	0	0	514
Apprch %	0	100	0		0	100	0		0	0	0		0	0	0		
Total %	0	35.8	0	35.8	0	64.2	0	64.2	0	0	0	0	0	0	0	0	
Passenger Vehicles	0	164	0	164	0	328	0	328	0	0	0	0	0	0	0	0	492
% Passenger Vehicles	0	89.1	0	89.1	0	99.4	0	99.4	0	0	0	0	0	0	0	0	95.7
Large 2 Axle Vehicles	0	20	0	20	0	2	0	2	0	0	0	0	0	0	0	0	22
% Large 2 Axle Vehicles	0	10.9	0	10.9	0	0.6	0	0.6	0	0	0	0	0	0	0	0	4.3
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:00 PM																	
06:00 PM	0	27	0	27	0	45	0	45	0	0	0	0	0	0	0	0	72
06:15 PM	0	24	0	24	0	40	0	40	0	0	0	0	0	0	0	0	64
06:30 PM	0	**48**	0	**48**	0	**51**	0	**51**	0	0	0	0	0	0	0	0	**99**
06:45 PM	0	26	0	26	0	43	0	43	0	0	0	0	0	0	0	0	69
Total Volume	0	125	0	125	0	179	0	179	0	0	0	0	0	0	0	0	304
% App. Total	0	100	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.651	.000	.651	.000	.877	.000	.877	.000	.000	.000	.000	.000	.000	.000	.000	.768

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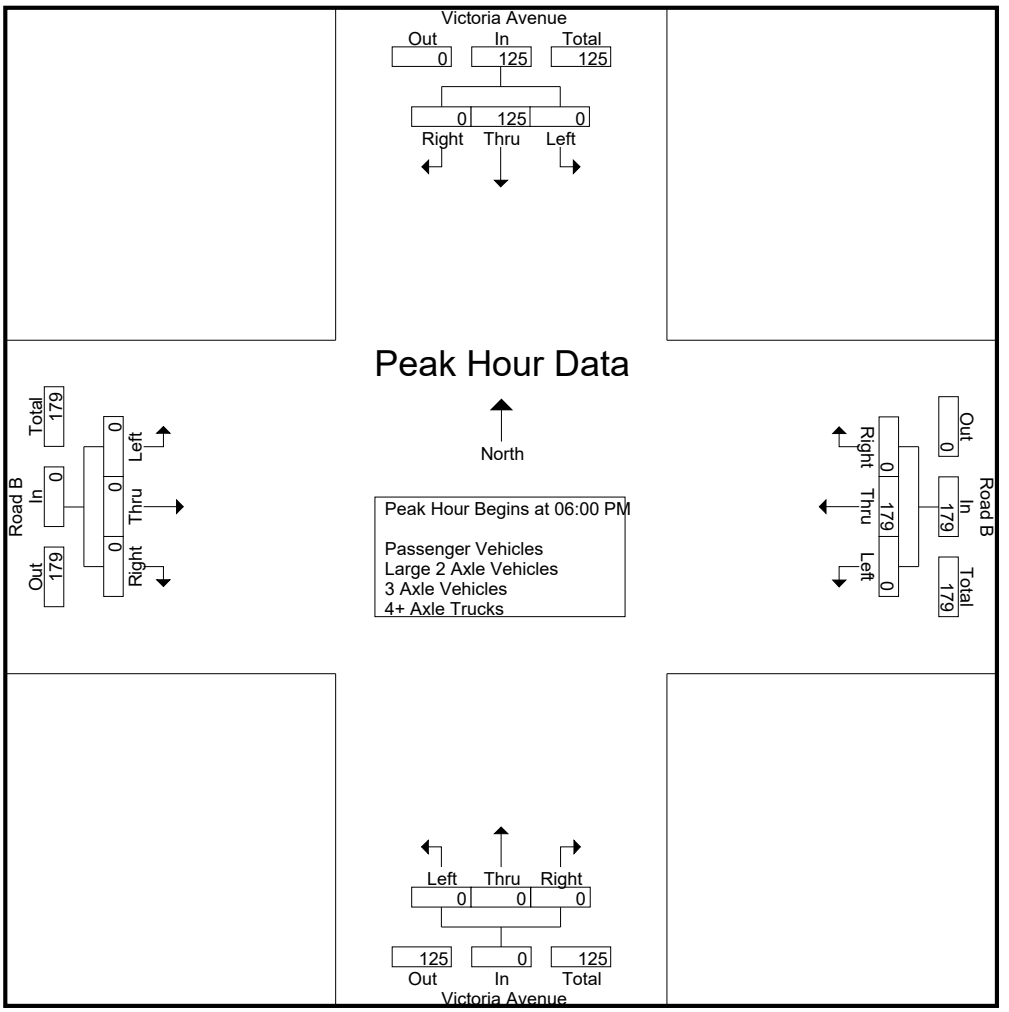

Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM				05:45 PM				05:00 PM				05:00 PM			
+0 mins.	0	27	0	27	0	49	0	49	0	0	0	0	0	0	0	0
+15 mins.	0	24	0	24	0	45	0	45	0	0	0	0	0	0	0	0
+30 mins.	0	**48**	0	**48**	0	40	0	40	0	0	0	0	0	0	0	0
+45 mins.	0	26	0	26	0	**51**	0	**51**	0	0	0	0	0	0	0	0
Total Volume	0	125	0	125	0	185	0	185	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	100	0		0	0	0		0	0	0	
PHF	.000	.651	.000	.651	.000	.907	.000	.907	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	15	0	15	0	31	0	31	0	0	0	0	0	0	0	0	46
05:15 PM	0	7	0	7	0	31	0	31	0	0	0	0	0	0	0	0	38
05:30 PM	0	15	0	15	0	39	0	39	0	0	0	0	0	0	0	0	54
05:45 PM	0	12	0	12	0	48	0	48	0	0	0	0	0	0	0	0	60
Total	0	49	0	49	0	149	0	149	0	0	0	0	0	0	0	0	198
06:00 PM	0	24	0	24	0	45	0	45	0	0	0	0	0	0	0	0	69
06:15 PM	0	22	0	22	0	40	0	40	0	0	0	0	0	0	0	0	62
06:30 PM	0	46	0	46	0	51	0	51	0	0	0	0	0	0	0	0	97
06:45 PM	0	23	0	23	0	43	0	43	0	0	0	0	0	0	0	0	66
Total	0	115	0	115	0	179	0	179	0	0	0	0	0	0	0	0	294
Grand Total	0	164	0	164	0	328	0	328	0	0	0	0	0	0	0	0	492
Apprch %	0	100	0		0	100	0		0	0	0		0	0	0		
Total %	0	33.3	0	33.3	0	66.7	0	66.7	0	0	0	0	0	0	0	0	

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:00 PM																	
06:00 PM	0	24	0	24	0	45	0	45	0	0	0	0	0	0	0	0	69
06:15 PM	0	22	0	22	0	40	0	40	0	0	0	0	0	0	0	0	62
06:30 PM	0	**46**	0	**46**	0	**51**	0	**51**	0	0	0	0	0	0	0	0	**97**
06:45 PM	0	23	0	23	0	43	0	43	0	0	0	0	0	0	0	0	66
Total Volume	0	115	0	115	0	179	0	179	0	0	0	0	0	0	0	0	294
% App. Total	0	100	0		0	100	0		0	0	0		0	0	0		
PHF	.000	.625	.000	.625	.000	.877	.000	.877	.000	.000	.000	.000	.000	.000	.000	.000	.758

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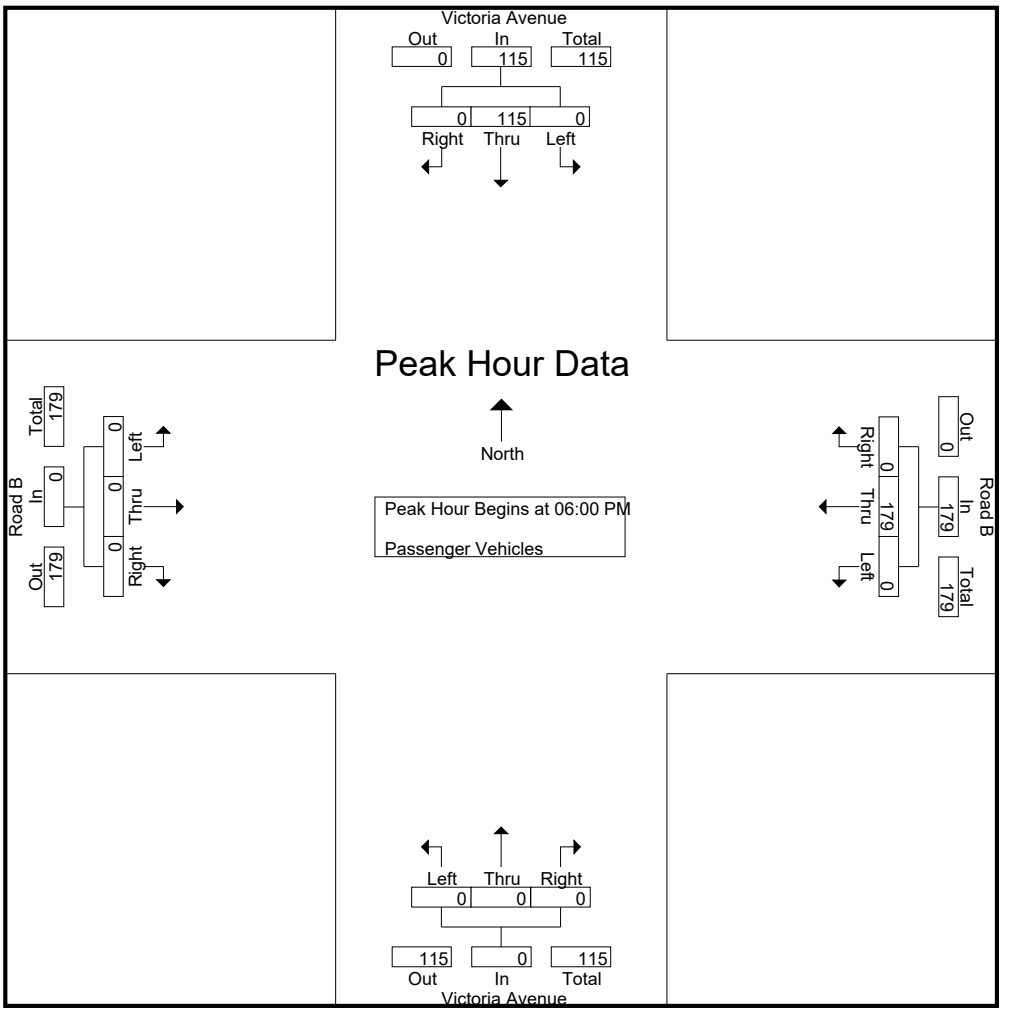

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM				06:00 PM				06:00 PM				06:00 PM			
+0 mins.	0	24	0	24	0	45	0	45	0	0	0	0	0	0	0	0
+15 mins.	0	22	0	22	0	40	0	40	0	0	0	0	0	0	0	0
+30 mins.	0	**46**	0	**46**	0	**51**	0	**51**	0	0	0	0	0	0	0	0
+45 mins.	0	23	0	23	0	43	0	43	0	0	0	0	0	0	0	0
Total Volume	0	115	0	115	0	179	0	179	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	100	0		0	0	0		0	0	0	
PHF	.000	.625	.000	.625	.000	.877	.000	.877	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:15 PM	0	3	0	3	0	1	0	1	0	0	0	0	0	0	0	0	4
05:30 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:45 PM	0	2	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
Total	0	10	0	10	0	2	0	2	0	0	0	0	0	0	0	0	12
06:00 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
06:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:30 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:45 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Total	0	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	10
Grand Total	0	20	0	20	0	2	0	2	0	0	0	0	0	0	0	0	22
Apprch %	0	100	0		0	100	0		0	0	0		0	0	0		
Total %	0	90.9	0	90.9	0	9.1	0	9.1	0	0	0	0	0	0	0	0	

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:00 PM																	
06:00 PM	0	**3**	0	**3**	0	0	0	0	0	0	0	0	0	0	0	0	**3**
06:15 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:30 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
06:45 PM	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Total Volume	0	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0	10
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.833	.000	.833	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.833

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(951) 268-6268

County of San Bernardino
N/S: Victoria Avenue
E/W: Road B
Weather: Clear

File Name : CSBVIRBSAT
Site Code : 05716653
Start Date : 12/10/2016
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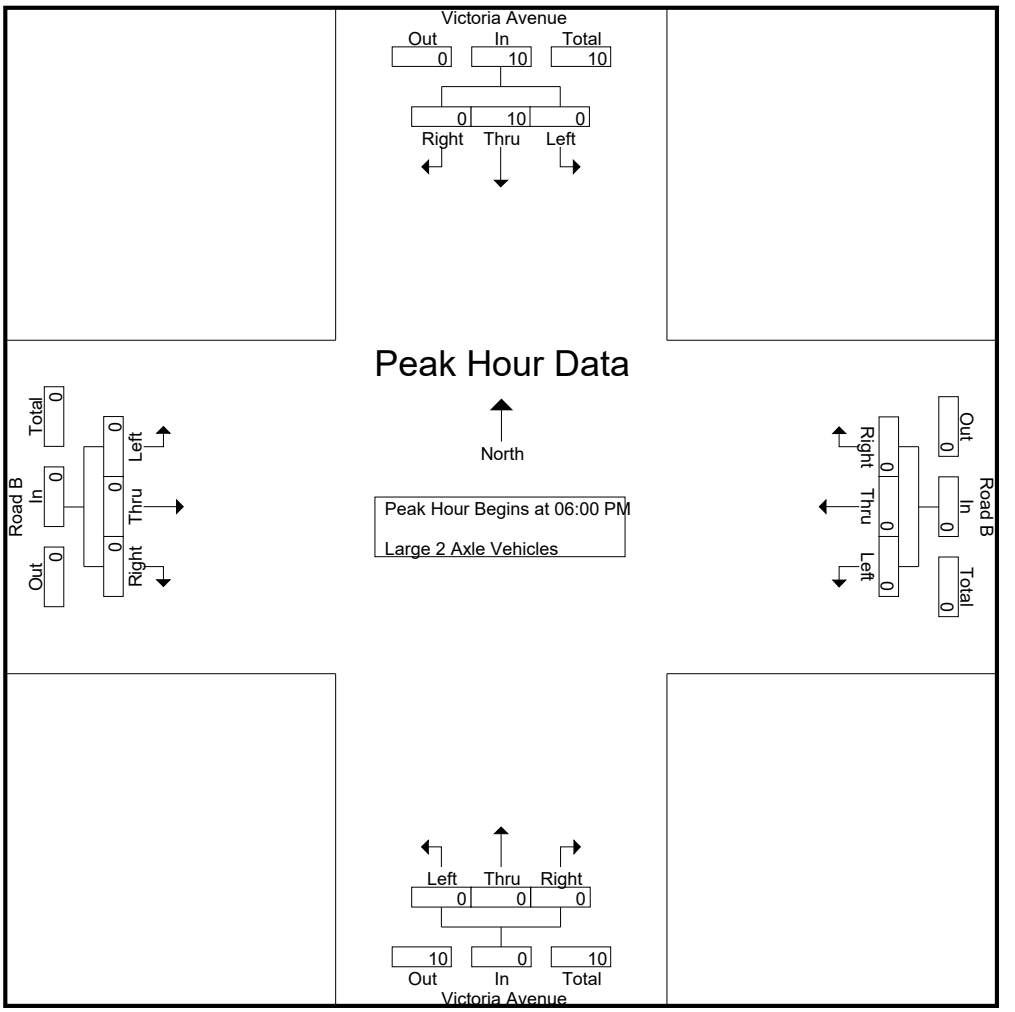

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM				06:00 PM				06:00 PM				06:00 PM			
+0 mins.	0	**3**	0	**3**	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	10	0	10	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.833	.000	.833	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:00 PM																	
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Site Code : 05716653
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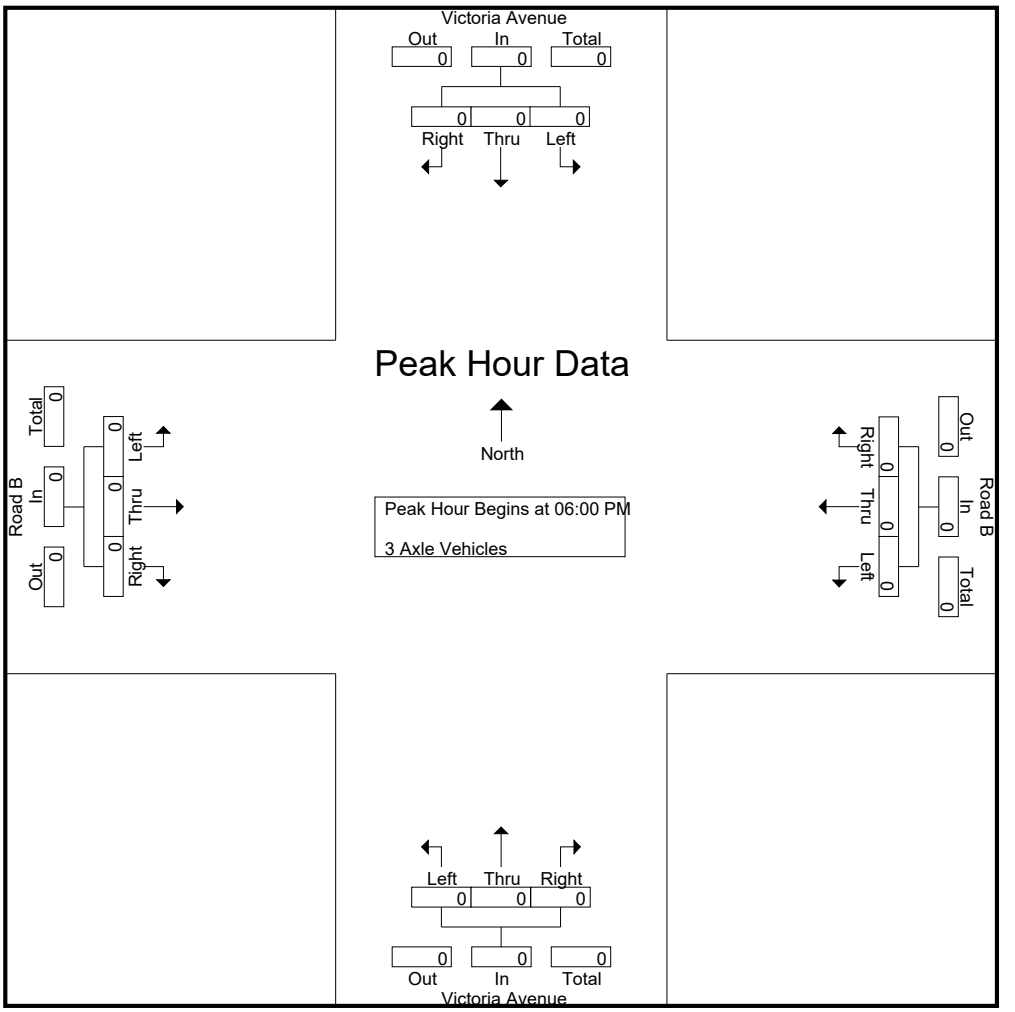

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM				06:00 PM				06:00 PM				06:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Victoria Avenue Southbound				Road B Westbound				Victoria Avenue Northbound				Road B Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:00 PM																	
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
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Weather: Clear

File Name : CSBVIRBSAT
Site Code : 05716653
Start Date : 12/10/2016
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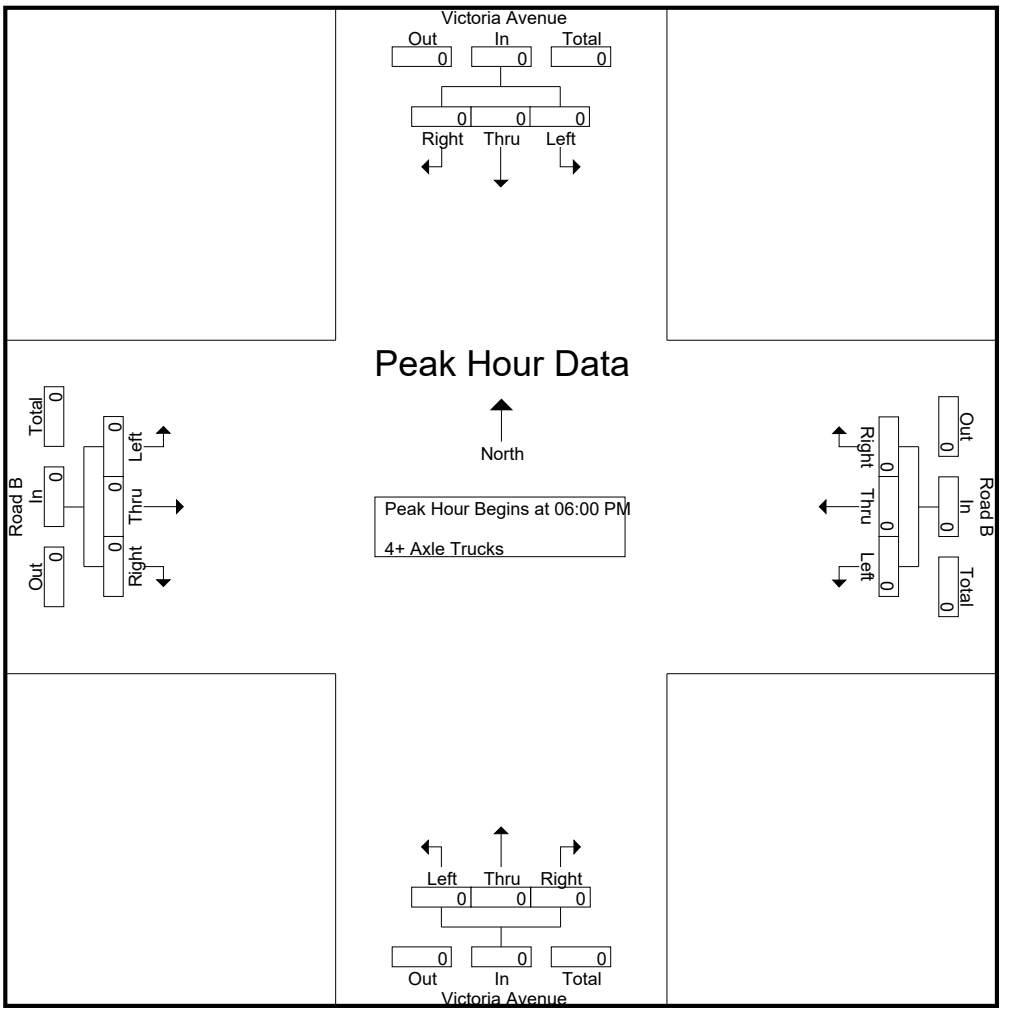

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM				06:00 PM				06:00 PM				06:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Victoria Avenue
E/W: Driveway C
Weather: Clear

File Name : CSBVIDCAM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	25	2	27	0	1	0	1	2	37	0	39	10	2	8	20	87
07:15 AM	4	11	3	18	0	0	0	0	2	32	0	34	6	0	1	7	59
07:30 AM	2	19	7	28	0	0	0	0	3	48	0	51	6	3	4	13	92
07:45 AM	4	15	3	22	0	0	0	0	5	58	0	63	6	0	3	9	94
Total	10	70	15	95	0	1	0	1	12	175	0	187	28	5	16	49	332
08:00 AM	1	27	5	33	0	0	0	0	2	32	0	34	6	1	0	7	74
08:15 AM	1	23	3	27	2	0	0	2	9	43	1	53	3	1	2	6	88
08:30 AM	2	19	2	23	0	0	0	0	4	50	0	54	4	1	2	7	84
08:45 AM	1	14	2	17	0	0	0	0	8	33	0	41	4	3	2	9	67
Total	5	83	12	100	2	0	0	2	23	158	1	182	17	6	6	29	313
Grand Total	15	153	27	195	2	1	0	3	35	333	1	369	45	11	22	78	645
Apprch %	7.7	78.5	13.8		66.7	33.3	0		9.5	90.2	0.3		57.7	14.1	28.2		
Total %	2.3	23.7	4.2	30.2	0.3	0.2	0	0.5	5.4	51.6	0.2	57.2	7	1.7	3.4	12.1	
Passenger Vehicles	14	122	26	162	2	0	0	2	33	302	1	336	38	11	22	71	571
% Passenger Vehicles	93.3	79.7	96.3	83.1	100	0	0	66.7	94.3	90.7	100	91.1	84.4	100	100	91	88.5
Large 2 Axle Vehicles	1	26	1	28	0	0	0	0	2	28	0	30	6	0	0	6	64
% Large 2 Axle Vehicles	6.7	17	3.7	14.4	0	0	0	0	5.7	8.4	0	8.1	13.3	0	0	7.7	9.9
3 Axle Vehicles	0	1	0	1	0	1	0	1	0	1	0	1	1	0	0	1	4
% 3 Axle Vehicles	0	0.7	0	0.5	0	100	0	33.3	0	0.3	0	0.3	2.2	0	0	1.3	0.6
4+ Axle Trucks	0	4	0	4	0	0	0	0	0	2	0	2	0	0	0	0	6
% 4+ Axle Trucks	0	2.6	0	2.1	0	0	0	0	0	0.6	0	0.5	0	0	0	0	0.9

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	2	19	**7**	28	0	0	0	0	3	48	0	51	**6**	**3**	**4**	**13**	92
07:45 AM	**4**	15	3	22	0	0	0	0	5	**58**	0	**63**	6	0	3	9	**94**
08:00 AM	1	**27**	5	**33**	0	0	0	0	2	32	0	34	6	1	0	7	74
08:15 AM	1	23	3	27	**2**	0	0	**2**	**9**	43	**1**	53	3	1	2	6	88
Total Volume	8	84	18	110	2	0	0	2	19	181	1	201	21	5	9	35	348
% App. Total	7.3	76.4	16.4		100	0	0		9.5	90	0.5		60	14.3	25.7		
PHF	.500	.778	.643	.833	.250	.000	.000	.250	.528	.780	.250	.798	.875	.417	.563	.673	.926

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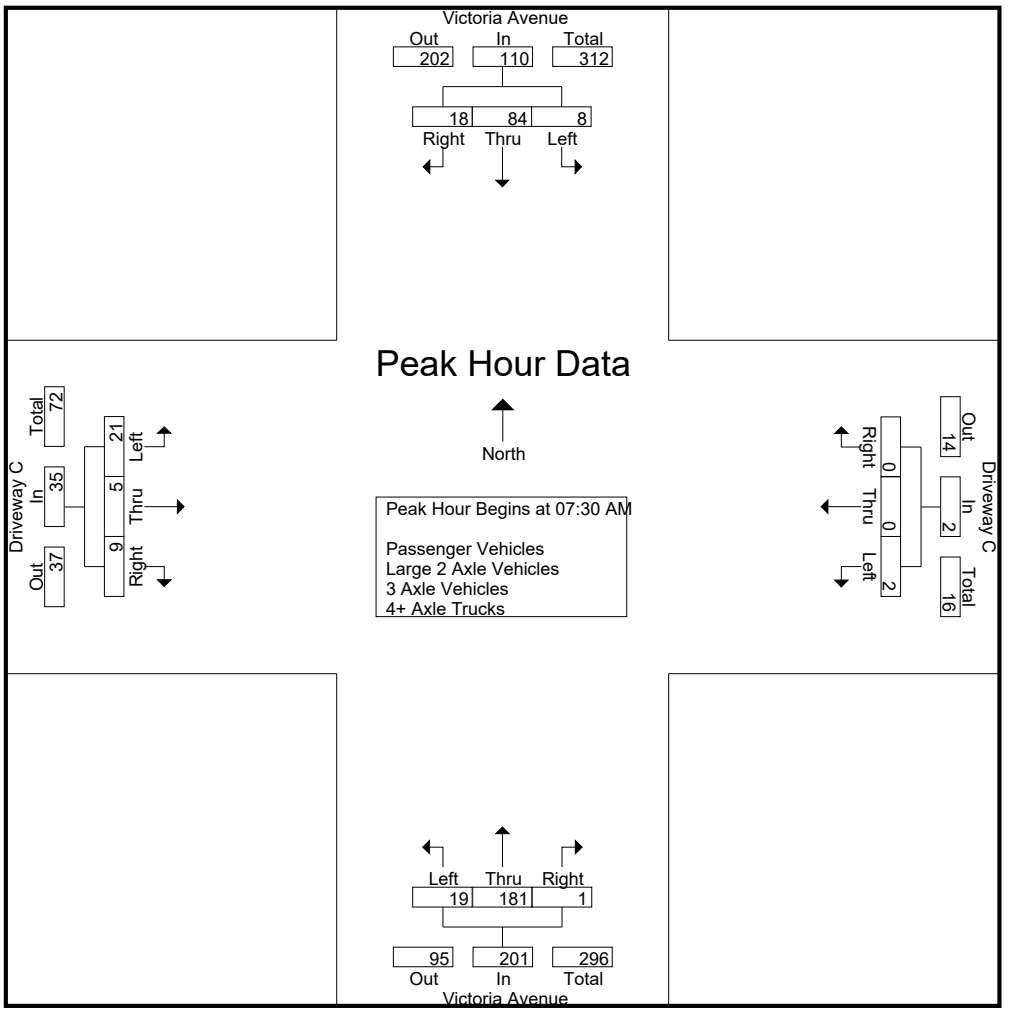

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:45 AM				07:00 AM			
+0 mins.	2	19	**7**	28	0	0	0	0	5	**58**	0	**63**	**10**	2	**8**	**20**
+15 mins.	**4**	15	3	22	0	0	0	0	2	32	0	34	6	0	1	7
+30 mins.	1	**27**	5	**33**	0	0	0	0	**9**	43	**1**	53	6	**3**	4	13
+45 mins.	1	23	3	27	**2**	0	0	**2**	4	50	0	54	6	0	3	9
Total Volume	8	84	18	110	2	0	0	2	20	183	1	204	28	5	16	49
% App. Total	7.3	76.4	16.4		100	0	0		9.8	89.7	0.5		57.1	10.2	32.7	
PHF	.500	.778	.643	.833	.250	.000	.000	.250	.556	.789	.250	.810	.700	.417	.500	.613

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Site Code : 05716653
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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	22	2	24	0	0	0	0	2	33	0	35	7	2	8	17	76
07:15 AM	4	8	2	14	0	0	0	0	2	29	0	31	5	0	1	6	51
07:30 AM	2	16	7	25	0	0	0	0	3	43	0	46	5	3	4	12	83
07:45 AM	3	9	3	15	0	0	0	0	5	55	0	60	6	0	3	9	84
Total	9	55	14	78	0	0	0	0	12	160	0	172	23	5	16	44	294
08:00 AM	1	22	5	28	0	0	0	0	2	27	0	29	5	1	0	6	63
08:15 AM	1	20	3	24	2	0	0	2	9	39	1	49	3	1	2	6	81
08:30 AM	2	13	2	17	0	0	0	0	3	47	0	50	4	1	2	7	74
08:45 AM	1	12	2	15	0	0	0	0	7	29	0	36	3	3	2	8	59
Total	5	67	12	84	2	0	0	2	21	142	1	164	15	6	6	27	277
Grand Total	14	122	26	162	2	0	0	2	33	302	1	336	38	11	22	71	571
Apprch %	8.6	75.3	16		100	0	0		9.8	89.9	0.3		53.5	15.5	31		
Total %	2.5	21.4	4.6	28.4	0.4	0	0	0.4	5.8	52.9	0.2	58.8	6.7	1.9	3.9	12.4	

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	2	16	**7**	25	0	0	0	0	3	43	0	46	5	**3**	**4**	**12**	83
07:45 AM	**3**	9	3	15	0	0	0	0	5	**55**	0	**60**	**6**	0	3	9	**84**
08:00 AM	1	**22**	5	**28**	0	0	0	0	2	27	0	29	5	1	0	6	63
08:15 AM	1	20	3	24	**2**	0	0	**2**	**9**	39	**1**	49	3	1	2	6	81
Total Volume	7	67	18	92	2	0	0	2	19	164	1	184	19	5	9	33	311
% App. Total	7.6	72.8	19.6		100	0	0		10.3	89.1	0.5		57.6	15.2	27.3		
PHF	.583	.761	.643	.821	.250	.000	.000	.250	.528	.745	.250	.767	.792	.417	.563	.688	.926

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County of San Bernardino
N/S: Victoria Avenue
E/W: Driveway C
Weather: Clear

File Name : CSBVIDCAM
Site Code : 05716653
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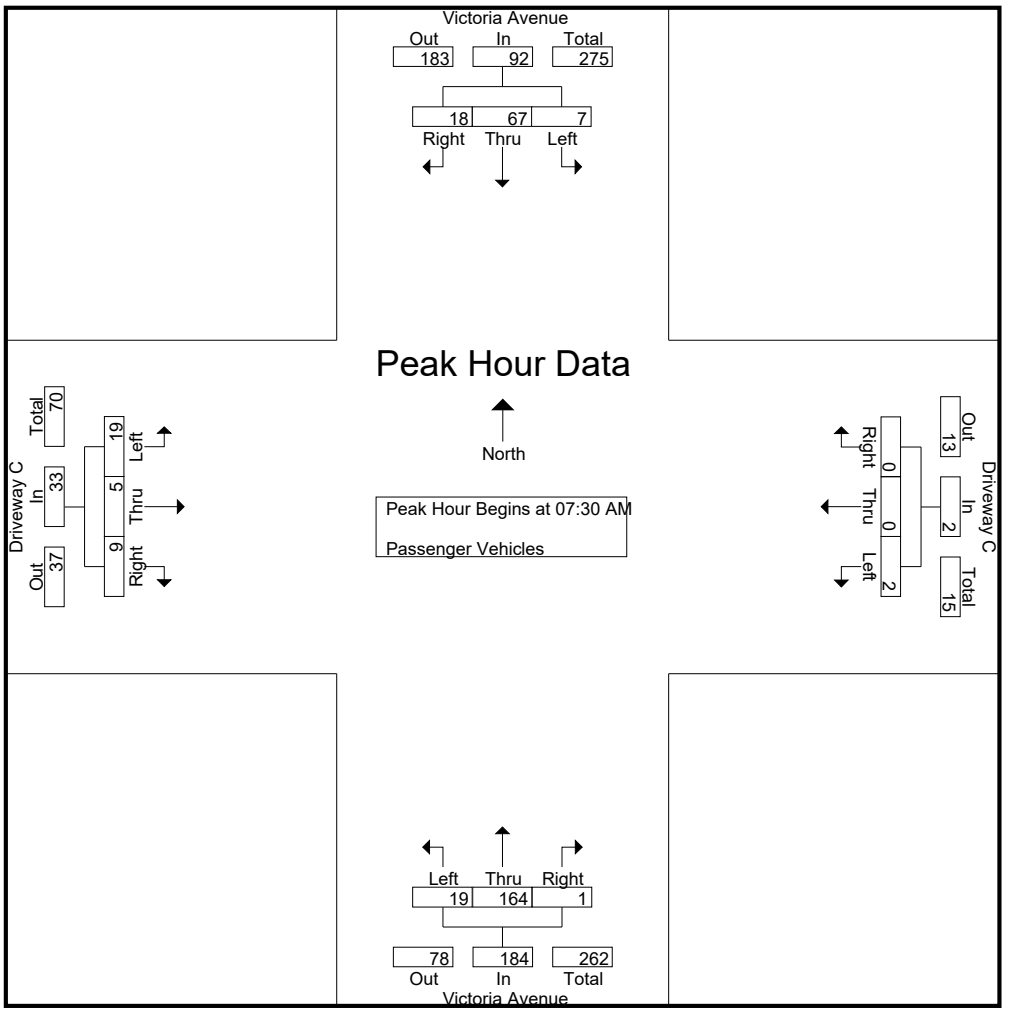

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	2	16	**7**	25	0	0	0	0	3	43	0	46	5	**3**	**4**	**12**
+15 mins.	**3**	9	3	15	0	0	0	0	5	**55**	0	**60**	**6**	0	3	9
+30 mins.	1	**22**	5	**28**	0	0	0	0	2	27	0	29	5	1	0	6
+45 mins.	1	20	3	24	**2**	0	0	**2**	**9**	39	**1**	49	3	1	2	6
Total Volume	7	67	18	92	2	0	0	2	19	164	1	184	19	5	9	33
% App. Total	7.6	72.8	19.6		100	0	0		10.3	89.1	0.5		57.6	15.2	27.3	
PHF	.583	.761	.643	.821	.250	.000	.000	.250	.528	.745	.250	.767	.792	.417	.563	.688

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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	3	0	3	0	0	0	0	0	3	0	3	2	0	0	2	8
07:15 AM	0	3	1	4	0	0	0	0	0	3	0	3	1	0	0	1	8
07:30 AM	0	2	0	2	0	0	0	0	0	5	0	5	1	0	0	1	8
07:45 AM	1	5	0	6	0	0	0	0	0	3	0	3	0	0	0	0	9
Total	1	13	1	15	0	0	0	0	0	14	0	14	4	0	0	4	33
08:00 AM	0	5	0	5	0	0	0	0	0	4	0	4	1	0	0	1	10
08:15 AM	0	3	0	3	0	0	0	0	0	4	0	4	0	0	0	0	7
08:30 AM	0	3	0	3	0	0	0	0	1	2	0	3	0	0	0	0	6
08:45 AM	0	2	0	2	0	0	0	0	1	4	0	5	1	0	0	1	8
Total	0	13	0	13	0	0	0	0	2	14	0	16	2	0	0	2	31
Grand Total	1	26	1	28	0	0	0	0	2	28	0	30	6	0	0	6	64
Apprch %	3.6	92.9	3.6		0	0	0		6.7	93.3	0		100	0	0		
Total %	1.6	40.6	1.6	43.8	0	0	0	0	3.1	43.8	0	46.9	9.4	0	0	9.4	

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	2	0	2	0	0	0	0	0	**5**	0	**5**	**1**	0	0	**1**	8
07:45 AM	**1**	**5**	0	**6**	0	0	0	0	0	3	0	3	0	0	0	0	9
08:00 AM	0	5	0	5	0	0	0	0	0	4	0	4	1	0	0	1	**10**
08:15 AM	0	3	0	3	0	0	0	0	0	4	0	4	0	0	0	0	7
Total Volume	1	15	0	16	0	0	0	0	0	16	0	16	2	0	0	2	34
% App. Total	6.2	93.8	0		0	0	0		0	100	0		100	0	0		
PHF	.250	.750	.000	.667	.000	.000	.000	.000	.000	.800	.000	.800	.500	.000	.000	.500	.850

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County of San Bernardino
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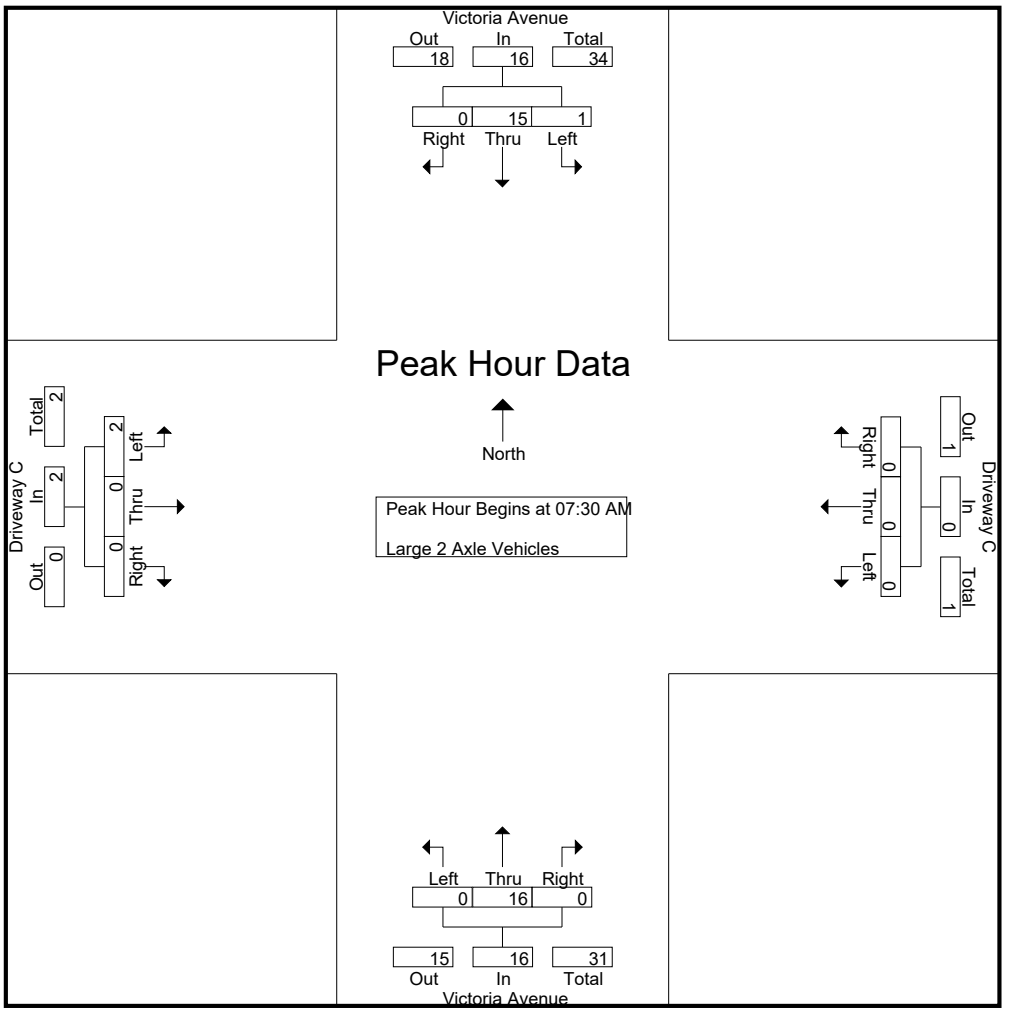

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	2	0	2	0	0	0	0	0	**5**	0	**5**	**1**	0	0	**1**
+15 mins.	**1**	**5**	0	**6**	0	0	0	0	0	3	0	3	0	0	0	0
+30 mins.	0	5	0	5	0	0	0	0	0	4	0	4	1	0	0	1
+45 mins.	0	3	0	3	0	0	0	0	0	4	0	4	0	0	0	0
Total Volume	1	15	0	16	0	0	0	0	0	16	0	16	2	0	0	2
% App. Total	6.2	93.8	0		0	0	0		0	100	0		100	0	0	
PHF	.250	.750	.000	.667	.000	.000	.000	.000	.000	.800	.000	.800	.500	.000	.000	.500

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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	1	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	1	2
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Grand Total	0	1	0	1	0	1	0	1	0	1	0	1	1	0	0	1	4
Apprch %	0	100	0		0	100	0		0	100	0		100	0	0		
Total %	0	25	0	25	0	25	0	25	0	25	0	25	25	0	0	25	

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	**1**
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250

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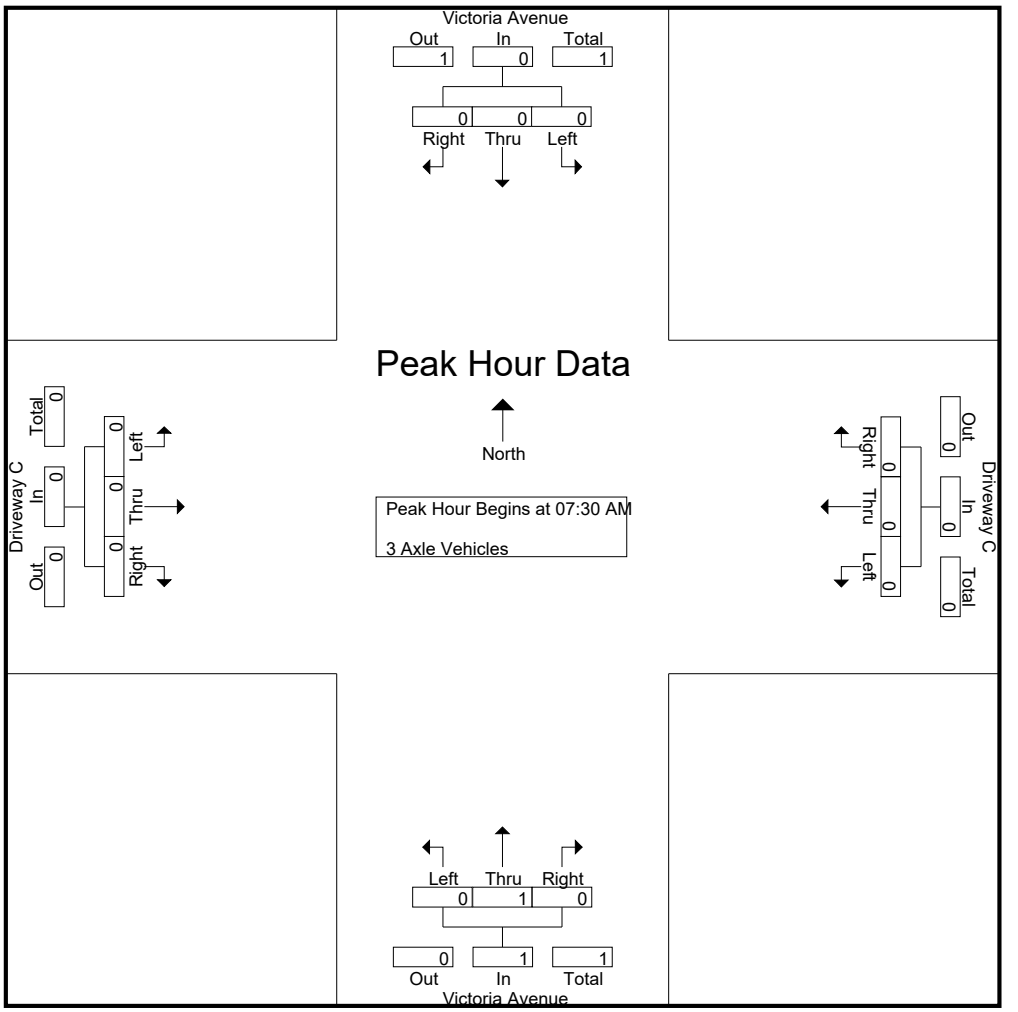

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
Grand Total	0	4	0	4	0	0	0	0	0	2	0	2	0	0	0	0	6
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	66.7	0	66.7	0	0	0	0	0	33.3	0	33.3	0	0	0	0	

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	**1**
07:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500

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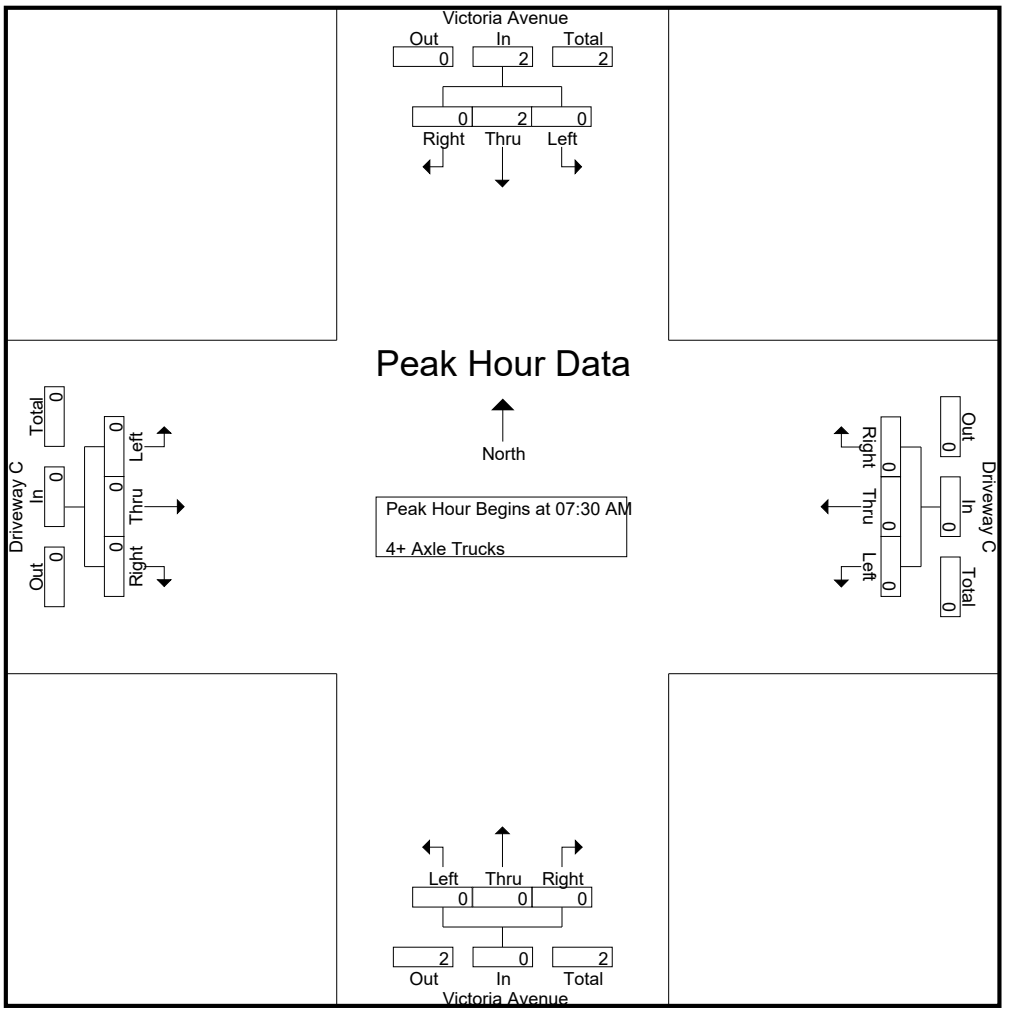

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	3	75	9	87	0	0	1	1	6	48	0	54	3	1	10	14	156
04:15 PM	4	56	4	64	1	0	3	4	10	47	0	57	3	0	2	5	130
04:30 PM	9	56	3	68	0	0	2	2	11	41	0	52	6	3	4	13	135
04:45 PM	2	40	4	46	0	0	0	0	11	47	1	59	6	0	13	19	124
Total	18	227	20	265	1	0	6	7	38	183	1	222	18	4	29	51	545
05:00 PM	3	50	6	59	0	1	2	3	15	46	1	62	6	0	1	7	131
05:15 PM	7	53	5	65	0	0	0	0	7	51	3	61	0	1	9	10	136
05:30 PM	3	38	2	43	0	1	0	1	9	60	2	71	6	1	2	9	124
05:45 PM	9	47	0	56	0	0	1	1	8	55	1	64	5	1	5	11	132
Total	22	188	13	223	0	2	3	5	39	212	7	258	17	3	17	37	523
Grand Total	40	415	33	488	1	2	9	12	77	395	8	480	35	7	46	88	1068
Apprch %	8.2	85	6.8		8.3	16.7	75		16	82.3	1.7		39.8	8	52.3		
Total %	3.7	38.9	3.1	45.7	0.1	0.2	0.8	1.1	7.2	37	0.7	44.9	3.3	0.7	4.3	8.2	
Passenger Vehicles	40	390	31	461	1	2	9	12	77	365	8	450	35	7	46	88	1011
% Passenger Vehicles	100	94	93.9	94.5	100	100	100	100	100	92.4	100	93.8	100	100	100	100	94.7
Large 2 Axle Vehicles	0	21	1	22	0	0	0	0	0	25	0	25	0	0	0	0	47
% Large 2 Axle Vehicles	0	5.1	3	4.5	0	0	0	0	0	6.3	0	5.2	0	0	0	0	4.4
3 Axle Vehicles	0	3	1	4	0	0	0	0	0	5	0	5	0	0	0	0	9
% 3 Axle Vehicles	0	0.7	3	0.8	0	0	0	0	0	1.3	0	1	0	0	0	0	0.8
4+ Axle Trucks	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% 4+ Axle Trucks	0	0.2	0	0.2	0	0	0	0	0	0	0	0	0	0	0	0	0.1

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	3	**75**	**9**	**87**	0	0	1	1	6	**48**	0	54	3	1	10	14	**156**
04:15 PM	4	56	4	64	**1**	0	**3**	**4**	10	47	0	57	3	0	2	5	130
04:30 PM	**9**	56	3	68	0	0	2	2	**11**	41	0	52	**6**	**3**	4	13	135
04:45 PM	2	40	4	46	0	0	0	0	11	47	**1**	**59**	6	0	**13**	**19**	124
Total Volume	18	227	20	265	1	0	6	7	38	183	1	222	18	4	29	51	545
% App. Total	6.8	85.7	7.5		14.3	0	85.7		17.1	82.4	0.5		35.3	7.8	56.9		
PHF	.500	.757	.556	.761	.250	.000	.500	.438	.864	.953	.250	.941	.750	.333	.558	.671	.873

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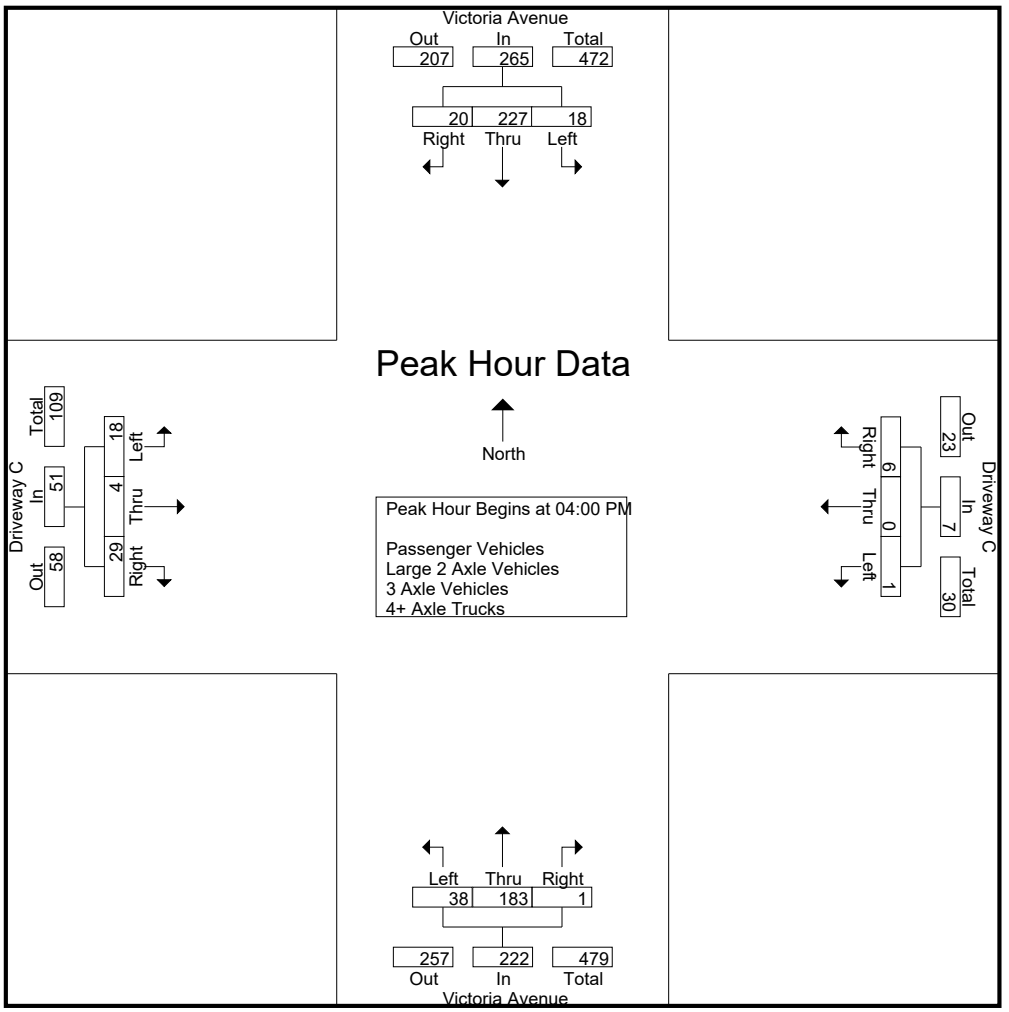

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				05:00 PM				04:00 PM			
+0 mins.	3	**75**	**9**	**87**	**1**	0	**3**	**4**	**15**	46	1	62	3	1	10	14
+15 mins.	4	56	4	64	0	0	2	2	7	51	**3**	61	3	0	2	5
+30 mins.	**9**	56	3	68	0	0	0	0	9	**60**	2	**71**	**6**	**3**	4	13
+45 mins.	2	40	4	46	0	**1**	2	3	8	55	1	64	6	0	**13**	**19**
Total Volume	18	227	20	265	1	1	7	9	39	212	7	258	18	4	29	51
% App. Total	6.8	85.7	7.5		11.1	11.1	77.8		15.1	82.2	2.7		35.3	7.8	56.9	
PHF	.500	.757	.556	.761	.250	.250	.583	.563	.650	.883	.583	.908	.750	.333	.558	.671

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

County of San Bernardino
N/S: Victoria Avenue
E/W: Driveway C
Weather: Clear

File Name : CSBVIDCPM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	3	73	8	84	0	0	1	1	6	43	0	49	3	1	10	14	148
04:15 PM	4	50	4	58	1	0	3	4	10	41	0	51	3	0	2	5	118
04:30 PM	9	54	3	66	0	0	2	2	11	39	0	50	6	3	4	13	131
04:45 PM	2	37	4	43	0	0	0	0	11	43	1	55	6	0	13	19	117
Total	18	214	19	251	1	0	6	7	38	166	1	205	18	4	29	51	514
05:00 PM	3	46	6	55	0	1	2	3	15	41	1	57	6	0	1	7	122
05:15 PM	7	50	5	62	0	0	0	0	7	48	3	58	0	1	9	10	130
05:30 PM	3	35	1	39	0	1	0	1	9	58	2	69	6	1	2	9	118
05:45 PM	9	45	0	54	0	0	1	1	8	52	1	61	5	1	5	11	127
Total	22	176	12	210	0	2	3	5	39	199	7	245	17	3	17	37	497
Grand Total	40	390	31	461	1	2	9	12	77	365	8	450	35	7	46	88	1011
Apprch %	8.7	84.6	6.7		8.3	16.7	75		17.1	81.1	1.8		39.8	8	52.3		
Total %	4	38.6	3.1	45.6	0.1	0.2	0.9	1.2	7.6	36.1	0.8	44.5	3.5	0.7	4.5	8.7	

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	3	**73**	**8**	**84**	0	0	1	1	6	**43**	0	49	3	1	10	14	**148**
04:15 PM	4	50	4	58	**1**	0	**3**	**4**	10	41	0	51	3	0	2	5	118
04:30 PM	**9**	54	3	66	0	0	2	2	**11**	39	0	50	**6**	**3**	4	13	131
04:45 PM	2	37	4	43	0	0	0	0	11	43	**1**	**55**	6	0	**13**	**19**	117
Total Volume	18	214	19	251	1	0	6	7	38	166	1	205	18	4	29	51	514
% App. Total	7.2	85.3	7.6		14.3	0	85.7		18.5	81	0.5		35.3	7.8	56.9		
PHF	.500	.733	.594	.747	.250	.000	.500	.438	.864	.965	.250	.932	.750	.333	.558	.671	.868

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Site Code : 05716653
Start Date : 12/7/2016
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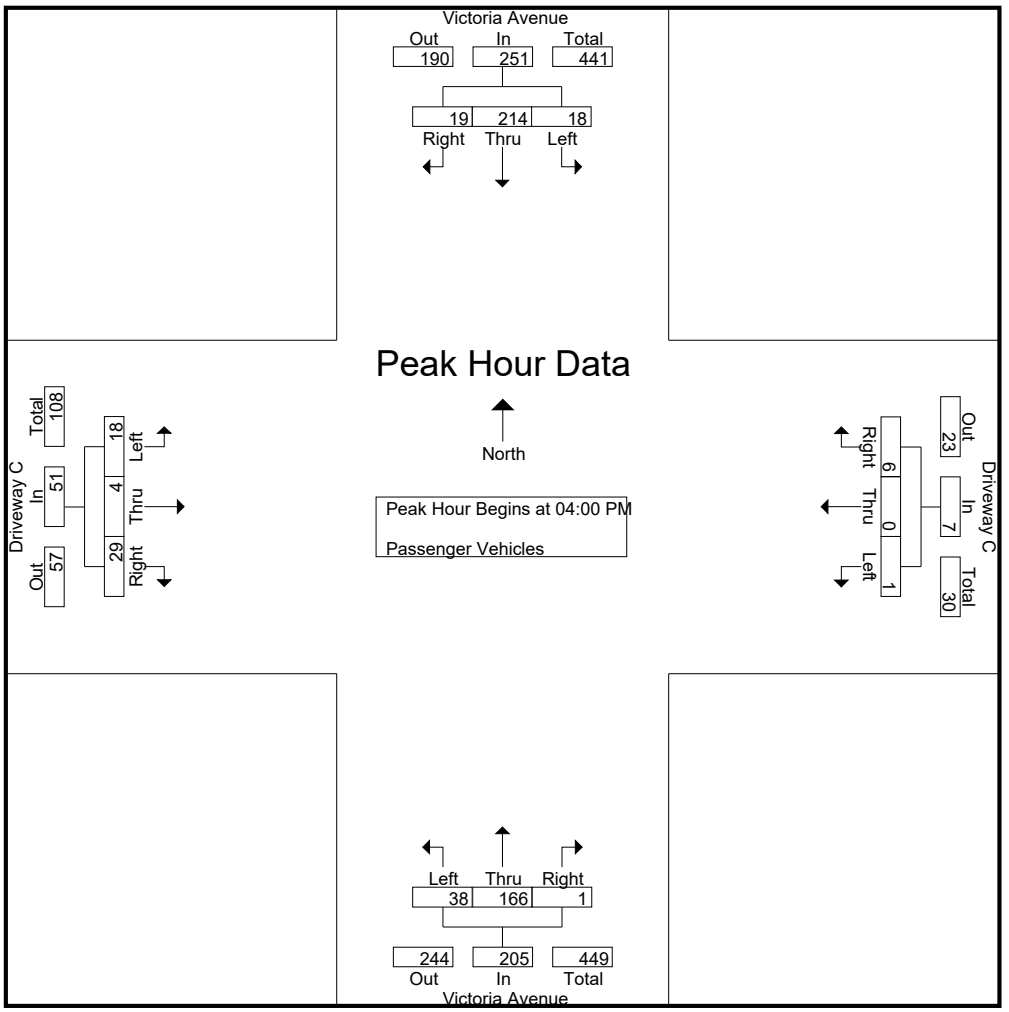

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	3	**73**	**8**	**84**	0	0	1	1	6	**43**	0	49	3	1	10	14
+15 mins.	4	50	4	58	**1**	0	**3**	**4**	10	41	0	51	3	0	2	5
+30 mins.	**9**	54	3	66	0	0	2	2	**11**	39	0	50	**6**	**3**	4	13
+45 mins.	2	37	4	43	0	0	0	0	11	43	**1**	**55**	6	0	**13**	**19**
Total Volume	18	214	19	251	1	0	6	7	38	166	1	205	18	4	29	51
% App. Total	7.2	85.3	7.6		14.3	0	85.7		18.5	81	0.5		35.3	7.8	56.9	
PHF	.500	.733	.594	.747	.250	.000	.500	.438	.864	.965	.250	.932	.750	.333	.558	.671

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File Name : CSBVIDCPM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	2	1	3	0	0	0	0	0	4	0	4	0	0	0	0	7
04:15 PM	0	4	0	4	0	0	0	0	0	5	0	5	0	0	0	0	9
04:30 PM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
04:45 PM	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5
Total	0	10	1	11	0	0	0	0	0	14	0	14	0	0	0	0	25
05:00 PM	0	3	0	3	0	0	0	0	0	5	0	5	0	0	0	0	8
05:15 PM	0	3	0	3	0	0	0	0	0	2	0	2	0	0	0	0	5
05:30 PM	0	3	0	3	0	0	0	0	0	2	0	2	0	0	0	0	5
05:45 PM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
Total	0	11	0	11	0	0	0	0	0	11	0	11	0	0	0	0	22
Grand Total	0	21	1	22	0	0	0	0	0	25	0	25	0	0	0	0	47
Apprch %	0	95.5	4.5		0	0	0		0	100	0		0	0	0		
Total %	0	44.7	2.1	46.8	0	0	0	0	0	53.2	0	53.2	0	0	0	0	

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	2	**1**	3	0	0	0	0	0	4	0	4	0	0	0	0	7
04:15 PM	0	**4**	0	**4**	0	0	0	0	0	**5**	0	**5**	0	0	0	0	**9**
04:30 PM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
04:45 PM	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5
Total Volume	0	10	1	11	0	0	0	0	0	14	0	14	0	0	0	0	25
% App. Total	0	90.9	9.1		0	0	0		0	100	0		0	0	0		
PHF	.000	.625	.250	.688	.000	.000	.000	.000	.000	.700	.000	.700	.000	.000	.000	.000	.694

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Site Code : 05716653
Start Date : 12/7/2016
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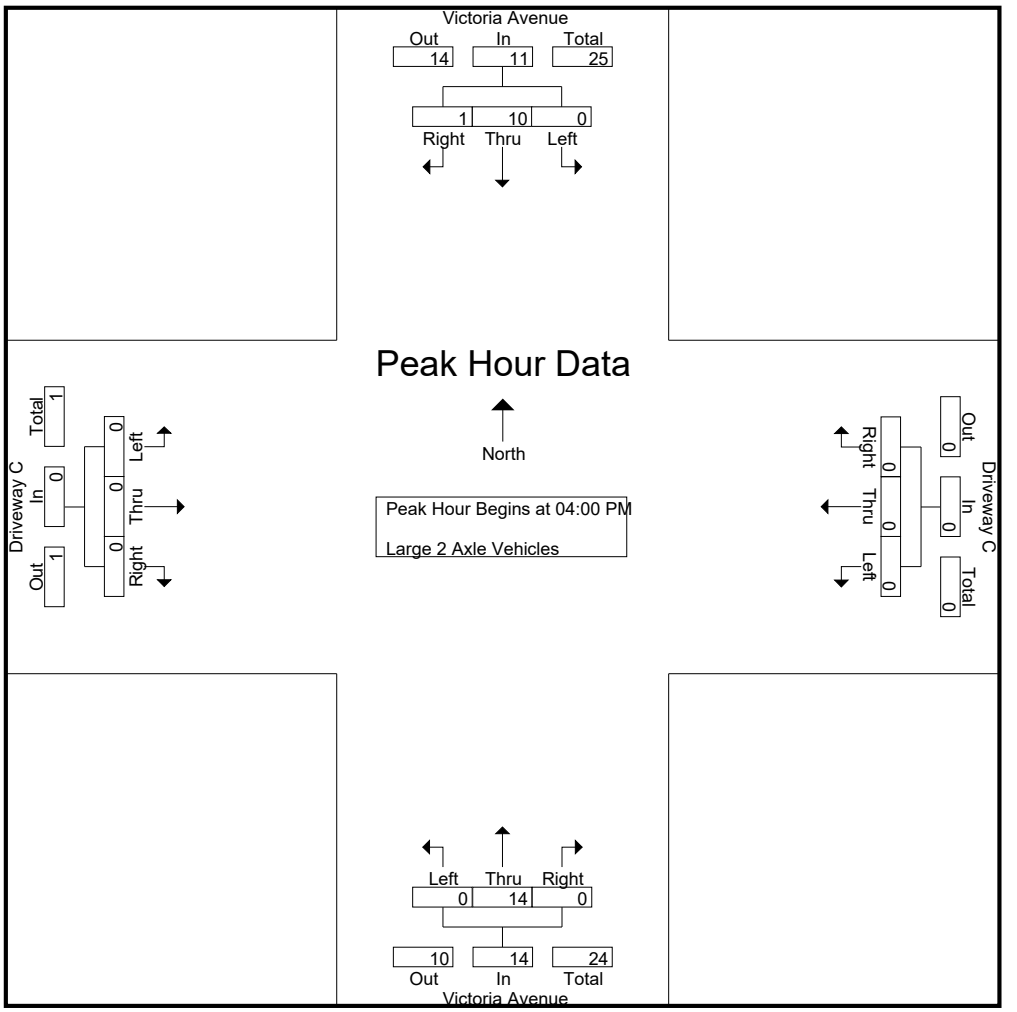

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	2	**1**	3	0	0	0	0	0	4	0	4	0	0	0	0
+15 mins.	0	**4**	0	**4**	0	0	0	0	0	**5**	0	**5**	0	0	0	0
+30 mins.	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0
+45 mins.	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0
Total Volume	0	10	1	11	0	0	0	0	0	14	0	14	0	0	0	0
% App. Total	0	90.9	9.1		0	0	0		0	100	0		0	0	0	
PHF	.000	.625	.250	.688	.000	.000	.000	.000	.000	.700	.000	.700	.000	.000	.000	.000

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File Name : CSBVIDCPM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	1	1	2	0	0	0	0	0	2	0	2	0	0	0	0	4
Grand Total	0	3	1	4	0	0	0	0	0	5	0	5	0	0	0	0	9
Apprch %	0	75	25		0	0	0		0	100	0		0	0	0		
Total %	0	33.3	11.1	44.4	0	0	0	0	0	55.6	0	55.6	0	0	0	0	

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	1
04:15 PM	0	**1**	0	**1**	0	0	0	0	0	1	0	1	0	0	0	0	**2**
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Total Volume	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.000	.000	.625

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County of San Bernardino
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Site Code : 05716653
Start Date : 12/7/2016
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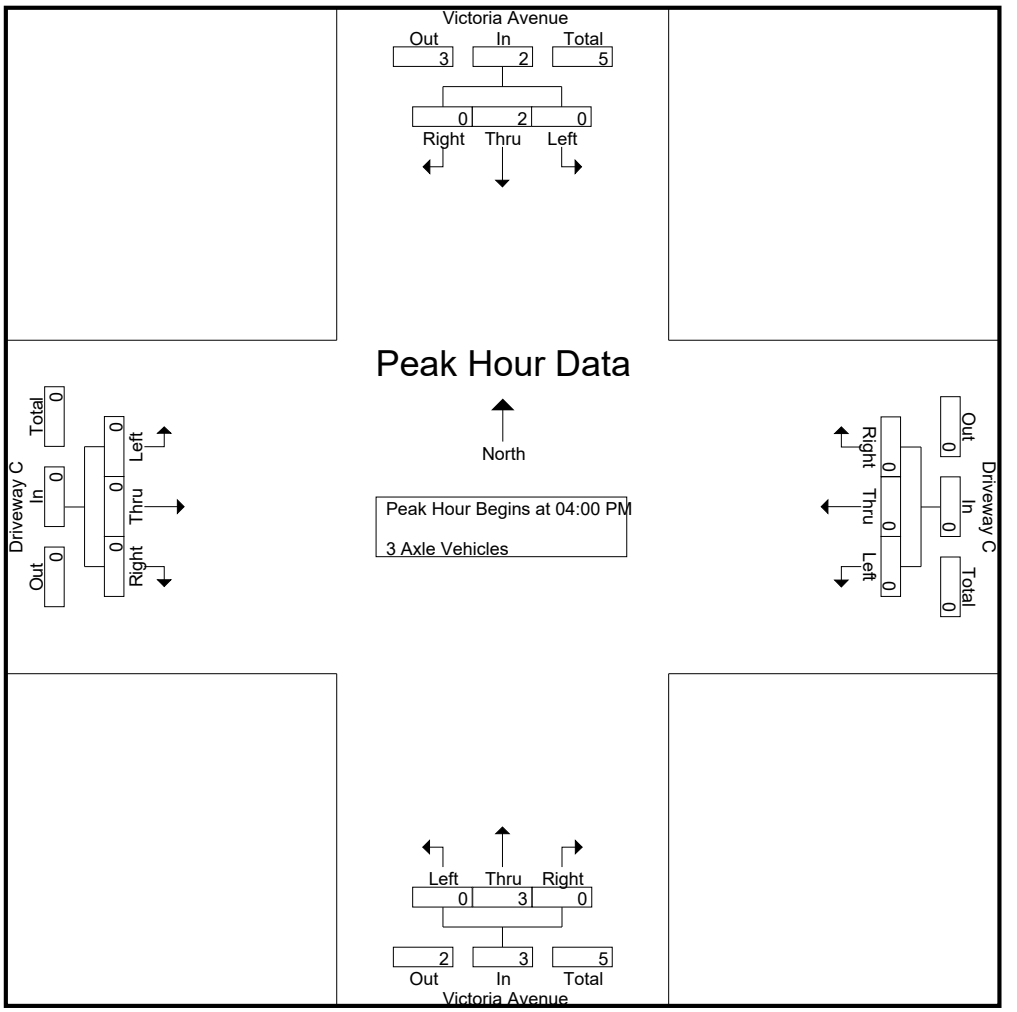

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+15 mins.	0	**1**	0	**1**	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0
Total Volume	0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.500	.000	.500	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.000	.000

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County of San Bernardino
N/S: Victoria Avenue
E/W: Driveway C
Weather: Clear

File Name : CSBVIDCPM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Apprch %	0	100	0		0	0	0		0	0	0		0	0	0		
Total %	0	100	0	100	0	0	0	0	0	0	0	0	0	0	0	0	

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	**1**
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250

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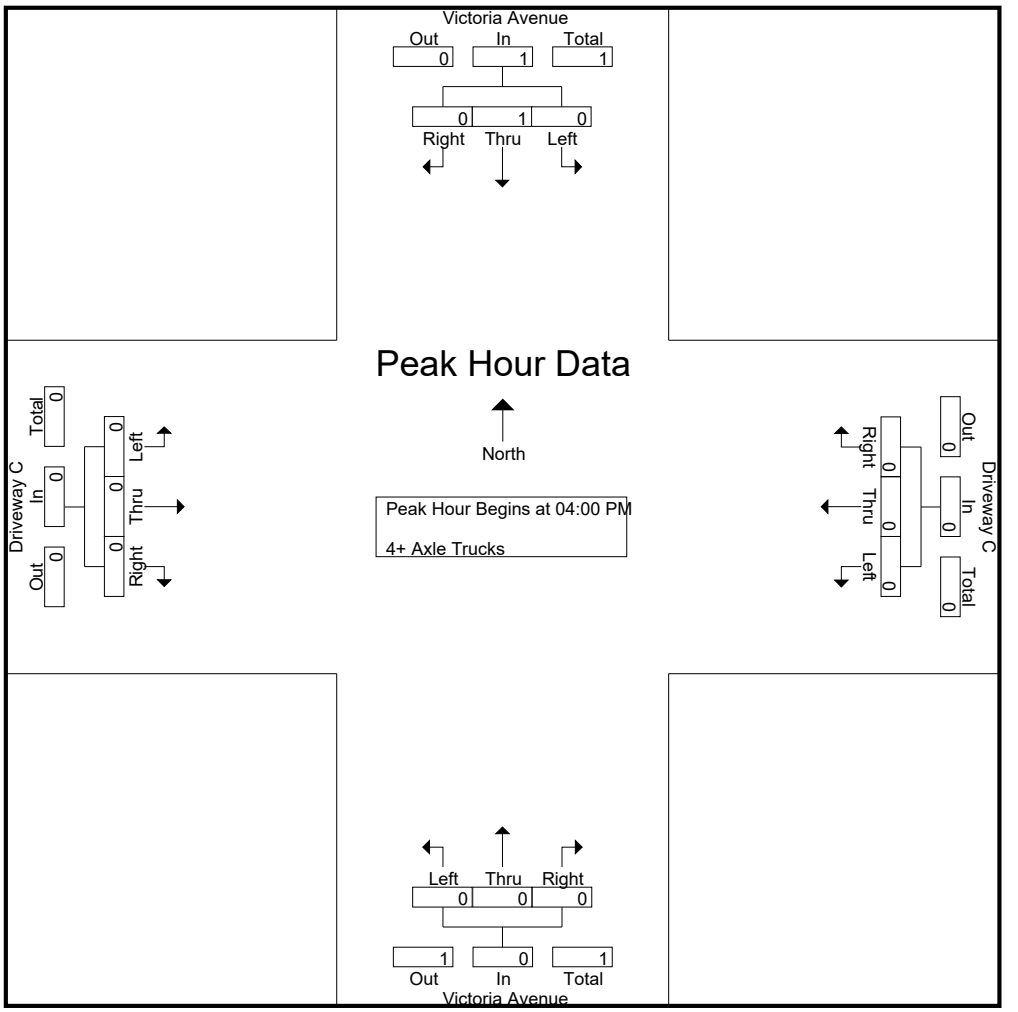

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	**1**	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Victoria Avenue
E/W: Driveway C
Weather: Clear

File Name : CSBVIDCSAT
Site Code : 05716653
Start Date : 12/10/2016
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	4	48	2	54	0	0	0	0	22	58	3	83	3	3	6	12	149
05:15 PM	5	37	3	45	0	0	0	0	23	62	0	85	5	2	6	13	143
05:30 PM	1	41	4	46	0	0	0	0	26	104	2	132	15	1	7	23	201
05:45 PM	3	39	8	50	0	0	0	0	26	97	3	126	5	3	8	16	192
Total	13	165	17	195	0	0	0	0	97	321	8	426	28	9	27	64	685
06:00 PM	8	53	4	65	0	0	0	0	22	87	2	111	3	0	12	15	191
06:15 PM	3	46	2	51	0	0	0	0	23	91	1	115	3	3	7	13	179
06:30 PM	8	66	5	79	0	0	0	0	24	96	3	123	0	3	5	8	210
06:45 PM	12	50	2	64	0	0	0	0	23	92	4	119	3	1	8	12	195
Total	31	215	13	259	0	0	0	0	92	366	10	468	9	7	32	48	775
Grand Total	44	380	30	454	0	0	0	0	189	687	18	894	37	16	59	112	1460
Apprch %	9.7	83.7	6.6		0	0	0		21.1	76.8	2		33	14.3	52.7		
Total %	3	26	2.1	31.1	0	0	0	0	12.9	47.1	1.2	61.2	2.5	1.1	4	7.7	
Passenger Vehicles	43	352	29	424	0	0	0	0	185	667	18	870	36	16	58	110	1404
% Passenger Vehicles	97.7	92.6	96.7	93.4	0	0	0	0	97.9	97.1	100	97.3	97.3	100	98.3	98.2	96.2
Large 2 Axle Vehicles	1	22	1	24	0	0	0	0	1	18	0	19	1	0	1	2	45
% Large 2 Axle Vehicles	2.3	5.8	3.3	5.3	0	0	0	0	0.5	2.6	0	2.1	2.7	0	1.7	1.8	3.1
3 Axle Vehicles	0	6	0	6	0	0	0	0	3	2	0	5	0	0	0	0	11
% 3 Axle Vehicles	0	1.6	0	1.3	0	0	0	0	1.6	0.3	0	0.6	0	0	0	0	0.8
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:00 PM																	
06:00 PM	8	53	4	65	0	0	0	0	22	87	2	111	**3**	0	**12**	**15**	191
06:15 PM	3	46	2	51	0	0	0	0	23	91	1	115	3	**3**	7	13	179
06:30 PM	8	**66**	**5**	**79**	0	0	0	0	**24**	**96**	3	**123**	0	3	5	8	**210**
06:45 PM	**12**	50	2	64	0	0	0	0	23	92	**4**	119	3	1	8	12	195
Total Volume	31	215	13	259	0	0	0	0	92	366	10	468	9	7	32	48	775
% App. Total	12	83	5		0	0	0		19.7	78.2	2.1		18.8	14.6	66.7		
PHF	.646	.814	.650	.820	.000	.000	.000	.000	.958	.953	.625	.951	.750	.583	.667	.800	.923

Counts Unlimited
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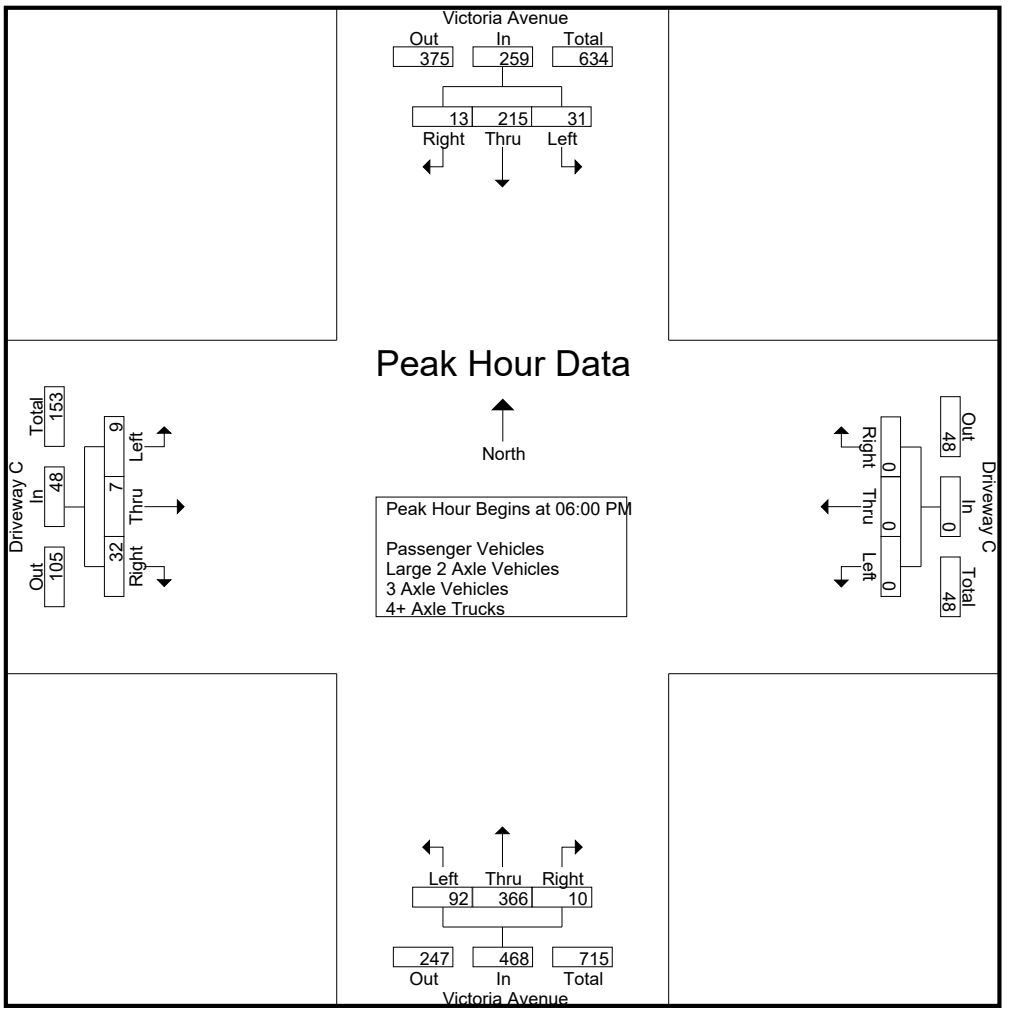
County of San Bernardino
N/S: Victoria Avenue
E/W: Driveway C
Weather: Clear

File Name : CSBVIDCSAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 2



Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM				05:00 PM				05:30 PM				05:15 PM			
+0 mins.	8	53	4	65	0	0	0	0	**26**	**104**	2	**132**	5	2	6	13
+15 mins.	3	46	2	51	0	0	0	0	26	97	**3**	126	**15**	1	7	**23**
+30 mins.	8	**66**	**5**	**79**	0	0	0	0	22	87	2	111	5	**3**	8	16
+45 mins.	**12**	50	2	64	0	0	0	0	23	91	1	115	3	0	**12**	15
Total Volume	31	215	13	259	0	0	0	0	97	379	8	484	28	6	33	67
% App. Total	12	83	5		0	0	0		20	78.3	1.7		41.8	9	49.3	
PHF	.646	.814	.650	.820	.000	.000	.000	.000	.933	.911	.667	.917	.467	.500	.688	.728

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File Name : CSBVIDCSAT
Site Code : 05716653
Start Date : 12/10/2016
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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	4	45	2	51	0	0	0	0	22	56	3	81	3	3	6	12	144
05:15 PM	5	34	3	42	0	0	0	0	22	59	0	81	5	2	6	13	136
05:30 PM	1	38	4	43	0	0	0	0	26	101	2	129	15	1	7	23	195
05:45 PM	2	36	7	45	0	0	0	0	26	94	3	123	4	3	8	15	183
Total	12	153	16	181	0	0	0	0	96	310	8	414	27	9	27	63	658
06:00 PM	8	49	4	61	0	0	0	0	20	85	2	107	3	0	12	15	183
06:15 PM	3	42	2	47	0	0	0	0	22	90	1	113	3	3	7	13	173
06:30 PM	8	62	5	75	0	0	0	0	24	92	3	119	0	3	5	8	202
06:45 PM	12	46	2	60	0	0	0	0	23	90	4	117	3	1	7	11	188
Total	31	199	13	243	0	0	0	0	89	357	10	456	9	7	31	47	746
Grand Total	43	352	29	424	0	0	0	0	185	667	18	870	36	16	58	110	1404
Apprch %	10.1	83	6.8		0	0	0		21.3	76.7	2.1		32.7	14.5	52.7		
Total %	3.1	25.1	2.1	30.2	0	0	0	0	13.2	47.5	1.3	62	2.6	1.1	4.1	7.8	

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:00 PM																	
06:00 PM	8	49	4	61	0	0	0	0	20	85	2	107	**3**	0	**12**	**15**	183
06:15 PM	3	42	2	47	0	0	0	0	22	90	1	113	3	**3**	7	13	173
06:30 PM	8	**62**	**5**	**75**	0	0	0	0	**24**	**92**	3	**119**	0	3	5	8	**202**
06:45 PM	**12**	46	2	60	0	0	0	0	23	90	**4**	117	3	1	7	11	188
Total Volume	31	199	13	243	0	0	0	0	89	357	10	456	9	7	31	47	746
% App. Total	12.8	81.9	5.3		0	0	0		19.5	78.3	2.2		19.1	14.9	66		
PHF	.646	.802	.650	.810	.000	.000	.000	.000	.927	.970	.625	.958	.750	.583	.646	.783	.923

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County of San Bernardino
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E/W: Driveway C
Weather: Clear

File Name : CSBVIDCSAT
Site Code : 05716653
Start Date : 12/10/2016
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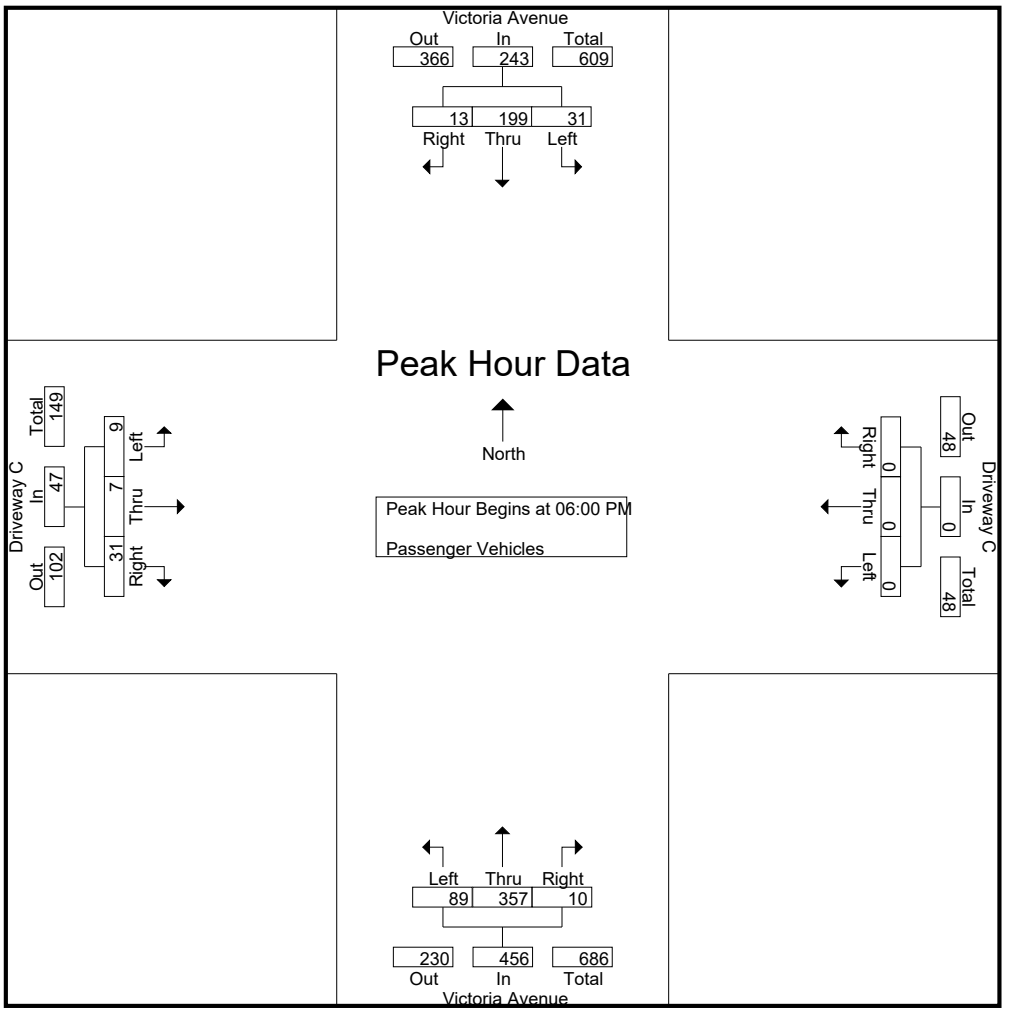

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM				06:00 PM				06:00 PM				06:00 PM			
+0 mins.	8	49	4	61	0	0	0	0	20	85	2	107	**3**	0	**12**	**15**
+15 mins.	3	42	2	47	0	0	0	0	22	90	1	113	3	**3**	7	13
+30 mins.	8	**62**	**5**	**75**	0	0	0	0	**24**	**92**	3	**119**	0	3	5	8
+45 mins.	**12**	46	2	60	0	0	0	0	23	90	**4**	117	3	1	7	11
Total Volume	31	199	13	243	0	0	0	0	89	357	10	456	9	7	31	47
% App. Total	12.8	81.9	5.3		0	0	0		19.5	78.3	2.2		19.1	14.9	66	
PHF	.646	.802	.650	.810	.000	.000	.000	.000	.927	.970	.625	.958	.750	.583	.646	.783

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County of San Bernardino
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Weather: Clear

File Name : CSBVIDCSAT
Site Code : 05716653
Start Date : 12/10/2016
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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
05:15 PM	0	3	0	3	0	0	0	0	1	3	0	4	0	0	0	0	7
05:30 PM	0	3	0	3	0	0	0	0	0	3	0	3	0	0	0	0	6
05:45 PM	1	3	1	5	0	0	0	0	0	3	0	3	1	0	0	1	9
Total	1	11	1	13	0	0	0	0	1	11	0	12	1	0	0	1	26
06:00 PM	0	3	0	3	0	0	0	0	0	2	0	2	0	0	0	0	5
06:15 PM	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0	4
06:30 PM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
06:45 PM	0	3	0	3	0	0	0	0	0	2	0	2	0	0	1	1	6
Total	0	11	0	11	0	0	0	0	0	7	0	7	0	0	1	1	19
Grand Total	1	22	1	24	0	0	0	0	1	18	0	19	1	0	1	2	45
Apprch %	4.2	91.7	4.2		0	0	0		5.3	94.7	0		50	0	50		
Total %	2.2	48.9	2.2	53.3	0	0	0	0	2.2	40	0	42.2	2.2	0	2.2	4.4	

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:00 PM																	
06:00 PM	0	**3**	0	**3**	0	0	0	0	0	**2**	0	**2**	0	0	0	0	5
06:15 PM	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0	4
06:30 PM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
06:45 PM	0	3	0	3	0	0	0	0	0	2	0	2	0	0	**1**	**1**	**6**
Total Volume	0	11	0	11	0	0	0	0	0	7	0	7	0	0	1	1	19
% App. Total	0	100	0		0	0	0		0	100	0		0	0	100		
PHF	.000	.917	.000	.917	.000	.000	.000	.000	.000	.875	.000	.875	.000	.000	.250	.250	.792

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Site Code : 05716653
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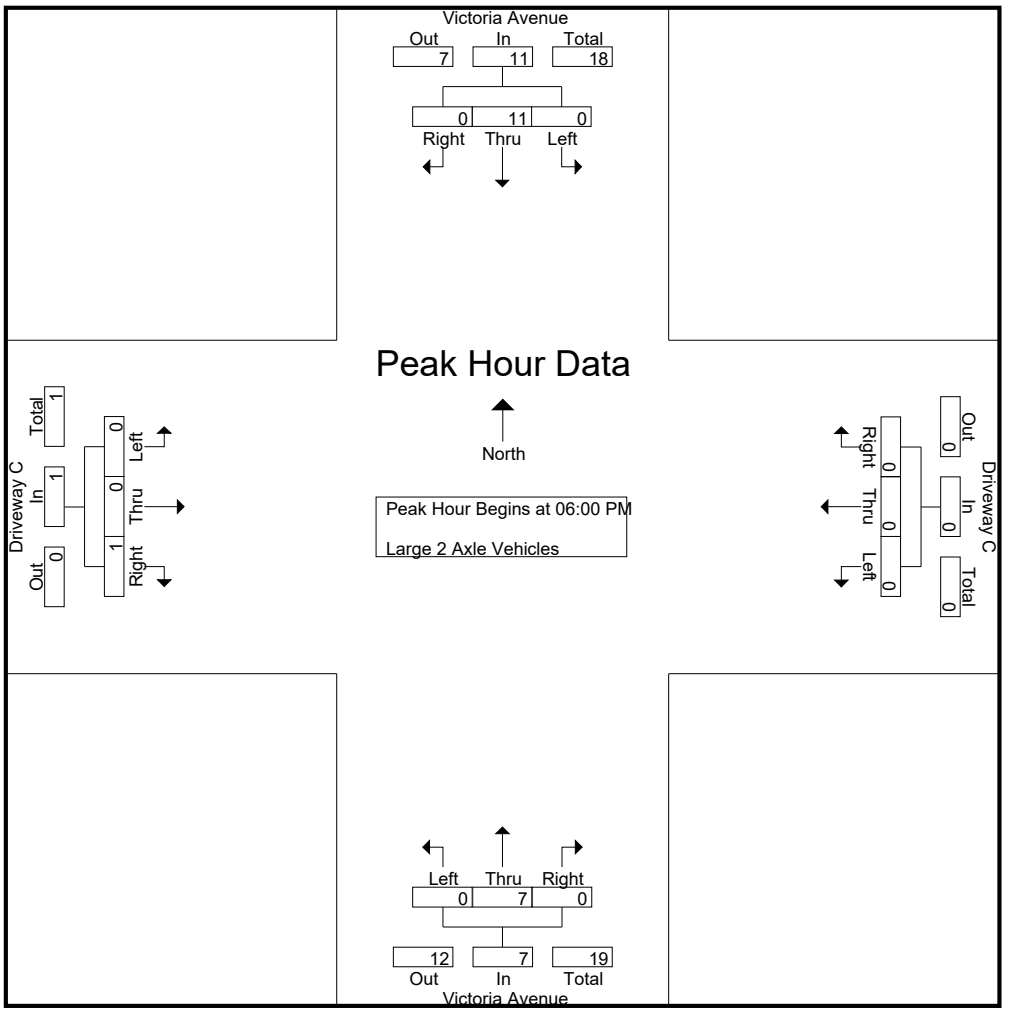
Page No : 2



Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM				06:00 PM				06:00 PM				06:00 PM			
+0 mins.	0	**3**	0	**3**	0	0	0	0	0	**2**	0	**2**	0	0	0	0
+15 mins.	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0
+45 mins.	0	3	0	3	0	0	0	0	0	2	0	2	0	0	**1**	**1**
Total Volume	0	11	0	11	0	0	0	0	0	7	0	7	0	0	1	1
% App. Total	0	100	0		0	0	0		0	100	0		0	0	100	
PHF	.000	.917	.000	.917	.000	.000	.000	.000	.000	.875	.000	.875	.000	.000	.250	.250

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Weather: Clear

File Name : CSBVIDCSAT
Site Code : 05716653
Start Date : 12/10/2016
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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00 PM	0	1	0	1	0	0	0	0	2	0	0	2	0	0	0	0	3
06:15 PM	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	2
06:30 PM	0	2	0	2	0	0	0	0	0	2	0	2	0	0	0	0	4
06:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	5	0	5	0	0	0	0	3	2	0	5	0	0	0	0	10
Grand Total	0	6	0	6	0	0	0	0	3	2	0	5	0	0	0	0	11
Apprch %	0	100	0		0	0	0		60	40	0		0	0	0		
Total %	0	54.5	0	54.5	0	0	0	0	27.3	18.2	0	45.5	0	0	0	0	

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:00 PM																	
06:00 PM	0	1	0	1	0	0	0	0	**2**	0	0	**2**	0	0	0	0	3
06:15 PM	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0	2
06:30 PM	0	**2**	0	**2**	0	0	0	0	0	**2**	0	2	0	0	0	0	**4**
06:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	5	0	5	0	0	0	0	3	2	0	5	0	0	0	0	10
% App. Total	0	100	0		0	0	0		60	40	0		0	0	0		
PHF	.000	.625	.000	.625	.000	.000	.000	.000	.375	.250	.000	.625	.000	.000	.000	.000	.625

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County of San Bernardino
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E/W: Driveway C
Weather: Clear

File Name : CSBVIDCSAT
Site Code : 05716653
Start Date : 12/10/2016
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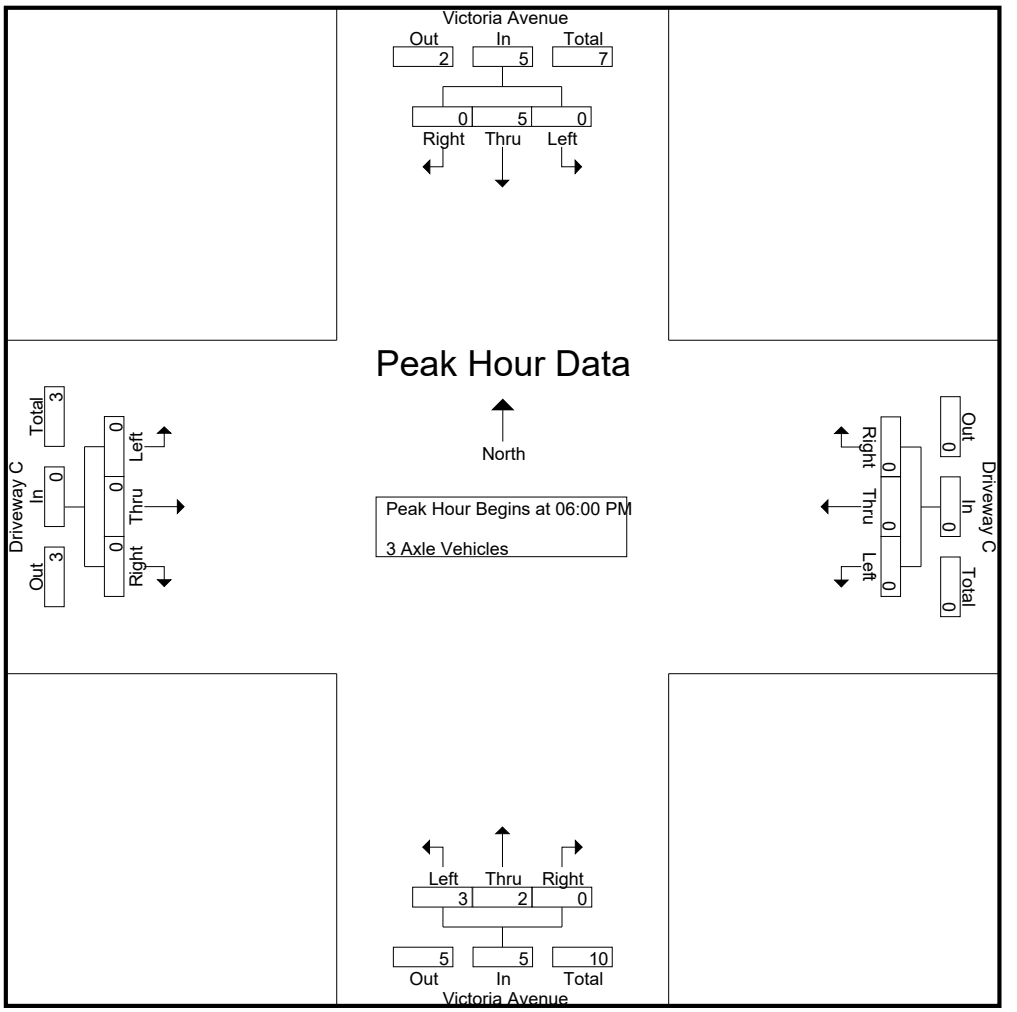

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM				06:00 PM				06:00 PM				06:00 PM			
+0 mins.	0	1	0	1	0	0	0	0	**2**	0	0	**2**	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	1	0	0	1	0	0	0	0
+30 mins.	0	**2**	0	**2**	0	0	0	0	0	**2**	0	2	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	5	0	5	0	0	0	0	3	2	0	5	0	0	0	0
% App. Total	0	100	0		0	0	0		60	40	0		0	0	0	
PHF	.000	.625	.000	.625	.000	.000	.000	.000	.375	.250	.000	.625	.000	.000	.000	.000

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County of San Bernardino
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E/W: Driveway C
Weather: Clear

File Name : CSBVIDCSAT
Site Code : 05716653
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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Victoria Avenue Southbound				Driveway C Westbound				Victoria Avenue Northbound				Driveway C Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 06:00 PM																	
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Victoria Avenue
E/W: Driveway C
Weather: Clear

File Name : CSBVIDCSAT
Site Code : 05716653
Start Date : 12/10/2016
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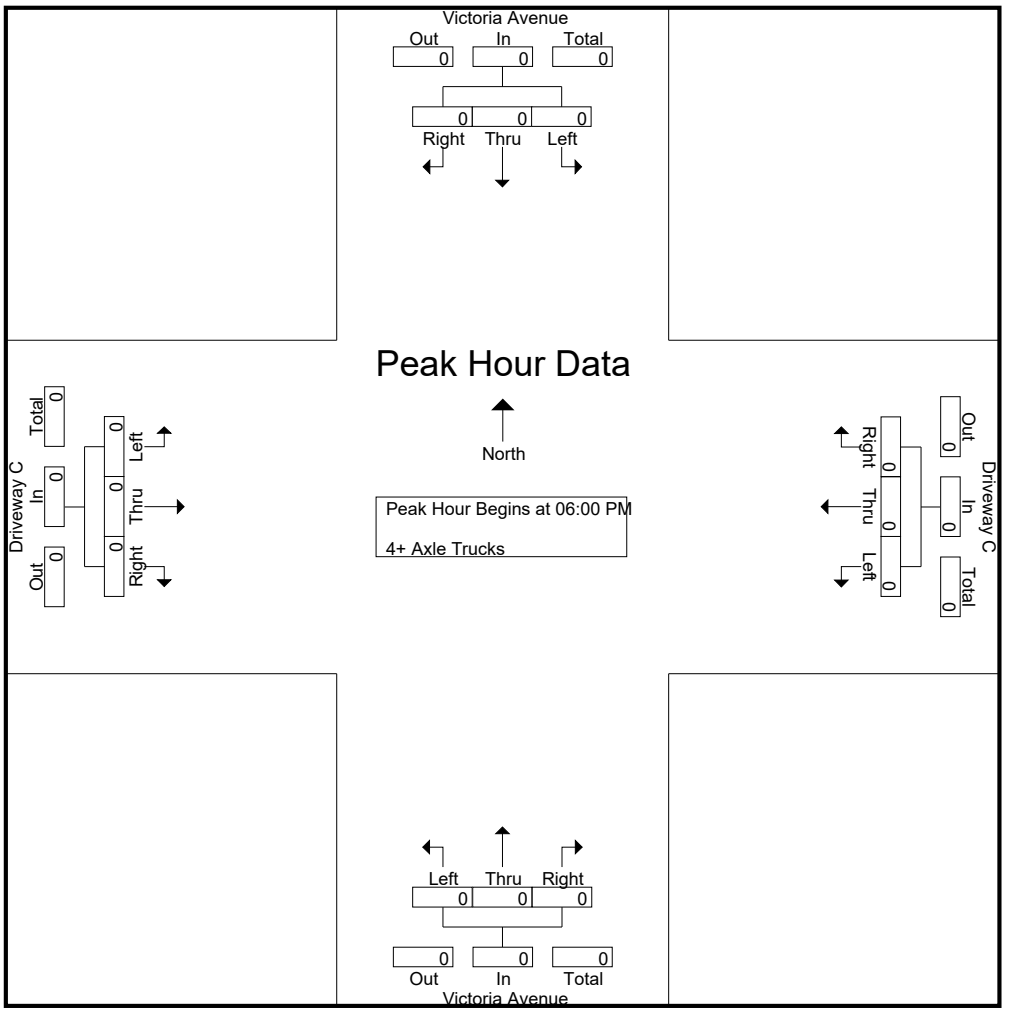

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM				06:00 PM				06:00 PM				06:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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County of San Bernardino
N/S: Victoria Avenue
E/W: Driveway D
Weather: Clear

File Name : CSBVIDDAM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	33	0	33	0	54	54	0	24	24	111
07:15 AM	13	0	13	0	44	44	0	28	28	85
07:30 AM	25	1	26	0	66	66	0	13	13	105
07:45 AM	16	0	16	0	89	89	0	19	19	124
Total	87	1	88	0	253	253	0	84	84	425
08:00 AM	28	1	29	0	69	69	0	23	23	121
08:15 AM	25	0	25	0	100	100	0	10	10	135
08:30 AM	21	0	21	0	91	91	0	14	14	126
08:45 AM	17	0	17	0	89	89	0	26	26	132
Total	91	1	92	0	349	349	0	73	73	514
Grand Total	178	2	180	0	602	602	0	157	157	939
Apprch %	98.9	1.1		0	100		0	100		
Total %	19	0.2	19.2	0	64.1	64.1	0	16.7	16.7	
Passenger Vehicles	144	2	146	0	560	560	0	155	155	861
% Passenger Vehicles	80.9	100	81.1	0	93	93	0	98.7	98.7	91.7
Large 2 Axle Vehicles	29	0	29	0	37	37	0	2	2	68
% Large 2 Axle Vehicles	16.3	0	16.1	0	6.1	6.1	0	1.3	1.3	7.2
3 Axle Vehicles	1	0	1	0	1	1	0	0	0	2
% 3 Axle Vehicles	0.6	0	0.6	0	0.2	0.2	0	0	0	0.2
4+ Axle Trucks	4	0	4	0	4	4	0	0	0	8
% 4+ Axle Trucks	2.2	0	2.2	0	0.7	0.7	0	0	0	0.9

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	**28**	**1**	**29**	0	69	69	0	23	23	121
08:15 AM	25	0	25	0	**100**	**100**	0	10	10	**135**
08:30 AM	21	0	21	0	91	91	0	14	14	126
08:45 AM	17	0	17	0	89	89	0	**26**	**26**	132
Total Volume	91	1	92	0	349	349	0	73	73	514
% App. Total	98.9	1.1		0	100		0	100		
PHF	.813	.250	.793	.000	.873	.873	.000	.702	.702	.952

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County of San Bernardino
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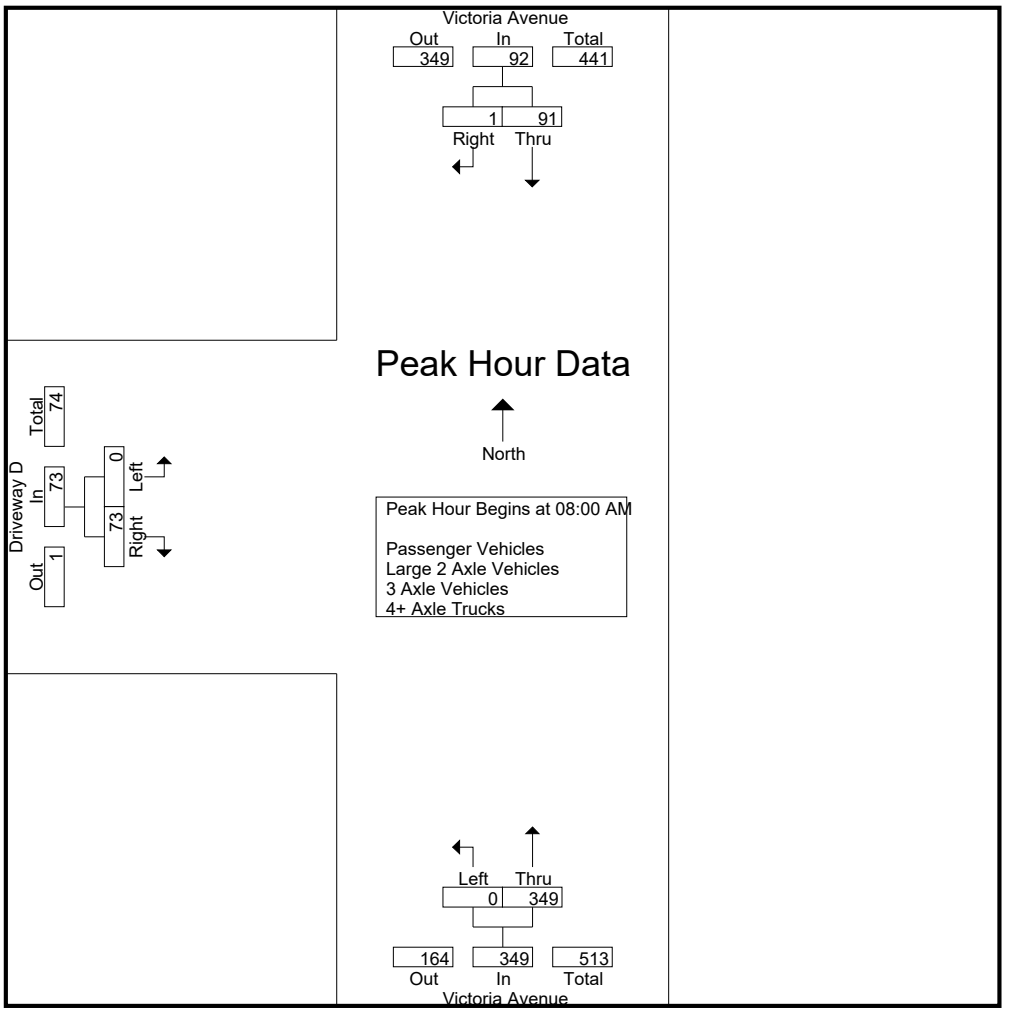

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:45 AM			07:00 AM		
+0 mins.	25	**1**	26	0	89	89	0	24	24
+15 mins.	16	0	16	0	69	69	0	**28**	**28**
+30 mins.	**28**	1	**29**	0	**100**	**100**	0	13	13
+45 mins.	25	0	25	0	91	91	0	19	19
Total Volume	94	2	96	0	349	349	0	84	84
% App. Total	97.9	2.1		0	100		0	100	
PHF	.839	.500	.828	.000	.873	.873	.000	.750	.750

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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	28	0	28	0	45	45	0	24	24	97
07:15 AM	10	0	10	0	41	41	0	28	28	79
07:30 AM	20	1	21	0	60	60	0	13	13	94
07:45 AM	11	0	11	0	85	85	0	18	18	114
Total	69	1	70	0	231	231	0	83	83	384
08:00 AM	23	1	24	0	65	65	0	23	23	112
08:15 AM	22	0	22	0	94	94	0	10	10	126
08:30 AM	15	0	15	0	87	87	0	14	14	116
08:45 AM	15	0	15	0	83	83	0	25	25	123
Total	75	1	76	0	329	329	0	72	72	477
Grand Total	144	2	146	0	560	560	0	155	155	861
Apprch %	98.6	1.4		0	100		0	100		
Total %	16.7	0.2	17	0	65	65	0	18	18	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	**23**	**1**	**24**	0	65	65	0	23	23	112
08:15 AM	22	0	22	0	**94**	**94**	0	10	10	**126**
08:30 AM	15	0	15	0	87	87	0	14	14	116
08:45 AM	15	0	15	0	83	83	0	**25**	**25**	123
Total Volume	75	1	76	0	329	329	0	72	72	477
% App. Total	98.7	1.3		0	100		0	100		
PHF	.815	.250	.792	.000	.875	.875	.000	.720	.720	.946

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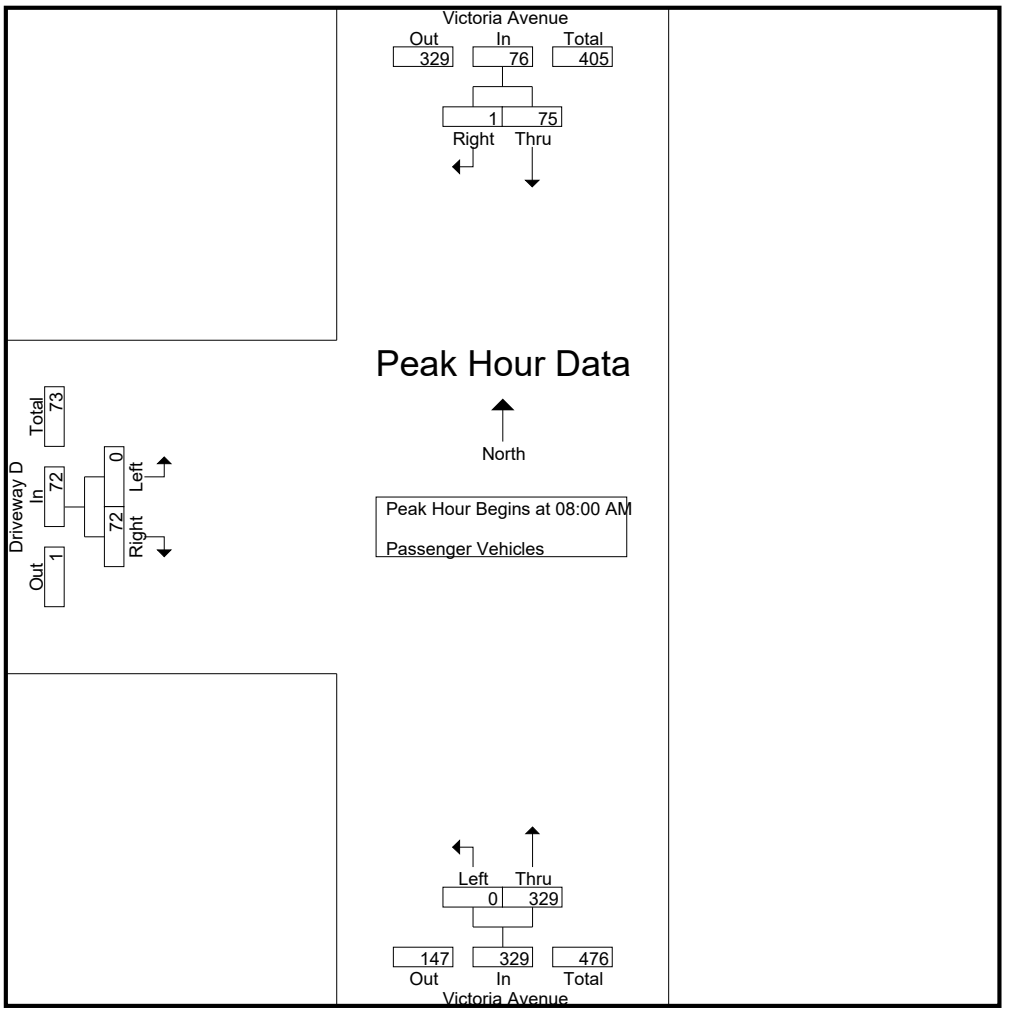

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	**23**	**1**	**24**	0	65	65	0	23	23
+15 mins.	22	0	22	0	**94**	**94**	0	10	10
+30 mins.	15	0	15	0	87	87	0	14	14
+45 mins.	15	0	15	0	83	83	0	**25**	**25**
Total Volume	75	1	76	0	329	329	0	72	72
% App. Total	98.7	1.3		0	100		0	100	
PHF	.815	.250	.792	.000	.875	.875	.000	.720	.720

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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	5	0	5	0	7	7	0	0	0	12
07:15 AM	3	0	3	0	2	2	0	0	0	5
07:30 AM	4	0	4	0	6	6	0	0	0	10
07:45 AM	4	0	4	0	3	3	0	1	1	8
Total	16	0	16	0	18	18	0	1	1	35
08:00 AM	5	0	5	0	4	4	0	0	0	9
08:15 AM	3	0	3	0	5	5	0	0	0	8
08:30 AM	3	0	3	0	4	4	0	0	0	7
08:45 AM	2	0	2	0	6	6	0	1	1	9
Total	13	0	13	0	19	19	0	1	1	33
Grand Total	29	0	29	0	37	37	0	2	2	68
Apprch %	100	0		0	100		0	100		
Total %	42.6	0	42.6	0	54.4	54.4	0	2.9	2.9	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	**5**	0	**5**	0	4	4	0	0	0	**9**
08:15 AM	3	0	3	0	5	5	0	0	0	8
08:30 AM	3	0	3	0	4	4	0	0	0	7
08:45 AM	2	0	2	0	**6**	**6**	0	**1**	**1**	9
Total Volume	13	0	13	0	19	19	0	1	1	33
% App. Total	100	0		0	100		0	100		
PHF	.650	.000	.650	.000	.792	.792	.000	.250	.250	.917

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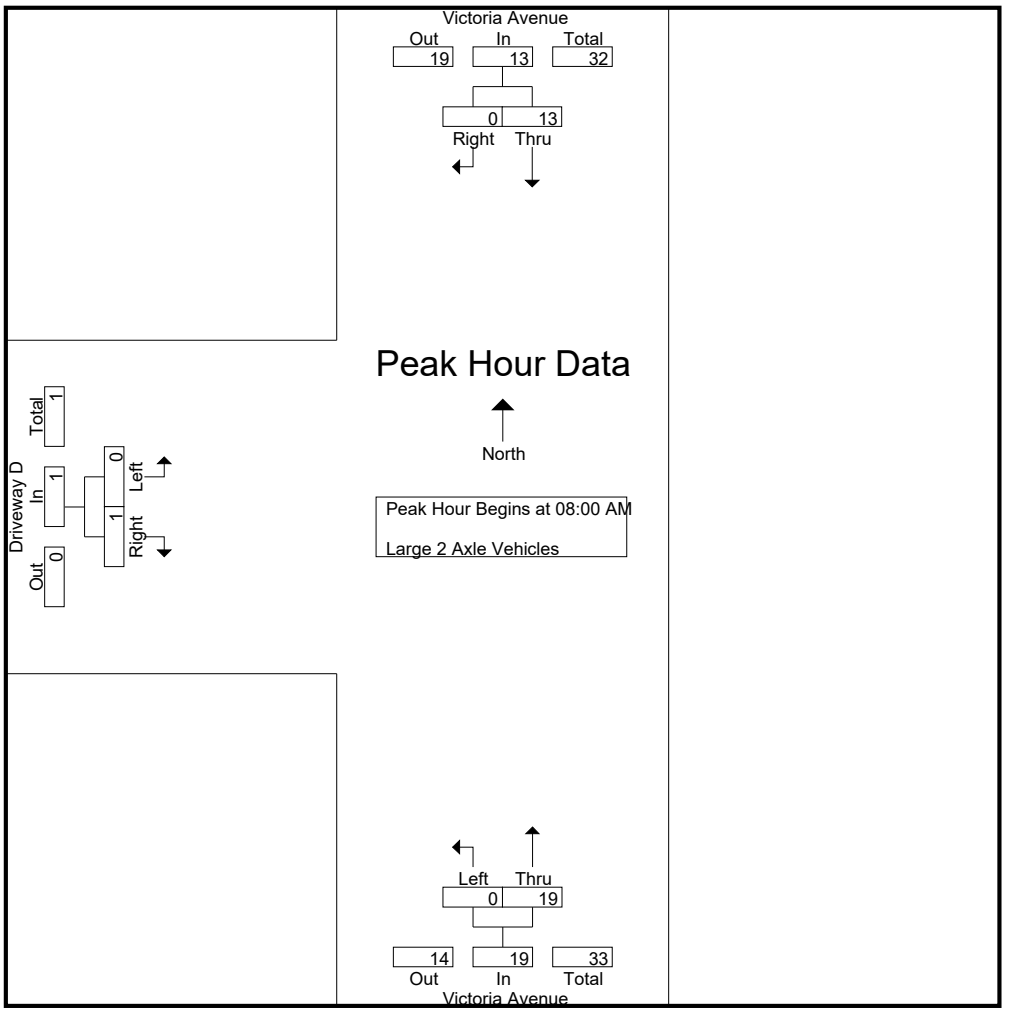

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	**5**	0	**5**	0	4	4	0	0	0
+15 mins.	3	0	3	0	5	5	0	0	0
+30 mins.	3	0	3	0	4	4	0	0	0
+45 mins.	2	0	2	0	**6**	**6**	0	**1**	**1**
Total Volume	13	0	13	0	19	19	0	1	1
% App. Total	100	0		0	100		0	100	
PHF	.650	.000	.650	.000	.792	.792	.000	.250	.250

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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	1	1	0	0	0	1
Total	0	0	0	0	1	1	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	1	0	1	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	0	0	0	0	0	1
Grand Total	1	0	1	0	1	1	0	0	0	2
Apprch %	100	0		0	100		0	0		
Total %	50	0	50	0	50	50	0	0	0	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	**1**	0	**1**	0	0	0	0	0	0	**1**
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	0	0	1
% App. Total	100	0		0	0		0	0		
PHF	.250	.000	.250	.000	.000	.000	.000	.000	.000	.250

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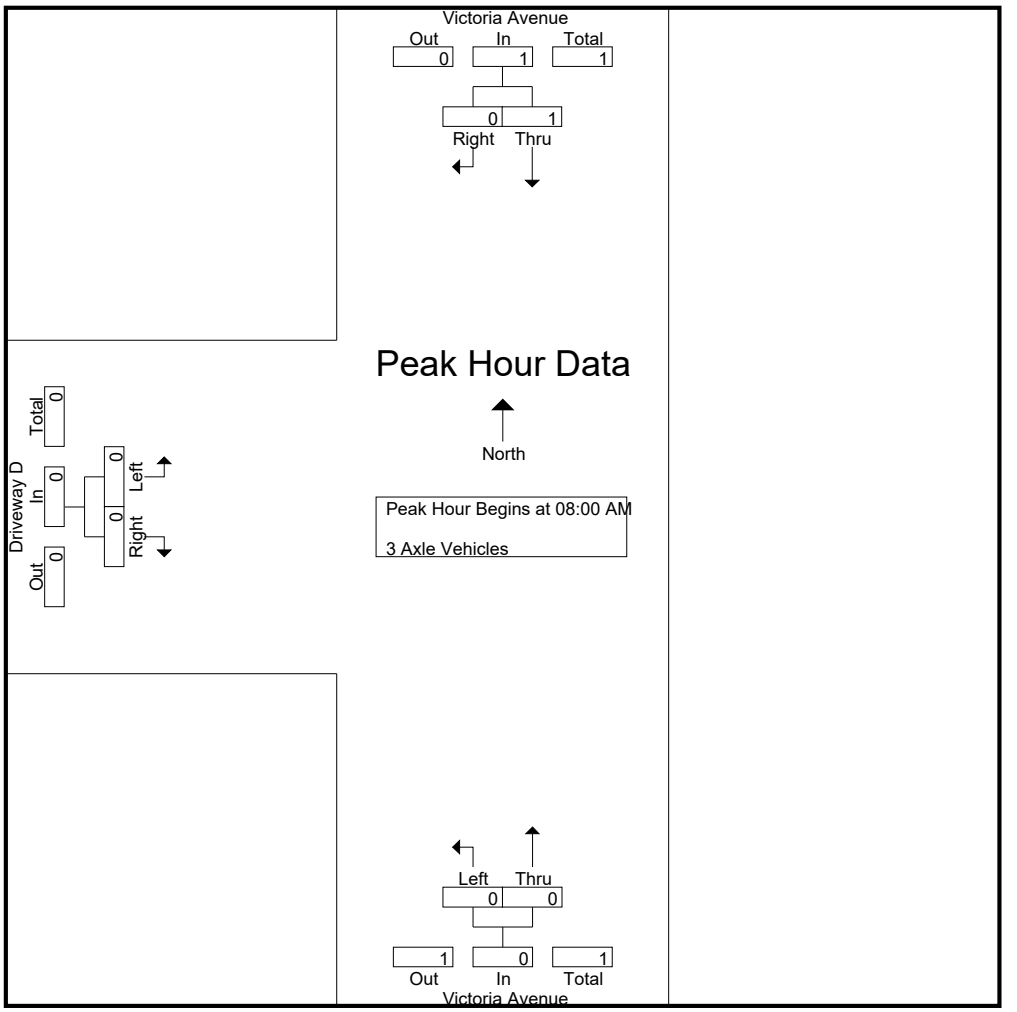

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	**1**	0	**1**	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	0	0
% App. Total	100	0		0	0		0	0	
PHF	.250	.000	.250	.000	.000	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	2	2	0	0	0	2
07:15 AM	0	0	0	0	1	1	0	0	0	1
07:30 AM	1	0	1	0	0	0	0	0	0	1
07:45 AM	1	0	1	0	0	0	0	0	0	1
Total	2	0	2	0	3	3	0	0	0	5
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	1	1	0	0	0	1
08:30 AM	2	0	2	0	0	0	0	0	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	2	0	2	0	1	1	0	0	0	3
Grand Total	4	0	4	0	4	4	0	0	0	8
Apprch %	100	0		0	100		0	0		
Total %	50	0	50	0	50	50	0	0	0	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	**1**	**1**	0	0	0	1
08:30 AM	**2**	0	**2**	0	0	0	0	0	0	**2**
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	2	0	1	1	0	0	0	3
% App. Total	100	0		0	100		0	0		
PHF	.250	.000	.250	.000	.250	.250	.000	.000	.000	.375

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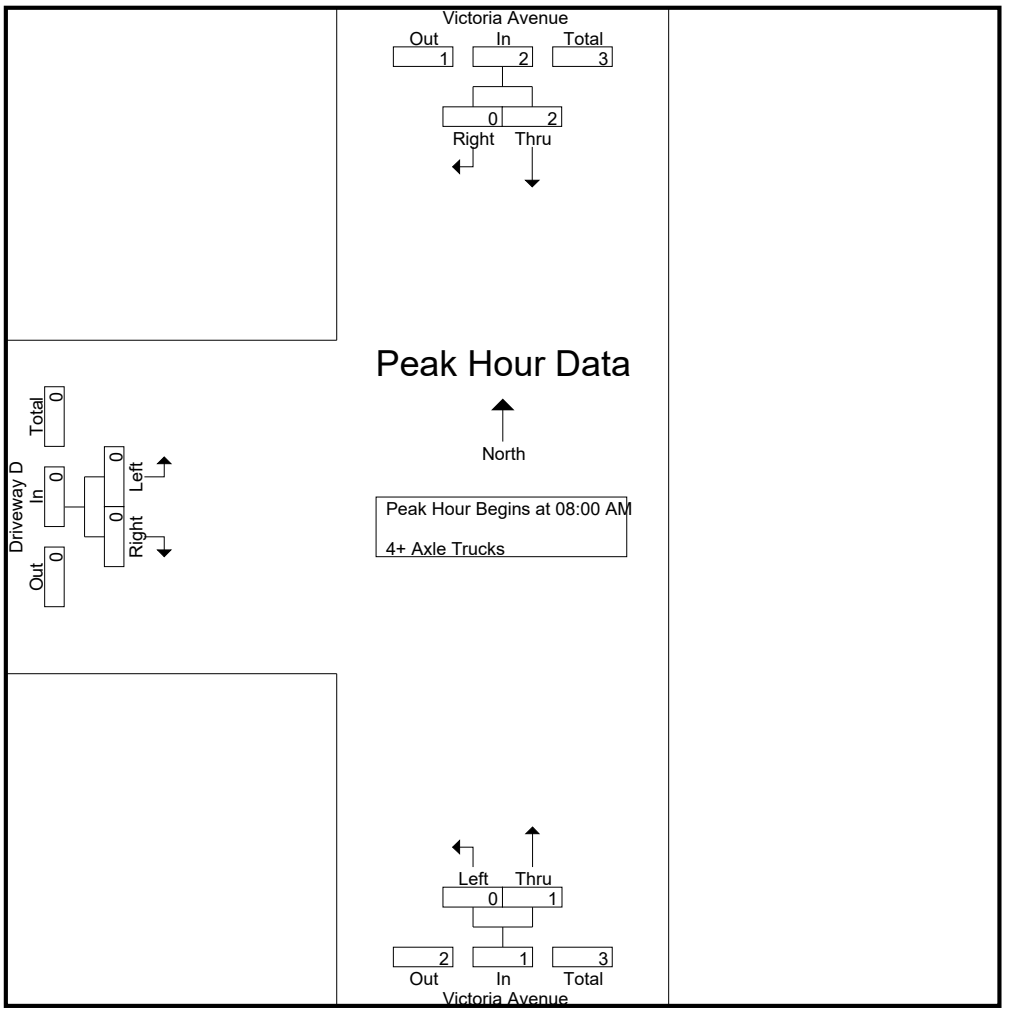

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	**1**	**1**	0	0	0
+30 mins.	**2**	0	**2**	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	2	0	2	0	1	1	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.250	.000	.250	.000	.250	.250	.000	.000	.000

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	90	0	90	0	119	119	0	78	78	287
04:15 PM	56	0	56	0	126	126	0	90	90	272
04:30 PM	63	0	63	0	118	118	0	68	68	249
04:45 PM	51	0	51	0	112	112	0	93	93	256
Total	260	0	260	0	475	475	0	329	329	1064
05:00 PM	55	0	55	0	120	120	0	70	70	245
05:15 PM	56	0	56	0	122	122	0	59	59	237
05:30 PM	41	0	41	0	154	154	0	81	81	276
05:45 PM	52	1	53	0	150	150	0	68	68	271
Total	204	1	205	0	546	546	0	278	278	1029
Grand Total	464	1	465	0	1021	1021	0	607	607	2093
Apprch %	99.8	0.2		0	100		0	100		
Total %	22.2	0	22.2	0	48.8	48.8	0	29	29	
Passenger Vehicles	439	1	440	0	991	991	0	606	606	2037
% Passenger Vehicles	94.6	100	94.6	0	97.1	97.1	0	99.8	99.8	97.3
Large 2 Axle Vehicles	20	0	20	0	25	25	0	0	0	45
% Large 2 Axle Vehicles	4.3	0	4.3	0	2.4	2.4	0	0	0	2.2
3 Axle Vehicles	4	0	4	0	5	5	0	1	1	10
% 3 Axle Vehicles	0.9	0	0.9	0	0.5	0.5	0	0.2	0.2	0.5
4+ Axle Trucks	1	0	1	0	0	0	0	0	0	1
% 4+ Axle Trucks	0.2	0	0.2	0	0	0	0	0	0	0

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	**90**	0	**90**	0	119	119	0	78	78	**287**
04:15 PM	56	0	56	0	**126**	**126**	0	90	90	272
04:30 PM	63	0	63	0	118	118	0	68	68	249
04:45 PM	51	0	51	0	112	112	0	**93**	**93**	256
Total Volume	260	0	260	0	475	475	0	329	329	1064
% App. Total	100	0		0	100		0	100		
PHF	.722	.000	.722	.000	.942	.942	.000	.884	.884	.927

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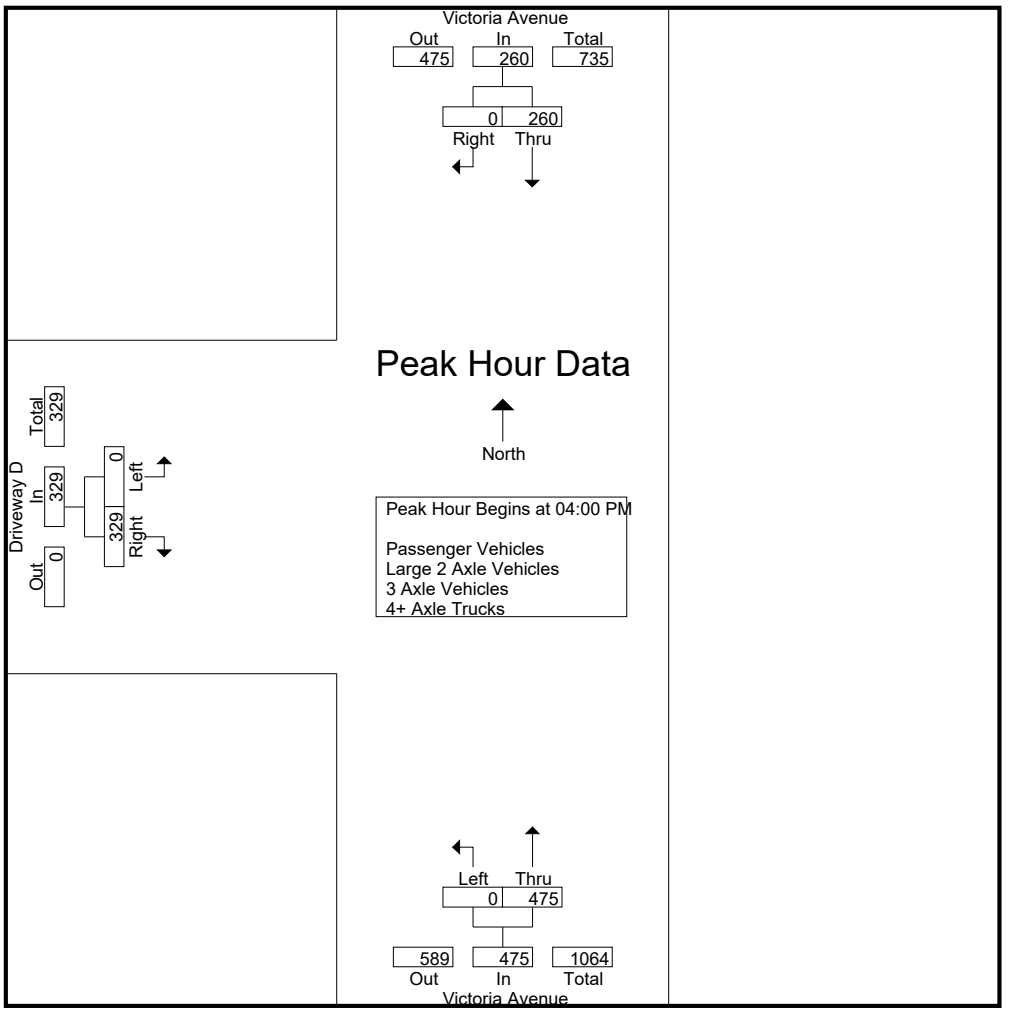

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			05:00 PM			04:00 PM		
+0 mins.	**90**	0	**90**	0	120	120	0	78	78
+15 mins.	56	0	56	0	122	122	0	90	90
+30 mins.	63	0	63	0	**154**	**154**	0	68	68
+45 mins.	51	0	51	0	150	150	0	**93**	**93**
Total Volume	260	0	260	0	546	546	0	329	329
% App. Total	100	0		0	100		0	100	
PHF	.722	.000	.722	.000	.886	.886	.000	.884	.884

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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	88	0	88	0	115	115	0	77	77	280
04:15 PM	50	0	50	0	120	120	0	90	90	260
04:30 PM	60	0	60	0	116	116	0	68	68	244
04:45 PM	48	0	48	0	108	108	0	93	93	249
Total	246	0	246	0	459	459	0	328	328	1033
05:00 PM	52	0	52	0	115	115	0	70	70	237
05:15 PM	53	0	53	0	119	119	0	59	59	231
05:30 PM	38	0	38	0	151	151	0	81	81	270
05:45 PM	50	1	51	0	147	147	0	68	68	266
Total	193	1	194	0	532	532	0	278	278	1004
Grand Total	439	1	440	0	991	991	0	606	606	2037
Apprch %	99.8	0.2		0	100		0	100		
Total %	21.6	0	21.6	0	48.6	48.6	0	29.7	29.7	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	**88**	0	**88**	0	115	115	0	77	77	**280**
04:15 PM	50	0	50	0	**120**	**120**	0	90	90	260
04:30 PM	60	0	60	0	116	116	0	68	68	244
04:45 PM	48	0	48	0	108	108	0	**93**	**93**	249
Total Volume	246	0	246	0	459	459	0	328	328	1033
% App. Total	100	0		0	100		0	100		
PHF	.699	.000	.699	.000	.956	.956	.000	.882	.882	.922

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County of San Bernardino
N/S: Victoria Avenue
E/W: Driveway D
Weather: Clear

File Name : CSBVIDDPM
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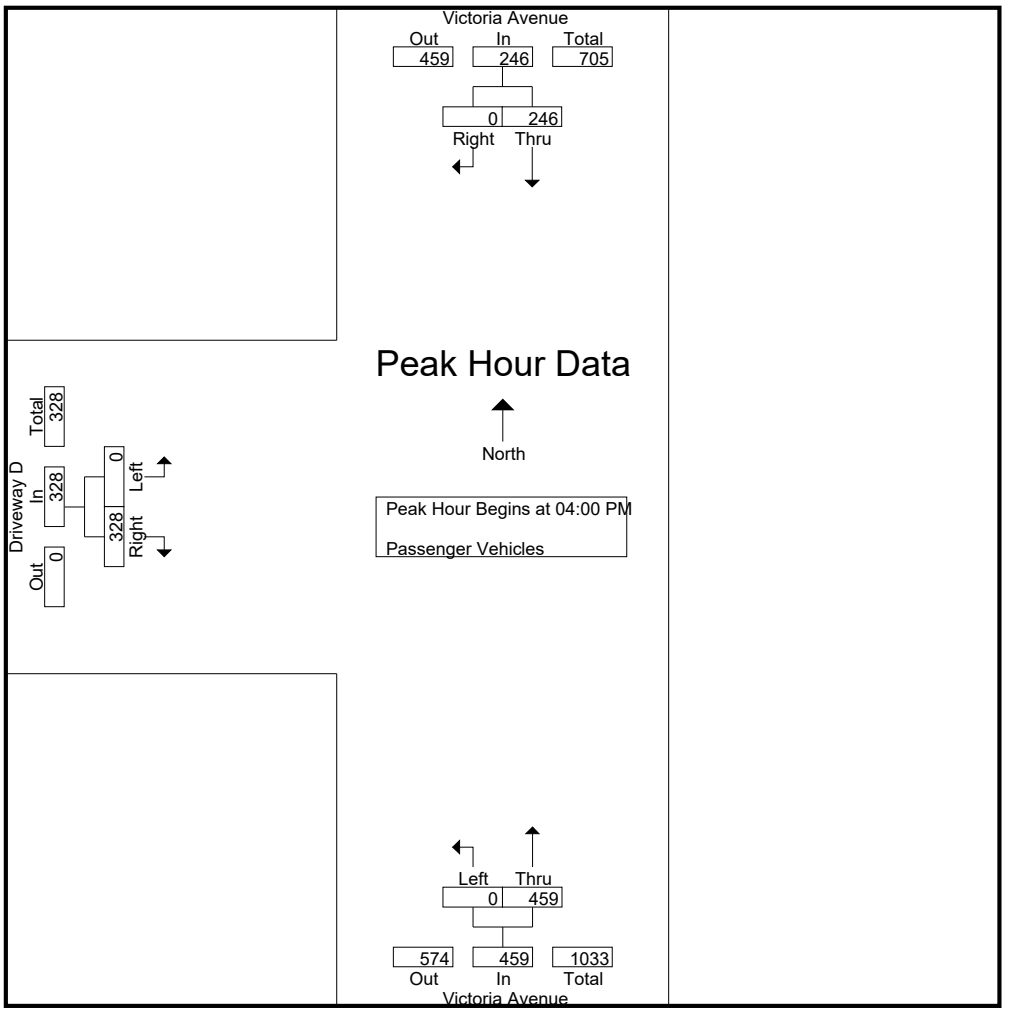

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	**88**	0	**88**	0	115	115	0	77	77
+15 mins.	50	0	50	0	**120**	**120**	0	90	90
+30 mins.	60	0	60	0	116	116	0	68	68
+45 mins.	48	0	48	0	108	108	0	**93**	**93**
Total Volume	246	0	246	0	459	459	0	328	328
% App. Total	100	0		0	100		0	100	
PHF	.699	.000	.699	.000	.956	.956	.000	.882	.882

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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	2	0	2	0	3	3	0	0	0	5
04:15 PM	4	0	4	0	5	5	0	0	0	9
04:30 PM	2	0	2	0	2	2	0	0	0	4
04:45 PM	3	0	3	0	3	3	0	0	0	6
Total	11	0	11	0	13	13	0	0	0	24
05:00 PM	2	0	2	0	5	5	0	0	0	7
05:15 PM	3	0	3	0	2	2	0	0	0	5
05:30 PM	2	0	2	0	3	3	0	0	0	5
05:45 PM	2	0	2	0	2	2	0	0	0	4
Total	9	0	9	0	12	12	0	0	0	21
Grand Total	20	0	20	0	25	25	0	0	0	45
Apprch %	100	0		0	100		0	0		
Total %	44.4	0	44.4	0	55.6	55.6	0	0	0	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	2	0	2	0	3	3	0	0	0	5
04:15 PM	**4**	0	**4**	0	**5**	**5**	0	0	0	**9**
04:30 PM	2	0	2	0	2	2	0	0	0	4
04:45 PM	3	0	3	0	3	3	0	0	0	6
Total Volume	11	0	11	0	13	13	0	0	0	24
% App. Total	100	0		0	100		0	0		
PHF	.688	.000	.688	.000	.650	.650	.000	.000	.000	.667

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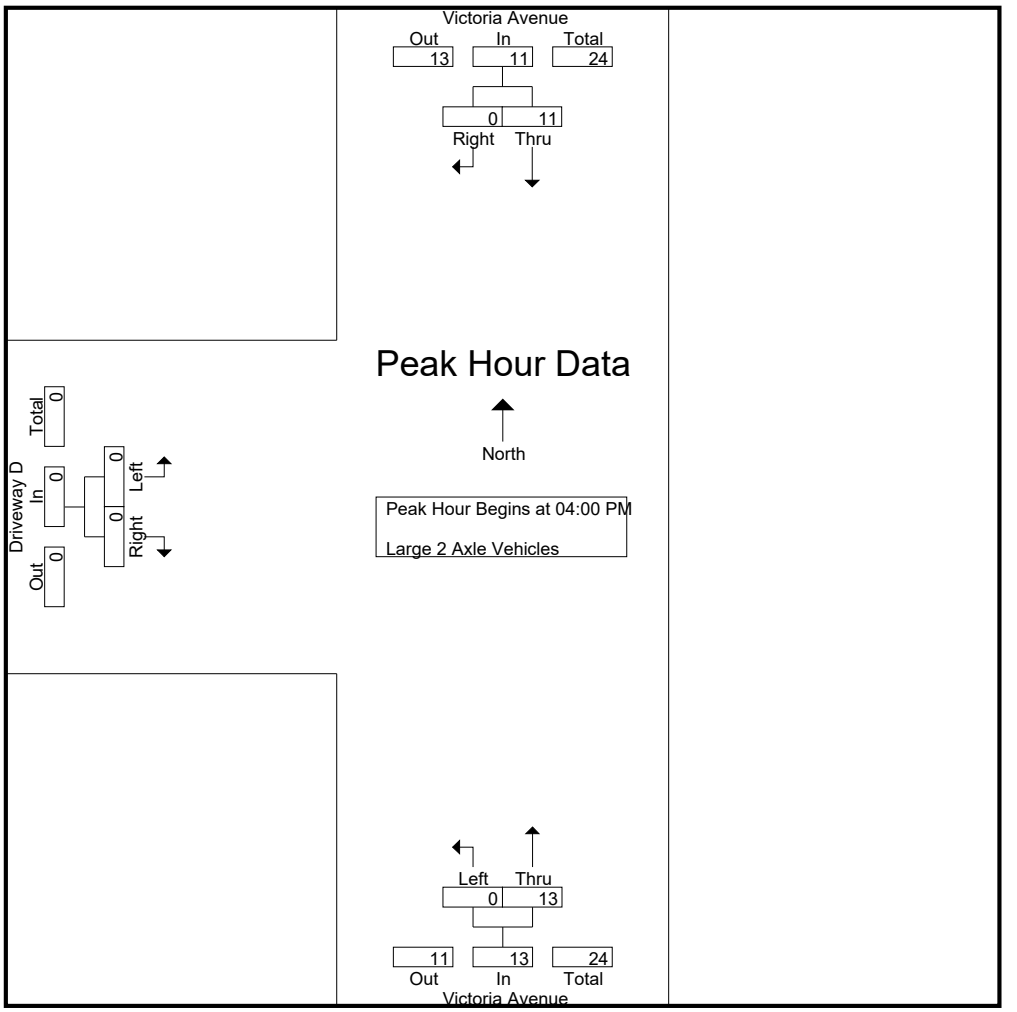

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	2	0	2	0	3	3	0	0	0
+15 mins.	**4**	0	**4**	0	**5**	**5**	0	0	0
+30 mins.	2	0	2	0	2	2	0	0	0
+45 mins.	3	0	3	0	3	3	0	0	0
Total Volume	11	0	11	0	13	13	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.688	.000	.688	.000	.650	.650	.000	.000	.000

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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	1	1	0	1	1	2
04:15 PM	1	0	1	0	1	1	0	0	0	2
04:30 PM	1	0	1	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	1	1	0	0	0	1
Total	2	0	2	0	3	3	0	1	1	6
05:00 PM	1	0	1	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	1	1	0	0	0	1
05:30 PM	1	0	1	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	1	1	0	0	0	1
Total	2	0	2	0	2	2	0	0	0	4
Grand Total	4	0	4	0	5	5	0	1	1	10
Apprch %	100	0		0	100		0	100		
Total %	40	0	40	0	50	50	0	10	10	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	**1**	**1**	0	**1**	**1**	**2**
04:15 PM	**1**	0	**1**	0	1	1	0	0	0	2
04:30 PM	1	0	1	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	1	1	0	0	0	1
Total Volume	2	0	2	0	3	3	0	1	1	6
% App. Total	100	0		0	100		0	100		
PHF	.500	.000	.500	.000	.750	.750	.000	.250	.250	.750

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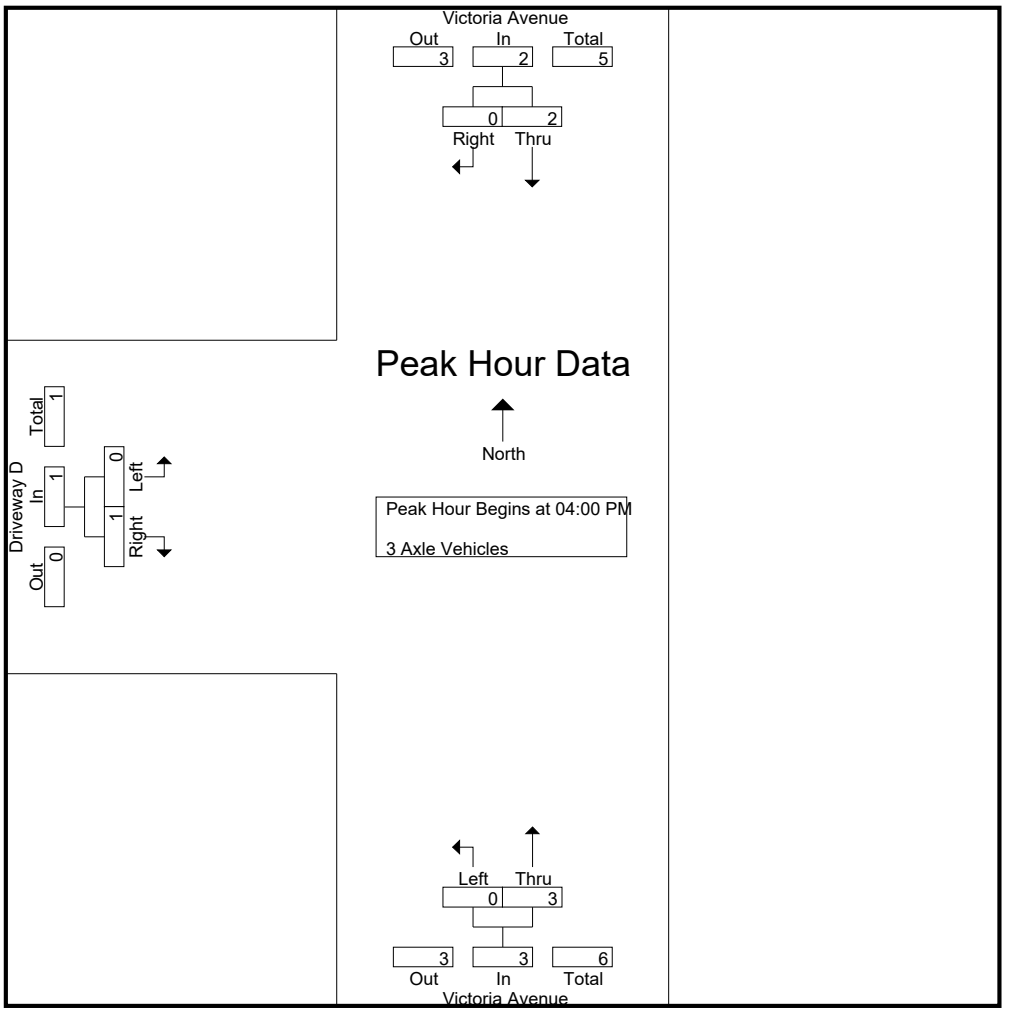

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	**1**	**1**	0	**1**	**1**
+15 mins.	**1**	0	**1**	0	1	1	0	0	0
+30 mins.	1	0	1	0	0	0	0	0	0
+45 mins.	0	0	0	0	1	1	0	0	0
Total Volume	2	0	2	0	3	3	0	1	1
% App. Total	100	0		0	100		0	100	
PHF	.500	.000	.500	.000	.750	.750	.000	.250	.250

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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	1	0	1	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	1	0	1	0	0	0	0	0	0	1
Apprch %	100	0		0	0		0	0		
Total %	100	0	100	0	0	0	0	0	0	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	**1**	0	**1**	0	0	0	0	0	0	**1**
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	0	0	1
% App. Total	100	0		0	0		0	0		
PHF	.250	.000	.250	.000	.000	.000	.000	.000	.000	.250

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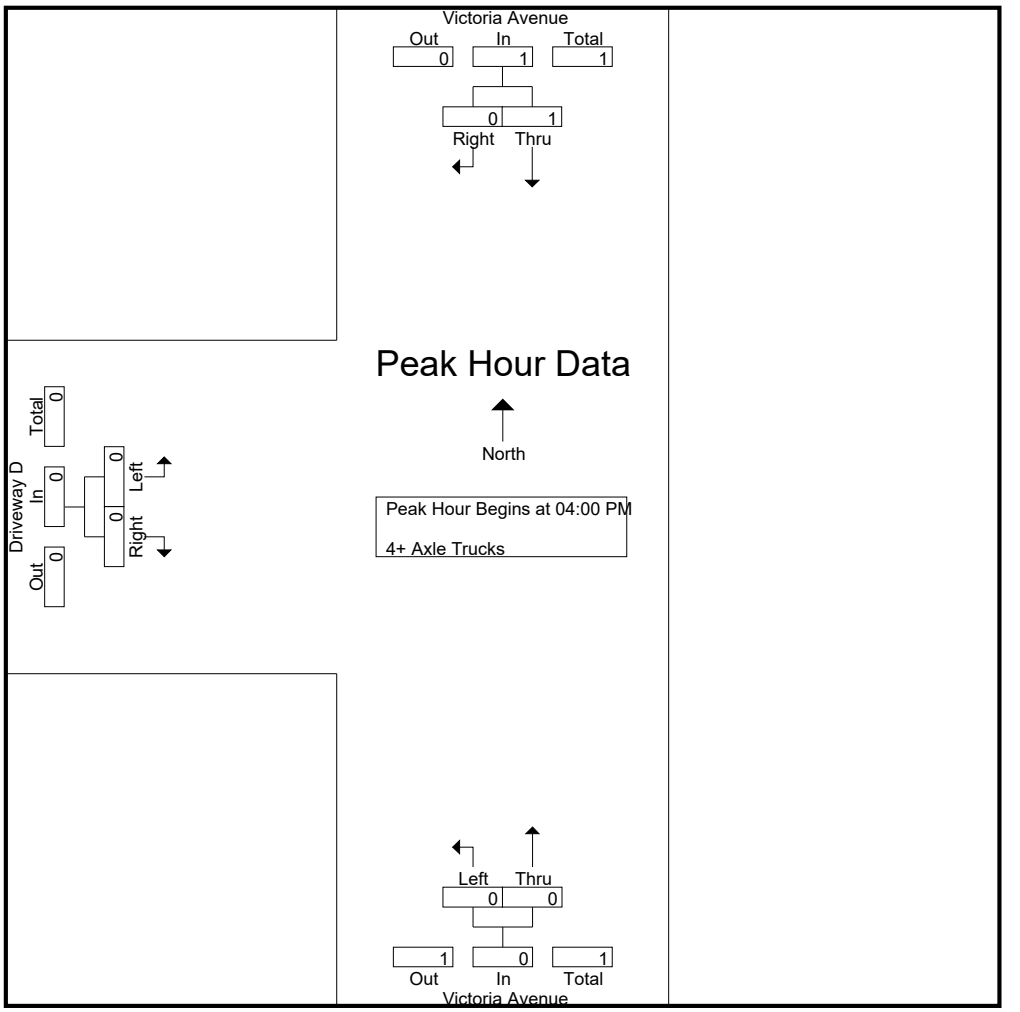

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	**1**	0	**1**	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	0	0
% App. Total	100	0		0	0		0	0	
PHF	.250	.000	.250	.000	.000	.000	.000	.000	.000

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
05:00 PM	55	0	55	0	164	164	0	93	93	312
05:15 PM	44	0	44	0	158	158	0	119	119	321
05:30 PM	48	0	48	0	216	216	0	92	92	356
05:45 PM	47	0	47	0	206	206	0	98	98	351
Total	194	0	194	0	744	744	0	402	402	1340
06:00 PM	65	0	65	0	180	180	0	91	91	336
06:15 PM	51	0	51	0	201	201	0	119	119	371
06:30 PM	71	0	71	0	214	214	1	112	113	398
06:45 PM	57	0	57	0	206	206	0	94	94	357
Total	244	0	244	0	801	801	1	416	417	1462
Grand Total	438	0	438	0	1545	1545	1	818	819	2802
Apprch %	100	0		0	100		0.1	99.9		
Total %	15.6	0	15.6	0	55.1	55.1	0	29.2	29.2	
Passenger Vehicles	410	0	410	0	1521	1521	1	818	819	2750
% Passenger Vehicles	93.6	0	93.6	0	98.4	98.4	100	100	100	98.1
Large 2 Axle Vehicles	23	0	23	0	19	19	0	0	0	42
% Large 2 Axle Vehicles	5.3	0	5.3	0	1.2	1.2	0	0	0	1.5
3 Axle Vehicles	5	0	5	0	5	5	0	0	0	10
% 3 Axle Vehicles	1.1	0	1.1	0	0.3	0.3	0	0	0	0.4
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 06:00 PM										
06:00 PM	65	0	65	0	180	180	0	91	91	336
06:15 PM	51	0	51	0	201	201	0	**119**	**119**	371
06:30 PM	**71**	0	**71**	0	**214**	**214**	**1**	112	113	**398**
06:45 PM	57	0	57	0	206	206	0	94	94	357
Total Volume	244	0	244	0	801	801	1	416	417	1462
% App. Total	100	0		0	100		0.2	99.8		
PHF	.859	.000	.859	.000	.936	.936	.250	.874	.876	.918

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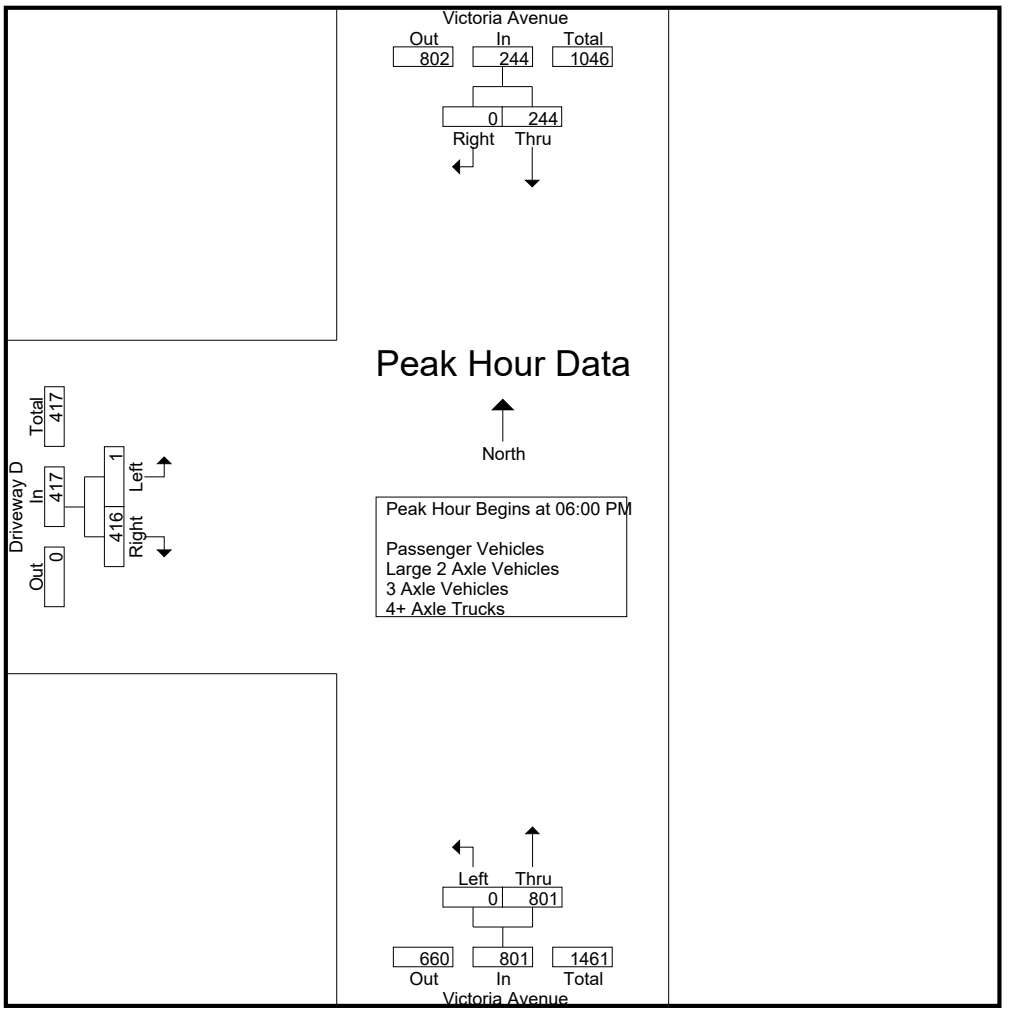

Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM			05:30 PM			05:45 PM		
+0 mins.	65	0	65	0	**216**	**216**	0	98	98
+15 mins.	51	0	51	0	206	206	0	91	91
+30 mins.	**71**	0	**71**	0	180	180	0	**119**	**119**
+45 mins.	57	0	57	0	201	201	**1**	112	113
Total Volume	244	0	244	0	803	803	1	420	421
% App. Total	100	0		0	100		0.2	99.8	
PHF	.859	.000	.859	.000	.929	.929	.250	.882	.884

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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
05:00 PM	52	0	52	0	162	162	0	93	93	307
05:15 PM	41	0	41	0	154	154	0	119	119	314
05:30 PM	45	0	45	0	213	213	0	92	92	350
05:45 PM	44	0	44	0	203	203	0	98	98	345
Total	182	0	182	0	732	732	0	402	402	1316
06:00 PM	61	0	61	0	176	176	0	91	91	328
06:15 PM	47	0	47	0	199	199	0	119	119	365
06:30 PM	67	0	67	0	209	209	1	112	113	389
06:45 PM	53	0	53	0	205	205	0	94	94	352
Total	228	0	228	0	789	789	1	416	417	1434
Grand Total	410	0	410	0	1521	1521	1	818	819	2750
Apprch %	100	0		0	100		0.1	99.9		
Total %	14.9	0	14.9	0	55.3	55.3	0	29.7	29.8	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 06:00 PM										
06:00 PM	61	0	61	0	176	176	0	91	91	328
06:15 PM	47	0	47	0	199	199	0	**119**	**119**	365
06:30 PM	**67**	0	**67**	0	**209**	**209**	**1**	112	113	**389**
06:45 PM	53	0	53	0	205	205	0	94	94	352
Total Volume	228	0	228	0	789	789	1	416	417	1434
% App. Total	100	0		0	100		0.2	99.8		
PHF	.851	.000	.851	.000	.944	.944	.250	.874	.876	.922

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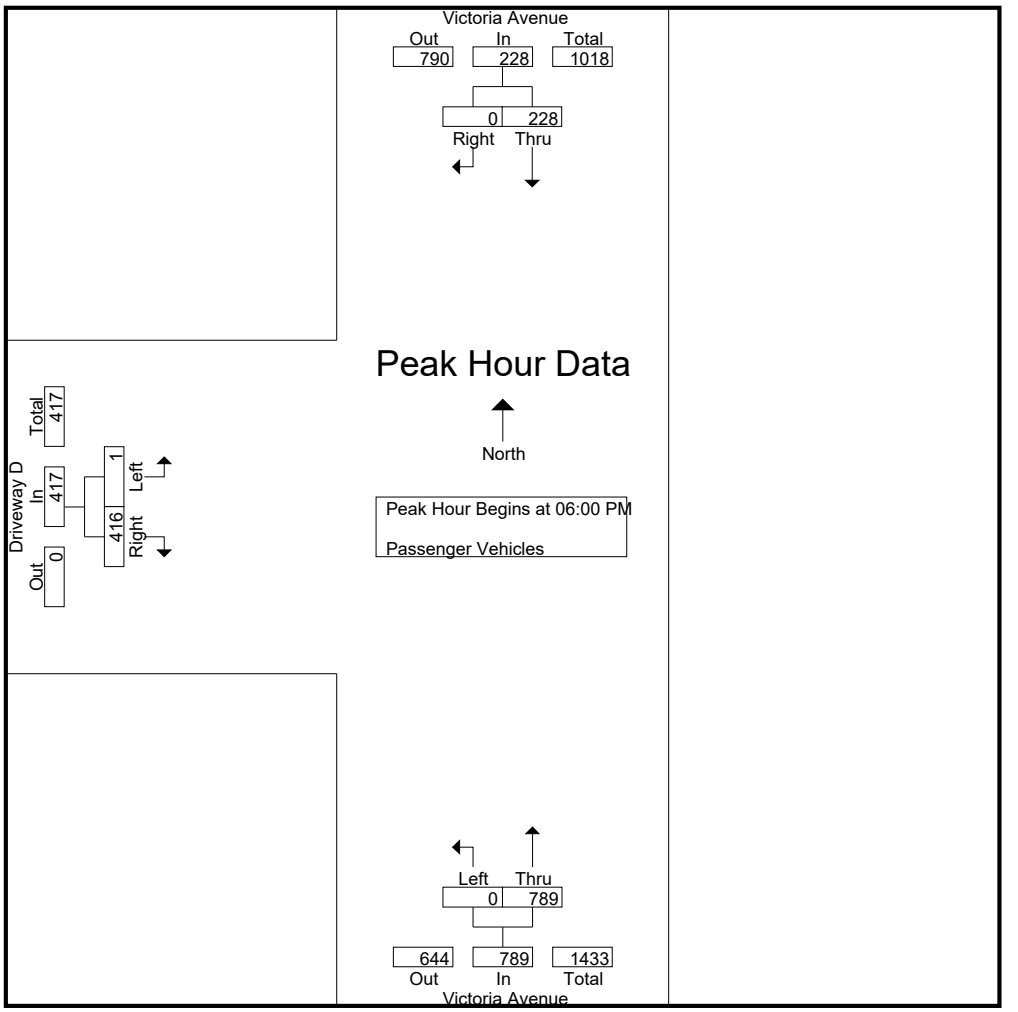

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM			06:00 PM			06:00 PM		
+0 mins.	61	0	61	0	176	176	0	91	91
+15 mins.	47	0	47	0	199	199	0	**119**	**119**
+30 mins.	**67**	0	**67**	0	**209**	**209**	**1**	112	113
+45 mins.	53	0	53	0	205	205	0	94	94
Total Volume	228	0	228	0	789	789	1	416	417
% App. Total	100	0		0	100		0.2	99.8	
PHF	.851	.000	.851	.000	.944	.944	.250	.874	.876

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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
05:00 PM	2	0	2	0	2	2	0	0	0	4
05:15 PM	3	0	3	0	4	4	0	0	0	7
05:30 PM	3	0	3	0	3	3	0	0	0	6
05:45 PM	3	0	3	0	3	3	0	0	0	6
Total	11	0	11	0	12	12	0	0	0	23
06:00 PM	3	0	3	0	2	2	0	0	0	5
06:15 PM	3	0	3	0	1	1	0	0	0	4
06:30 PM	2	0	2	0	3	3	0	0	0	5
06:45 PM	4	0	4	0	1	1	0	0	0	5
Total	12	0	12	0	7	7	0	0	0	19
Grand Total	23	0	23	0	19	19	0	0	0	42
Apprch %	100	0		0	100		0	0		
Total %	54.8	0	54.8	0	45.2	45.2	0	0	0	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 06:00 PM										
06:00 PM	3	0	3	0	2	2	0	0	0	**5**
06:15 PM	3	0	3	0	1	1	0	0	0	4
06:30 PM	2	0	2	0	**3**	**3**	0	0	0	5
06:45 PM	**4**	0	**4**	0	1	1	0	0	0	5
Total Volume	12	0	12	0	7	7	0	0	0	19
% App. Total	100	0		0	100		0	0		
PHF	.750	.000	.750	.000	.583	.583	.000	.000	.000	.950

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County of San Bernardino
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E/W: Driveway D
Weather: Clear

File Name : CSBVIDDSAT
Site Code : 05716653
Start Date : 12/10/2016
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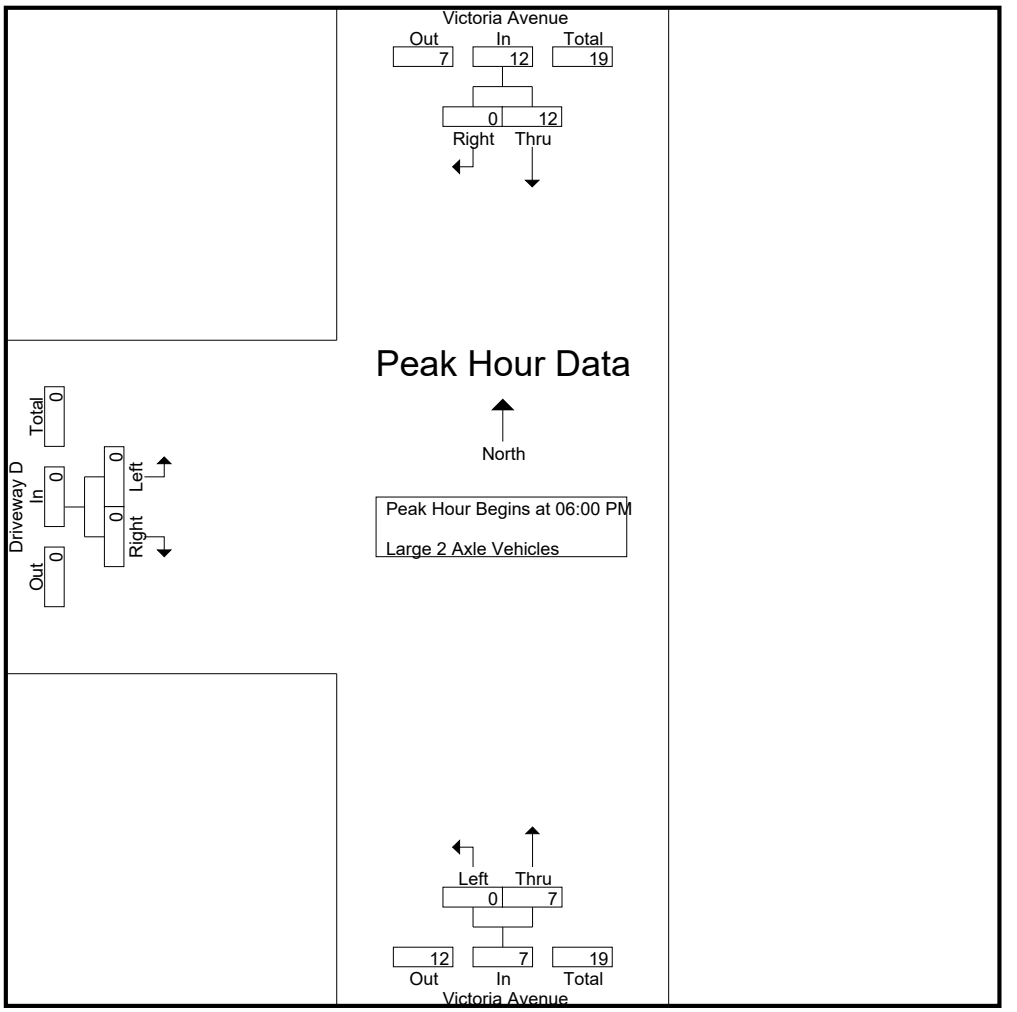

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM			06:00 PM			06:00 PM		
+0 mins.	3	0	3	0	2	2	0	0	0
+15 mins.	3	0	3	0	1	1	0	0	0
+30 mins.	2	0	2	0	**3**	**3**	0	0	0
+45 mins.	**4**	0	**4**	0	1	1	0	0	0
Total Volume	12	0	12	0	7	7	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.750	.000	.750	.000	.583	.583	.000	.000	.000

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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
05:00 PM	1	0	1	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	0	0	0	0	0	1
06:00 PM	1	0	1	0	2	2	0	0	0	3
06:15 PM	1	0	1	0	1	1	0	0	0	2
06:30 PM	2	0	2	0	2	2	0	0	0	4
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total	4	0	4	0	5	5	0	0	0	9
Grand Total	5	0	5	0	5	5	0	0	0	10
Apprch %	100	0		0	100		0	0		
Total %	50	0	50	0	50	50	0	0	0	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 06:00 PM										
06:00 PM	1	0	1	0	**2**	**2**	0	0	0	3
06:15 PM	1	0	1	0	1	1	0	0	0	2
06:30 PM	**2**	0	**2**	0	2	2	0	0	0	**4**
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	4	0	4	0	5	5	0	0	0	9
% App. Total	100	0		0	100		0	0		
PHF	.500	.000	.500	.000	.625	.625	.000	.000	.000	.563

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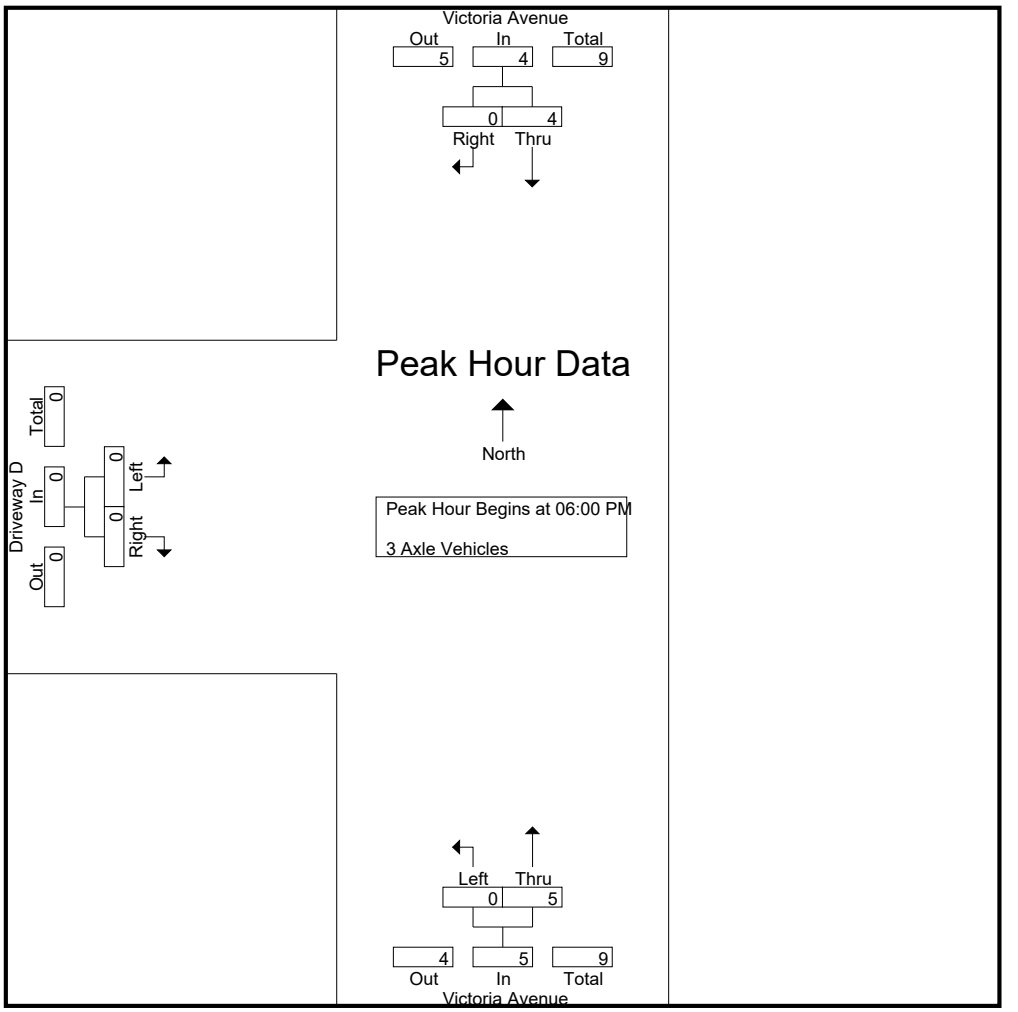

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM			06:00 PM			06:00 PM		
+0 mins.	1	0	1	0	**2**	**2**	0	0	0
+15 mins.	1	0	1	0	1	1	0	0	0
+30 mins.	**2**	0	**2**	0	2	2	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	4	0	4	0	5	5	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.500	.000	.500	.000	.625	.625	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Victoria Avenue Southbound			Victoria Avenue Northbound			Driveway D Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 06:00 PM										
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Site Code : 05716653
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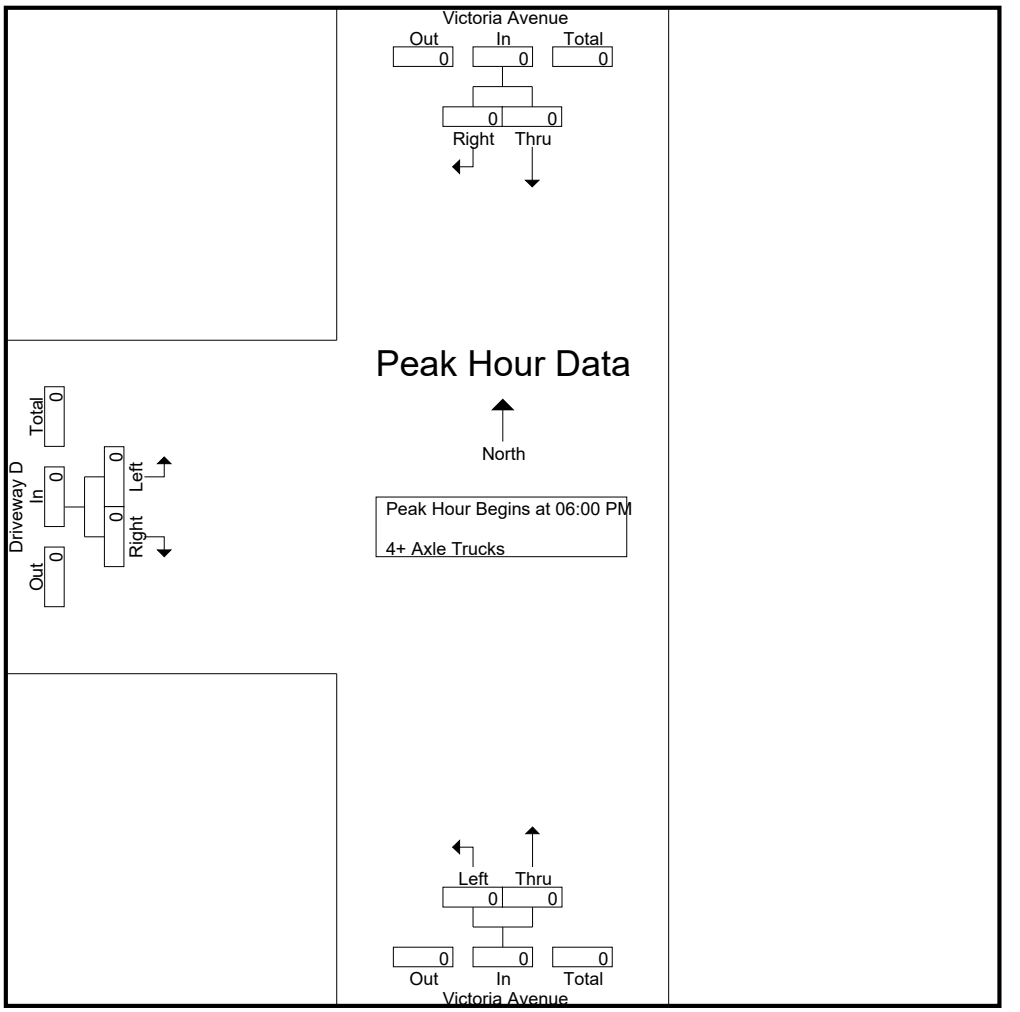

Peak Hour Analysis From 06:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM			06:00 PM			06:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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File Name : SBCVILYAM
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	55	1	56	34	53	87	0	37	37	180
07:15 AM	41	1	42	53	45	98	0	63	63	203
07:30 AM	37	0	37	60	66	126	0	72	72	235
07:45 AM	38	0	38	29	93	122	0	42	42	202
Total	171	2	173	176	257	433	0	214	214	820
08:00 AM	48	1	49	30	68	98	0	39	39	186
08:15 AM	35	1	36	47	97	144	0	38	38	218
08:30 AM	35	2	37	63	91	154	0	55	55	246
08:45 AM	42	0	42	36	91	127	0	77	77	246
Total	160	4	164	176	347	523	0	209	209	896
Grand Total	331	6	337	352	604	956	0	423	423	1716
Apprch %	98.2	1.8		36.8	63.2		0	100		
Total %	19.3	0.3	19.6	20.5	35.2	55.7	0	24.7	24.7	
Passenger Vehicles	295	5	300	344	564	908	0	408	408	1616
% Passenger Vehicles	89.1	83.3	89	97.7	93.4	95	0	96.5	96.5	94.2
Large 2 Axle Vehicles	30	1	31	6	36	42	0	15	15	88
% Large 2 Axle Vehicles	9.1	16.7	9.2	1.7	6	4.4	0	3.5	3.5	5.1
3 Axle Vehicles	2	0	2	2	1	3	0	0	0	5
% 3 Axle Vehicles	0.6	0	0.6	0.6	0.2	0.3	0	0	0	0.3
4+ Axle Trucks	4	0	4	0	3	3	0	0	0	7
% 4+ Axle Trucks	1.2	0	1.2	0	0.5	0.3	0	0	0	0.4

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	**48**	1	**49**	30	68	98	0	39	39	186
08:15 AM	35	1	36	47	**97**	144	0	38	38	218
08:30 AM	35	**2**	37	**63**	91	**154**	0	55	55	**246**
08:45 AM	42	0	42	36	91	127	0	**77**	**77**	246
Total Volume	160	4	164	176	347	523	0	209	209	896
% App. Total	97.6	2.4		33.7	66.3		0	100		
PHF	.833	.500	.837	.698	.894	.849	.000	.679	.679	.911

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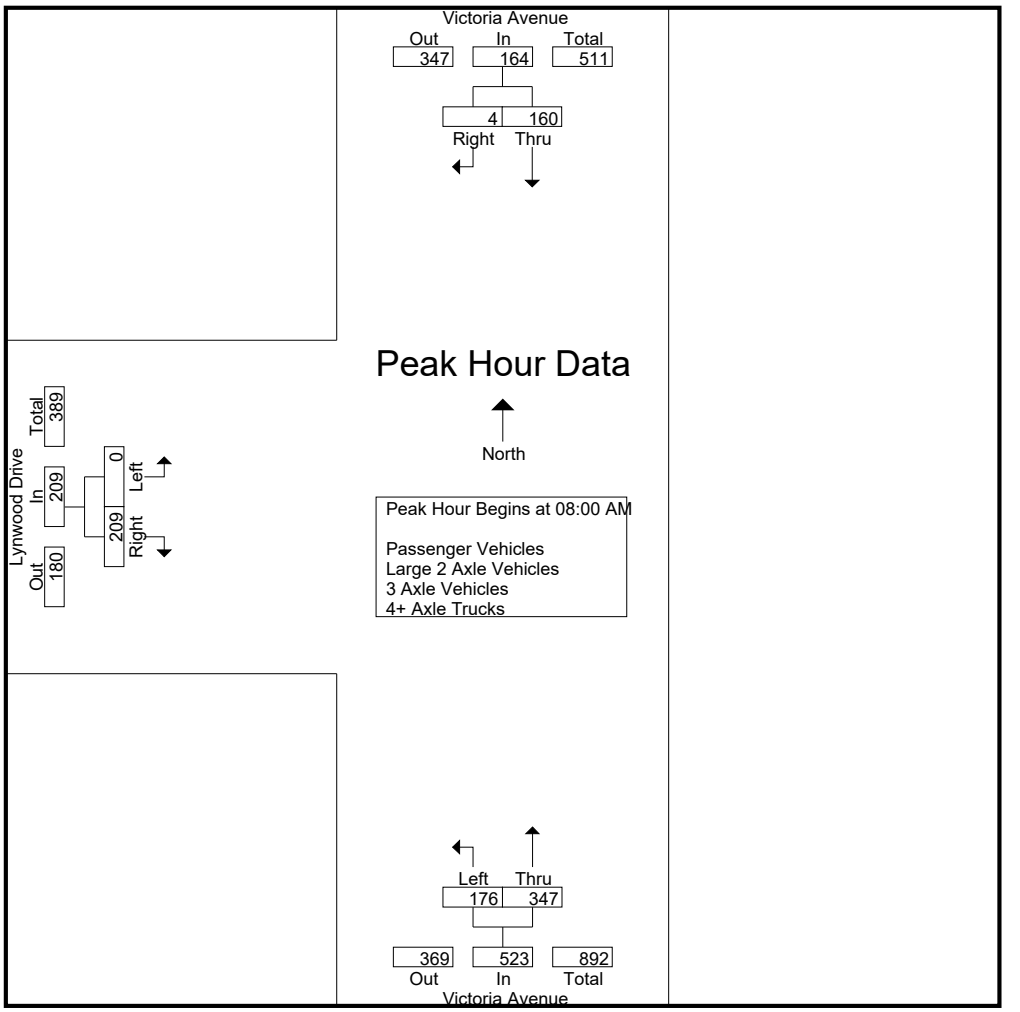

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			08:00 AM			07:15 AM		
+0 mins.	**55**	**1**	**56**	30	68	98	0	63	63
+15 mins.	41	1	42	47	**97**	144	0	**72**	**72**
+30 mins.	37	0	37	**63**	91	**154**	0	42	42
+45 mins.	38	0	38	36	91	127	0	39	39
Total Volume	171	2	173	176	347	523	0	216	216
% App. Total	98.8	1.2		33.7	66.3		0	100	
PHF	.777	.500	.772	.698	.894	.849	.000	.750	.750

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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	51	1	52	33	45	78	0	34	34	164
07:15 AM	38	1	39	52	43	95	0	61	61	195
07:30 AM	32	0	32	58	60	118	0	69	69	219
07:45 AM	30	0	30	29	89	118	0	41	41	189
Total	151	2	153	172	237	409	0	205	205	767
08:00 AM	44	1	45	30	64	94	0	37	37	176
08:15 AM	32	1	33	44	91	135	0	38	38	206
08:30 AM	30	1	31	63	87	150	0	54	54	235
08:45 AM	38	0	38	35	85	120	0	74	74	232
Total	144	3	147	172	327	499	0	203	203	849
Grand Total	295	5	300	344	564	908	0	408	408	1616
Apprch %	98.3	1.7		37.9	62.1		0	100		
Total %	18.3	0.3	18.6	21.3	34.9	56.2	0	25.2	25.2	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	**44**	**1**	**45**	30	64	94	0	37	37	176
08:15 AM	32	1	33	44	**91**	135	0	38	38	206
08:30 AM	30	1	31	**63**	87	**150**	0	54	54	**235**
08:45 AM	38	0	38	35	85	120	0	**74**	**74**	232
Total Volume	144	3	147	172	327	499	0	203	203	849
% App. Total	98	2		34.5	65.5		0	100		
PHF	.818	.750	.817	.683	.898	.832	.000	.686	.686	.903

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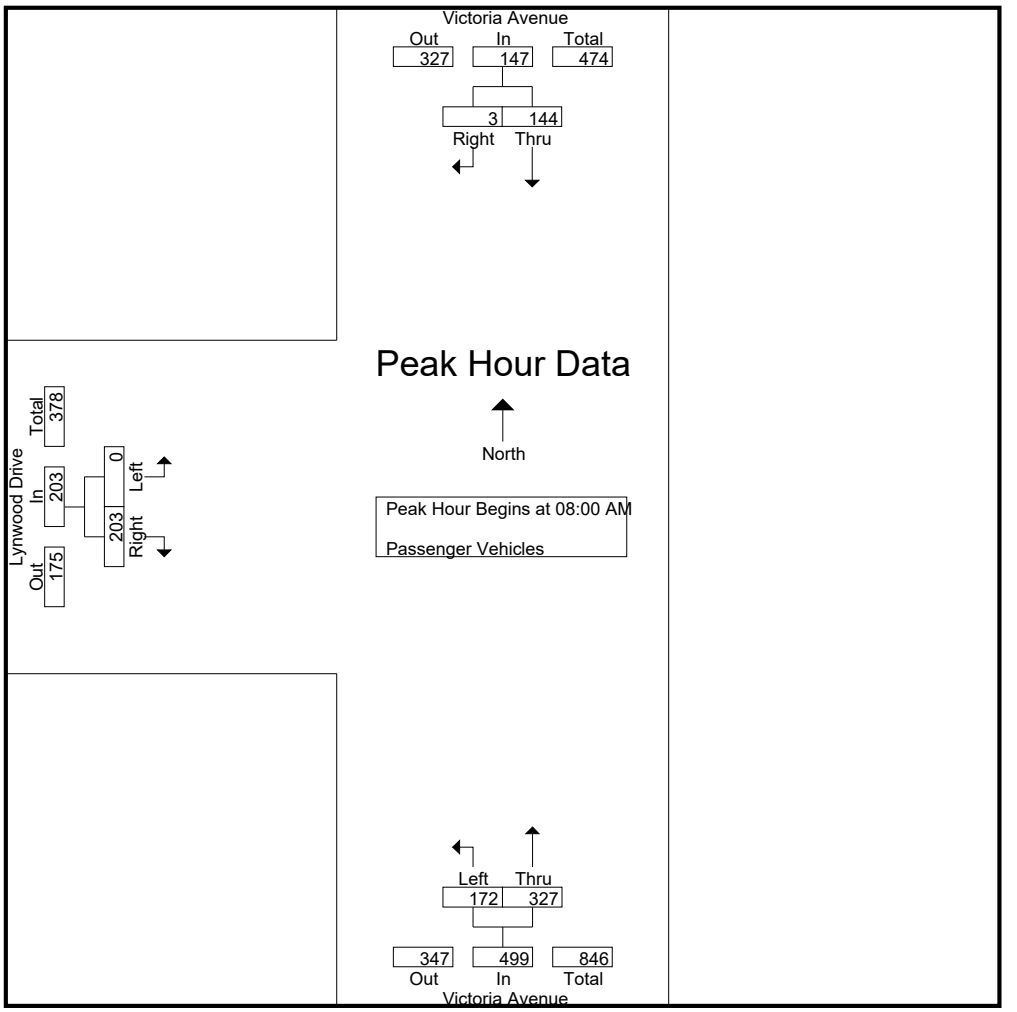

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	**44**	**1**	**45**	30	64	94	0	37	37
+15 mins.	32	1	33	44	**91**	135	0	38	38
+30 mins.	30	1	31	**63**	87	**150**	0	54	54
+45 mins.	38	0	38	35	85	120	0	**74**	**74**
Total Volume	144	3	147	172	327	499	0	203	203
% App. Total	98	2		34.5	65.5		0	100	
PHF	.818	.750	.817	.683	.898	.832	.000	.686	.686

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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	4	0	4	0	6	6	0	3	3	13
07:15 AM	3	0	3	0	2	2	0	2	2	7
07:30 AM	4	0	4	2	6	8	0	3	3	15
07:45 AM	7	0	7	0	3	3	0	1	1	11
Total	18	0	18	2	17	19	0	9	9	46
08:00 AM	4	0	4	0	4	4	0	2	2	10
08:15 AM	3	0	3	3	5	8	0	0	0	11
08:30 AM	2	1	3	0	4	4	0	1	1	8
08:45 AM	3	0	3	1	6	7	0	3	3	13
Total	12	1	13	4	19	23	0	6	6	42
Grand Total	30	1	31	6	36	42	0	15	15	88
Apprch %	96.8	3.2		14.3	85.7		0	100		
Total %	34.1	1.1	35.2	6.8	40.9	47.7	0	17	17	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	**4**	0	**4**	0	4	4	0	2	2	10
08:15 AM	3	0	3	**3**	5	**8**	0	0	0	11
08:30 AM	2	**1**	3	0	4	4	0	1	1	8
08:45 AM	3	0	3	1	**6**	7	0	**3**	**3**	**13**
Total Volume	12	1	13	4	19	23	0	6	6	42
% App. Total	92.3	7.7		17.4	82.6		0	100		
PHF	.750	.250	.813	.333	.792	.719	.000	.500	.500	.808

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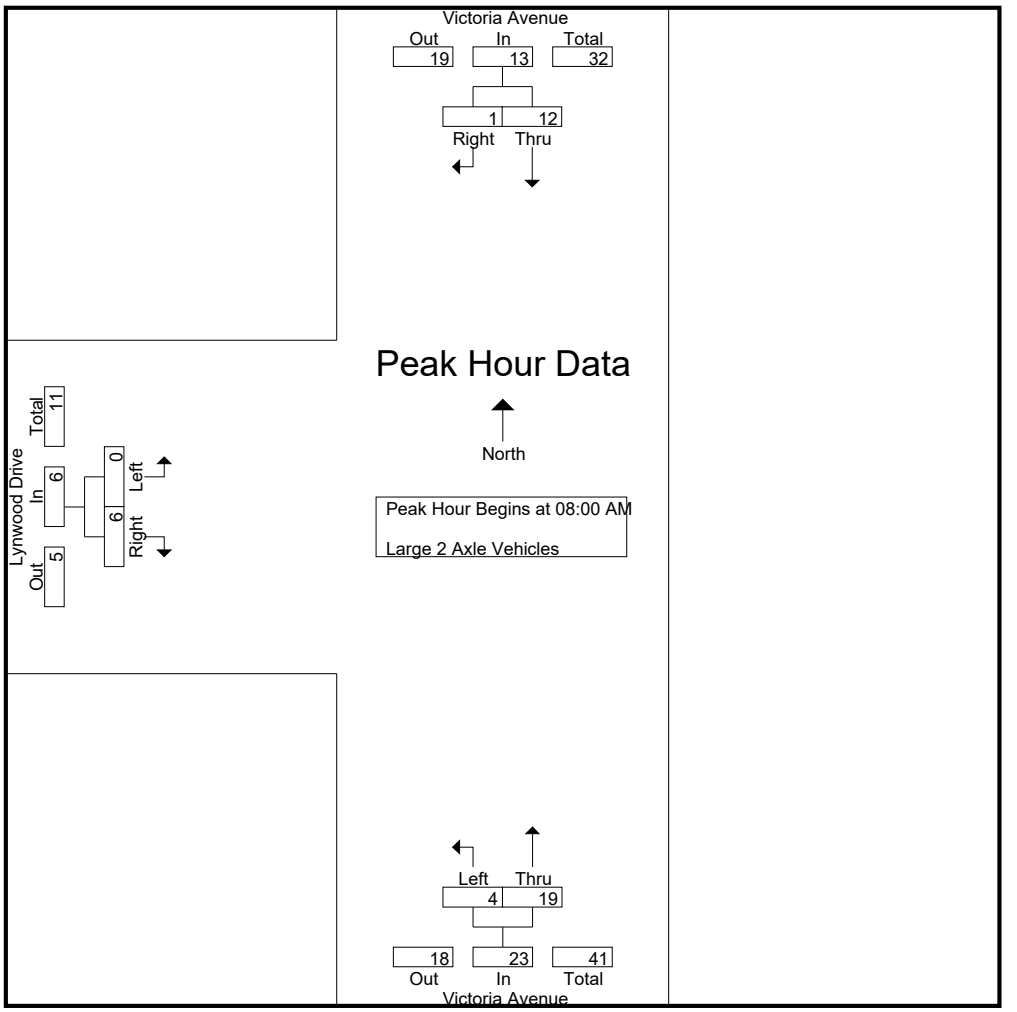

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	**4**	0	**4**	0	4	4	0	2	2
+15 mins.	3	0	3	**3**	5	**8**	0	0	0
+30 mins.	2	**1**	3	0	4	4	0	1	1
+45 mins.	3	0	3	1	**6**	7	0	**3**	**3**
Total Volume	12	1	13	4	19	23	0	6	6
% App. Total	92.3	7.7		17.4	82.6		0	100	
PHF	.750	.250	.813	.333	.792	.719	.000	.500	.500

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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	0	0	0	1	0	1	0	0	0	1
07:15 AM	0	0	0	1	0	1	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	1	1	0	0	0	1
Total	0	0	0	2	1	3	0	0	0	3
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	1	0	1	0	0	0	0	0	0	1
08:45 AM	1	0	1	0	0	0	0	0	0	1
Total	2	0	2	0	0	0	0	0	0	2
Grand Total	2	0	2	2	1	3	0	0	0	5
Apprch %	100	0		66.7	33.3		0	0		
Total %	40	0	40	40	20	60	0	0	0	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	**1**	0	**1**	0	0	0	0	0	0	**1**
08:45 AM	1	0	1	0	0	0	0	0	0	1
Total Volume	2	0	2	0	0	0	0	0	0	2
% App. Total	100	0		0	0		0	0		
PHF	.500	.000	.500	.000	.000	.000	.000	.000	.000	.500

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Weather: Clear

File Name : SBCVILYAM
Site Code : 05716653
Start Date : 12/7/2016
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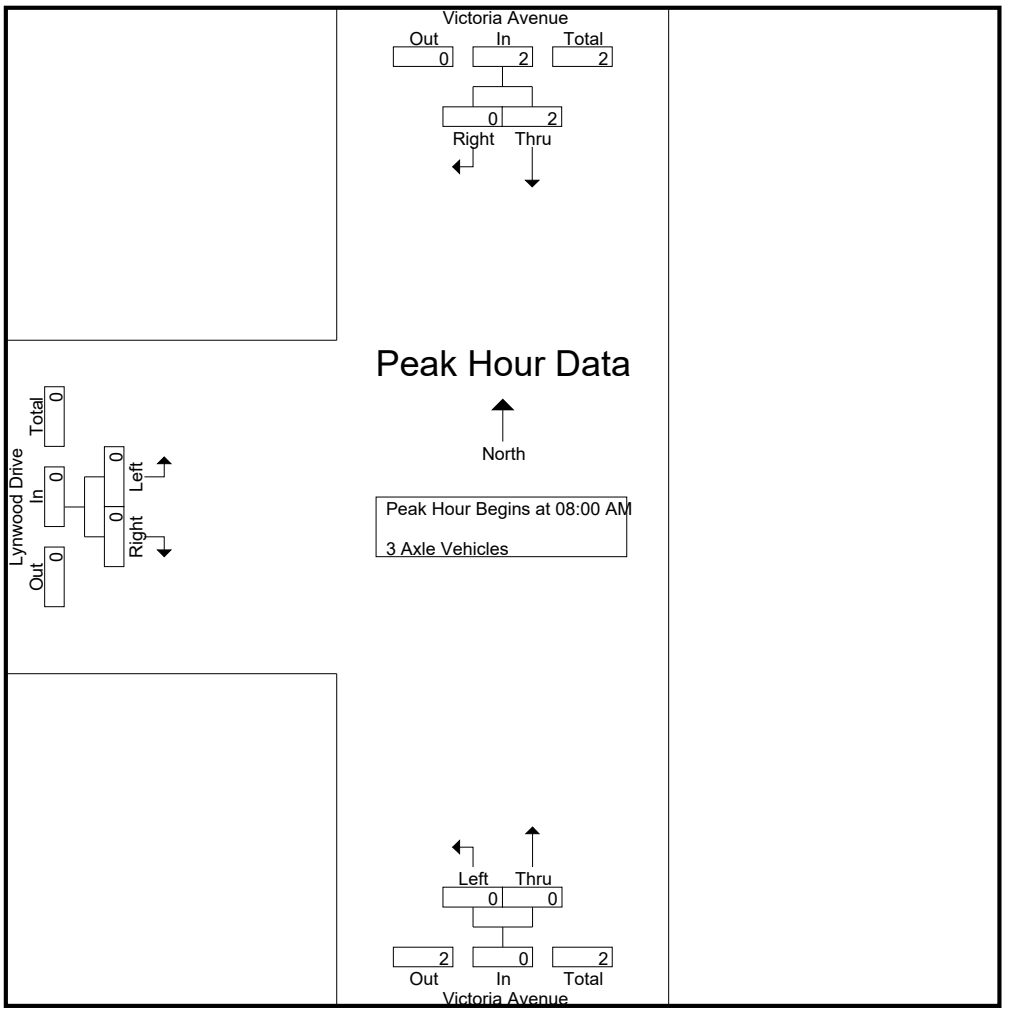

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	**1**	0	**1**	0	0	0	0	0	0
+45 mins.	1	0	1	0	0	0	0	0	0
Total Volume	2	0	2	0	0	0	0	0	0
% App. Total	100	0		0	0		0	0	
PHF	.500	.000	.500	.000	.000	.000	.000	.000	.000

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City of San Bernardino
N/S: Victoria Avenue
E/W: Lynwood Drive
Weather: Clear

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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	2	2	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	1	0	1	0	0	0	0	0	0	1
07:45 AM	1	0	1	0	0	0	0	0	0	1
Total	2	0	2	0	2	2	0	0	0	4
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	1	1	0	0	0	1
08:30 AM	2	0	2	0	0	0	0	0	0	2
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	2	0	2	0	1	1	0	0	0	3
Grand Total	4	0	4	0	3	3	0	0	0	7
Apprch %	100	0		0	100		0	0		
Total %	57.1	0	57.1	0	42.9	42.9	0	0	0	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	**1**	**1**	0	0	0	1
08:30 AM	**2**	0	**2**	0	0	0	0	0	0	**2**
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	2	0	1	1	0	0	0	3
% App. Total	100	0		0	100		0	0		
PHF	.250	.000	.250	.000	.250	.250	.000	.000	.000	.375

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Weather: Clear

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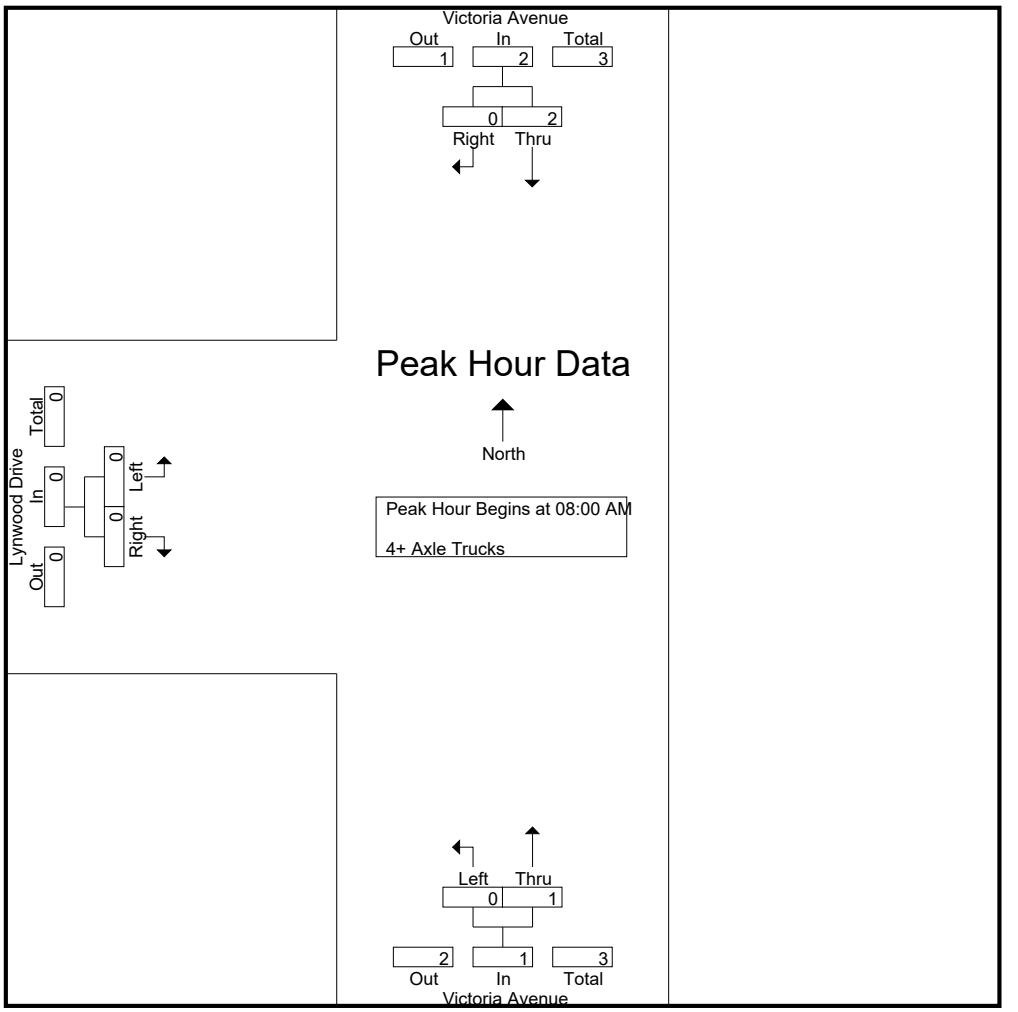

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM			08:00 AM			08:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	**1**	**1**	0	0	0
+30 mins.	**2**	0	**2**	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	2	0	2	0	1	1	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.250	.000	.250	.000	.250	.250	.000	.000	.000

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N/S: Victoria Avenue
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Weather: Clear

File Name : SBCVILYPM
Site Code : 05716653
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	161	1	162	64	120	184	0	45	45	391
04:15 PM	142	4	146	64	128	192	0	63	63	401
04:30 PM	131	3	134	71	123	194	0	49	49	377
04:45 PM	145	3	148	55	110	165	0	63	63	376
Total	579	11	590	254	481	735	0	220	220	1545
05:00 PM	125	3	128	79	116	195	0	62	62	385
05:15 PM	114	4	118	72	128	200	0	78	78	396
05:30 PM	114	5	119	65	157	222	0	75	75	416
05:45 PM	114	3	117	44	147	191	0	56	56	364
Total	467	15	482	260	548	808	0	271	271	1561
Grand Total	1046	26	1072	514	1029	1543	0	491	491	3106
Apprch %	97.6	2.4		33.3	66.7		0	100		
Total %	33.7	0.8	34.5	16.5	33.1	49.7	0	15.8	15.8	
Passenger Vehicles	1019	26	1045	511	997	1508	0	478	478	3031
% Passenger Vehicles	97.4	100	97.5	99.4	96.9	97.7	0	97.4	97.4	97.6
Large 2 Axle Vehicles	21	0	21	3	27	30	0	13	13	64
% Large 2 Axle Vehicles	2	0	2	0.6	2.6	1.9	0	2.6	2.6	2.1
3 Axle Vehicles	5	0	5	0	5	5	0	0	0	10
% 3 Axle Vehicles	0.5	0	0.5	0	0.5	0.3	0	0	0	0.3
4+ Axle Trucks	1	0	1	0	0	0	0	0	0	1
% 4+ Axle Trucks	0.1	0	0.1	0	0	0	0	0	0	0

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	**145**	3	**148**	55	110	165	0	63	63	376
05:00 PM	125	3	128	**79**	116	195	0	62	62	385
05:15 PM	114	4	118	72	128	200	0	**78**	**78**	396
05:30 PM	114	**5**	119	65	**157**	**222**	0	75	75	**416**
Total Volume	498	15	513	271	511	782	0	278	278	1573
% App. Total	97.1	2.9		34.7	65.3		0	100		
PHF	.859	.750	.867	.858	.814	.881	.000	.891	.891	.945

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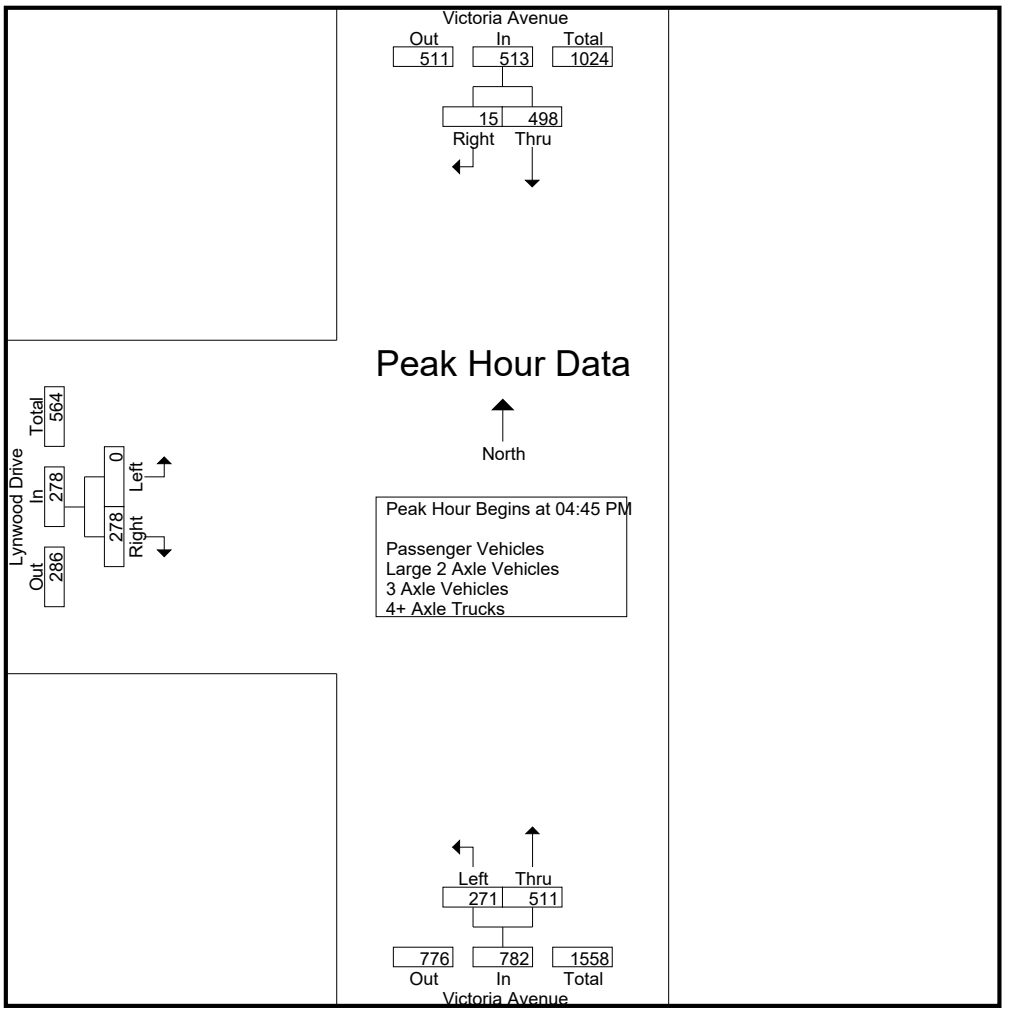

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			05:00 PM			04:45 PM		
+0 mins.	**161**	1	**162**	**79**	116	195	0	63	63
+15 mins.	142	**4**	146	72	128	200	0	62	62
+30 mins.	131	3	134	65	**157**	**222**	0	**78**	**78**
+45 mins.	145	3	148	44	147	191	0	75	75
Total Volume	579	11	590	260	548	808	0	278	278
% App. Total	98.1	1.9		32.2	67.8		0	100	
PHF	.899	.688	.910	.823	.873	.910	.000	.891	.891

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Weather: Clear

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Site Code : 05716653
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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	158	1	159	62	114	176	0	44	44	379
04:15 PM	136	4	140	64	123	187	0	59	59	386
04:30 PM	128	3	131	71	119	190	0	48	48	369
04:45 PM	141	3	144	54	107	161	0	62	62	367
Total	563	11	574	251	463	714	0	213	213	1501
05:00 PM	122	3	125	79	111	190	0	59	59	374
05:15 PM	111	4	115	72	125	197	0	77	77	389
05:30 PM	111	5	116	65	154	219	0	74	74	409
05:45 PM	112	3	115	44	144	188	0	55	55	358
Total	456	15	471	260	534	794	0	265	265	1530
Grand Total	1019	26	1045	511	997	1508	0	478	478	3031
Apprch %	97.5	2.5		33.9	66.1		0	100		
Total %	33.6	0.9	34.5	16.9	32.9	49.8	0	15.8	15.8	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	**141**	3	**144**	54	107	161	0	62	62	367
05:00 PM	122	3	125	**79**	111	190	0	59	59	374
05:15 PM	111	4	115	72	125	197	0	**77**	**77**	389
05:30 PM	111	**5**	116	65	**154**	**219**	0	74	74	**409**
Total Volume	485	15	500	270	497	767	0	272	272	1539
% App. Total	97	3		35.2	64.8		0	100		
PHF	.860	.750	.868	.854	.807	.876	.000	.883	.883	.941

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City of San Bernardino
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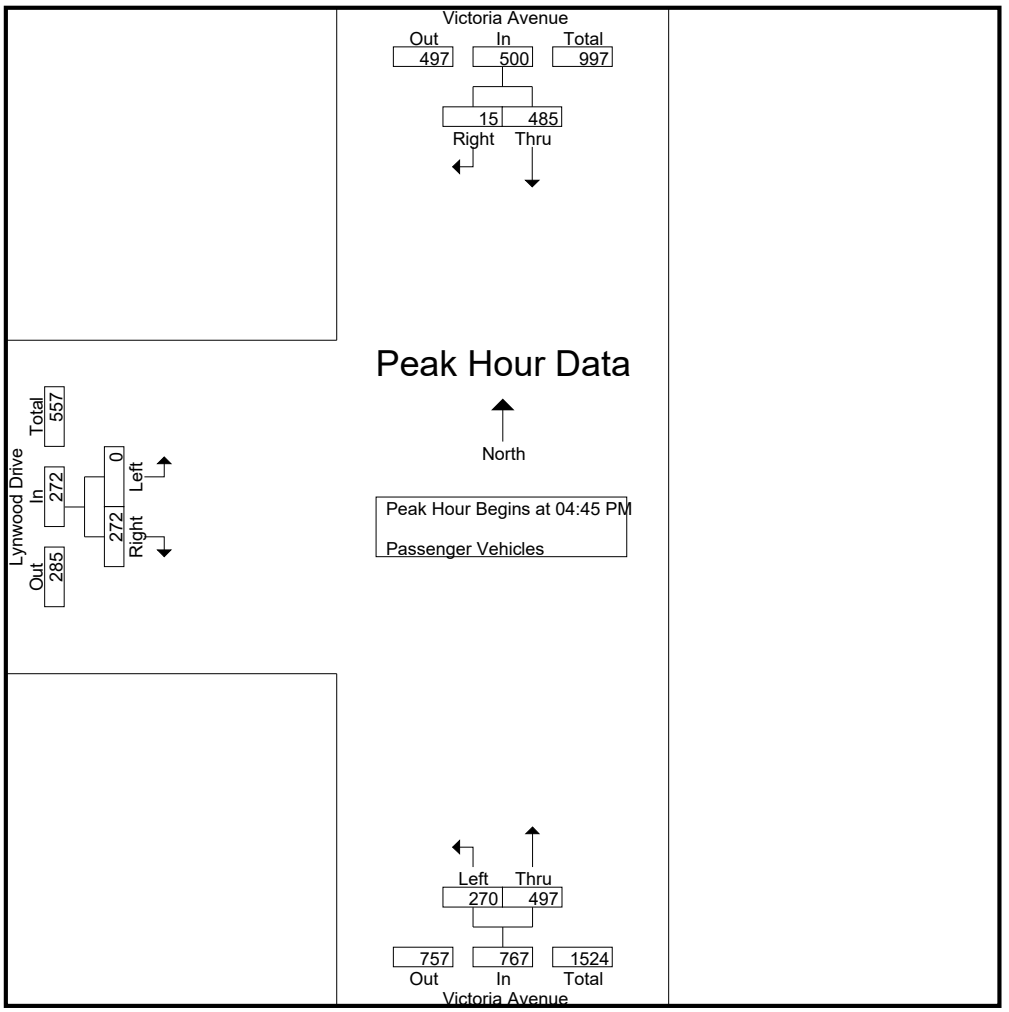

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	**141**	3	**144**	54	107	161	0	62	62
+15 mins.	122	3	125	**79**	111	190	0	59	59
+30 mins.	111	4	115	72	125	197	0	**77**	**77**
+45 mins.	111	**5**	116	65	**154**	**219**	0	74	74
Total Volume	485	15	500	270	497	767	0	272	272
% App. Total	97	3		35.2	64.8		0	100	
PHF	.860	.750	.868	.854	.807	.876	.000	.883	.883

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City of San Bernardino
N/S: Victoria Avenue
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Weather: Clear

File Name : SBCVILYPM
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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	2	0	2	2	5	7	0	1	1	10
04:15 PM	4	0	4	0	4	4	0	4	4	12
04:30 PM	2	0	2	0	4	4	0	1	1	7
04:45 PM	4	0	4	1	2	3	0	1	1	8
Total	12	0	12	3	15	18	0	7	7	37
05:00 PM	2	0	2	0	5	5	0	3	3	10
05:15 PM	3	0	3	0	2	2	0	1	1	6
05:30 PM	2	0	2	0	3	3	0	1	1	6
05:45 PM	2	0	2	0	2	2	0	1	1	5
Total	9	0	9	0	12	12	0	6	6	27
Grand Total	21	0	21	3	27	30	0	13	13	64
Apprch %	100	0		10	90		0	100		
Total %	32.8	0	32.8	4.7	42.2	46.9	0	20.3	20.3	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	**4**	0	**4**	**1**	2	3	0	1	1	8
05:00 PM	2	0	2	0	**5**	**5**	0	**3**	**3**	**10**
05:15 PM	3	0	3	0	2	2	0	1	1	6
05:30 PM	2	0	2	0	3	3	0	1	1	6
Total Volume	11	0	11	1	12	13	0	6	6	30
% App. Total	100	0		7.7	92.3		0	100		
PHF	.688	.000	.688	.250	.600	.650	.000	.500	.500	.750

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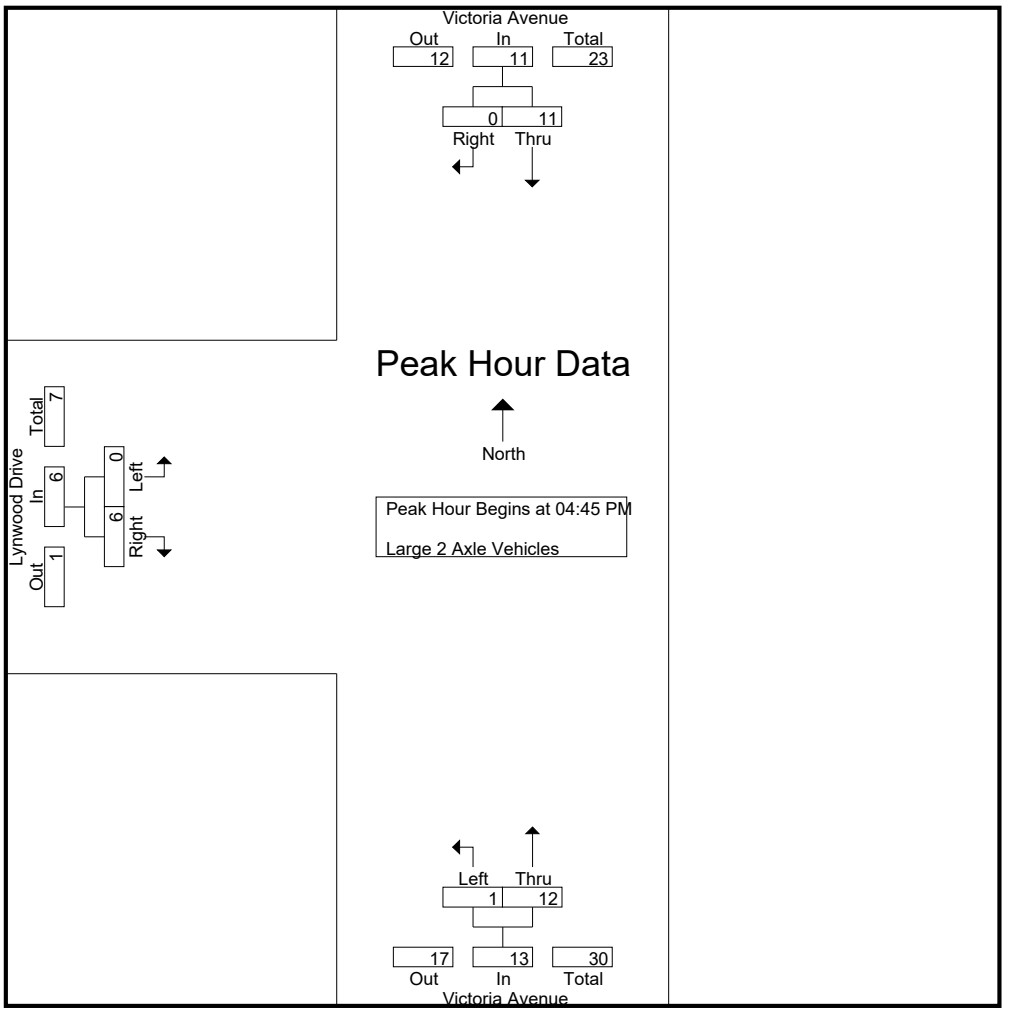

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	**4**	0	**4**	**1**	2	3	0	1	1
+15 mins.	2	0	2	0	**5**	**5**	0	**3**	**3**
+30 mins.	3	0	3	0	2	2	0	1	1
+45 mins.	2	0	2	0	3	3	0	1	1
Total Volume	11	0	11	1	12	13	0	6	6
% App. Total	100	0		7.7	92.3		0	100	
PHF	.688	.000	.688	.250	.600	.650	.000	.500	.500

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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	1	0	1	0	1	1	0	0	0	2
04:15 PM	1	0	1	0	1	1	0	0	0	2
04:30 PM	1	0	1	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	1	1	0	0	0	1
Total	3	0	3	0	3	3	0	0	0	6
05:00 PM	1	0	1	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	1	1	0	0	0	1
05:30 PM	1	0	1	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	1	1	0	0	0	1
Total	2	0	2	0	2	2	0	0	0	4
Grand Total	5	0	5	0	5	5	0	0	0	10
Apprch %	100	0		0	100		0	0		
Total %	50	0	50	0	50	50	0	0	0	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	0	0	0	**1**	**1**	0	0	0	**1**
05:00 PM	**1**	0	**1**	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	1	1	0	0	0	1
05:30 PM	1	0	1	0	0	0	0	0	0	1
Total Volume	2	0	2	0	2	2	0	0	0	4
% App. Total	100	0		0	100		0	0		
PHF	.500	.000	.500	.000	.500	.500	.000	.000	.000	1.00

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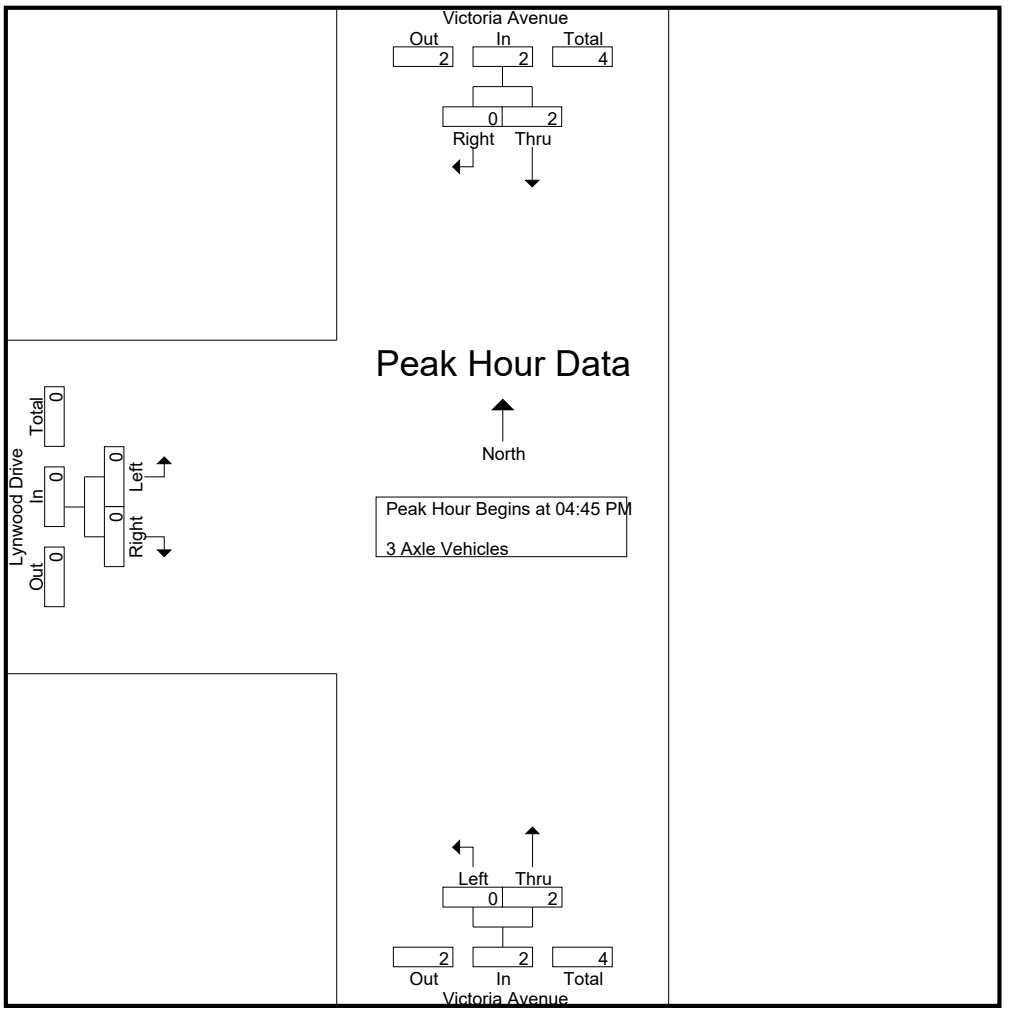

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	0	0	0	**1**	**1**	0	0	0
+15 mins.	**1**	0	**1**	0	0	0	0	0	0
+30 mins.	0	0	0	0	1	1	0	0	0
+45 mins.	1	0	1	0	0	0	0	0	0
Total Volume	2	0	2	0	2	2	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.500	.000	.500	.000	.500	.500	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	1	0	1	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	1	0	1	0	0	0	0	0	0	1
Apprch %	100	0		0	0		0	0		
Total %	100	0	100	0	0	0	0	0	0	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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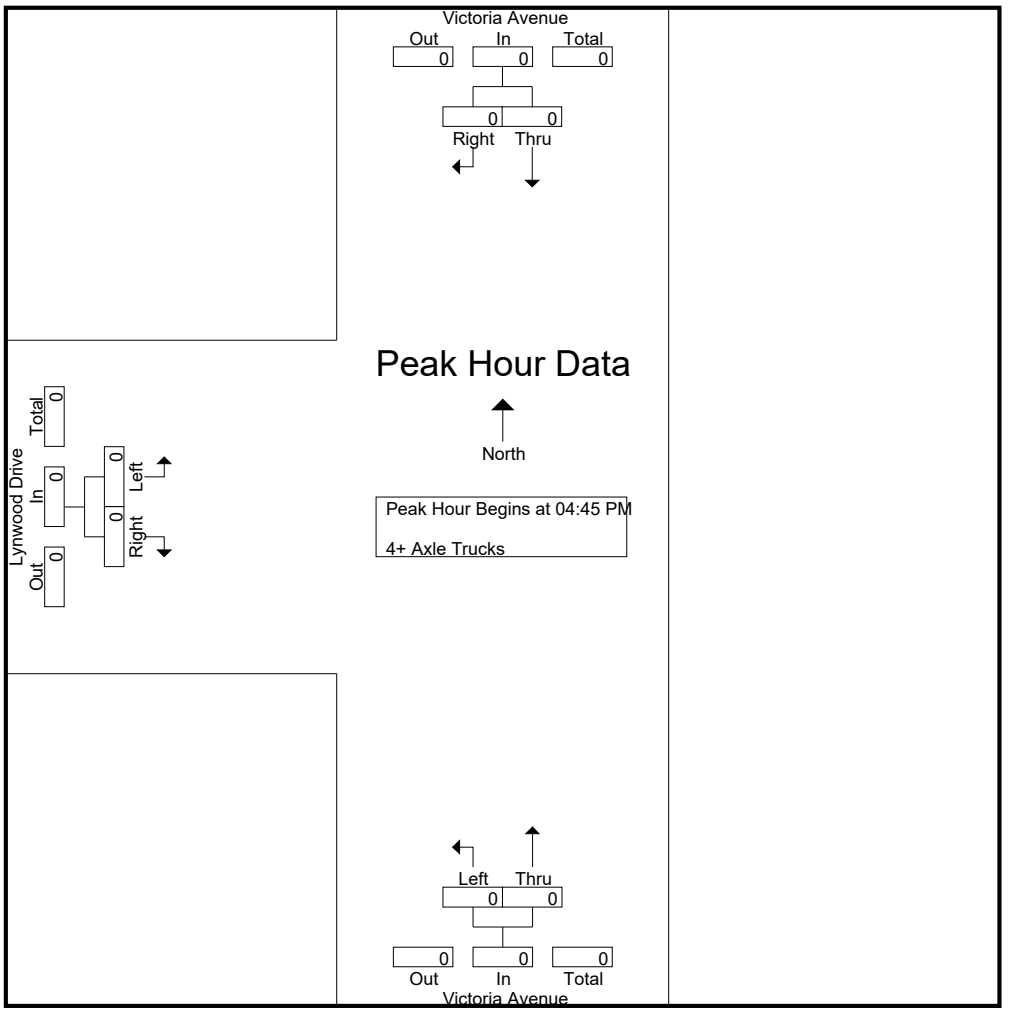

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
N/S: Victoria Avenue
E/W: Lynwood Drive
Weather: Clear

File Name : SBCVILYSAT
Site Code : 05716653
Start Date : 12/10/2016
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
05:00 PM	143	5	148	32	162	194	0	37	37	379
05:15 PM	165	4	169	40	164	204	0	53	53	426
05:30 PM	134	4	138	39	216	255	0	48	48	441
05:45 PM	137	5	142	44	204	248	0	39	39	429
Total	579	18	597	155	746	901	0	177	177	1675
06:00 PM	157	1	158	30	178	208	0	62	62	428
06:15 PM	167	3	170	35	206	241	0	43	43	454
06:30 PM	169	6	175	33	206	239	0	43	43	457
06:45 PM	153	3	156	31	206	237	0	31	31	424
Total	646	13	659	129	796	925	0	179	179	1763
Grand Total	1225	31	1256	284	1542	1826	0	356	356	3438
Apprch %	97.5	2.5		15.6	84.4		0	100		
Total %	35.6	0.9	36.5	8.3	44.9	53.1	0	10.4	10.4	
Passenger Vehicles	1198	31	1229	282	1515	1797	0	351	351	3377
% Passenger Vehicles	97.8	100	97.9	99.3	98.2	98.4	0	98.6	98.6	98.2
Large 2 Axle Vehicles	22	0	22	2	22	24	0	5	5	51
% Large 2 Axle Vehicles	1.8	0	1.8	0.7	1.4	1.3	0	1.4	1.4	1.5
3 Axle Vehicles	5	0	5	0	5	5	0	0	0	10
% 3 Axle Vehicles	0.4	0	0.4	0	0.3	0.3	0	0	0	0.3
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:45 PM										
05:45 PM	137	5	142	**44**	204	**248**	0	39	39	429
06:00 PM	157	1	158	30	178	208	0	**62**	**62**	428
06:15 PM	167	3	170	35	**206**	241	0	43	43	454
06:30 PM	**169**	**6**	**175**	33	206	239	0	43	43	**457**
Total Volume	630	15	645	142	794	936	0	187	187	1768
% App. Total	97.7	2.3		15.2	84.8		0	100		
PHF	.932	.625	.921	.807	.964	.944	.000	.754	.754	.967

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City of San Bernardino
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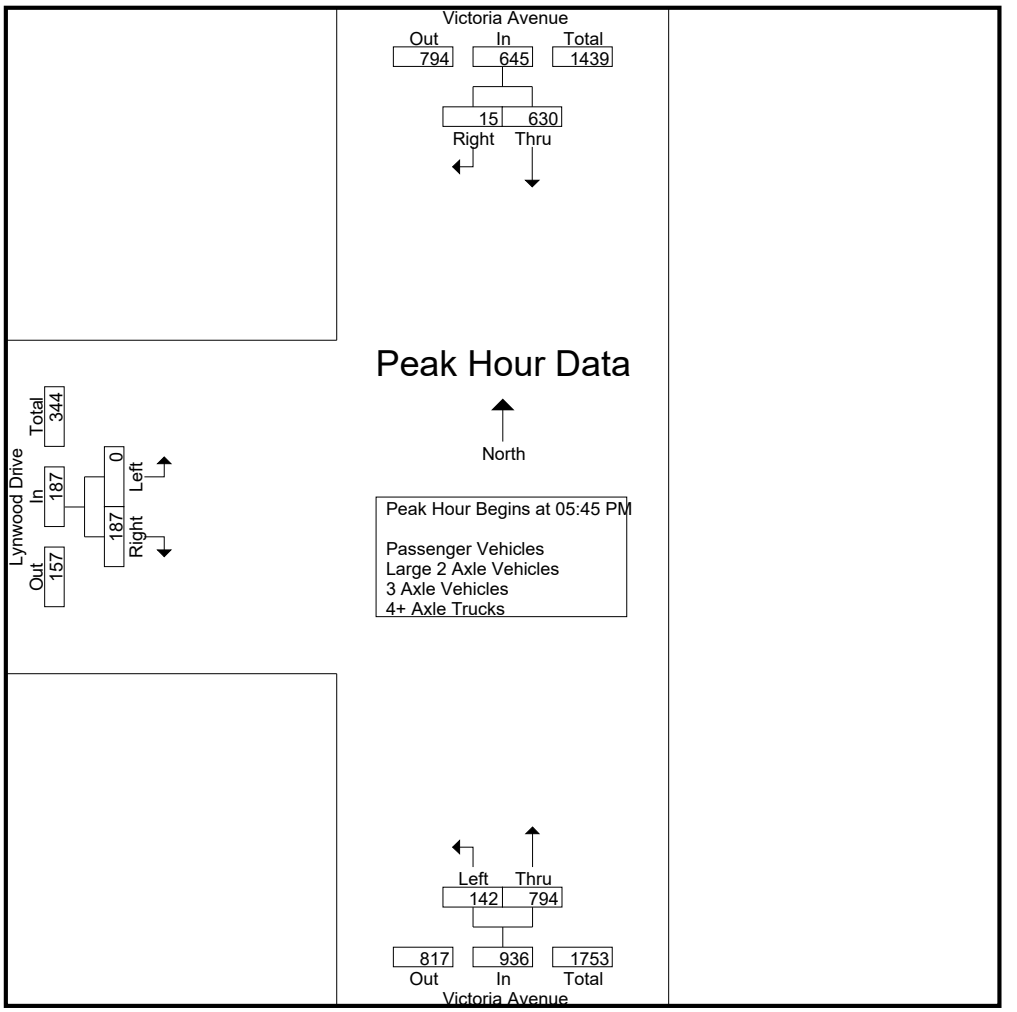

Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM			05:30 PM			05:15 PM		
+0 mins.	157	1	158	39	**216**	**255**	0	53	53
+15 mins.	167	3	170	**44**	204	248	0	48	48
+30 mins.	**169**	**6**	**175**	30	178	208	0	39	39
+45 mins.	153	3	156	35	206	241	0	**62**	**62**
Total Volume	646	13	659	148	804	952	0	202	202
% App. Total	98	2		15.5	84.5		0	100	
PHF	.956	.542	.941	.841	.931	.933	.000	.815	.815

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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
05:00 PM	140	5	145	31	160	191	0	36	36	372
05:15 PM	162	4	166	39	160	199	0	52	52	417
05:30 PM	131	4	135	39	213	252	0	47	47	434
05:45 PM	134	5	139	44	200	244	0	39	39	422
Total	567	18	585	153	733	886	0	174	174	1645
06:00 PM	154	1	155	30	173	203	0	61	61	419
06:15 PM	163	3	166	35	203	238	0	43	43	447
06:30 PM	165	6	171	33	201	234	0	42	42	447
06:45 PM	149	3	152	31	205	236	0	31	31	419
Total	631	13	644	129	782	911	0	177	177	1732
Grand Total	1198	31	1229	282	1515	1797	0	351	351	3377
Apprch %	97.5	2.5		15.7	84.3		0	100		
Total %	35.5	0.9	36.4	8.4	44.9	53.2	0	10.4	10.4	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:45 PM										
05:45 PM	134	5	139	**44**	200	**244**	0	39	39	422
06:00 PM	154	1	155	30	173	203	0	**61**	**61**	419
06:15 PM	163	3	166	35	**203**	238	0	43	43	**447**
06:30 PM	**165**	**6**	**171**	33	201	234	0	42	42	447
Total Volume	616	15	631	142	777	919	0	185	185	1735
% App. Total	97.6	2.4		15.5	84.5		0	100		
PHF	.933	.625	.923	.807	.957	.942	.000	.758	.758	.970

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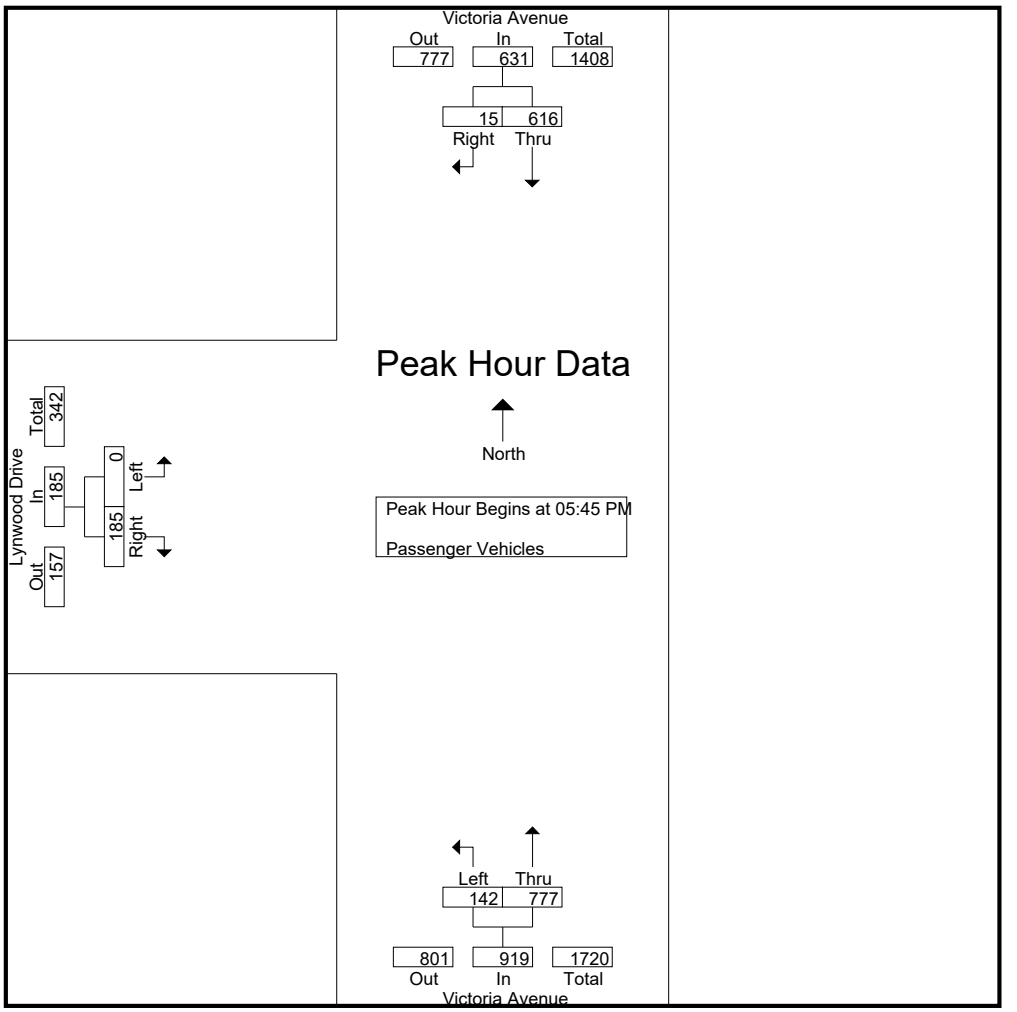

Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM			05:45 PM			05:45 PM		
+0 mins.	134	5	139	**44**	200	**244**	0	39	39
+15 mins.	154	1	155	30	173	203	0	**61**	**61**
+30 mins.	163	3	166	35	**203**	238	0	43	43
+45 mins.	**165**	**6**	**171**	33	201	234	0	42	42
Total Volume	616	15	631	142	777	919	0	185	185
% App. Total	97.6	2.4		15.5	84.5		0	100	
PHF	.933	.625	.923	.807	.957	.942	.000	.758	.758

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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
05:00 PM	2	0	2	1	2	3	0	1	1	6
05:15 PM	3	0	3	1	4	5	0	1	1	9
05:30 PM	3	0	3	0	3	3	0	1	1	7
05:45 PM	3	0	3	0	4	4	0	0	0	7
Total	11	0	11	2	13	15	0	3	3	29
06:00 PM	2	0	2	0	3	3	0	1	1	6
06:15 PM	3	0	3	0	2	2	0	0	0	5
06:30 PM	2	0	2	0	3	3	0	1	1	6
06:45 PM	4	0	4	0	1	1	0	0	0	5
Total	11	0	11	0	9	9	0	2	2	22
Grand Total	22	0	22	2	22	24	0	5	5	51
Apprch %	100	0		8.3	91.7		0	100		
Total %	43.1	0	43.1	3.9	43.1	47.1	0	9.8	9.8	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:45 PM										
05:45 PM	**3**	0	**3**	0	**4**	**4**	0	0	0	**7**
06:00 PM	2	0	2	0	3	3	0	**1**	**1**	6
06:15 PM	3	0	3	0	2	2	0	0	0	5
06:30 PM	2	0	2	0	3	3	0	1	1	6
Total Volume	10	0	10	0	12	12	0	2	2	24
% App. Total	100	0		0	100		0	100		
PHF	.833	.000	.833	.000	.750	.750	.000	.500	.500	.857

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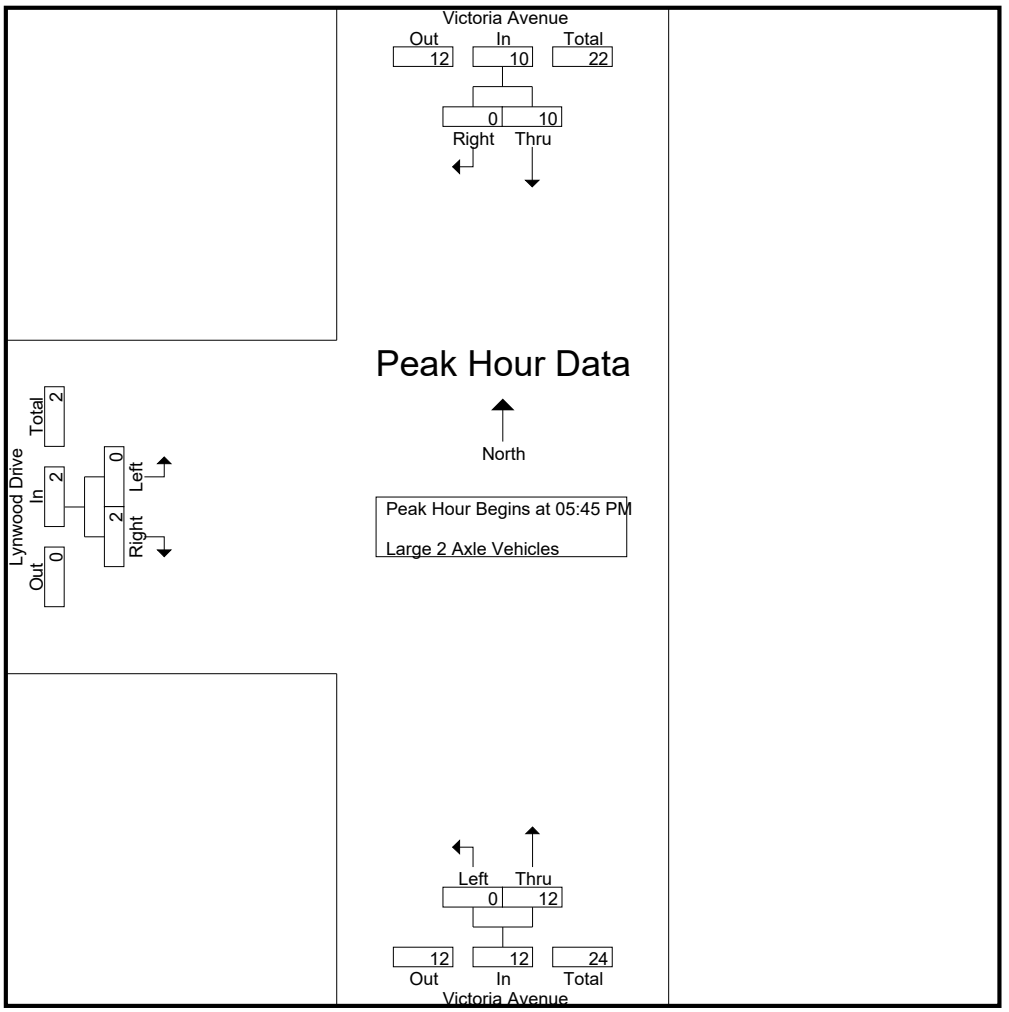

Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM			05:45 PM			05:45 PM		
+0 mins.	**3**	0	**3**	0	**4**	**4**	0	0	0
+15 mins.	2	0	2	0	3	3	0	**1**	**1**
+30 mins.	3	0	3	0	2	2	0	0	0
+45 mins.	2	0	2	0	3	3	0	1	1
Total Volume	10	0	10	0	12	12	0	2	2
% App. Total	100	0		0	100		0	100	
PHF	.833	.000	.833	.000	.750	.750	.000	.500	.500

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Weather: Clear

File Name : SBCVILYSAT
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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
05:00 PM	1	0	1	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	0	0	0	0	0	1
06:00 PM	1	0	1	0	2	2	0	0	0	3
06:15 PM	1	0	1	0	1	1	0	0	0	2
06:30 PM	2	0	2	0	2	2	0	0	0	4
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total	4	0	4	0	5	5	0	0	0	9
Grand Total	5	0	5	0	5	5	0	0	0	10
Apprch %	100	0		0	100		0	0		
Total %	50	0	50	0	50	50	0	0	0	

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:45 PM										
05:45 PM	0	0	0	0	0	0	0	0	0	0
06:00 PM	1	0	1	0	**2**	**2**	0	0	0	3
06:15 PM	1	0	1	0	1	1	0	0	0	2
06:30 PM	**2**	0	**2**	0	2	2	0	0	0	**4**
Total Volume	4	0	4	0	5	5	0	0	0	9
% App. Total	100	0		0	100		0	0		
PHF	.500	.000	.500	.000	.625	.625	.000	.000	.000	.563

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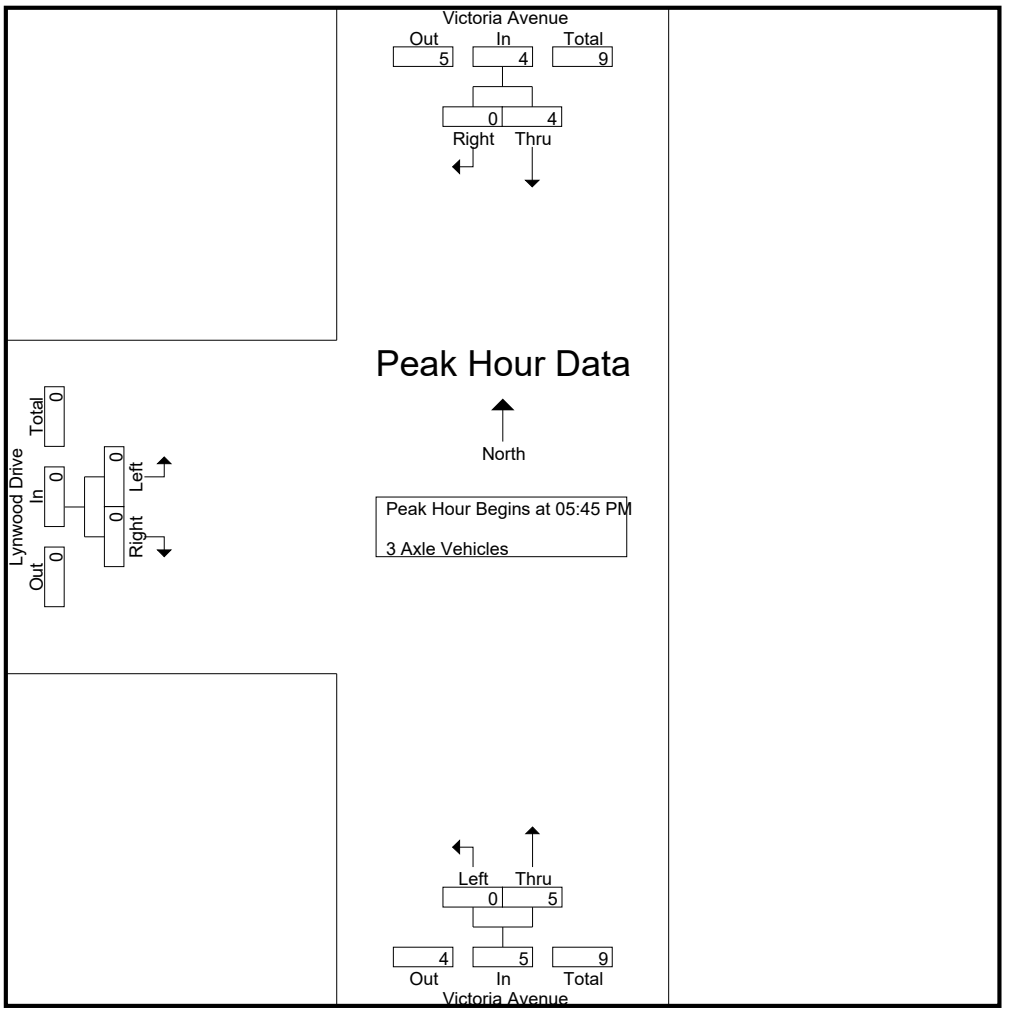

Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM			05:45 PM			05:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	1	0	1	0	**2**	**2**	0	0	0
+30 mins.	1	0	1	0	1	1	0	0	0
+45 mins.	**2**	0	**2**	0	2	2	0	0	0
Total Volume	4	0	4	0	5	5	0	0	0
% App. Total	100	0		0	100		0	0	
PHF	.500	.000	.500	.000	.625	.625	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Victoria Avenue Southbound			Victoria Avenue Northbound			Lynwood Drive Eastbound			
Start Time	Thru	Right	App. Total	Left	Thru	App. Total	Left	Right	App. Total	Int. Total
Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:45 PM										
05:45 PM	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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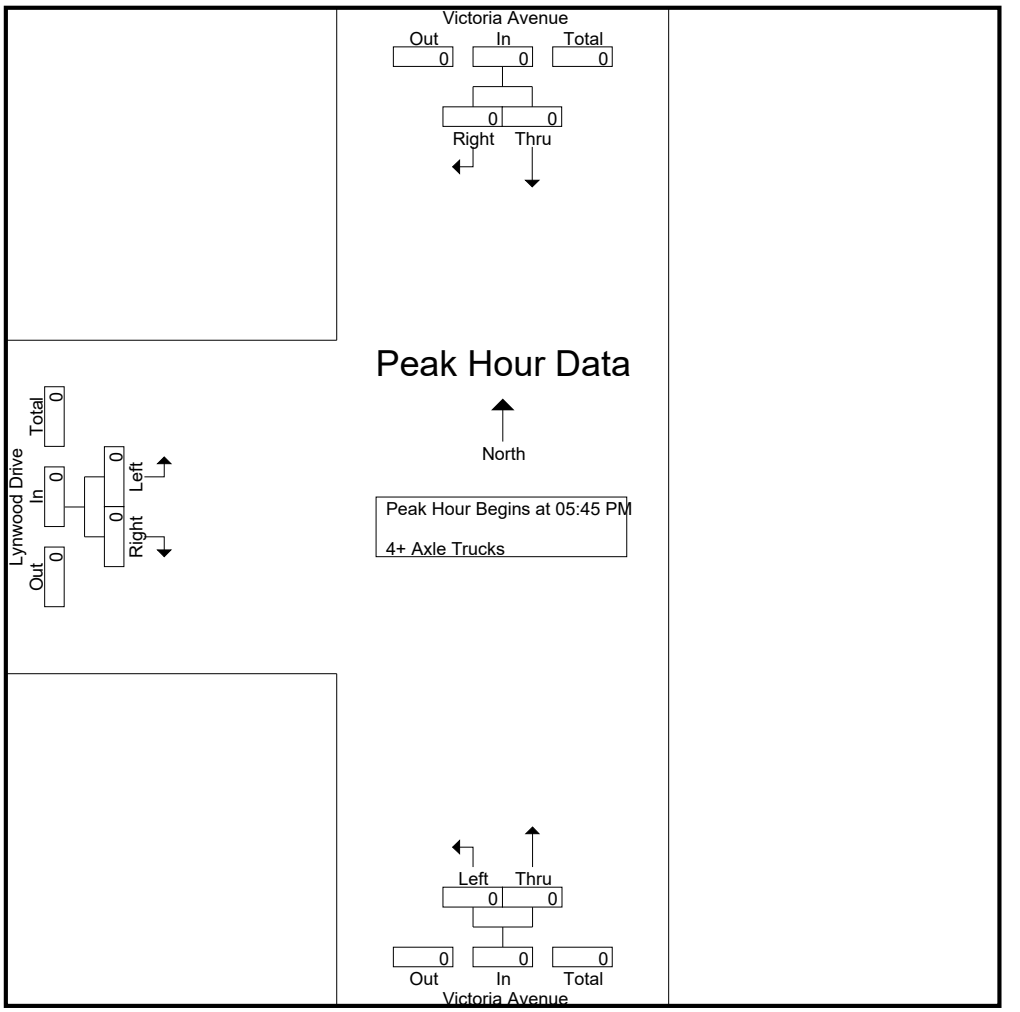

Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM			05:45 PM			05:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
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E/W: Miranda Road
Weather: Clear

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Site Code : 05716653
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	91	91	34	0	34	79	33	112	237
07:15 AM	3	113	116	36	2	38	81	90	171	325
07:30 AM	7	123	130	46	2	48	99	84	183	361
07:45 AM	0	81	81	20	3	23	106	18	124	228
Total	10	408	418	136	7	143	365	225	590	1151
08:00 AM	1	88	89	8	4	12	96	14	110	211
08:15 AM	2	71	73	6	3	9	116	7	123	205
08:30 AM	0	73	73	6	6	12	127	10	137	222
08:45 AM	4	90	94	12	2	14	114	11	125	233
Total	7	322	329	32	15	47	453	42	495	871
Grand Total	17	730	747	168	22	190	818	267	1085	2022
Apprch %	2.3	97.7		88.4	11.6		75.4	24.6		
Total %	0.8	36.1	36.9	8.3	1.1	9.4	40.5	13.2	53.7	
Passenger Vehicles	17	682	699	166	20	186	765	250	1015	1900
% Passenger Vehicles	100	93.4	93.6	98.8	90.9	97.9	93.5	93.6	93.5	94
Large 2 Axle Vehicles	0	43	43	2	2	4	48	17	65	112
% Large 2 Axle Vehicles	0	5.9	5.8	1.2	9.1	2.1	5.9	6.4	6	5.5
3 Axle Vehicles	0	1	1	0	0	0	2	0	2	3
% 3 Axle Vehicles	0	0.1	0.1	0	0	0	0.2	0	0.2	0.1
4+ Axle Trucks	0	4	4	0	0	0	3	0	3	7
% 4+ Axle Trucks	0	0.5	0.5	0	0	0	0.4	0	0.3	0.3

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	91	91	34	0	34	79	33	112	237
07:15 AM	3	113	116	36	2	38	81	**90**	171	325
07:30 AM	**7**	**123**	**130**	**46**	2	**48**	99	84	**183**	**361**
07:45 AM	0	81	81	20	**3**	23	**106**	18	124	228
Total Volume	10	408	418	136	7	143	365	225	590	1151
% App. Total	2.4	97.6		95.1	4.9		61.9	38.1		
PHF	.357	.829	.804	.739	.583	.745	.861	.625	.806	.797

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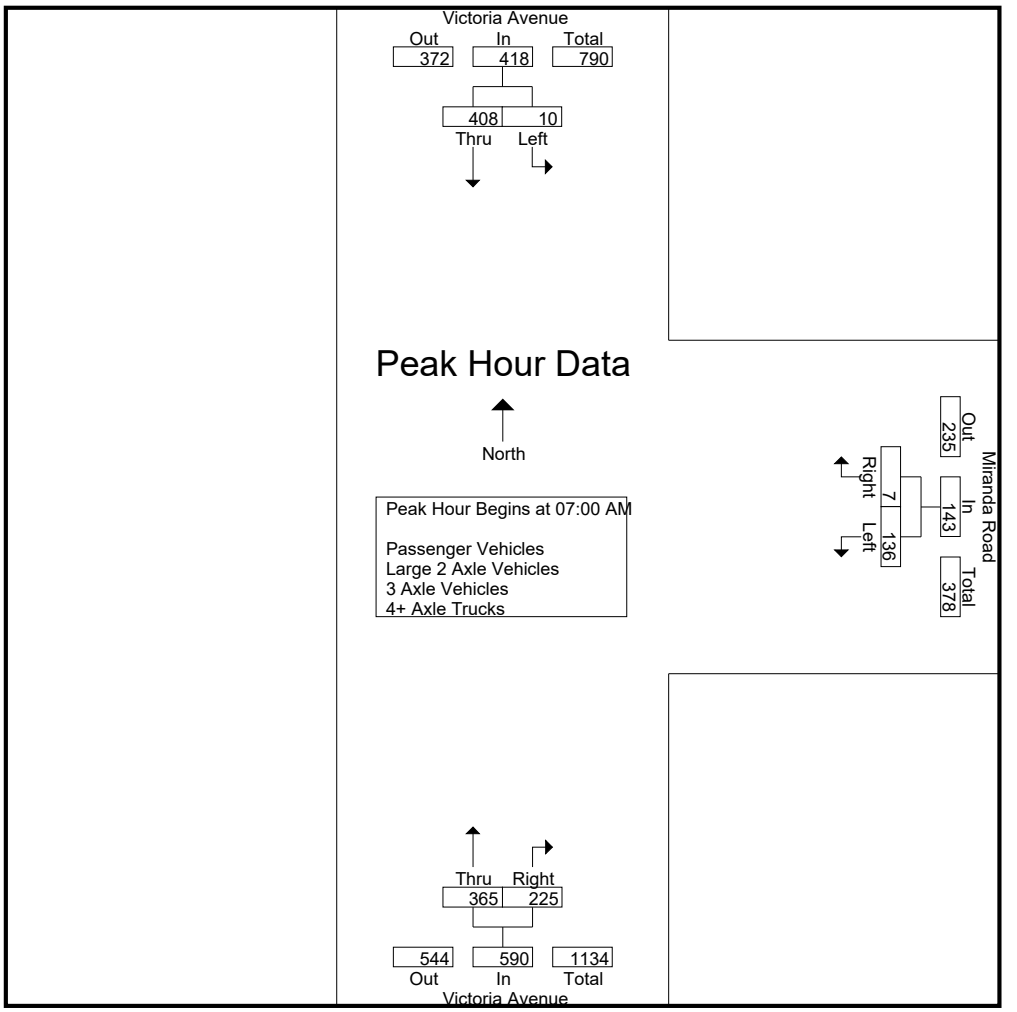

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	91	91	34	0	34	79	33	112
+15 mins.	3	113	116	36	2	38	81	**90**	171
+30 mins.	**7**	**123**	**130**	**46**	2	**48**	99	84	**183**
+45 mins.	0	81	81	20	**3**	23	**106**	18	124
Total Volume	10	408	418	136	7	143	365	225	590
% App. Total	2.4	97.6		95.1	4.9		61.9	38.1	
PHF	.357	.829	.804	.739	.583	.745	.861	.625	.806

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City of San Bernardino
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E/W: Miranda Road
Weather: Clear

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Site Code : 05716653
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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	86	86	33	0	33	70	31	101	220
07:15 AM	3	107	110	36	2	38	72	85	157	305
07:30 AM	7	114	121	46	2	48	90	84	174	343
07:45 AM	0	74	74	20	3	23	102	16	118	215
Total	10	381	391	135	7	142	334	216	550	1083
08:00 AM	1	83	84	8	3	11	89	6	95	190
08:15 AM	2	67	69	6	2	8	110	7	117	194
08:30 AM	0	67	67	5	6	11	123	10	133	211
08:45 AM	4	84	88	12	2	14	109	11	120	222
Total	7	301	308	31	13	44	431	34	465	817
Grand Total	17	682	699	166	20	186	765	250	1015	1900
Apprch %	2.4	97.6		89.2	10.8		75.4	24.6		
Total %	0.9	35.9	36.8	8.7	1.1	9.8	40.3	13.2	53.4	

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	86	86	33	0	33	70	31	101	220
07:15 AM	3	107	110	36	2	38	72	**85**	157	305
07:30 AM	**7**	**114**	**121**	**46**	2	**48**	90	84	**174**	**343**
07:45 AM	0	74	74	20	**3**	23	**102**	16	118	215
Total Volume	10	381	391	135	7	142	334	216	550	1083
% App. Total	2.6	97.4		95.1	4.9		60.7	39.3		
PHF	.357	.836	.808	.734	.583	.740	.819	.635	.790	.789

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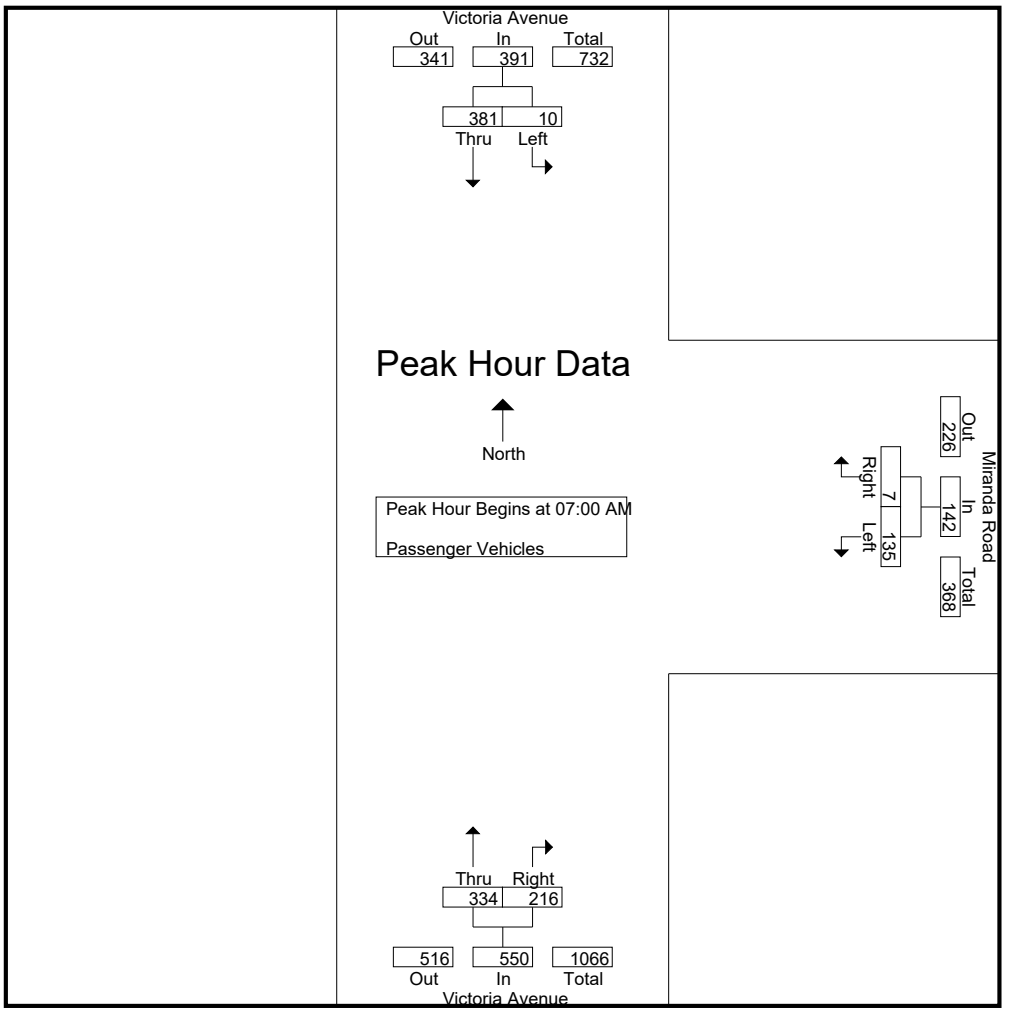

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	86	86	33	0	33	70	31	101
+15 mins.	3	107	110	36	2	38	72	**85**	157
+30 mins.	**7**	**114**	**121**	**46**	2	**48**	90	84	**174**
+45 mins.	0	74	74	20	**3**	23	**102**	16	118
Total Volume	10	381	391	135	7	142	334	216	550
% App. Total	2.6	97.4		95.1	4.9		60.7	39.3	
PHF	.357	.836	.808	.734	.583	.740	.819	.635	.790

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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	5	5	1	0	1	7	2	9	15
07:15 AM	0	6	6	0	0	0	8	5	13	19
07:30 AM	0	8	8	0	0	0	9	0	9	17
07:45 AM	0	6	6	0	0	0	3	2	5	11
Total	0	25	25	1	0	1	27	9	36	62
08:00 AM	0	5	5	0	1	1	7	8	15	21
08:15 AM	0	4	4	0	1	1	5	0	5	10
08:30 AM	0	4	4	1	0	1	4	0	4	9
08:45 AM	0	5	5	0	0	0	5	0	5	10
Total	0	18	18	1	2	3	21	8	29	50
Grand Total	0	43	43	2	2	4	48	17	65	112
Apprch %	0	100		50	50		73.8	26.2		
Total %	0	38.4	38.4	1.8	1.8	3.6	42.9	15.2	58	

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	5	5	**1**	0	**1**	7	2	9	15
07:15 AM	0	6	6	0	0	0	8	**5**	**13**	**19**
07:30 AM	0	**8**	**8**	0	0	0	**9**	0	9	17
07:45 AM	0	6	6	0	0	0	3	2	5	11
Total Volume	0	25	25	1	0	1	27	9	36	62
% App. Total	0	100		100	0		75	25		
PHF	.000	.781	.781	.250	.000	.250	.750	.450	.692	.816

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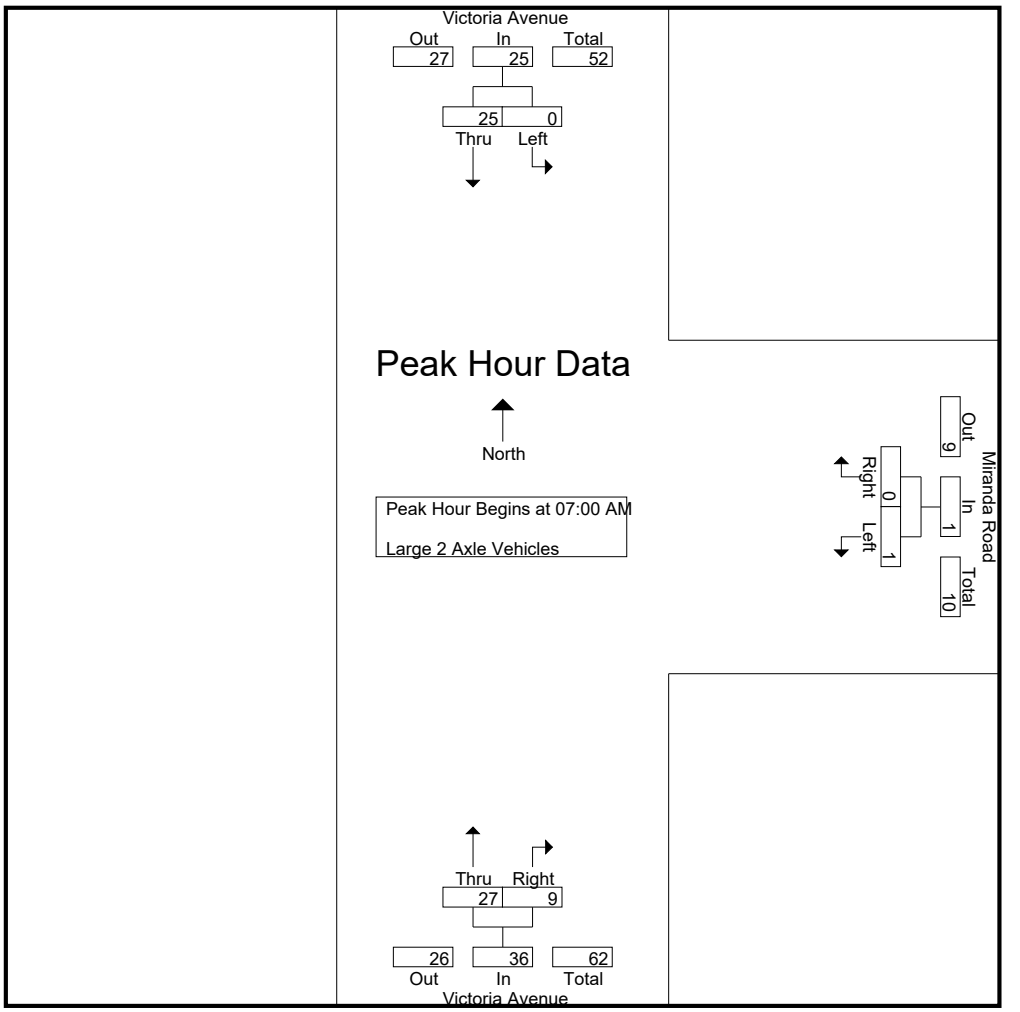

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	5	5	**1**	0	**1**	7	2	9
+15 mins.	0	6	6	0	0	0	8	**5**	**13**
+30 mins.	0	**8**	**8**	0	0	0	**9**	0	9
+45 mins.	0	6	6	0	0	0	3	2	5
Total Volume	0	25	25	1	0	1	27	9	36
% App. Total	0	100		100	0		75	25	
PHF	.000	.781	.781	.250	.000	.250	.750	.450	.692

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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	1	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	2	0	2	2
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	1	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	0	0	0	1
Grand Total	0	1	1	0	0	0	2	0	2	3
Apprch %	0	100		0	0		100	0		
Total %	0	33.3	33.3	0	0	0	66.7	0	66.7	

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	**1**	0	**1**	**1**
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	0	2	0	2	2
% App. Total	0	0		0	0		100	0		
PHF	.000	.000	.000	.000	.000	.000	.500	.000	.500	.500

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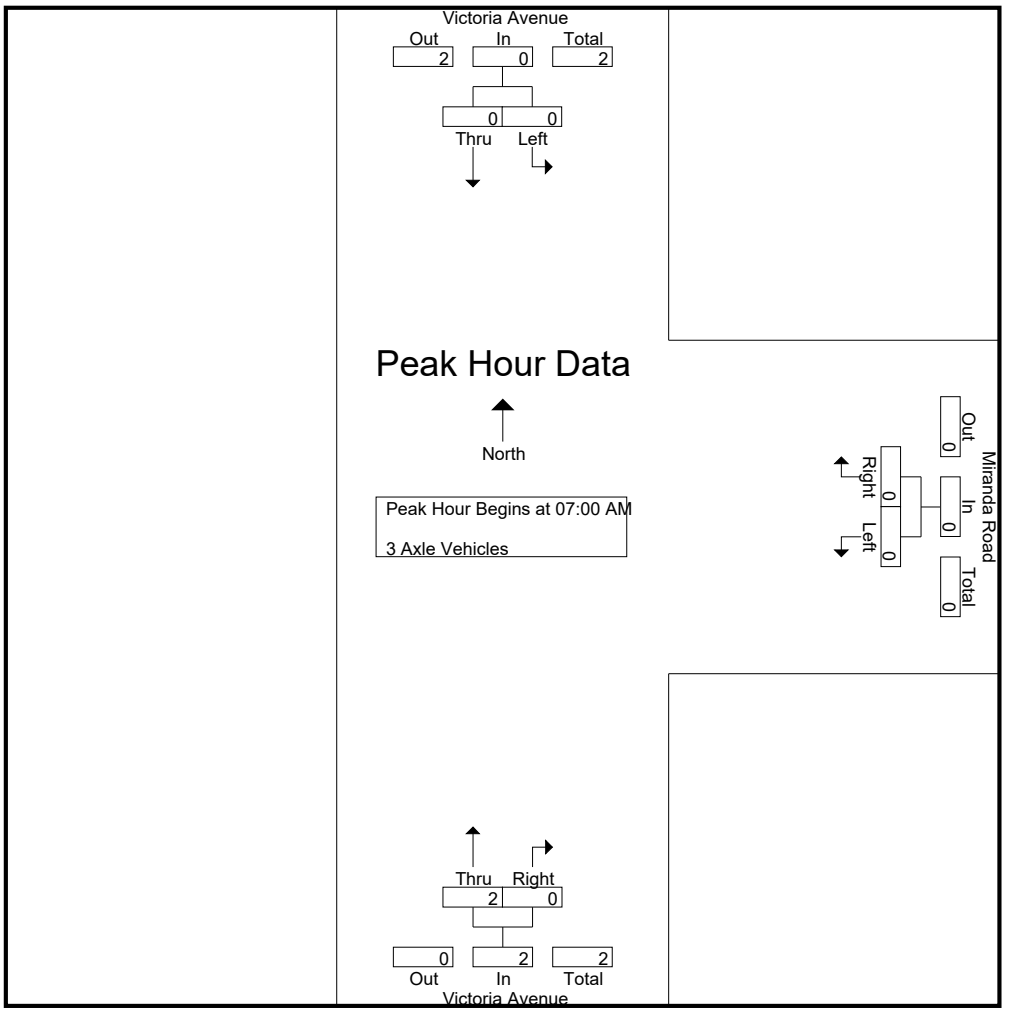

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	**1**	0	**1**
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	0	2	0	2
% App. Total	0	0		0	0		100	0	
PHF	.000	.000	.000	.000	.000	.000	.500	.000	.500

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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	2	0	2	2
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	1	1	0	0	0	0	0	0	1
07:45 AM	0	1	1	0	0	0	0	0	0	1
Total	0	2	2	0	0	0	2	0	2	4
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	1	0	1	1
08:30 AM	0	1	1	0	0	0	0	0	0	1
08:45 AM	0	1	1	0	0	0	0	0	0	1
Total	0	2	2	0	0	0	1	0	1	3
Grand Total	0	4	4	0	0	0	3	0	3	7
Apprch %	0	100		0	0		100	0		
Total %	0	57.1	57.1	0	0	0	42.9	0	42.9	

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	**2**	0	**2**	**2**
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	**1**	**1**	0	0	0	0	0	0	1
07:45 AM	0	1	1	0	0	0	0	0	0	1
Total Volume	0	2	2	0	0	0	2	0	2	4
% App. Total	0	100		0	0		100	0		
PHF	.000	.500	.500	.000	.000	.000	.250	.000	.250	.500

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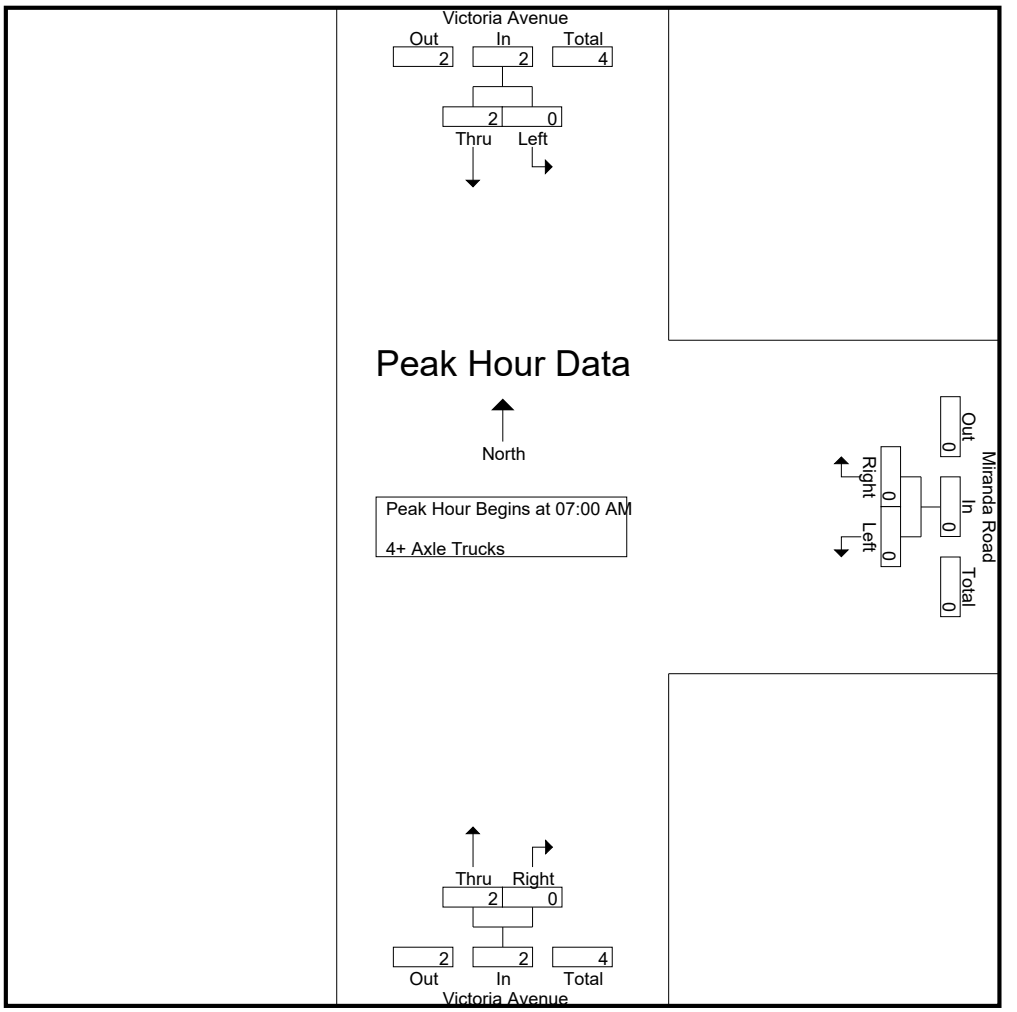

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	**2**	0	**2**
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	**1**	**1**	0	0	0	0	0	0
+45 mins.	0	1	1	0	0	0	0	0	0
Total Volume	0	2	2	0	0	0	2	0	2
% App. Total	0	100		0	0		100	0	
PHF	.000	.500	.500	.000	.000	.000	.250	.000	.250

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	2	172	174	4	1	5	162	17	179	358
04:15 PM	1	189	190	5	0	5	181	12	193	388
04:30 PM	5	168	173	6	0	6	175	10	185	364
04:45 PM	3	184	187	9	0	9	159	14	173	369
Total	11	713	724	24	1	25	677	53	730	1479
05:00 PM	2	174	176	11	4	15	189	8	197	388
05:15 PM	3	176	179	12	0	12	192	5	197	388
05:30 PM	4	167	171	10	2	12	195	6	201	384
05:45 PM	6	158	164	8	0	8	180	4	184	356
Total	15	675	690	41	6	47	756	23	779	1516
Grand Total	26	1388	1414	65	7	72	1433	76	1509	2995
Apprch %	1.8	98.2		90.3	9.7		95	5		
Total %	0.9	46.3	47.2	2.2	0.2	2.4	47.8	2.5	50.4	
Passenger Vehicles	26	1358	1384	65	7	72	1408	70	1478	2934
% Passenger Vehicles	100	97.8	97.9	100	100	100	98.3	92.1	97.9	98
Large 2 Axle Vehicles	0	25	25	0	0	0	22	6	28	53
% Large 2 Axle Vehicles	0	1.8	1.8	0	0	0	1.5	7.9	1.9	1.8
3 Axle Vehicles	0	4	4	0	0	0	3	0	3	7
% 3 Axle Vehicles	0	0.3	0.3	0	0	0	0.2	0	0.2	0.2
4+ Axle Trucks	0	1	1	0	0	0	0	0	0	1
% 4+ Axle Trucks	0	0.1	0.1	0	0	0	0	0	0	0

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	3	**184**	**187**	9	0	9	159	**14**	173	369
05:00 PM	2	174	176	11	**4**	**15**	189	8	197	**388**
05:15 PM	3	176	179	**12**	0	12	192	5	197	388
05:30 PM	**4**	167	171	10	2	12	**195**	6	**201**	384
Total Volume	12	701	713	42	6	48	735	33	768	1529
% App. Total	1.7	98.3		87.5	12.5		95.7	4.3		
PHF	.750	.952	.953	.875	.375	.800	.942	.589	.955	.985

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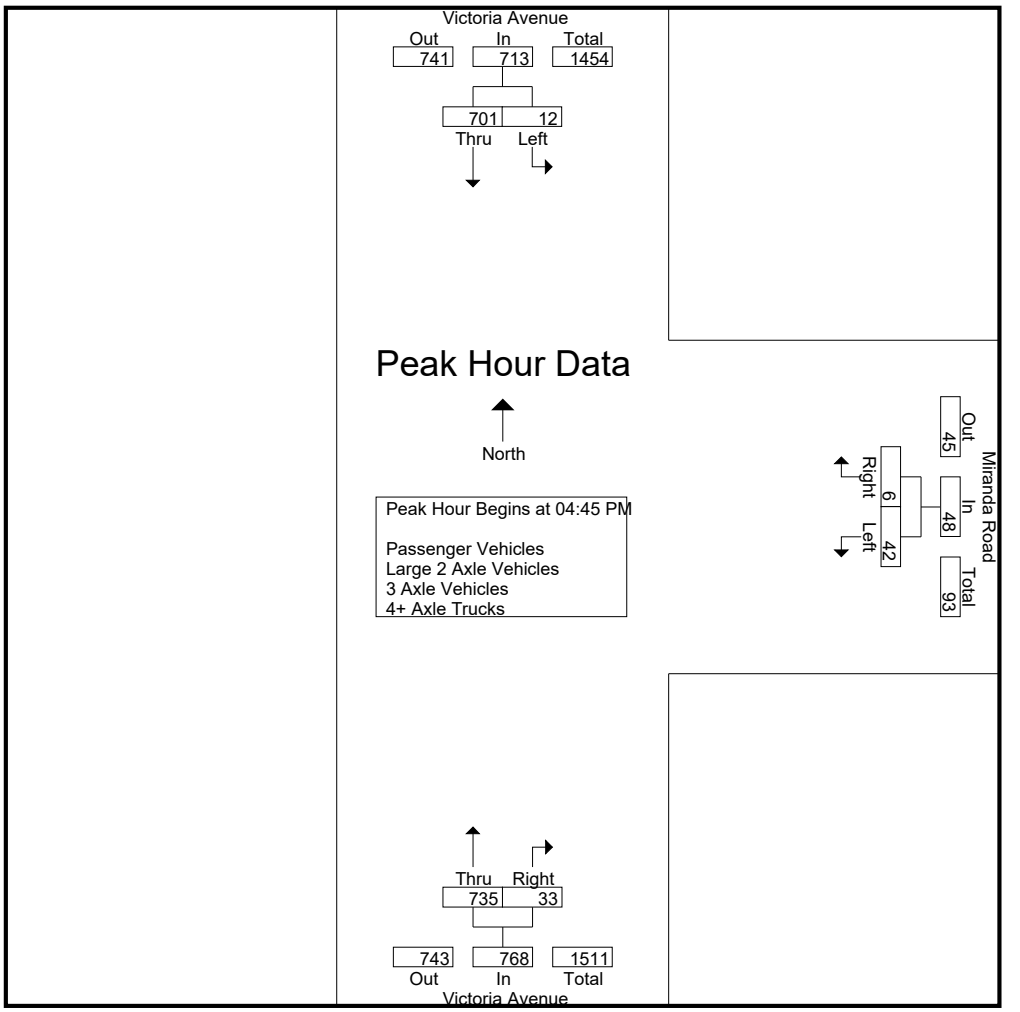

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:45 PM			05:00 PM		
+0 mins.	1	**189**	**190**	9	0	9	189	**8**	197
+15 mins.	**5**	168	173	11	**4**	**15**	192	5	197
+30 mins.	3	184	187	**12**	0	12	**195**	6	**201**
+45 mins.	2	174	176	10	2	12	180	4	184
Total Volume	11	715	726	42	6	48	756	23	779
% App. Total	1.5	98.5		87.5	12.5		97	3	
PHF	.550	.946	.955	.875	.375	.800	.969	.719	.969

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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	2	168	170	4	1	5	158	11	169	344
04:15 PM	1	179	180	5	0	5	173	12	185	370
04:30 PM	5	164	169	6	0	6	172	10	182	357
04:45 PM	3	181	184	9	0	9	154	14	168	361
Total	11	692	703	24	1	25	657	47	704	1432
05:00 PM	2	166	168	11	4	15	184	8	192	375
05:15 PM	3	175	178	12	0	12	192	5	197	387
05:30 PM	4	167	171	10	2	12	195	6	201	384
05:45 PM	6	158	164	8	0	8	180	4	184	356
Total	15	666	681	41	6	47	751	23	774	1502
Grand Total	26	1358	1384	65	7	72	1408	70	1478	2934
Apprch %	1.9	98.1		90.3	9.7		95.3	4.7		
Total %	0.9	46.3	47.2	2.2	0.2	2.5	48	2.4	50.4	

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	3	**181**	**184**	9	0	9	154	**14**	168	361
05:00 PM	2	166	168	11	**4**	**15**	184	8	192	375
05:15 PM	3	175	178	**12**	0	12	192	5	197	**387**
05:30 PM	**4**	167	171	10	2	12	**195**	6	**201**	384
Total Volume	12	689	701	42	6	48	725	33	758	1507
% App. Total	1.7	98.3		87.5	12.5		95.6	4.4		
PHF	.750	.952	.952	.875	.375	.800	.929	.589	.943	.974

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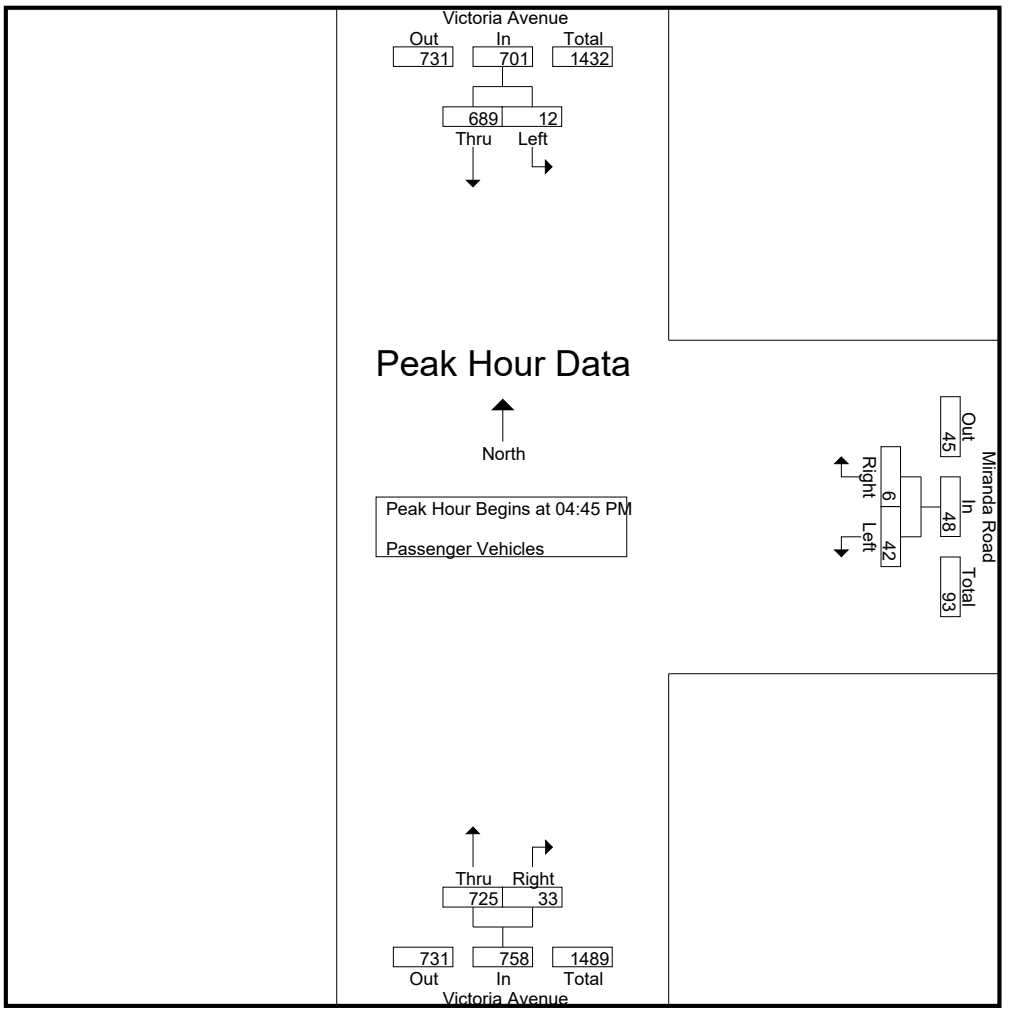

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	3	**181**	**184**	9	0	9	154	**14**	168
+15 mins.	2	166	168	11	**4**	**15**	184	8	192
+30 mins.	3	175	178	**12**	0	12	192	5	197
+45 mins.	**4**	167	171	10	2	12	**195**	6	**201**
Total Volume	12	689	701	42	6	48	725	33	758
% App. Total	1.7	98.3		87.5	12.5		95.6	4.4	
PHF	.750	.952	.952	.875	.375	.800	.929	.589	.943

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City of San Bernardino
N/S: Victoria Avenue
E/W: Miranda Road
Weather: Clear

File Name : SBCVIMIPM
Site Code : 05716653
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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	3	3	0	0	0	3	6	9	12
04:15 PM	0	8	8	0	0	0	7	0	7	15
04:30 PM	0	3	3	0	0	0	3	0	3	6
04:45 PM	0	3	3	0	0	0	4	0	4	7
Total	0	17	17	0	0	0	17	6	23	40
05:00 PM	0	8	8	0	0	0	5	0	5	13
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	8	8	0	0	0	5	0	5	13
Grand Total	0	25	25	0	0	0	22	6	28	53
Apprch %	0	100		0	0		78.6	21.4		
Total %	0	47.2	47.2	0	0	0	41.5	11.3	52.8	

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	3	3	0	0	0	4	0	4	7
05:00 PM	0	**8**	**8**	0	0	0	**5**	0	**5**	**13**
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	11	11	0	0	0	9	0	9	20
% App. Total	0	100		0	0		100	0		
PHF	.000	.344	.344	.000	.000	.000	.450	.000	.450	.385

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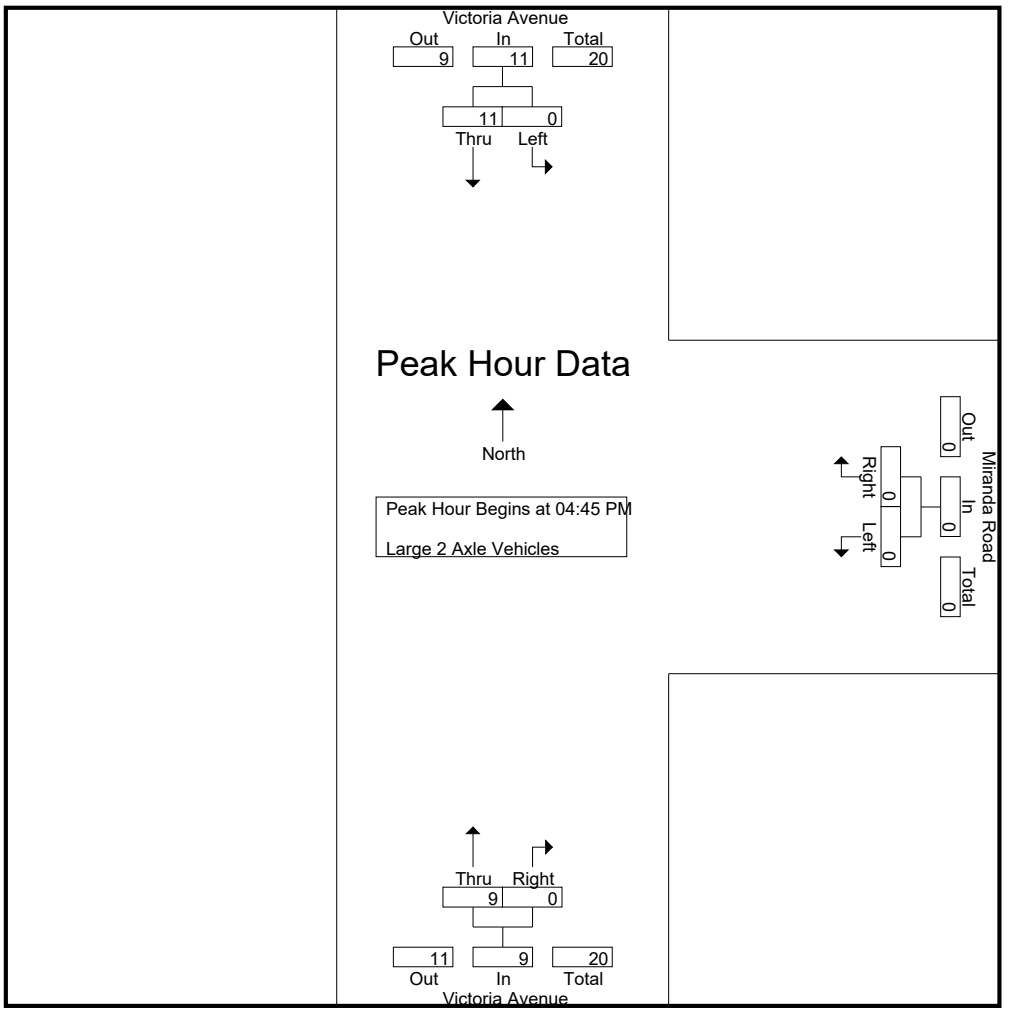

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	3	3	0	0	0	4	0	4
+15 mins.	0	**8**	**8**	0	0	0	**5**	0	**5**
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	11	11	0	0	0	9	0	9
% App. Total	0	100		0	0		100	0	
PHF	.000	.344	.344	.000	.000	.000	.450	.000	.450

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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	1	0	0	0	1	0	1	2
04:15 PM	0	1	1	0	0	0	1	0	1	2
04:30 PM	0	1	1	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	1	0	1	1
Total	0	3	3	0	0	0	3	0	3	6
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	1	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	0	0	0	1
Grand Total	0	4	4	0	0	0	3	0	3	7
Apprch %	0	100		0	0		100	0		
Total %	0	57.1	57.1	0	0	0	42.9	0	42.9	

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	0	0	0	0	0	**1**	0	**1**	**1**
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	**1**	**1**	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	1	0	1	2
% App. Total	0	100		0	0		100	0		
PHF	.000	.250	.250	.000	.000	.000	.250	.000	.250	.500

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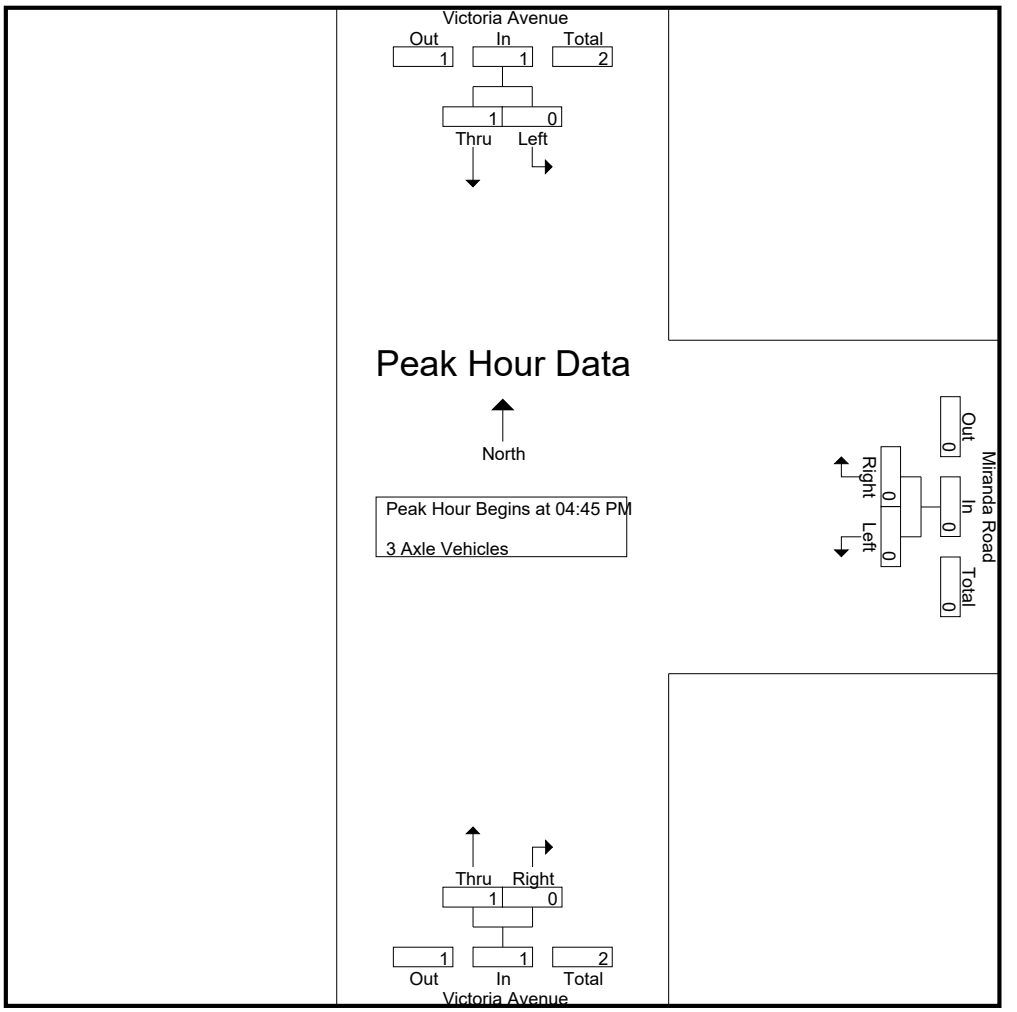

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	0	0	0	0	0	**1**	0	**1**
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	**1**	**1**	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	1	0	1
% App. Total	0	100		0	0		100	0	
PHF	.000	.250	.250	.000	.000	.000	.250	.000	.250

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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	1	1	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	1	0	0	0	0	0	0	1
Apprch %	0	100		0	0		0	0		
Total %	0	100	100	0	0	0	0	0	0	

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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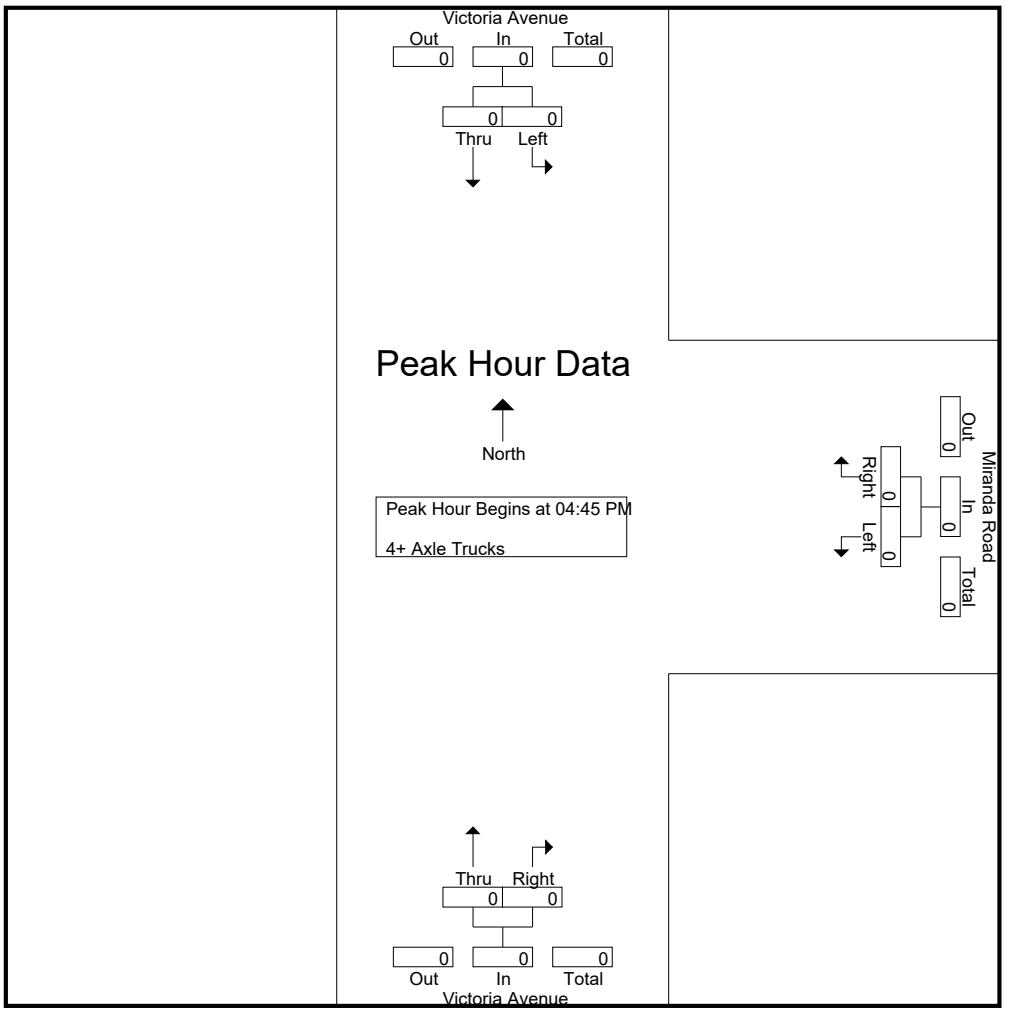

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM			04:45 PM			04:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
05:00 PM	1	162	163	7	3	10	189	2	191	364
05:15 PM	1	194	195	8	2	10	192	4	196	401
05:30 PM	2	166	168	5	2	7	250	7	257	432
05:45 PM	1	175	176	8	2	10	238	5	243	429
Total	5	697	702	28	9	37	869	18	887	1626
06:00 PM	2	184	186	2	0	2	178	2	180	368
06:15 PM	2	205	207	8	1	9	232	5	237	453
06:30 PM	3	199	202	2	1	3	236	8	244	449
06:45 PM	1	178	179	5	3	8	223	7	230	417
Total	8	766	774	17	5	22	869	22	891	1687
Grand Total	13	1463	1476	45	14	59	1738	40	1778	3313
Apprch %	0.9	99.1		76.3	23.7		97.8	2.2		
Total %	0.4	44.2	44.6	1.4	0.4	1.8	52.5	1.2	53.7	
Passenger Vehicles	13	1430	1443	45	14	59	1710	40	1750	3252
% Passenger Vehicles	100	97.7	97.8	100	100	100	98.4	100	98.4	98.2
Large 2 Axle Vehicles	0	24	24	0	0	0	23	0	23	47
% Large 2 Axle Vehicles	0	1.6	1.6	0	0	0	1.3	0	1.3	1.4
3 Axle Vehicles	0	9	9	0	0	0	5	0	5	14
% 3 Axle Vehicles	0	0.6	0.6	0	0	0	0.3	0	0.3	0.4
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:45 PM										
05:45 PM	1	175	176	**8**	**2**	**10**	**238**	5	243	429
06:00 PM	2	184	186	2	0	2	178	2	180	368
06:15 PM	2	**205**	**207**	8	1	9	232	5	237	**453**
06:30 PM	**3**	199	202	2	1	3	236	**8**	**244**	449
Total Volume	8	763	771	20	4	24	884	20	904	1699
% App. Total	1	99		83.3	16.7		97.8	2.2		
PHF	.667	.930	.931	.625	.500	.600	.929	.625	.926	.938

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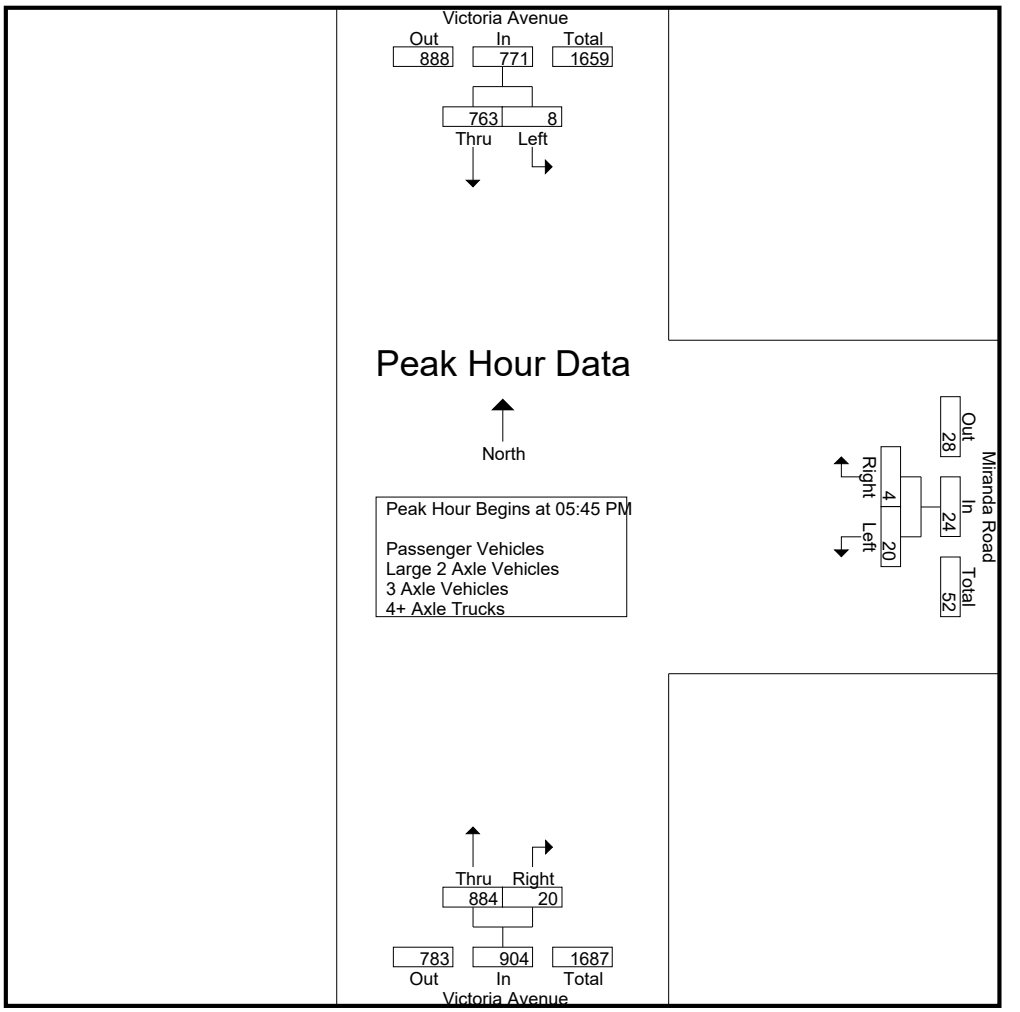

Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM			05:00 PM			05:30 PM		
+0 mins.	2	184	186	7	**3**	**10**	**250**	**7**	**257**
+15 mins.	2	**205**	**207**	**8**	2	10	238	5	243
+30 mins.	**3**	199	202	5	2	7	178	2	180
+45 mins.	1	178	179	8	2	10	232	5	237
Total Volume	8	766	774	28	9	37	898	19	917
% App. Total	1	99		75.7	24.3		97.9	2.1	
PHF	.667	.934	.935	.875	.750	.925	.898	.679	.892

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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
05:00 PM	1	158	159	7	3	10	187	2	189	358
05:15 PM	1	190	191	8	2	10	187	4	191	392
05:30 PM	2	162	164	5	2	7	247	7	254	425
05:45 PM	1	172	173	8	2	10	235	5	240	423
Total	5	682	687	28	9	37	856	18	874	1598
06:00 PM	2	179	181	2	0	2	173	2	175	358
06:15 PM	2	200	202	8	1	9	229	5	234	445
06:30 PM	3	196	199	2	1	3	231	8	239	441
06:45 PM	1	173	174	5	3	8	221	7	228	410
Total	8	748	756	17	5	22	854	22	876	1654
Grand Total	13	1430	1443	45	14	59	1710	40	1750	3252
Apprch %	0.9	99.1		76.3	23.7		97.7	2.3		
Total %	0.4	44	44.4	1.4	0.4	1.8	52.6	1.2	53.8	

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:45 PM										
05:45 PM	1	172	173	**8**	**2**	**10**	**235**	5	**240**	423
06:00 PM	2	179	181	2	0	2	173	2	175	358
06:15 PM	2	**200**	**202**	8	1	9	229	5	234	**445**
06:30 PM	**3**	196	199	2	1	3	231	**8**	239	441
Total Volume	8	747	755	20	4	24	868	20	888	1667
% App. Total	1.1	98.9		83.3	16.7		97.7	2.3		
PHF	.667	.934	.934	.625	.500	.600	.923	.625	.925	.937

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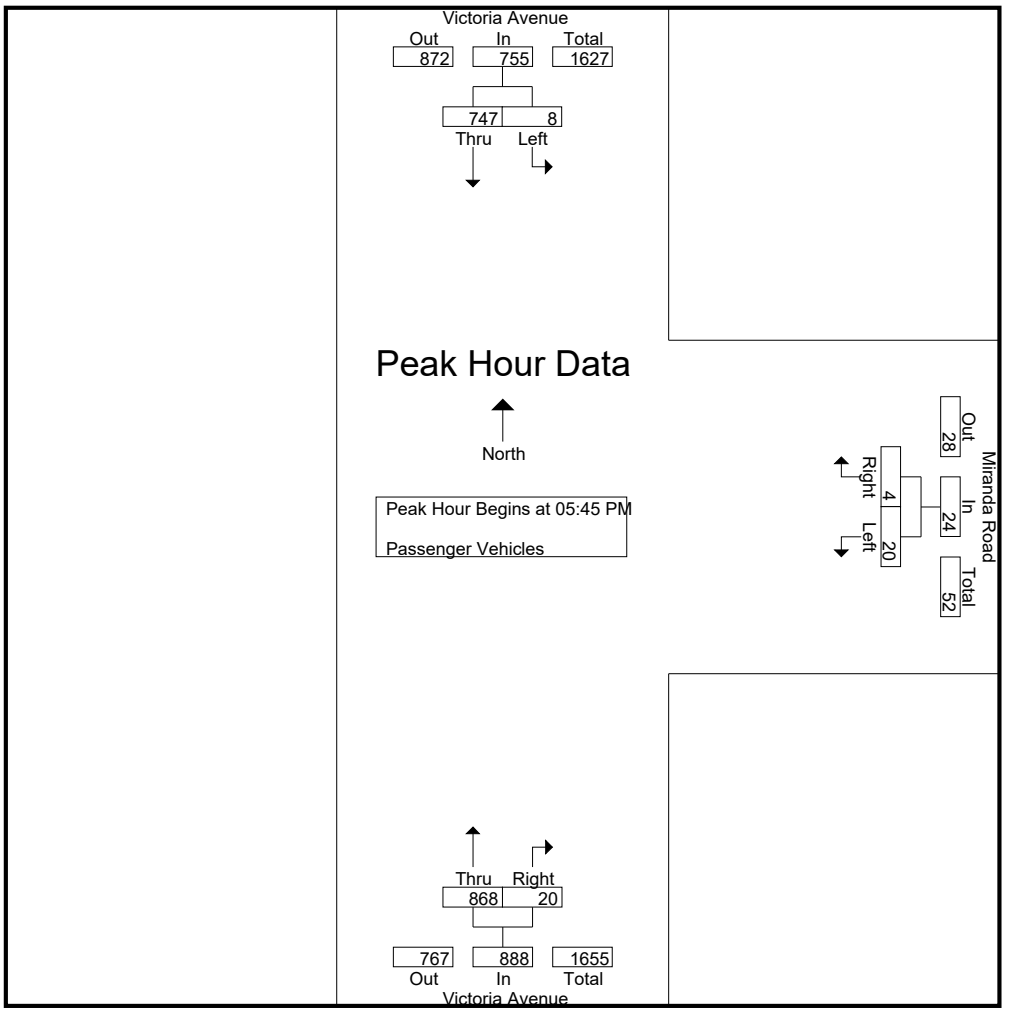

Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM			05:45 PM			05:45 PM		
+0 mins.	1	172	173	**8**	**2**	**10**	**235**	5	**240**
+15 mins.	2	179	181	2	0	2	173	2	175
+30 mins.	2	**200**	**202**	8	1	9	229	5	234
+45 mins.	**3**	196	199	2	1	3	231	**8**	239
Total Volume	8	747	755	20	4	24	868	20	888
% App. Total	1.1	98.9		83.3	16.7		97.7	2.3	
PHF	.667	.934	.934	.625	.500	.600	.923	.625	.925

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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
05:00 PM	0	2	2	0	0	0	2	0	2	4
05:15 PM	0	4	4	0	0	0	5	0	5	9
05:30 PM	0	3	3	0	0	0	3	0	3	6
05:45 PM	0	3	3	0	0	0	3	0	3	6
Total	0	12	12	0	0	0	13	0	13	25
06:00 PM	0	3	3	0	0	0	3	0	3	6
06:15 PM	0	4	4	0	0	0	2	0	2	6
06:30 PM	0	0	0	0	0	0	3	0	3	3
06:45 PM	0	5	5	0	0	0	2	0	2	7
Total	0	12	12	0	0	0	10	0	10	22
Grand Total	0	24	24	0	0	0	23	0	23	47
Apprch %	0	100		0	0		100	0		
Total %	0	51.1	51.1	0	0	0	48.9	0	48.9	

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:45 PM										
05:45 PM	0	3	3	0	0	0	**3**	0	**3**	**6**
06:00 PM	0	3	3	0	0	0	3	0	3	6
06:15 PM	0	**4**	**4**	0	0	0	2	0	2	6
06:30 PM	0	0	0	0	0	0	3	0	3	3
Total Volume	0	10	10	0	0	0	11	0	11	21
% App. Total	0	100		0	0		100	0		
PHF	.000	.625	.625	.000	.000	.000	.917	.000	.917	.875

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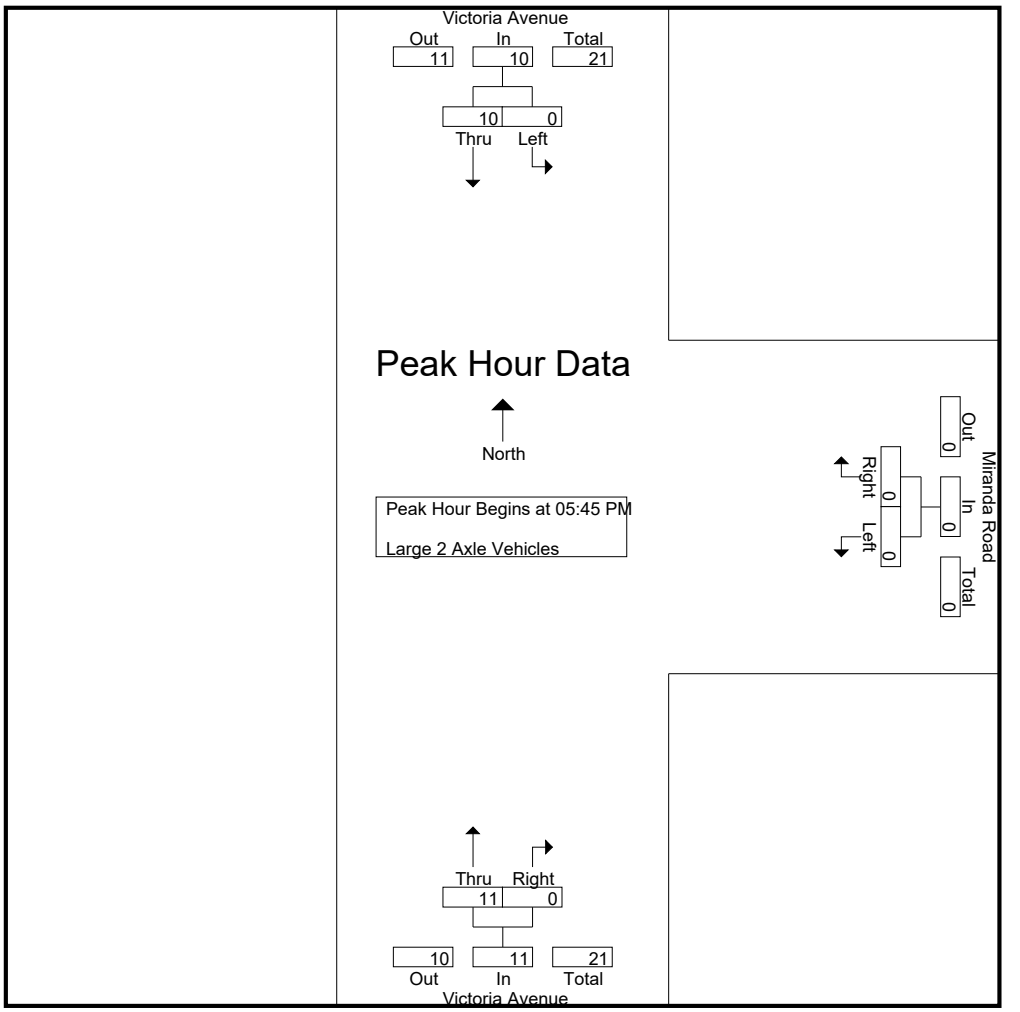

Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM			05:45 PM			05:45 PM		
+0 mins.	0	3	3	0	0	0	**3**	0	**3**
+15 mins.	0	3	3	0	0	0	3	0	3
+30 mins.	0	**4**	**4**	0	0	0	2	0	2
+45 mins.	0	0	0	0	0	0	3	0	3
Total Volume	0	10	10	0	0	0	11	0	11
% App. Total	0	100		0	0		100	0	
PHF	.000	.625	.625	.000	.000	.000	.917	.000	.917

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Corona, CA 92878
(951) 268-6268

City of San Bernardino
N/S: Victoria Avenue
E/W: Miranda Road
Weather: Clear

File Name : SBCVIMISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
05:00 PM	0	2	2	0	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	1	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	3	3	0	0	0	0	0	0	3
06:00 PM	0	2	2	0	0	0	2	0	2	4
06:15 PM	0	1	1	0	0	0	1	0	1	2
06:30 PM	0	3	3	0	0	0	2	0	2	5
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	6	6	0	0	0	5	0	5	11
Grand Total	0	9	9	0	0	0	5	0	5	14
Apprch %	0	100		0	0		100	0		
Total %	0	64.3	64.3	0	0	0	35.7	0	35.7	

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:45 PM										
05:45 PM	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	2	2	0	0	0	**2**	0	**2**	4
06:15 PM	0	1	1	0	0	0	1	0	1	2
06:30 PM	0	**3**	**3**	0	0	0	2	0	2	**5**
Total Volume	0	6	6	0	0	0	5	0	5	11
% App. Total	0	100		0	0		100	0		
PHF	.000	.500	.500	.000	.000	.000	.625	.000	.625	.550

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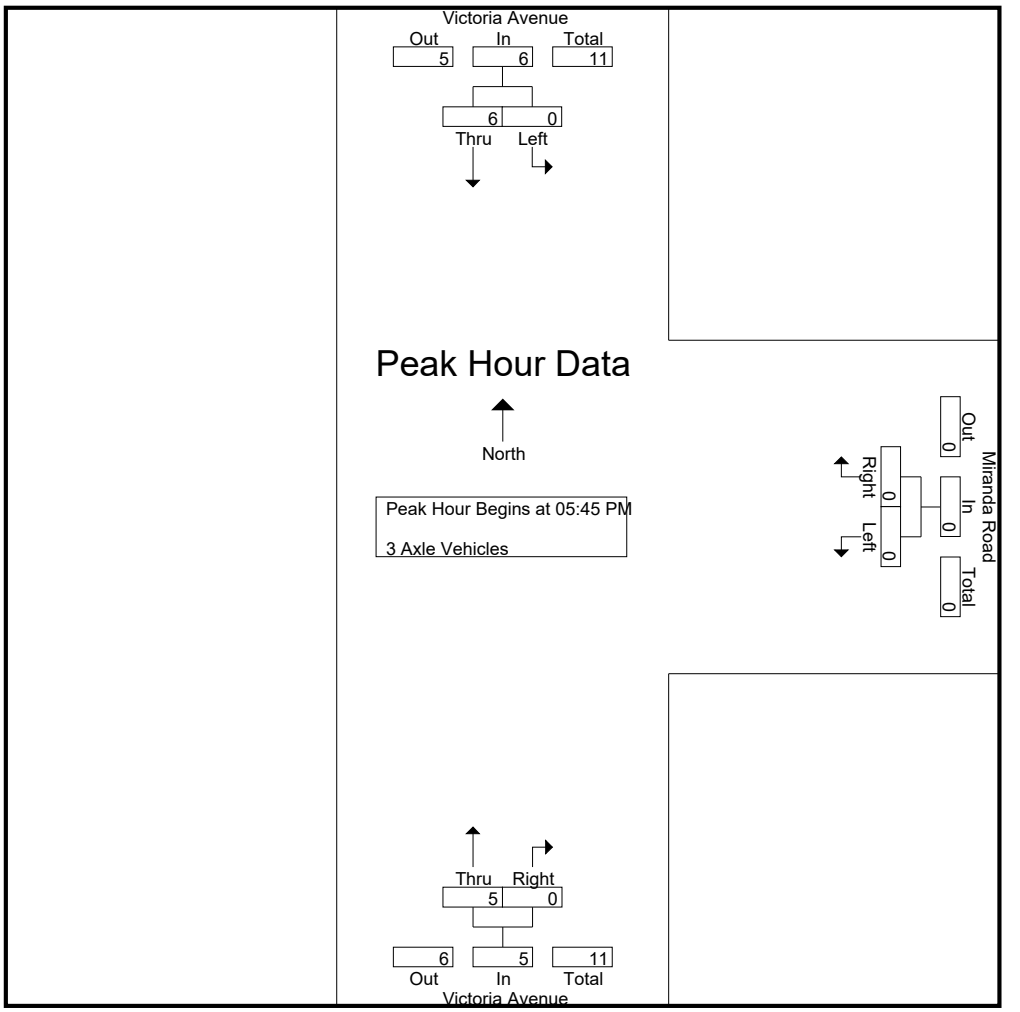

Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM			05:45 PM			05:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	2	2	0	0	0	**2**	0	**2**
+30 mins.	0	1	1	0	0	0	1	0	1
+45 mins.	0	**3**	**3**	0	0	0	2	0	2
Total Volume	0	6	6	0	0	0	5	0	5
% App. Total	0	100		0	0		100	0	
PHF	.000	.500	.500	.000	.000	.000	.625	.000	.625

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City of San Bernardino
N/S: Victoria Avenue
E/W: Miranda Road
Weather: Clear

File Name : SBCVIMISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Victoria Avenue Southbound			Miranda Road Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:45 PM										
05:45 PM	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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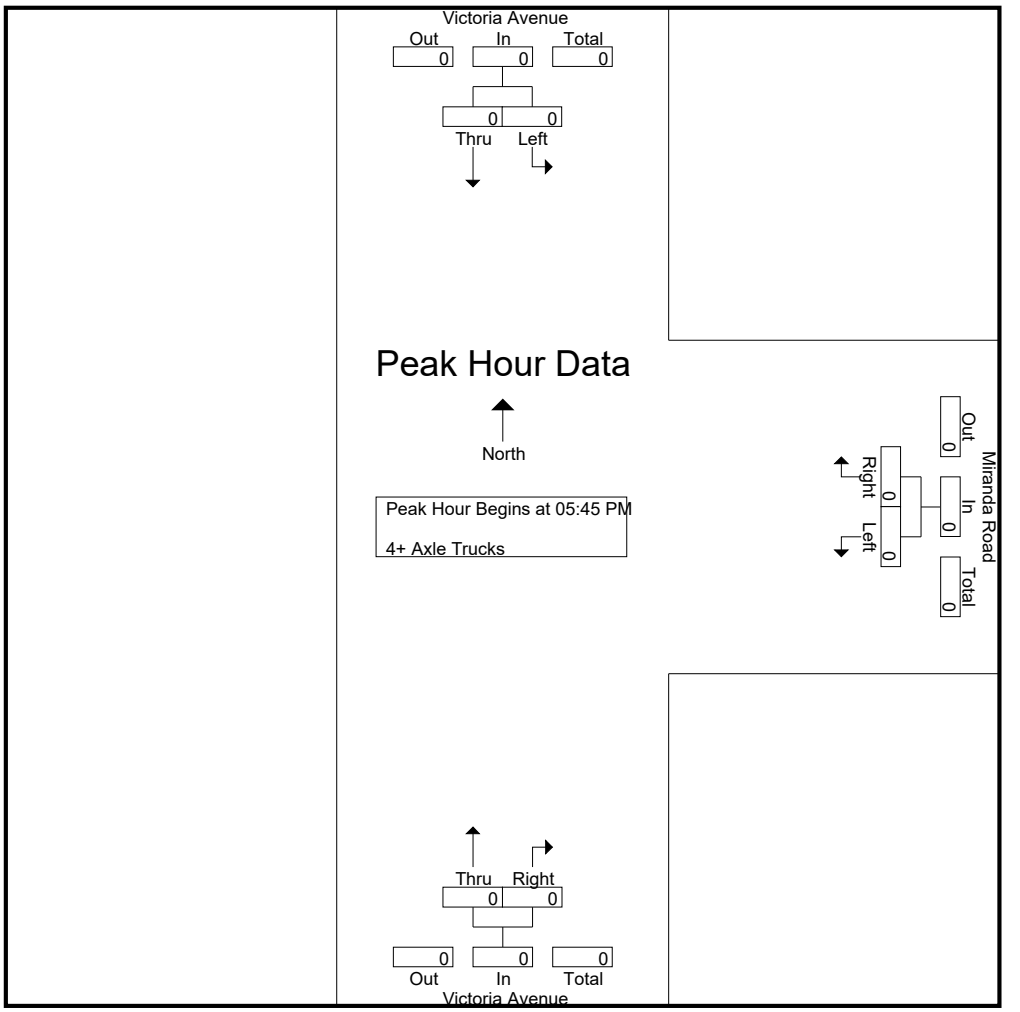

Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM			05:45 PM			05:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
N/S: Victoria Avenue
E/W: Date Street
Weather: Clear

File Name : SBCVIDAAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	2	131	133	1	2	3	118	29	147	283
07:15 AM	7	152	159	0	0	0	187	16	203	362
07:30 AM	5	166	171	2	0	2	180	20	200	373
07:45 AM	5	90	95	0	0	0	126	31	157	252
Total	19	539	558	3	2	5	611	96	707	1270
08:00 AM	6	97	103	0	2	2	100	28	128	233
08:15 AM	4	76	80	0	0	0	127	10	137	217
08:30 AM	2	75	77	1	1	2	137	4	141	220
08:45 AM	2	108	110	0	1	1	122	5	127	238
Total	14	356	370	1	4	5	486	47	533	908
Grand Total	33	895	928	4	6	10	1097	143	1240	2178
Apprch %	3.6	96.4		40	60		88.5	11.5		
Total %	1.5	41.1	42.6	0.2	0.3	0.5	50.4	6.6	56.9	
Passenger Vehicles	31	845	876	3	6	9	1023	141	1164	2049
% Passenger Vehicles	93.9	94.4	94.4	75	100	90	93.3	98.6	93.9	94.1
Large 2 Axle Vehicles	0	47	47	0	0	0	67	1	68	115
% Large 2 Axle Vehicles	0	5.3	5.1	0	0	0	6.1	0.7	5.5	5.3
3 Axle Vehicles	0	1	1	0	0	0	3	0	3	4
% 3 Axle Vehicles	0	0.1	0.1	0	0	0	0.3	0	0.2	0.2
4+ Axle Trucks	2	2	4	1	0	1	4	1	5	10
% 4+ Axle Trucks	6.1	0.2	0.4	25	0	10	0.4	0.7	0.4	0.5

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	2	131	133	1	**2**	**3**	118	29	147	283
07:15 AM	**7**	152	159	0	0	0	**187**	16	**203**	362
07:30 AM	5	**166**	**171**	**2**	0	2	180	20	200	**373**
07:45 AM	5	90	95	0	0	0	126	**31**	157	252
Total Volume	19	539	558	3	2	5	611	96	707	1270
% App. Total	3.4	96.6		60	40		86.4	13.6		
PHF	.679	.812	.816	.375	.250	.417	.817	.774	.871	.851

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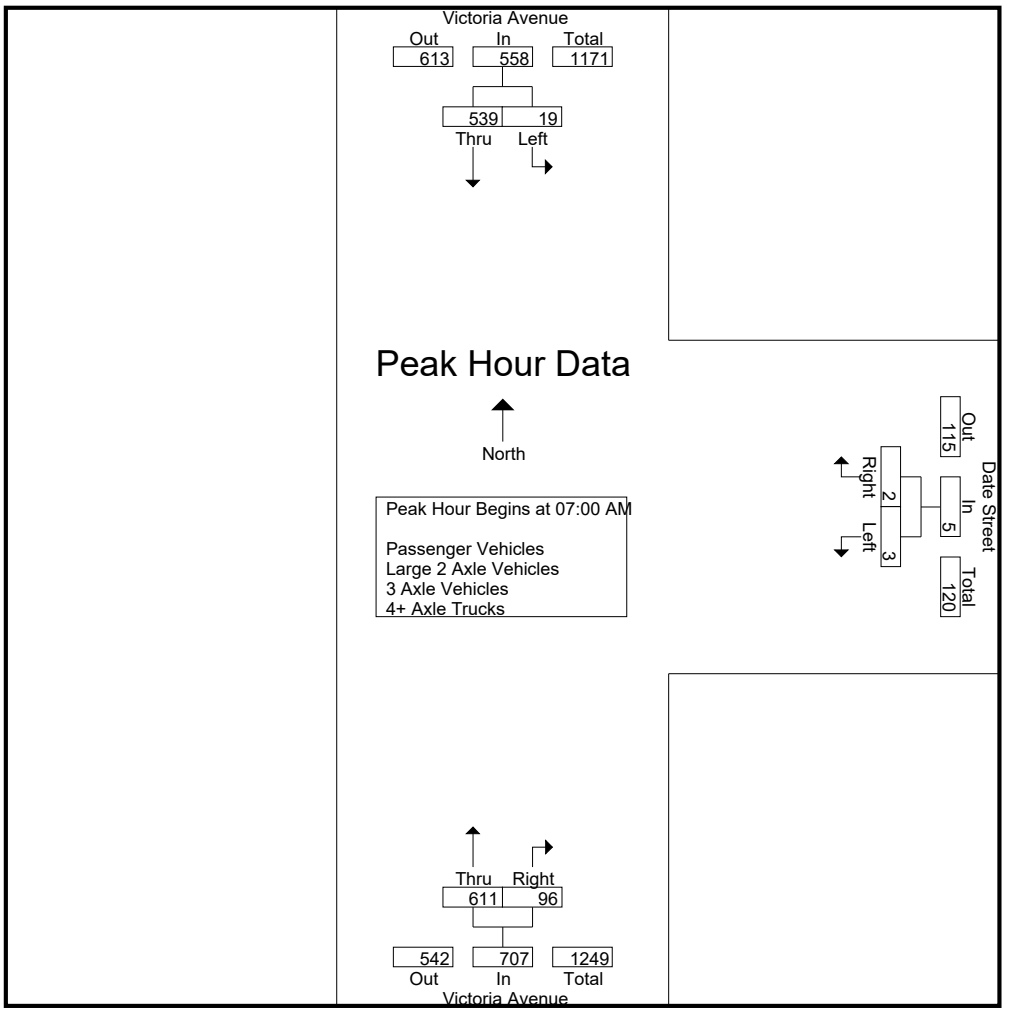

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	2	131	133	1	**2**	**3**	118	29	147
+15 mins.	**7**	152	159	0	0	0	**187**	16	**203**
+30 mins.	5	**166**	**171**	**2**	0	2	180	20	200
+45 mins.	5	90	95	0	0	0	126	**31**	157
Total Volume	19	539	558	3	2	5	611	96	707
% App. Total	3.4	96.6		60	40		86.4	13.6	
PHF	.679	.812	.816	.375	.250	.417	.817	.774	.871

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File Name : SBCVIDAAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	2	124	126	1	2	3	106	29	135	264
07:15 AM	7	143	150	0	0	0	173	16	189	339
07:30 AM	4	158	162	2	0	2	171	20	191	355
07:45 AM	5	83	88	0	0	0	115	31	146	234
Total	18	508	526	3	2	5	565	96	661	1192
08:00 AM	6	90	96	0	2	2	89	28	117	215
08:15 AM	4	73	77	0	0	0	121	10	131	208
08:30 AM	1	71	72	0	1	1	133	3	136	209
08:45 AM	2	103	105	0	1	1	115	4	119	225
Total	13	337	350	0	4	4	458	45	503	857
Grand Total	31	845	876	3	6	9	1023	141	1164	2049
Apprch %	3.5	96.5		33.3	66.7		87.9	12.1		
Total %	1.5	41.2	42.8	0.1	0.3	0.4	49.9	6.9	56.8	

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	2	124	126	1	**2**	**3**	106	29	135	264
07:15 AM	**7**	143	150	0	0	0	**173**	16	189	339
07:30 AM	4	**158**	**162**	**2**	0	2	171	20	**191**	**355**
07:45 AM	5	83	88	0	0	0	115	**31**	146	234
Total Volume	18	508	526	3	2	5	565	96	661	1192
% App. Total	3.4	96.6		60	40		85.5	14.5		
PHF	.643	.804	.812	.375	.250	.417	.816	.774	.865	.839

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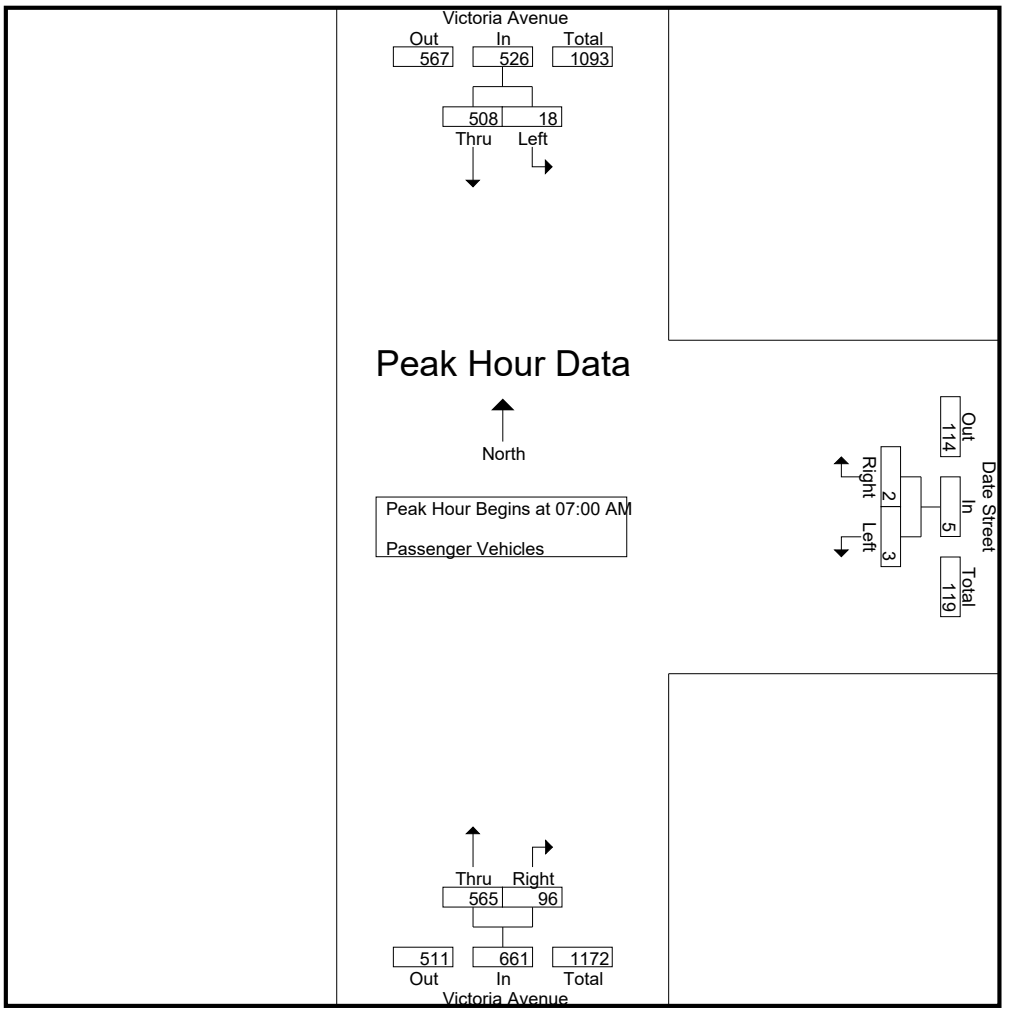

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	2	124	126	1	**2**	**3**	106	29	135
+15 mins.	**7**	143	150	0	0	0	**173**	16	189
+30 mins.	4	**158**	**162**	**2**	0	2	171	20	**191**
+45 mins.	5	83	88	0	0	0	115	**31**	146
Total Volume	18	508	526	3	2	5	565	96	661
% App. Total	3.4	96.6		60	40		85.5	14.5	
PHF	.643	.804	.812	.375	.250	.417	.816	.774	.865

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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	7	7	0	0	0	9	0	9	16
07:15 AM	0	9	9	0	0	0	13	0	13	22
07:30 AM	0	8	8	0	0	0	9	0	9	17
07:45 AM	0	6	6	0	0	0	10	0	10	16
Total	0	30	30	0	0	0	41	0	41	71
08:00 AM	0	7	7	0	0	0	11	0	11	18
08:15 AM	0	3	3	0	0	0	5	0	5	8
08:30 AM	0	2	2	0	0	0	3	0	3	5
08:45 AM	0	5	5	0	0	0	7	1	8	13
Total	0	17	17	0	0	0	26	1	27	44
Grand Total	0	47	47	0	0	0	67	1	68	115
Apprch %	0	100		0	0		98.5	1.5		
Total %	0	40.9	40.9	0	0	0	58.3	0.9	59.1	

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	7	7	0	0	0	9	0	9	16
07:15 AM	0	**9**	**9**	0	0	0	**13**	0	**13**	**22**
07:30 AM	0	8	8	0	0	0	9	0	9	17
07:45 AM	0	6	6	0	0	0	10	0	10	16
Total Volume	0	30	30	0	0	0	41	0	41	71
% App. Total	0	100		0	0		100	0		
PHF	.000	.833	.833	.000	.000	.000	.788	.000	.788	.807

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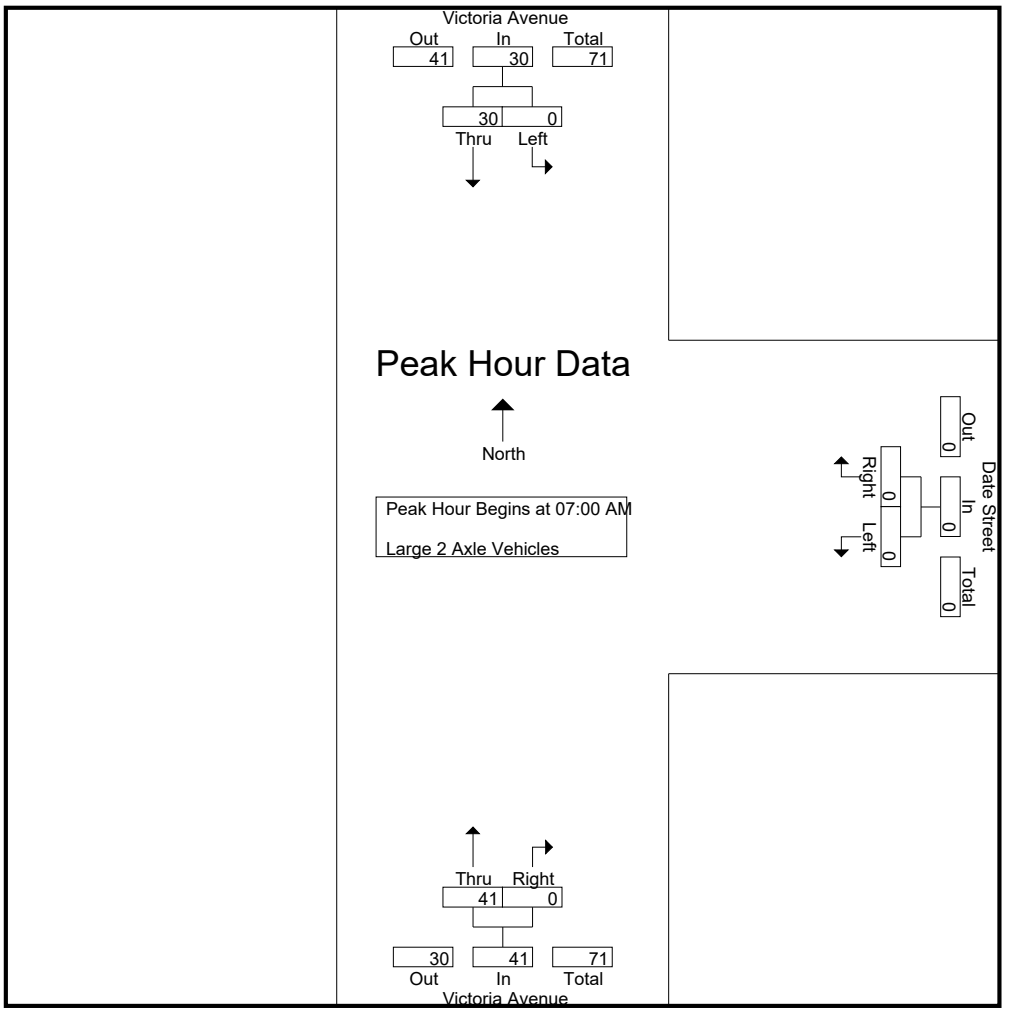

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	7	7	0	0	0	9	0	9
+15 mins.	0	**9**	**9**	0	0	0	**13**	0	**13**
+30 mins.	0	8	8	0	0	0	9	0	9
+45 mins.	0	6	6	0	0	0	10	0	10
Total Volume	0	30	30	0	0	0	41	0	41
% App. Total	0	100		0	0		100	0	
PHF	.000	.833	.833	.000	.000	.000	.788	.000	.788

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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	1	1
07:15 AM	0	0	0	0	0	0	1	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	3	0	3	3
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	1	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	0	0	0	1
Grand Total	0	1	1	0	0	0	3	0	3	4
Apprch %	0	100		0	0		100	0		
Total %	0	25	25	0	0	0	75	0	75	

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	**1**	0	**1**	**1**
07:15 AM	0	0	0	0	0	0	1	0	1	1
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	0	3	0	3	3
% App. Total	0	0		0	0		100	0		
PHF	.000	.000	.000	.000	.000	.000	.750	.000	.750	.750

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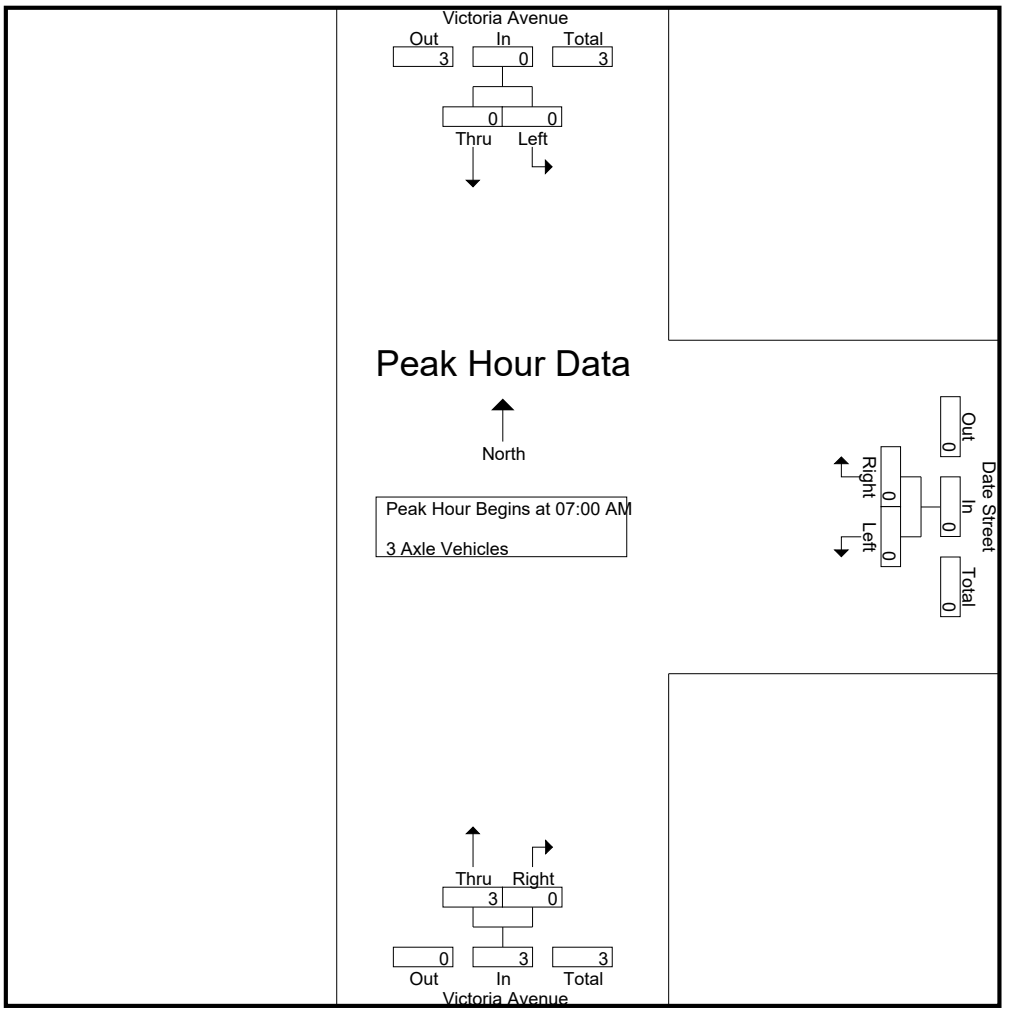

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	**1**	0	**1**
+15 mins.	0	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	0	3	0	3
% App. Total	0	0		0	0		100	0	
PHF	.000	.000	.000	.000	.000	.000	.750	.000	.750

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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	2	0	2	2
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	1	0	1	0	0	0	0	0	0	1
07:45 AM	0	1	1	0	0	0	0	0	0	1
Total	1	1	2	0	0	0	2	0	2	4
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	1	0	1	1
08:30 AM	1	1	2	1	0	1	1	1	2	5
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	1	1	2	1	0	1	2	1	3	6
Grand Total	2	2	4	1	0	1	4	1	5	10
Apprch %	50	50		100	0		80	20		
Total %	20	20	40	10	0	10	40	10	50	

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	**2**	0	**2**	**2**
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	**1**	0	**1**	0	0	0	0	0	0	1
07:45 AM	0	**1**	1	0	0	0	0	0	0	1
Total Volume	1	1	2	0	0	0	2	0	2	4
% App. Total	50	50		0	0		100	0		
PHF	.250	.250	.500	.000	.000	.000	.250	.000	.250	.500

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City of San Bernardino
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File Name : SBCVIDAAM
Site Code : 05716653
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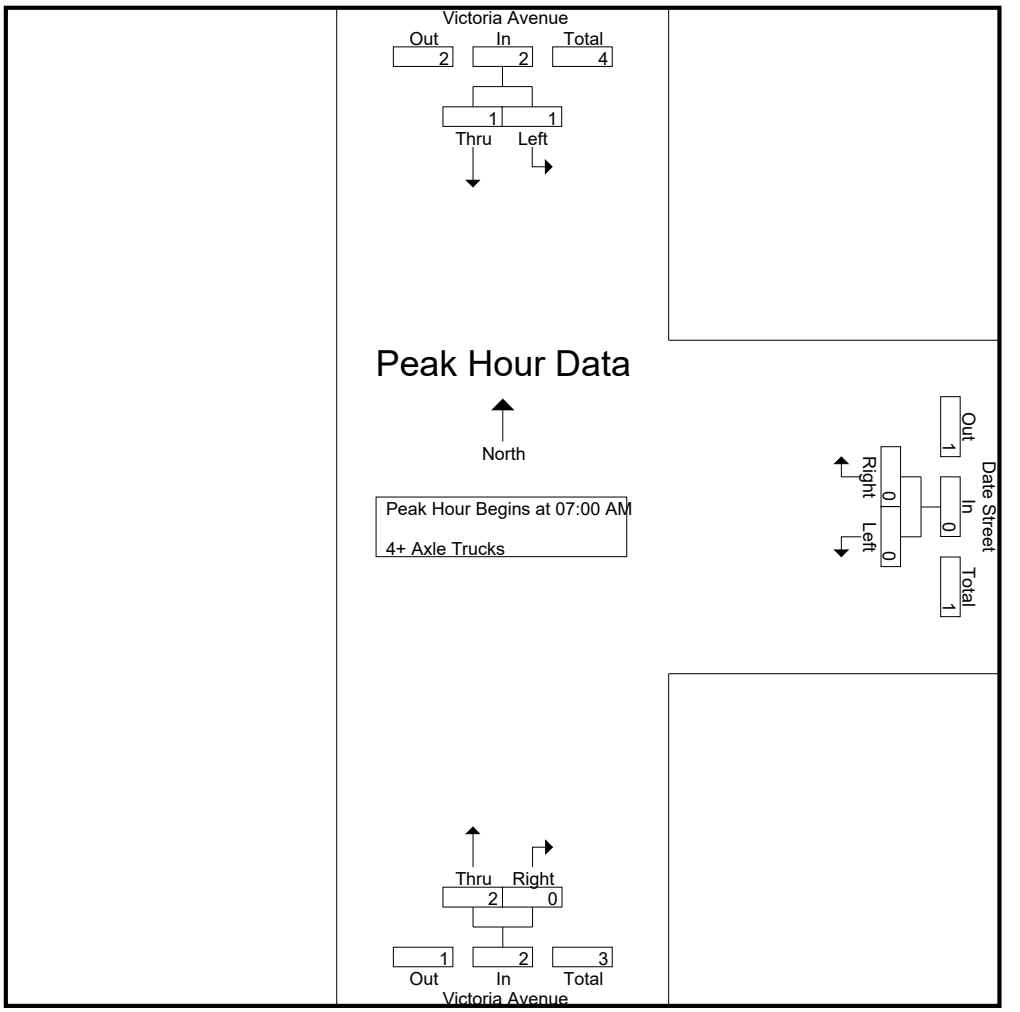

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	**2**	0	**2**
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	**1**	0	**1**	0	0	0	0	0	0
+45 mins.	0	**1**	1	0	0	0	0	0	0
Total Volume	1	1	2	0	0	0	2	0	2
% App. Total	50	50		0	0		100	0	
PHF	.250	.250	.500	.000	.000	.000	.250	.000	.250

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File Name : SBCVIDAPM
Site Code : 05716653
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	190	190	10	8	18	187	0	187	395
04:15 PM	1	186	187	8	6	14	188	0	188	389
04:30 PM	1	180	181	17	16	33	171	1	172	386
04:45 PM	1	190	191	11	7	18	160	0	160	369
Total	3	746	749	46	37	83	706	1	707	1539
05:00 PM	0	193	193	4	6	10	193	0	193	396
05:15 PM	0	173	173	1	3	4	191	0	191	368
05:30 PM	0	159	159	12	3	15	185	0	185	359
05:45 PM	0	154	154	0	0	0	182	2	184	338
Total	0	679	679	17	12	29	751	2	753	1461
Grand Total	3	1425	1428	63	49	112	1457	3	1460	3000
Apprch %	0.2	99.8		56.2	43.8		99.8	0.2		
Total %	0.1	47.5	47.6	2.1	1.6	3.7	48.6	0.1	48.7	
Passenger Vehicles	3	1385	1388	63	49	112	1412	3	1415	2915
% Passenger Vehicles	100	97.2	97.2	100	100	100	96.9	100	96.9	97.2
Large 2 Axle Vehicles	0	35	35	0	0	0	42	0	42	77
% Large 2 Axle Vehicles	0	2.5	2.5	0	0	0	2.9	0	2.9	2.6
3 Axle Vehicles	0	4	4	0	0	0	3	0	3	7
% 3 Axle Vehicles	0	0.3	0.3	0	0	0	0.2	0	0.2	0.2
4+ Axle Trucks	0	1	1	0	0	0	0	0	0	1
% 4+ Axle Trucks	0	0.1	0.1	0	0	0	0	0	0	0

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	**1**	186	187	8	6	14	188	0	188	389
04:30 PM	1	180	181	**17**	**16**	**33**	171	**1**	172	386
04:45 PM	1	190	191	11	7	18	160	0	160	369
05:00 PM	0	**193**	**193**	4	6	10	**193**	0	**193**	**396**
Total Volume	3	749	752	40	35	75	712	1	713	1540
% App. Total	0.4	99.6		53.3	46.7		99.9	0.1		
PHF	.750	.970	.974	.588	.547	.568	.922	.250	.924	.972

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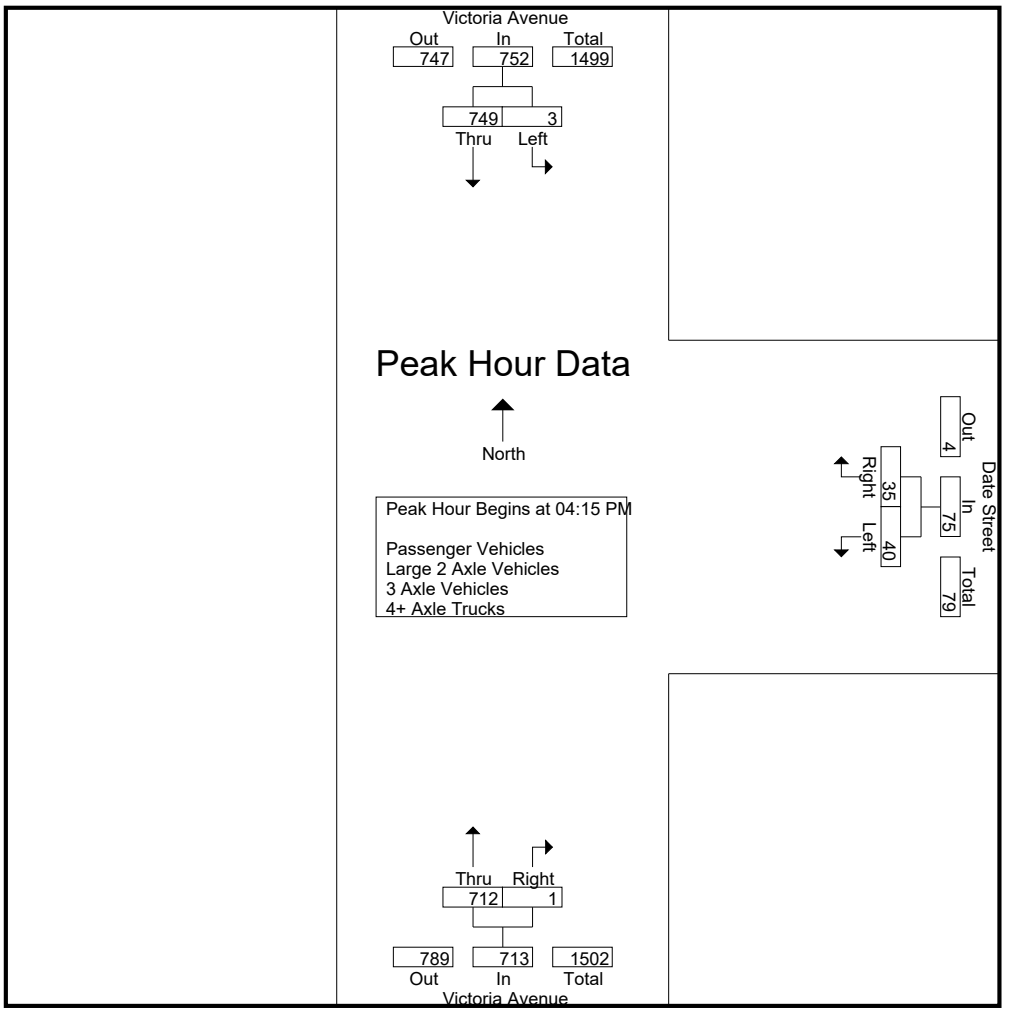

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:00 PM			05:00 PM		
+0 mins.	**1**	186	187	10	8	18	**193**	0	**193**
+15 mins.	1	180	181	8	6	14	191	0	191
+30 mins.	1	190	191	**17**	**16**	**33**	185	0	185
+45 mins.	0	**193**	**193**	11	7	18	182	**2**	184
Total Volume	3	749	752	46	37	83	751	2	753
% App. Total	0.4	99.6		55.4	44.6		99.7	0.3	
PHF	.750	.970	.974	.676	.578	.629	.973	.250	.975

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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	185	185	10	8	18	173	0	173	376
04:15 PM	1	175	176	8	6	14	182	0	182	372
04:30 PM	1	179	180	17	16	33	170	1	171	384
04:45 PM	1	189	190	11	7	18	155	0	155	363
Total	3	728	731	46	37	83	680	1	681	1495
05:00 PM	0	188	188	4	6	10	188	0	188	386
05:15 PM	0	164	164	1	3	4	184	0	184	352
05:30 PM	0	154	154	12	3	15	182	0	182	351
05:45 PM	0	151	151	0	0	0	178	2	180	331
Total	0	657	657	17	12	29	732	2	734	1420
Grand Total	3	1385	1388	63	49	112	1412	3	1415	2915
Apprch %	0.2	99.8		56.2	43.8		99.8	0.2		
Total %	0.1	47.5	47.6	2.2	1.7	3.8	48.4	0.1	48.5	

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	**1**	175	176	8	6	14	182	0	182	372
04:30 PM	1	179	180	**17**	**16**	**33**	170	**1**	171	384
04:45 PM	1	**189**	**190**	11	7	18	155	0	155	363
05:00 PM	0	188	188	4	6	10	**188**	0	**188**	**386**
Total Volume	3	731	734	40	35	75	695	1	696	1505
% App. Total	0.4	99.6		53.3	46.7		99.9	0.1		
PHF	.750	.967	.966	.588	.547	.568	.924	.250	.926	.975

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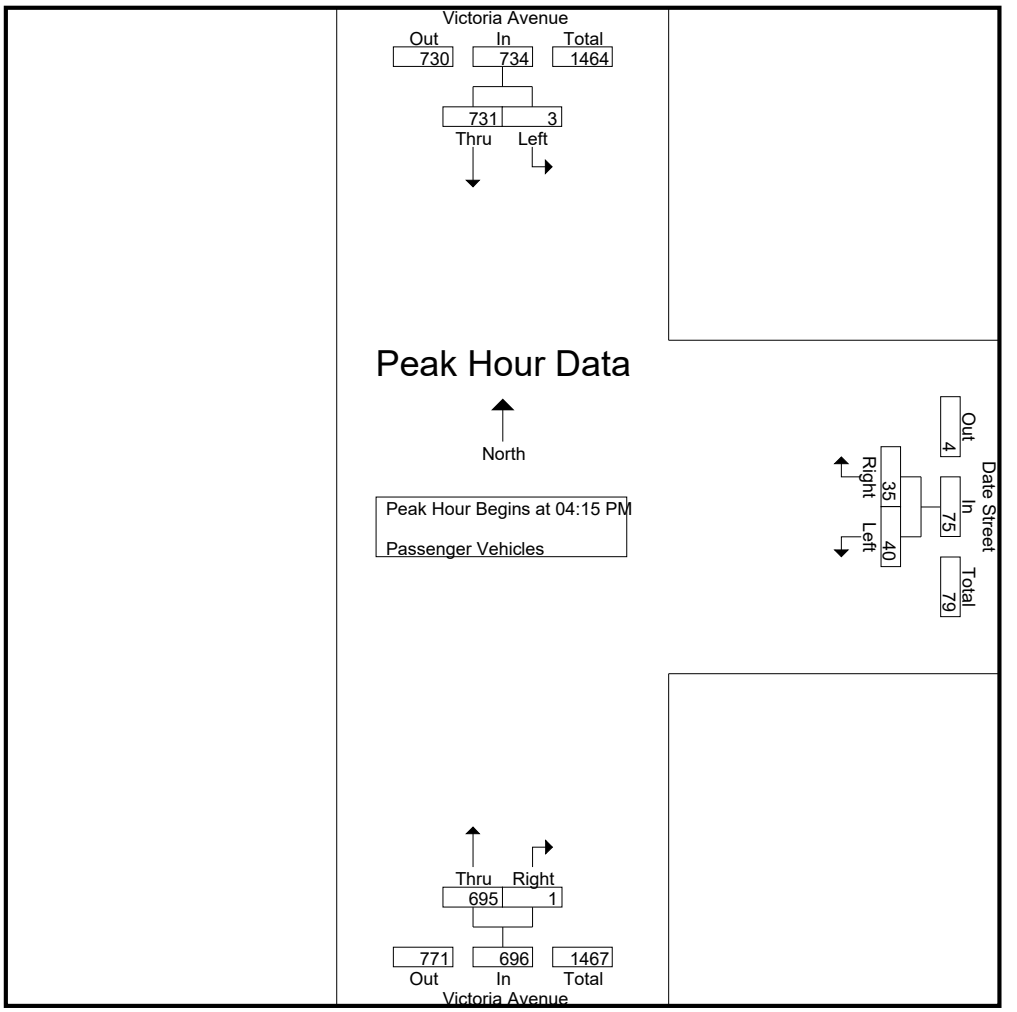

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	**1**	175	176	8	6	14	182	0	182
+15 mins.	1	179	180	**17**	**16**	**33**	170	**1**	171
+30 mins.	1	**189**	**190**	11	7	18	155	0	155
+45 mins.	0	188	188	4	6	10	**188**	0	**188**
Total Volume	3	731	734	40	35	75	695	1	696
% App. Total	0.4	99.6		53.3	46.7		99.9	0.1	
PHF	.750	.967	.966	.588	.547	.568	.924	.250	.926

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Weather: Clear

File Name : SBCVIDAPM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	4	4	0	0	0	14	0	14	18
04:15 PM	0	9	9	0	0	0	6	0	6	15
04:30 PM	0	1	1	0	0	0	1	0	1	2
04:45 PM	0	1	1	0	0	0	4	0	4	5
Total	0	15	15	0	0	0	25	0	25	40
05:00 PM	0	4	4	0	0	0	4	0	4	8
05:15 PM	0	9	9	0	0	0	7	0	7	16
05:30 PM	0	4	4	0	0	0	3	0	3	7
05:45 PM	0	3	3	0	0	0	3	0	3	6
Total	0	20	20	0	0	0	17	0	17	37
Grand Total	0	35	35	0	0	0	42	0	42	77
Apprch %	0	100		0	0		100	0		
Total %	0	45.5	45.5	0	0	0	54.5	0	54.5	

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	**9**	**9**	0	0	0	**6**	0	**6**	**15**
04:30 PM	0	1	1	0	0	0	1	0	1	2
04:45 PM	0	1	1	0	0	0	4	0	4	5
05:00 PM	0	4	4	0	0	0	4	0	4	8
Total Volume	0	15	15	0	0	0	15	0	15	30
% App. Total	0	100		0	0		100	0		
PHF	.000	.417	.417	.000	.000	.000	.625	.000	.625	.500

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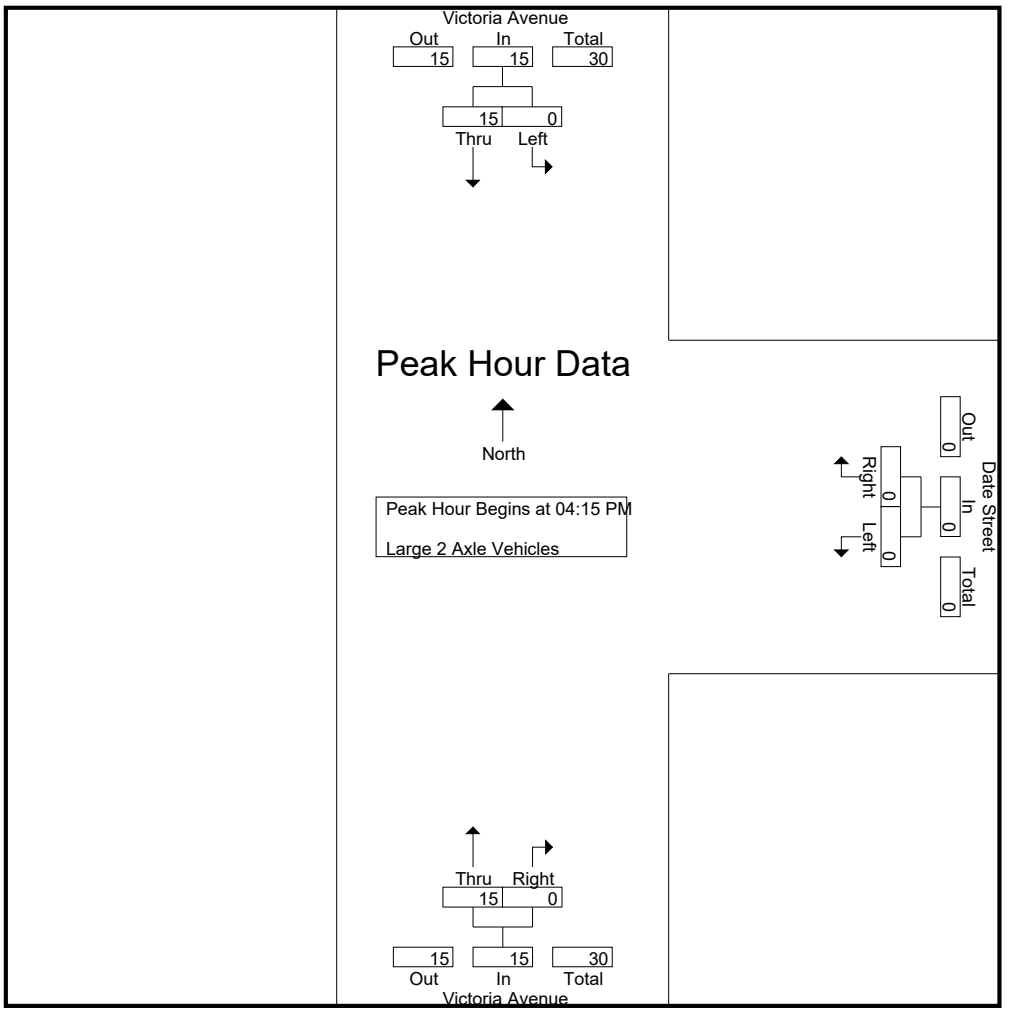

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	**9**	**9**	0	0	0	**6**	0	**6**
+15 mins.	0	1	1	0	0	0	1	0	1
+30 mins.	0	1	1	0	0	0	4	0	4
+45 mins.	0	4	4	0	0	0	4	0	4
Total Volume	0	15	15	0	0	0	15	0	15
% App. Total	0	100		0	0		100	0	
PHF	.000	.417	.417	.000	.000	.000	.625	.000	.625

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Weather: Clear

File Name : SBCVIDAPM
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Start Date : 12/7/2016
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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	1	0	0	0	0	0	0	1
04:15 PM	0	1	1	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	1	0	1	1
Total	0	2	2	0	0	0	1	0	1	3
05:00 PM	0	1	1	0	0	0	1	0	1	2
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	1	1	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	1	0	1	1
Total	0	2	2	0	0	0	2	0	2	4
Grand Total	0	4	4	0	0	0	3	0	3	7
Apprch %	0	100		0	0		100	0		
Total %	0	57.1	57.1	0	0	0	42.9	0	42.9	

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	**1**	**1**	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	**1**	0	**1**	1
05:00 PM	0	1	1	0	0	0	1	0	1	**2**
Total Volume	0	2	2	0	0	0	2	0	2	4
% App. Total	0	100		0	0		100	0		
PHF	.000	.500	.500	.000	.000	.000	.500	.000	.500	.500

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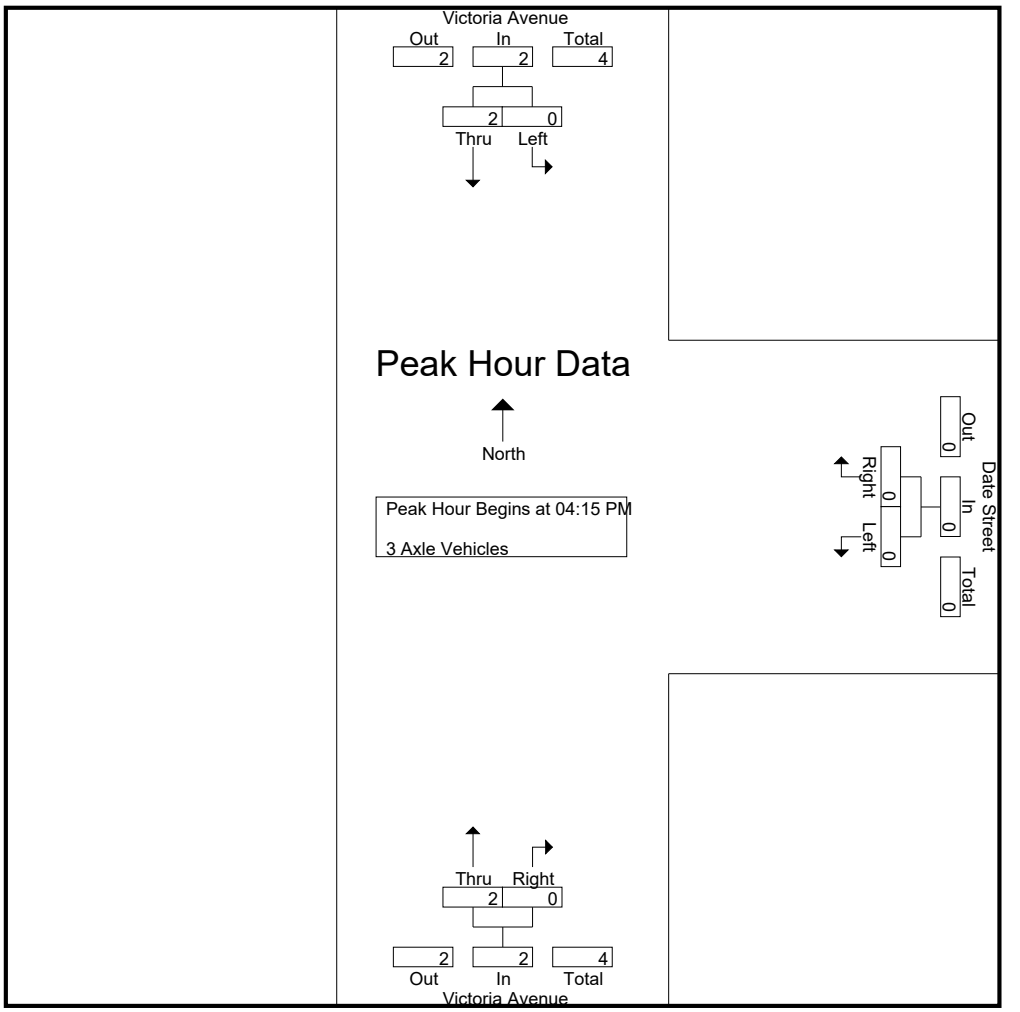

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	**1**	**1**	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	**1**	0	**1**
+45 mins.	0	1	1	0	0	0	1	0	1
Total Volume	0	2	2	0	0	0	2	0	2
% App. Total	0	100		0	0		100	0	
PHF	.000	.500	.500	.000	.000	.000	.500	.000	.500

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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	1	1	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	1	0	0	0	0	0	0	1
Apprch %	0	100		0	0		0	0		
Total %	0	100	100	0	0	0	0	0	0	

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	**1**	**1**	0	0	0	0	0	0	**1**
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	0	0	0	1
% App. Total	0	100		0	0		0	0		
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000	.250

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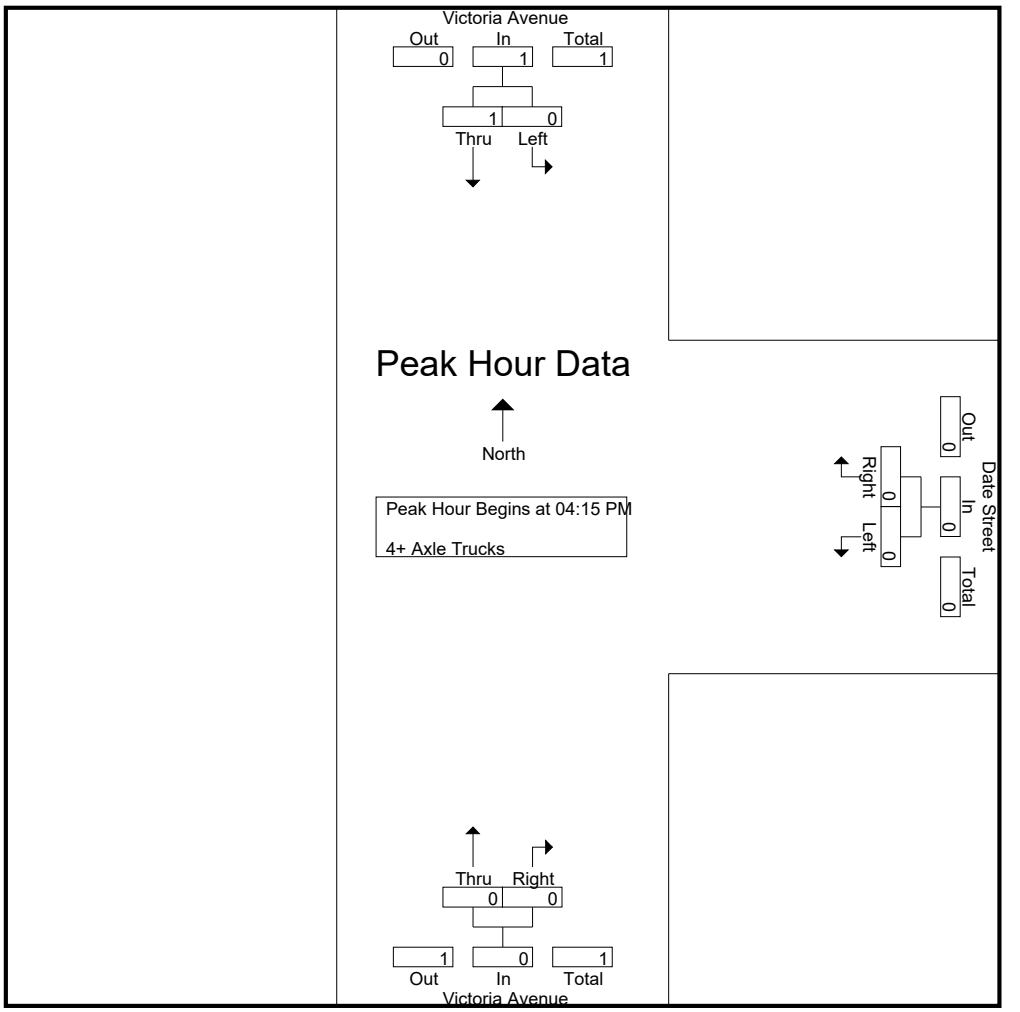

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	**1**	**1**	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	0	0	0
% App. Total	0	100		0	0		0	0	
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
05:00 PM	0	175	175	0	0	0	198	0	198	373
05:15 PM	0	204	204	0	0	0	205	0	205	409
05:30 PM	0	174	174	0	0	0	254	0	254	428
05:45 PM	0	185	185	0	0	0	242	0	242	427
Total	0	738	738	0	0	0	899	0	899	1637
06:00 PM	0	194	194	0	0	0	191	0	191	385
06:15 PM	0	194	194	0	0	0	228	0	228	422
06:30 PM	0	213	213	0	0	0	243	0	243	456
06:45 PM	0	178	178	0	0	0	235	0	235	413
Total	0	779	779	0	0	0	897	0	897	1676
Grand Total	0	1517	1517	0	0	0	1796	0	1796	3313
Apprch %	0	100		0	0		100	0		
Total %	0	45.8	45.8	0	0	0	54.2	0	54.2	
Passenger Vehicles	0	1484	1484	0	0	0	1765	0	1765	3249
% Passenger Vehicles	0	97.8	97.8	0	0	0	98.3	0	98.3	98.1
Large 2 Axle Vehicles	0	27	27	0	0	0	26	0	26	53
% Large 2 Axle Vehicles	0	1.8	1.8	0	0	0	1.4	0	1.4	1.6
3 Axle Vehicles	0	6	6	0	0	0	5	0	5	11
% 3 Axle Vehicles	0	0.4	0.4	0	0	0	0.3	0	0.3	0.3
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:45 PM										
05:45 PM	0	185	185	0	0	0	242	0	242	427
06:00 PM	0	194	194	0	0	0	191	0	191	385
06:15 PM	0	194	194	0	0	0	228	0	228	422
06:30 PM	0	**213**	**213**	0	0	0	**243**	0	**243**	**456**
Total Volume	0	786	786	0	0	0	904	0	904	1690
% App. Total	0	100		0	0		100	0		
PHF	.000	.923	.923	.000	.000	.000	.930	.000	.930	.927

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City of San Bernardino
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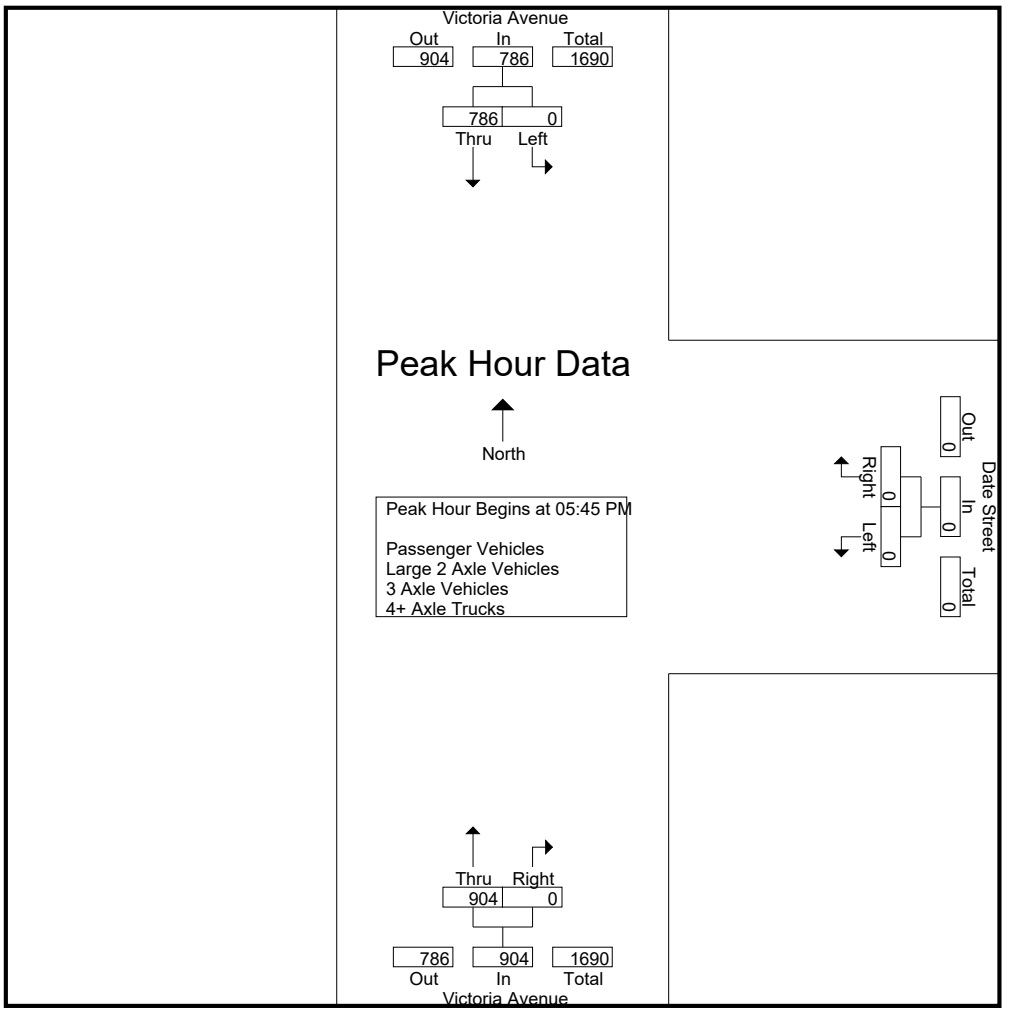

Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM			05:00 PM			05:30 PM		
+0 mins.	0	185	185	0	0	0	**254**	0	**254**
+15 mins.	0	194	194	0	0	0	242	0	242
+30 mins.	0	194	194	0	0	0	191	0	191
+45 mins.	0	**213**	**213**	0	0	0	228	0	228
Total Volume	0	786	786	0	0	0	915	0	915
% App. Total	0	100		0	0		100	0	
PHF	.000	.923	.923	.000	.000	.000	.901	.000	.901

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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
05:00 PM	0	172	172	0	0	0	196	0	196	368
05:15 PM	0	199	199	0	0	0	200	0	200	399
05:30 PM	0	170	170	0	0	0	251	0	251	421
05:45 PM	0	182	182	0	0	0	236	0	236	418
Total	0	723	723	0	0	0	883	0	883	1606
06:00 PM	0	188	188	0	0	0	186	0	186	374
06:15 PM	0	189	189	0	0	0	225	0	225	414
06:30 PM	0	209	209	0	0	0	238	0	238	447
06:45 PM	0	175	175	0	0	0	233	0	233	408
Total	0	761	761	0	0	0	882	0	882	1643
Grand Total	0	1484	1484	0	0	0	1765	0	1765	3249
Apprch %	0	100		0	0		100	0		
Total %	0	45.7	45.7	0	0	0	54.3	0	54.3	

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:45 PM										
05:45 PM	0	182	182	0	0	0	236	0	236	418
06:00 PM	0	188	188	0	0	0	186	0	186	374
06:15 PM	0	189	189	0	0	0	225	0	225	414
06:30 PM	0	**209**	**209**	0	0	0	**238**	0	**238**	**447**
Total Volume	0	768	768	0	0	0	885	0	885	1653
% App. Total	0	100		0	0		100	0		
PHF	.000	.919	.919	.000	.000	.000	.930	.000	.930	.924

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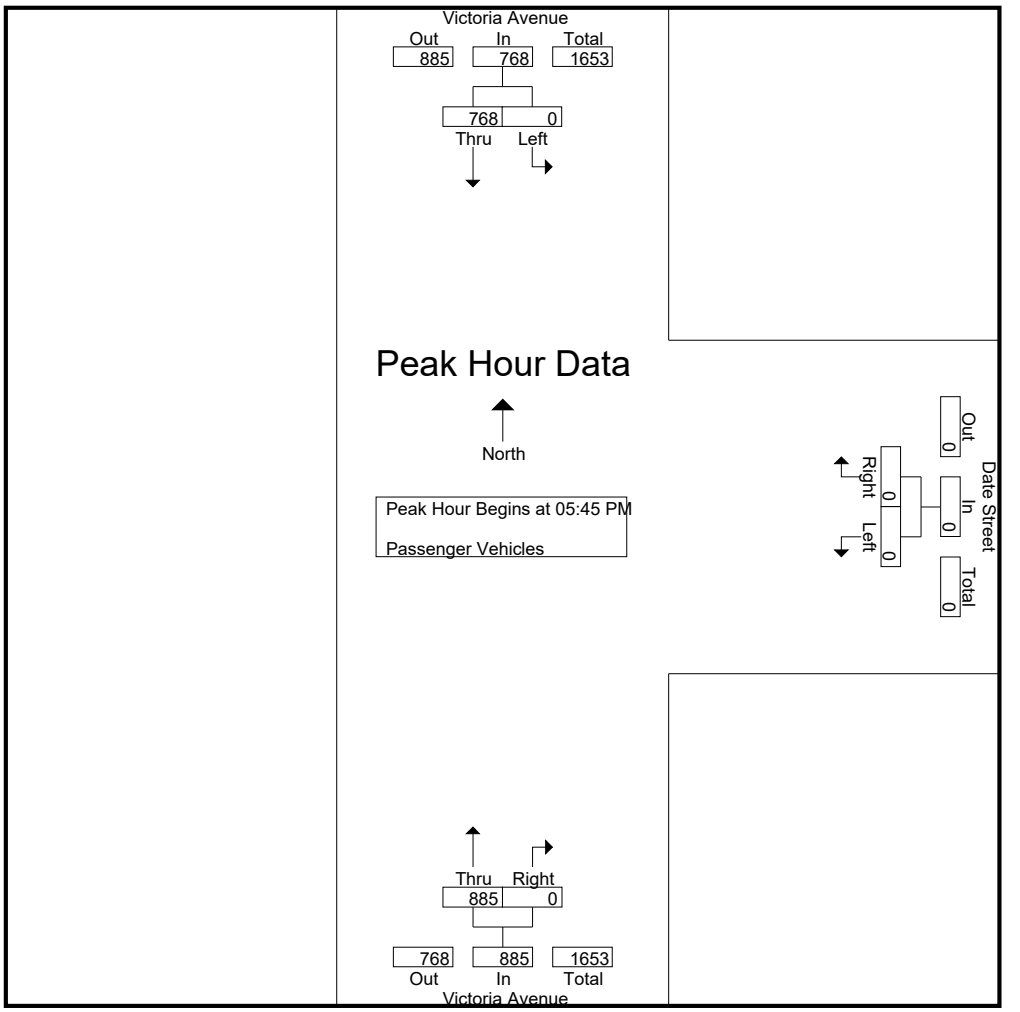

Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM			05:45 PM			05:45 PM		
+0 mins.	0	182	182	0	0	0	236	0	236
+15 mins.	0	188	188	0	0	0	186	0	186
+30 mins.	0	189	189	0	0	0	225	0	225
+45 mins.	0	**209**	**209**	0	0	0	**238**	0	**238**
Total Volume	0	768	768	0	0	0	885	0	885
% App. Total	0	100		0	0		100	0	
PHF	.000	.919	.919	.000	.000	.000	.930	.000	.930

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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
05:00 PM	0	2	2	0	0	0	2	0	2	4
05:15 PM	0	5	5	0	0	0	5	0	5	10
05:30 PM	0	4	4	0	0	0	3	0	3	7
05:45 PM	0	3	3	0	0	0	6	0	6	9
Total	0	14	14	0	0	0	16	0	16	30
06:00 PM	0	5	5	0	0	0	3	0	3	8
06:15 PM	0	3	3	0	0	0	2	0	2	5
06:30 PM	0	2	2	0	0	0	3	0	3	5
06:45 PM	0	3	3	0	0	0	2	0	2	5
Total	0	13	13	0	0	0	10	0	10	23
Grand Total	0	27	27	0	0	0	26	0	26	53
Apprch %	0	100		0	0		100	0		
Total %	0	50.9	50.9	0	0	0	49.1	0	49.1	

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:45 PM										
05:45 PM	0	3	3	0	0	0	**6**	0	**6**	**9**
06:00 PM	0	**5**	**5**	0	0	0	3	0	3	8
06:15 PM	0	3	3	0	0	0	2	0	2	5
06:30 PM	0	2	2	0	0	0	3	0	3	5
Total Volume	0	13	13	0	0	0	14	0	14	27
% App. Total	0	100		0	0		100	0		
PHF	.000	.650	.650	.000	.000	.000	.583	.000	.583	.750

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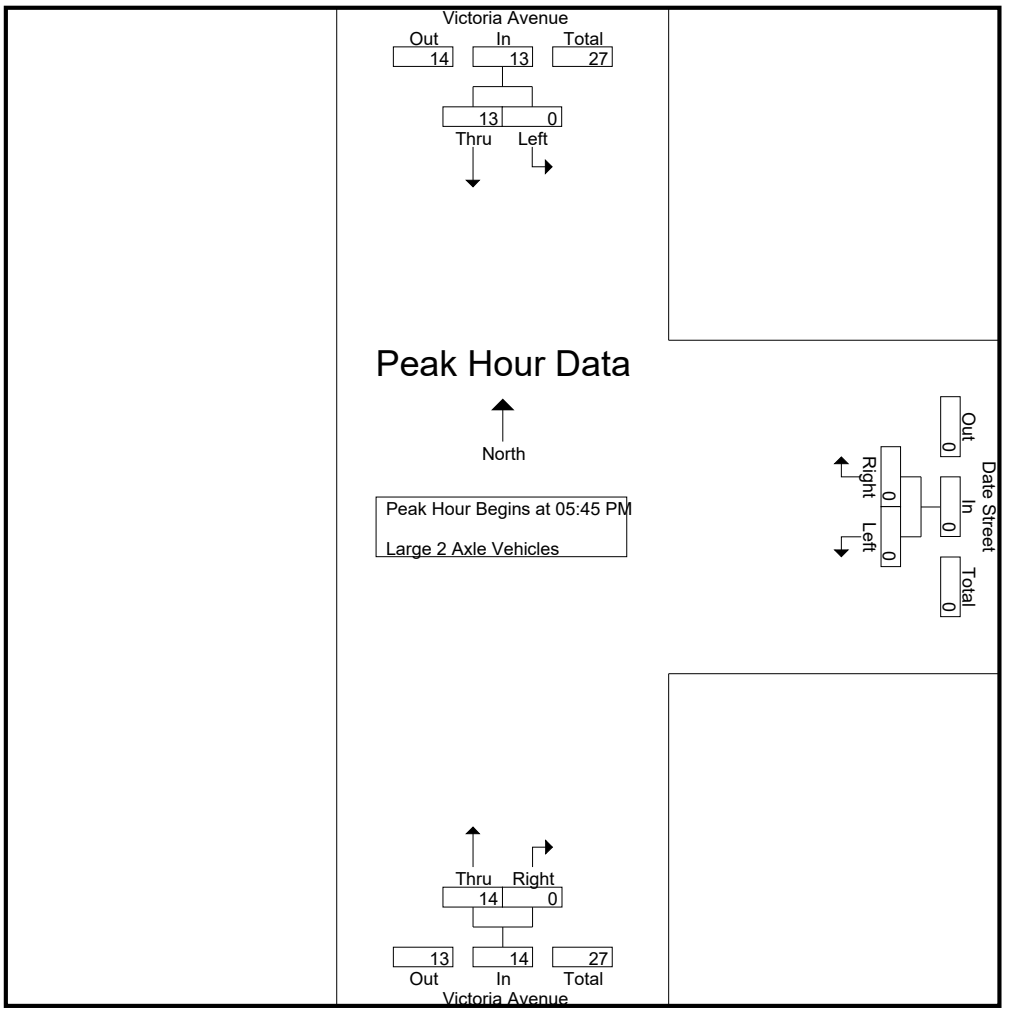

Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM			05:45 PM			05:45 PM		
+0 mins.	0	3	3	0	0	0	**6**	0	**6**
+15 mins.	0	**5**	**5**	0	0	0	3	0	3
+30 mins.	0	3	3	0	0	0	2	0	2
+45 mins.	0	2	2	0	0	0	3	0	3
Total Volume	0	13	13	0	0	0	14	0	14
% App. Total	0	100		0	0		100	0	
PHF	.000	.650	.650	.000	.000	.000	.583	.000	.583

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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
05:00 PM	0	1	1	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	0	0	0	1
06:00 PM	0	1	1	0	0	0	2	0	2	3
06:15 PM	0	2	2	0	0	0	1	0	1	3
06:30 PM	0	2	2	0	0	0	2	0	2	4
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	5	5	0	0	0	5	0	5	10
Grand Total	0	6	6	0	0	0	5	0	5	11
Apprch %	0	100		0	0		100	0		
Total %	0	54.5	54.5	0	0	0	45.5	0	45.5	

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:45 PM										
05:45 PM	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	1	1	0	0	0	**2**	0	**2**	3
06:15 PM	0	**2**	**2**	0	0	0	1	0	1	3
06:30 PM	0	2	2	0	0	0	2	0	2	**4**
Total Volume	0	5	5	0	0	0	5	0	5	10
% App. Total	0	100		0	0		100	0		
PHF	.000	.625	.625	.000	.000	.000	.625	.000	.625	.625

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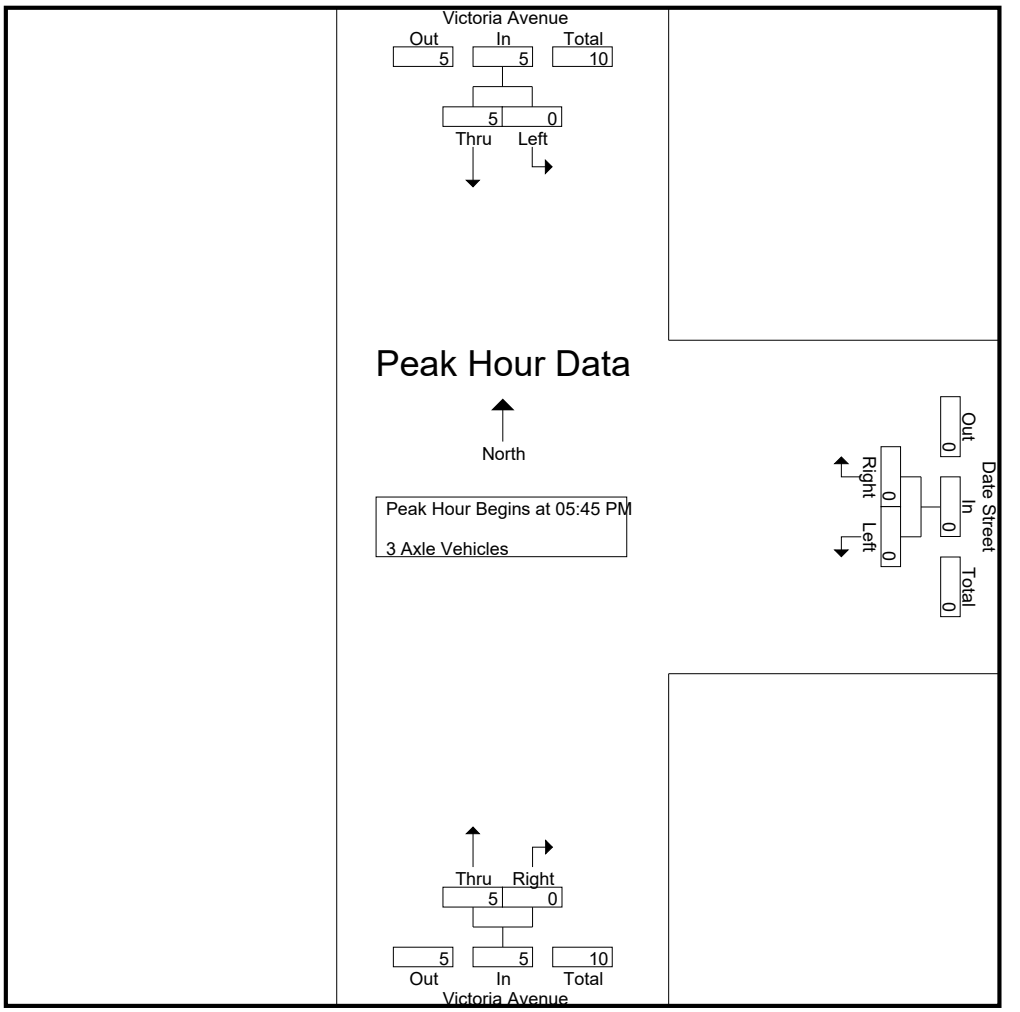

Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM			05:45 PM			05:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	1	0	0	0	**2**	0	**2**
+30 mins.	0	**2**	**2**	0	0	0	1	0	1
+45 mins.	0	2	2	0	0	0	2	0	2
Total Volume	0	5	5	0	0	0	5	0	5
% App. Total	0	100		0	0		100	0	
PHF	.000	.625	.625	.000	.000	.000	.625	.000	.625

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Weather: Clear

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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Victoria Avenue Southbound			Date Street Westbound			Victoria Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:45 PM										
05:45 PM	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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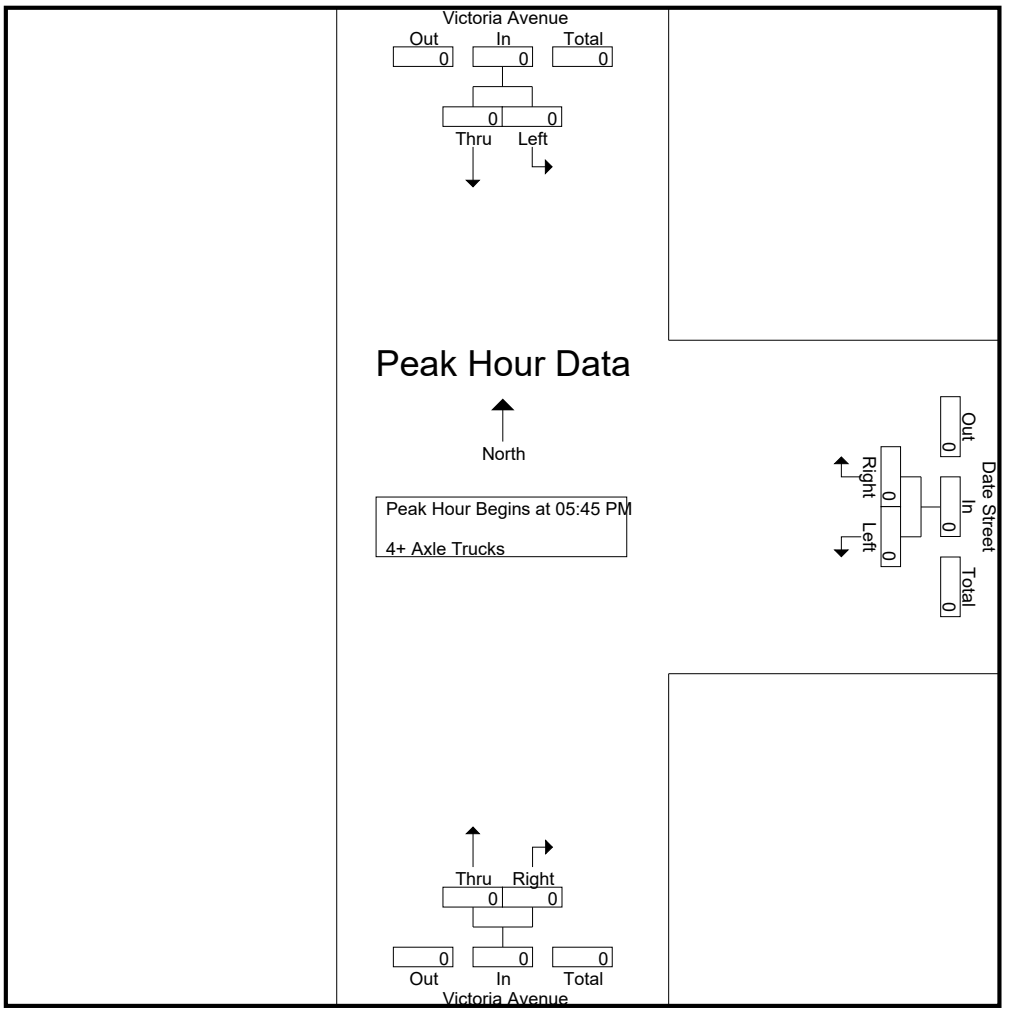

Peak Hour Analysis From 05:45 PM to 06:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:45 PM			05:45 PM			05:45 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Weather: Clear

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	11	99	8	118	15	39	14	68	14	55	4	73	4	39	27	70	329
07:15 AM	31	145	15	191	29	57	21	107	27	101	6	134	9	48	25	82	514
07:30 AM	27	118	7	152	16	61	18	95	30	114	9	153	7	40	20	67	467
07:45 AM	16	114	12	142	39	42	13	94	32	80	10	122	5	42	24	71	429
Total	85	476	42	603	99	199	66	364	103	350	29	482	25	169	96	290	1739
08:00 AM	18	49	12	79	16	64	18	98	22	71	7	100	6	52	16	74	351
08:15 AM	16	47	11	74	24	64	15	103	22	63	6	91	10	65	17	92	360
08:30 AM	12	68	14	94	19	50	18	87	9	52	15	76	10	44	19	73	330
08:45 AM	19	53	21	93	25	72	26	123	37	74	10	121	8	55	7	70	407
Total	65	217	58	340	84	250	77	411	90	260	38	388	34	216	59	309	1448
Grand Total	150	693	100	943	183	449	143	775	193	610	67	870	59	385	155	599	3187
Apprch %	15.9	73.5	10.6		23.6	57.9	18.5		22.2	70.1	7.7		9.8	64.3	25.9		
Total %	4.7	21.7	3.1	29.6	5.7	14.1	4.5	24.3	6.1	19.1	2.1	27.3	1.9	12.1	4.9	18.8	
Passenger Vehicles	142	674	94	910	175	420	136	731	189	593	59	841	57	356	151	564	3046
% Passenger Vehicles	94.7	97.3	94	96.5	95.6	93.5	95.1	94.3	97.9	97.2	88.1	96.7	96.6	92.5	97.4	94.2	95.6
Large 2 Axle Vehicles	7	17	5	29	7	26	5	38	3	12	8	23	1	29	4	34	124
% Large 2 Axle Vehicles	4.7	2.5	5	3.1	3.8	5.8	3.5	4.9	1.6	2	11.9	2.6	1.7	7.5	2.6	5.7	3.9
3 Axle Vehicles	0	1	0	1	0	1	0	1	0	3	0	3	1	0	0	1	6
% 3 Axle Vehicles	0	0.1	0	0.1	0	0.2	0	0.1	0	0.5	0	0.3	1.7	0	0	0.2	0.2
4+ Axle Trucks	1	1	1	3	1	2	2	5	1	2	0	3	0	0	0	0	11
% 4+ Axle Trucks	0.7	0.1	1	0.3	0.5	0.4	1.4	0.6	0.5	0.3	0	0.3	0	0	0	0	0.3

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**31**	**145**	**15**	**191**	29	57	**21**	**107**	27	101	6	134	**9**	48	**25**	**82**	**514**
07:30 AM	27	118	7	152	16	61	18	95	30	**114**	9	**153**	7	40	20	67	467
07:45 AM	16	114	12	142	**39**	42	13	94	**32**	80	**10**	122	5	42	24	71	429
08:00 AM	18	49	12	79	16	**64**	18	98	22	71	7	100	6	**52**	16	74	351
Total Volume	92	426	46	564	100	224	70	394	111	366	32	509	27	182	85	294	1761
% App. Total	16.3	75.5	8.2		25.4	56.9	17.8		21.8	71.9	6.3		9.2	61.9	28.9		
PHF	.742	.734	.767	.738	.641	.875	.833	.921	.867	.803	.800	.832	.750	.875	.850	.896	.857

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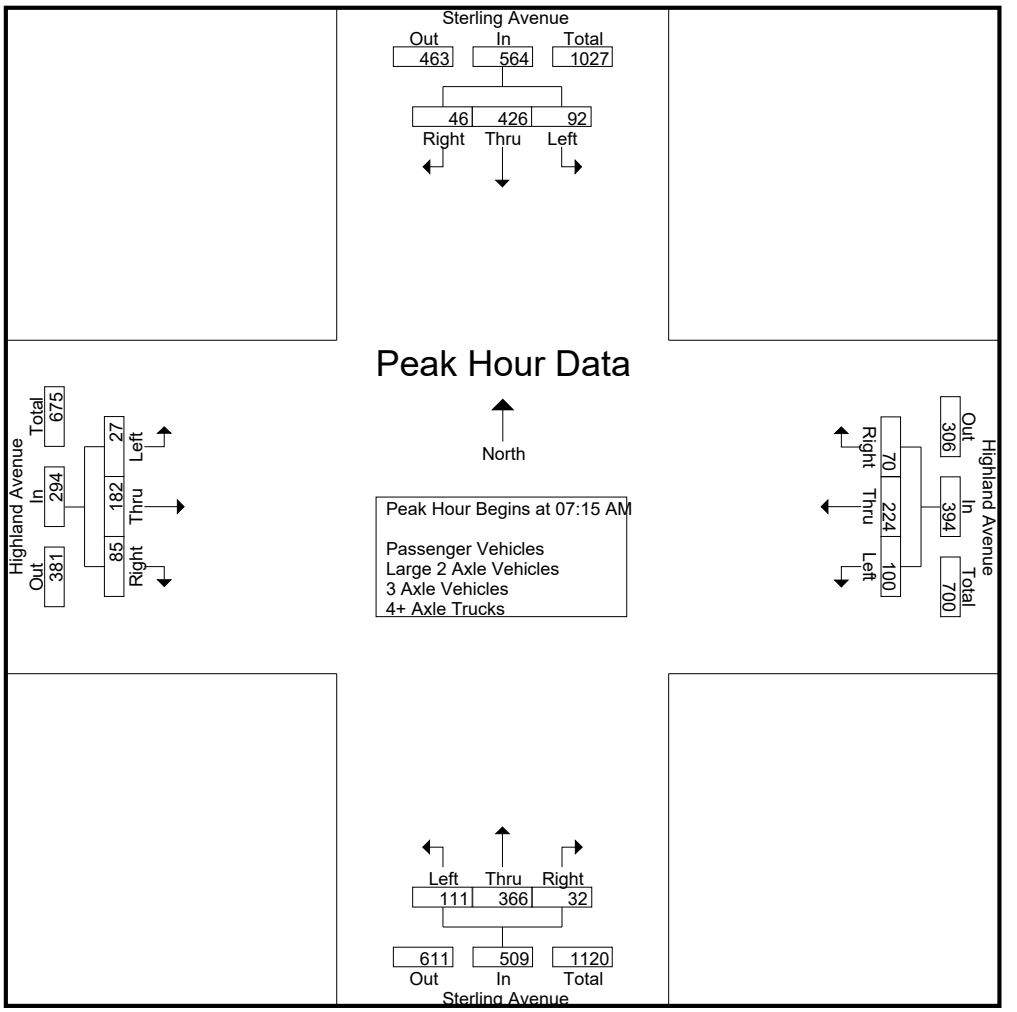

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				08:00 AM				07:15 AM				07:45 AM			
+0 mins.	11	99	8	118	16	64	18	98	27	101	6	134	5	42	**24**	71
+15 mins.	**31**	**145**	**15**	**191**	24	64	15	103	30	**114**	9	**153**	6	52	16	74
+30 mins.	27	118	7	152	19	50	18	87	**32**	80	**10**	122	**10**	**65**	17	**92**
+45 mins.	16	114	12	142	**25**	**72**	**26**	**123**	22	71	7	100	10	44	19	73
Total Volume	85	476	42	603	84	250	77	411	111	366	32	509	31	203	76	310
% App. Total	14.1	78.9	7		20.4	60.8	18.7		21.8	71.9	6.3		10	65.5	24.5	
PHF	.685	.821	.700	.789	.840	.868	.740	.835	.867	.803	.800	.832	.775	.781	.792	.842

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of San Bernardino
N/S: Sterling Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCSTHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	11	97	8	116	14	38	13	65	14	55	4	73	4	36	25	65	319
07:15 AM	31	144	14	189	28	54	21	103	26	95	6	127	8	43	25	76	495
07:30 AM	27	115	5	147	16	56	18	90	29	114	7	150	7	38	19	64	451
07:45 AM	14	112	11	137	37	40	13	90	32	75	9	116	5	39	24	68	411
Total	83	468	38	589	95	188	65	348	101	339	26	466	24	156	93	273	1676
08:00 AM	16	48	11	75	15	57	14	86	21	69	7	97	6	46	15	67	325
08:15 AM	14	44	11	69	23	59	14	96	22	62	3	87	10	59	17	86	338
08:30 AM	12	63	13	88	19	47	17	83	9	51	14	74	10	42	19	71	316
08:45 AM	17	51	21	89	23	69	26	118	36	72	9	117	7	53	7	67	391
Total	59	206	56	321	80	232	71	383	88	254	33	375	33	200	58	291	1370
Grand Total	142	674	94	910	175	420	136	731	189	593	59	841	57	356	151	564	3046
Apprch %	15.6	74.1	10.3		23.9	57.5	18.6		22.5	70.5	7		10.1	63.1	26.8		
Total %	4.7	22.1	3.1	29.9	5.7	13.8	4.5	24	6.2	19.5	1.9	27.6	1.9	11.7	5	18.5	

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	**31**	**144**	**14**	**189**	28	54	**21**	**103**	26	95	6	127	**8**	43	**25**	**76**	**495**
07:30 AM	27	115	5	147	16	56	18	90	29	**114**	7	**150**	7	38	19	64	451
07:45 AM	14	112	11	137	**37**	40	13	90	**32**	75	**9**	116	5	39	24	68	411
08:00 AM	16	48	11	75	15	**57**	14	86	21	69	7	97	6	**46**	15	67	325
Total Volume	88	419	41	548	96	207	66	369	108	353	29	490	26	166	83	275	1682
% App. Total	16.1	76.5	7.5		26	56.1	17.9		22	72	5.9		9.5	60.4	30.2		
PHF	.710	.727	.732	.725	.649	.908	.786	.896	.844	.774	.806	.817	.813	.902	.830	.905	.849

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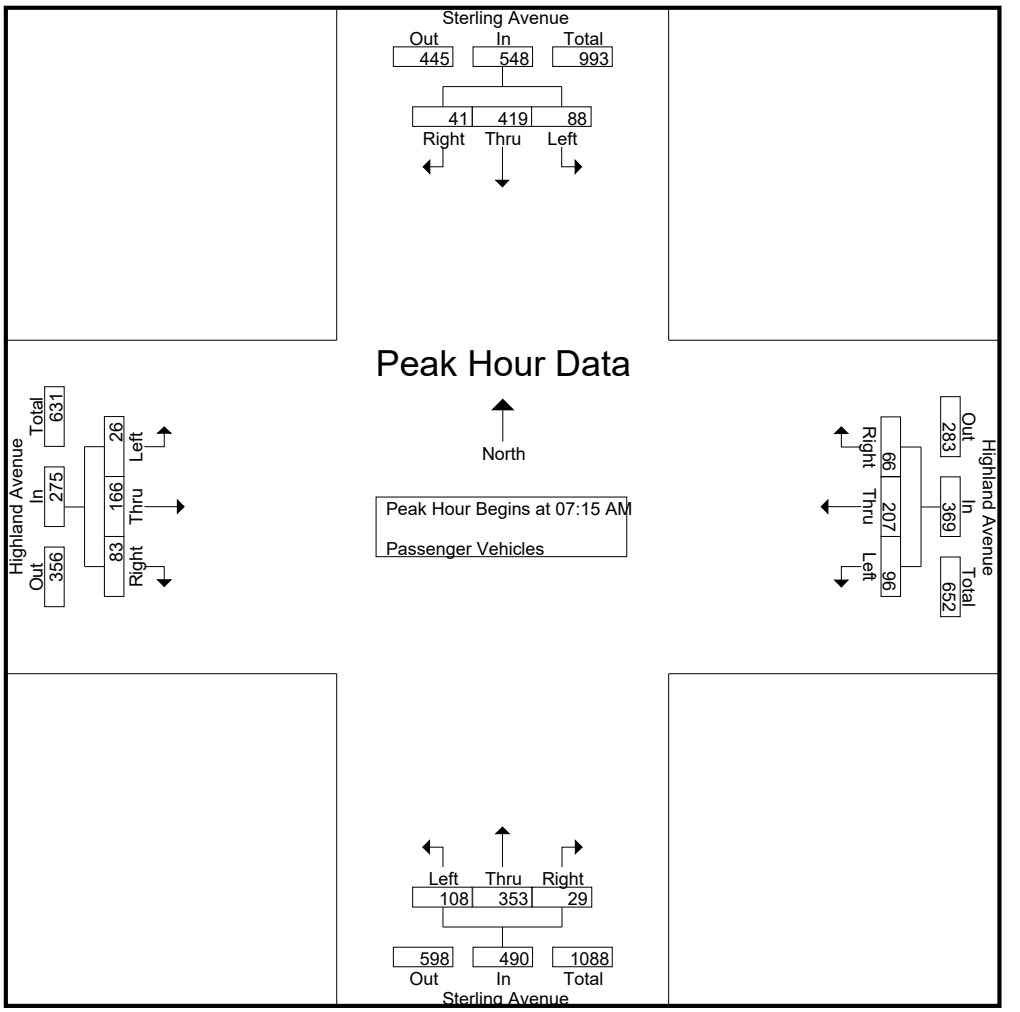
City of San Bernardino
N/S: Sterling Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCSTHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	**31**	**144**	**14**	**189**	28	54	**21**	**103**	26	95	6	127	**8**	43	**25**	**76**
+15 mins.	27	115	5	147	16	56	18	90	29	**114**	7	**150**	7	38	19	64
+30 mins.	14	112	11	137	**37**	40	13	90	**32**	75	**9**	116	5	39	24	68
+45 mins.	16	48	11	75	15	**57**	14	86	21	69	7	97	6	**46**	15	67
Total Volume	88	419	41	548	96	207	66	369	108	353	29	490	26	166	83	275
% App. Total	16.1	76.5	7.5		26	56.1	17.9		22	72	5.9		9.5	60.4	30.2	
PHF	.710	.727	.732	.725	.649	.908	.786	.896	.844	.774	.806	.817	.813	.902	.830	.905

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City of San Bernardino
N/S: Sterling Avenue
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Weather: Clear

File Name : SBCSTHIAM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- Large 2 Axle Vehicles

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	2	0	2	1	1	1	3	0	0	0	0	0	3	2	5	10
07:15 AM	0	0	1	1	0	3	0	3	1	5	0	6	0	5	0	5	15
07:30 AM	0	3	2	5	0	4	0	4	0	0	2	2	0	2	1	3	14
07:45 AM	2	2	0	4	2	2	0	4	0	5	1	6	0	3	0	3	17
Total	2	7	3	12	3	10	1	14	1	10	3	14	0	13	3	16	56
08:00 AM	2	1	1	4	1	7	4	12	1	1	0	2	0	6	1	7	25
08:15 AM	2	3	0	5	1	4	0	5	0	1	3	4	0	6	0	6	20
08:30 AM	0	5	1	6	0	3	0	3	0	0	1	1	0	2	0	2	12
08:45 AM	1	1	0	2	2	2	0	4	1	0	1	2	1	2	0	3	11
Total	5	10	2	17	4	16	4	24	2	2	5	9	1	16	1	18	68
Grand Total	7	17	5	29	7	26	5	38	3	12	8	23	1	29	4	34	124
Apprch %	24.1	58.6	17.2		18.4	68.4	13.2		13	52.2	34.8		2.9	85.3	11.8		
Total %	5.6	13.7	4	23.4	5.6	21	4	30.6	2.4	9.7	6.5	18.5	0.8	23.4	3.2	27.4	

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	1	1	0	3	0	3	**1**	**5**	0	**6**	0	5	0	5	15
07:30 AM	0	**3**	**2**	**5**	0	4	0	4	0	0	**2**	2	0	2	**1**	3	14
07:45 AM	**2**	2	0	4	**2**	2	0	4	0	5	1	6	0	3	0	3	17
08:00 AM	2	1	1	4	1	**7**	**4**	**12**	1	1	0	2	0	**6**	1	**7**	**25**
Total Volume	4	6	4	14	3	16	4	23	2	11	3	16	0	16	2	18	71
% App. Total	28.6	42.9	28.6		13	69.6	17.4		12.5	68.8	18.8		0	88.9	11.1		
PHF	.500	.500	.500	.700	.375	.571	.250	.479	.500	.550	.375	.667	.000	.667	.500	.643	.710

Counts Unlimited
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City of San Bernardino
N/S: Sterling Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCSTHIAM
Site Code : 05716653
Start Date : 12/7/2016
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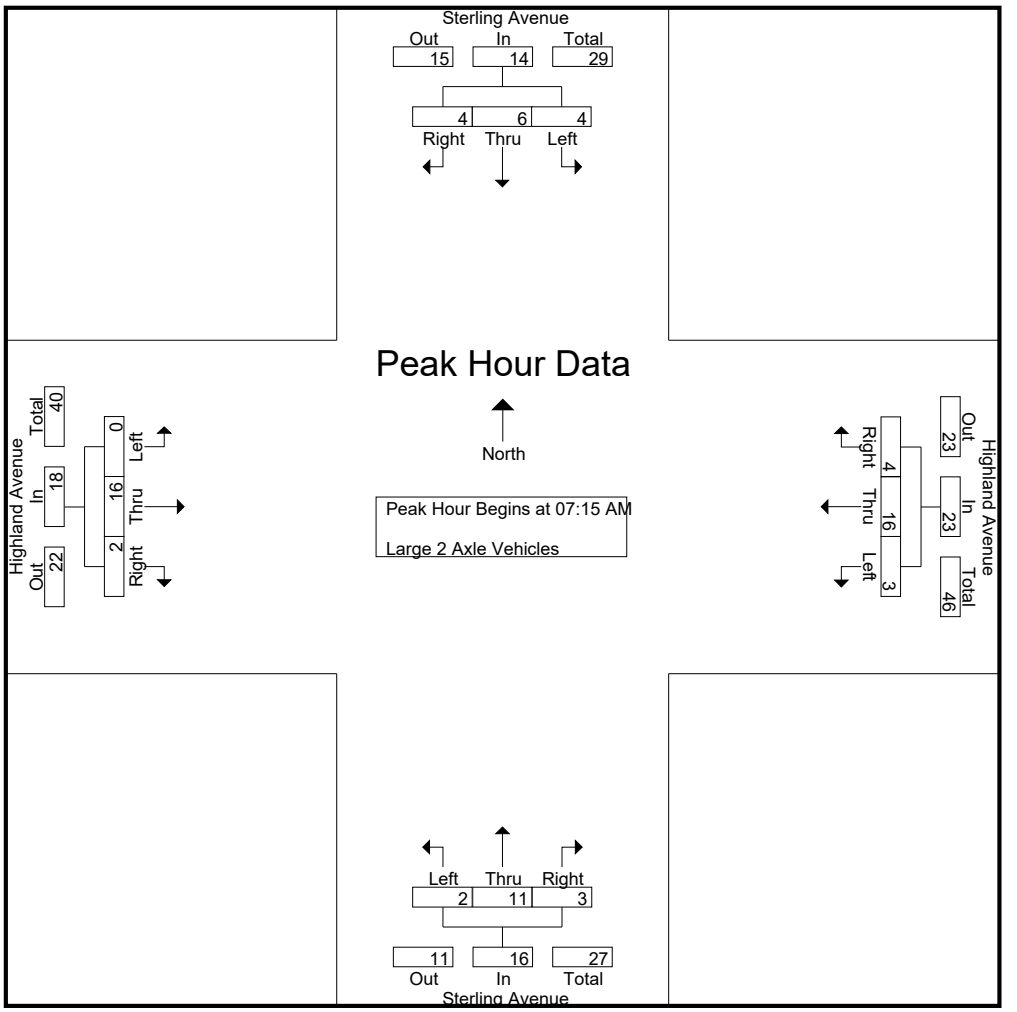

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	1	1	0	3	0	3	**1**	**5**	0	**6**	0	5	0	5
+15 mins.	0	**3**	**2**	**5**	0	4	0	4	0	0	**2**	2	0	2	**1**	3
+30 mins.	**2**	2	0	4	**2**	2	0	4	0	5	1	6	0	3	0	3
+45 mins.	2	1	1	4	1	**7**	**4**	**12**	1	1	0	2	0	**6**	1	**7**
Total Volume	4	6	4	14	3	16	4	23	2	11	3	16	0	16	2	18
% App. Total	28.6	42.9	28.6		13	69.6	17.4		12.5	68.8	18.8		0	88.9	11.1	
PHF	.500	.500	.500	.700	.375	.571	.250	.479	.500	.550	.375	.667	.000	.667	.500	.643

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City of San Bernardino
N/S: Sterling Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCSTHIAM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- 3 Axle Vehicles

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	1	0	1	0	0	0	0	1	0	0	1	3
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
Grand Total	0	1	0	1	0	1	0	1	0	3	0	3	1	0	0	1	6
Apprch %	0	100	0		0	100	0		0	100	0		100	0	0		
Total %	0	16.7	0	16.7	0	16.7	0	16.7	0	50	0	50	16.7	0	0	16.7	

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	**1**	0	0	**1**	**2**
07:30 AM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	1
Total Volume	0	1	0	1	0	1	0	1	0	1	0	1	1	0	0	1	4
% App. Total	0	100	0		0	100	0		0	100	0		100	0	0		
PHF	.000	.250	.000	.250	.000	.250	.000	.250	.000	.250	.000	.250	.250	.000	.000	.250	.500

Counts Unlimited
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City of San Bernardino
N/S: Sterling Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCSTHIAM
Site Code : 05716653
Start Date : 12/7/2016
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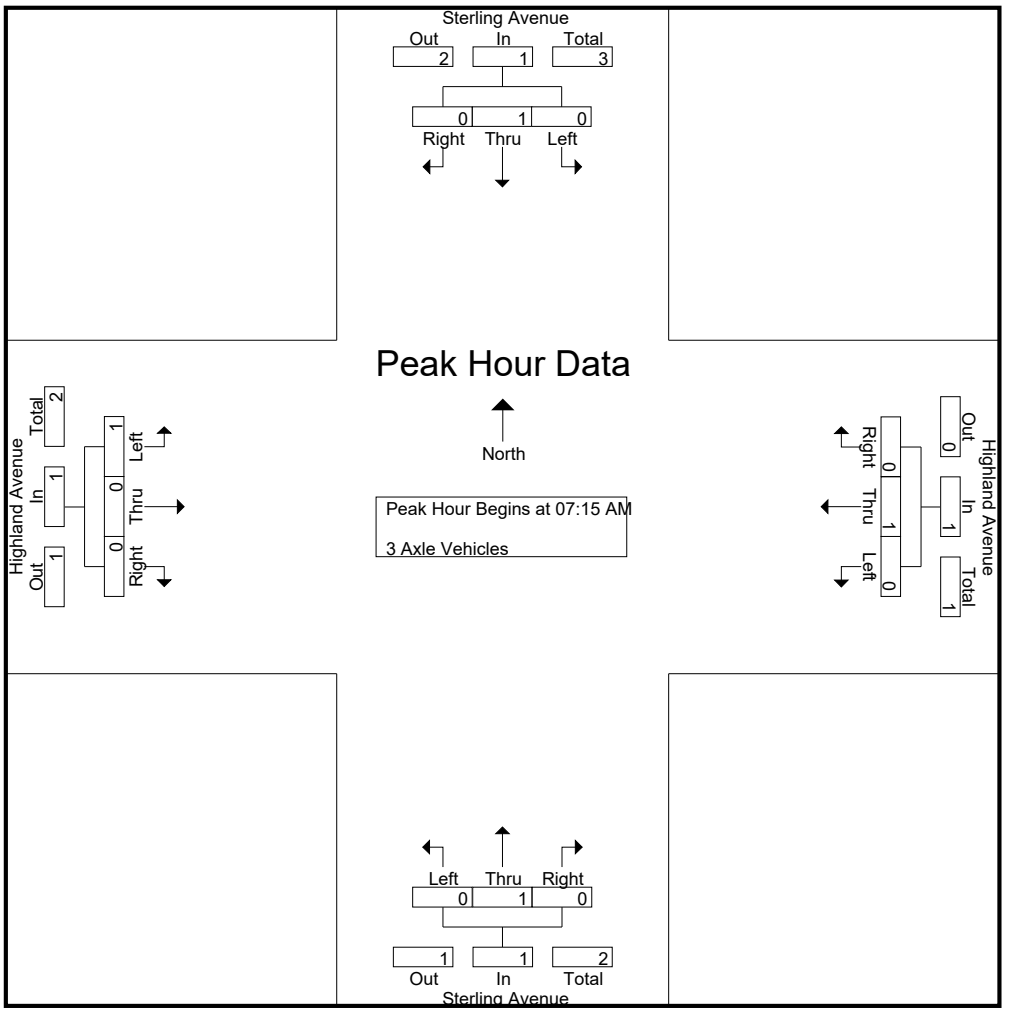

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	**1**	0	**1**	0	0	0	0	0	0	0	0	**1**	0	0	**1**
+15 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
Total Volume	0	1	0	1	0	1	0	1	0	1	0	1	1	0	0	1
% App. Total	0	100	0		0	100	0		0	100	0		100	0	0	
PHF	.000	.250	.000	.250	.000	.250	.000	.250	.000	.250	.000	.250	.250	.000	.000	.250

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City of San Bernardino
N/S: Sterling Avenue
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Weather: Clear

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Groups Printed- 4+ Axle Trucks

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
07:45 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	1	1	0	0	1	1	1	0	2	0	0	0	0	4
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	2
08:45 AM	1	1	0	2	0	1	0	1	0	0	0	0	0	0	0	0	3
Total	1	1	0	2	0	2	2	4	0	1	0	1	0	0	0	0	7
Grand Total	1	1	1	3	1	2	2	5	1	2	0	3	0	0	0	0	11
Apprch %	33.3	33.3	33.3		20	40	40		33.3	66.7	0		0	0	0		
Total %	9.1	9.1	9.1	27.3	9.1	18.2	18.2	45.5	9.1	18.2	0	27.3	0	0	0	0	

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	**1**	0	0	**1**	0	**1**	0	**1**	0	0	0	0	**2**
07:30 AM	0	0	0	0	0	0	0	0	**1**	0	0	1	0	0	0	0	1
07:45 AM	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	1	1	0	0	1	1	1	0	2	0	0	0	0	4
% App. Total	0	0	100		100	0	0		50	50	0		0	0	0		
PHF	.000	.000	.250	.250	.250	.000	.000	.250	.250	.250	.000	.500	.000	.000	.000	.000	.500

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City of San Bernardino
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File Name : SBCSTHIAM
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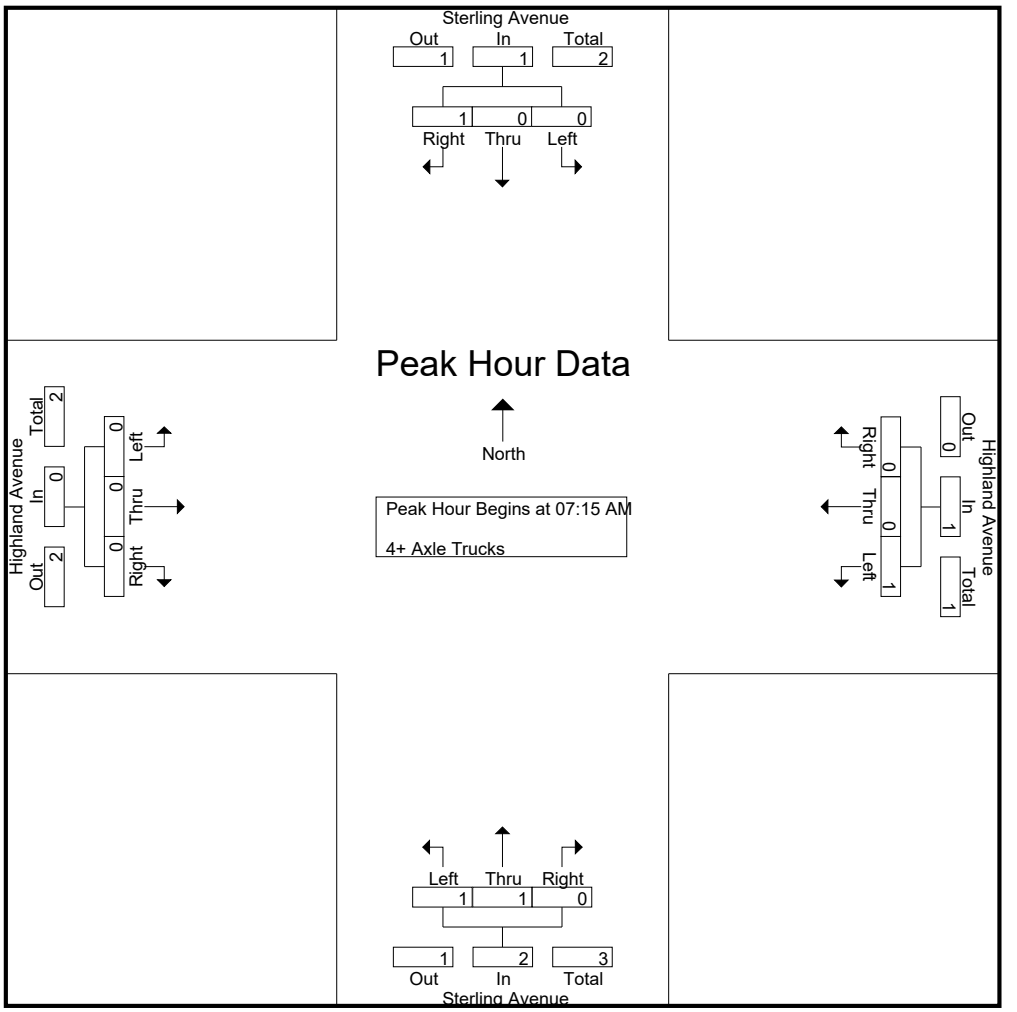

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	**1**	0	0	**1**	0	**1**	0	**1**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	**1**	0	0	1	0	0	0	0
+30 mins.	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	1	1	0	0	1	1	1	0	2	0	0	0	0
% App. Total	0	0	100		100	0	0		50	50	0		0	0	0	
PHF	.000	.000	.250	.250	.250	.000	.000	.250	.250	.250	.000	.500	.000	.000	.000	.000

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City of San Bernardino
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E/W: Highland Avenue
Weather: Clear

File Name : SBCSTHIPM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	43	81	17	141	41	127	36	204	36	99	18	153	29	118	39	186	684
04:15 PM	40	61	24	125	33	98	39	170	36	91	17	144	25	133	32	190	629
04:30 PM	28	74	19	121	39	104	32	175	37	110	19	166	33	126	34	193	655
04:45 PM	28	67	20	115	43	102	30	175	35	97	17	149	38	113	36	187	626
Total	139	283	80	502	156	431	137	724	144	397	71	612	125	490	141	756	2594
05:00 PM	30	81	17	128	33	116	29	178	37	110	16	163	25	116	49	190	659
05:15 PM	28	69	21	118	40	101	34	175	38	132	18	188	37	137	45	219	700
05:30 PM	35	75	18	128	28	97	46	171	31	121	17	169	40	101	47	188	656
05:45 PM	30	75	15	120	39	83	34	156	31	104	14	149	28	96	35	159	584
Total	123	300	71	494	140	397	143	680	137	467	65	669	130	450	176	756	2599
Grand Total	262	583	151	996	296	828	280	1404	281	864	136	1281	255	940	317	1512	5193
Apprch %	26.3	58.5	15.2		21.1	59	19.9		21.9	67.4	10.6		16.9	62.2	21		
Total %	5	11.2	2.9	19.2	5.7	15.9	5.4	27	5.4	16.6	2.6	24.7	4.9	18.1	6.1	29.1	
Passenger Vehicles	259	577	147	983	290	809	279	1378	277	850	135	1262	254	926	313	1493	5116
% Passenger Vehicles	98.9	99	97.4	98.7	98	97.7	99.6	98.1	98.6	98.4	99.3	98.5	99.6	98.5	98.7	98.7	98.5
Large 2 Axle Vehicles	3	5	3	11	4	18	1	23	4	10	1	15	1	13	3	17	66
% Large 2 Axle Vehicles	1.1	0.9	2	1.1	1.4	2.2	0.4	1.6	1.4	1.2	0.7	1.2	0.4	1.4	0.9	1.1	1.3
3 Axle Vehicles	0	1	0	1	2	0	0	2	0	4	0	4	0	1	1	2	9
% 3 Axle Vehicles	0	0.2	0	0.1	0.7	0	0	0.1	0	0.5	0	0.3	0	0.1	0.3	0.1	0.2
4+ Axle Trucks	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	2
% 4+ Axle Trucks	0	0	0.7	0.1	0	0.1	0	0.1	0	0	0	0	0	0	0	0	0

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	28	67	20	115	**43**	102	30	175	35	97	17	149	38	113	36	187	626
05:00 PM	30	**81**	17	**128**	33	**116**	29	**178**	37	110	16	163	25	116	**49**	190	659
05:15 PM	28	69	**21**	118	40	101	34	175	**38**	**132**	**18**	**188**	37	**137**	45	**219**	**700**
05:30 PM	**35**	75	18	128	28	97	**46**	171	31	121	17	169	**40**	101	47	188	656
Total Volume	121	292	76	489	144	416	139	699	141	460	68	669	140	467	177	784	2641
% App. Total	24.7	59.7	15.5		20.6	59.5	19.9		21.1	68.8	10.2		17.9	59.6	22.6		
PHF	.864	.901	.905	.955	.837	.897	.755	.982	.928	.871	.944	.890	.875	.852	.903	.895	.943

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City of San Bernardino
N/S: Sterling Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCSTHIPM
Site Code : 05716653
Start Date : 12/7/2016
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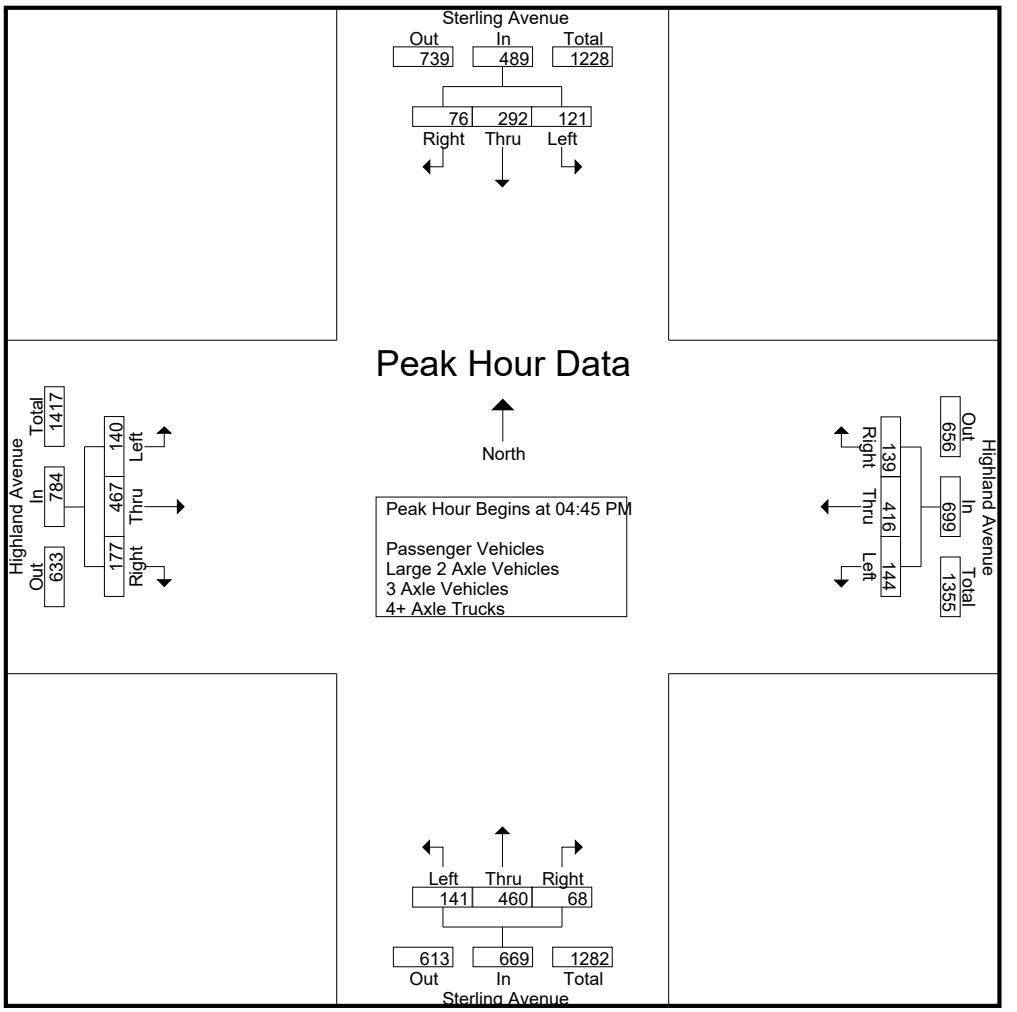

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:45 PM				04:30 PM			
+0 mins.	**43**	**81**	17	**141**	41	**127**	36	**204**	35	97	17	149	33	126	34	193
+15 mins.	40	61	**24**	125	33	98	**39**	170	37	110	16	163	**38**	113	36	187
+30 mins.	28	74	19	121	39	104	32	175	**38**	**132**	**18**	**188**	25	116	**49**	190
+45 mins.	28	67	20	115	**43**	102	30	175	31	121	17	169	37	**137**	45	**219**
Total Volume	139	283	80	502	156	431	137	724	141	460	68	669	133	492	164	789
% App. Total	27.7	56.4	15.9		21.5	59.5	18.9		21.1	68.8	10.2		16.9	62.4	20.8	
PHF	.808	.873	.833	.890	.907	.848	.878	.887	.928	.871	.944	.890	.875	.898	.837	.901

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Groups Printed- Passenger Vehicles

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	43	80	17	140	40	123	35	198	35	98	18	151	29	115	37	181	670
04:15 PM	39	61	24	124	31	94	39	164	35	88	17	140	24	132	31	187	615
04:30 PM	28	73	18	119	39	101	32	172	37	107	19	163	33	125	33	191	645
04:45 PM	28	67	19	114	41	101	30	172	35	96	17	148	38	112	36	186	620
Total	138	281	78	497	151	419	136	706	142	389	71	602	124	484	137	745	2550
05:00 PM	29	78	17	124	33	115	29	177	37	109	15	161	25	114	49	188	650
05:15 PM	28	68	20	116	40	99	34	173	36	130	18	184	37	134	45	216	689
05:30 PM	34	75	17	126	27	94	46	167	31	118	17	166	40	100	47	187	646
05:45 PM	30	75	15	120	39	82	34	155	31	104	14	149	28	94	35	157	581
Total	121	296	69	486	139	390	143	672	135	461	64	660	130	442	176	748	2566
Grand Total	259	577	147	983	290	809	279	1378	277	850	135	1262	254	926	313	1493	5116
Apprch %	26.3	58.7	15		21	58.7	20.2		21.9	67.4	10.7		17	62	21		
Total %	5.1	11.3	2.9	19.2	5.7	15.8	5.5	26.9	5.4	16.6	2.6	24.7	5	18.1	6.1	29.2	

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	28	67	19	114	**41**	101	30	172	35	96	17	148	38	112	36	186	620
05:00 PM	29	**78**	17	124	33	**115**	29	**177**	**37**	109	15	161	25	114	**49**	188	650
05:15 PM	28	68	**20**	116	40	99	34	173	36	**130**	**18**	**184**	37	**134**	45	**216**	**689**
05:30 PM	**34**	75	17	**126**	27	94	**46**	167	31	118	17	166	**40**	100	47	187	646
Total Volume	119	288	73	480	141	409	139	689	139	453	67	659	140	460	177	777	2605
% App. Total	24.8	60	15.2		20.5	59.4	20.2		21.1	68.7	10.2		18	59.2	22.8		
PHF	.875	.923	.913	.952	.860	.889	.755	.973	.939	.871	.931	.895	.875	.858	.903	.899	.945

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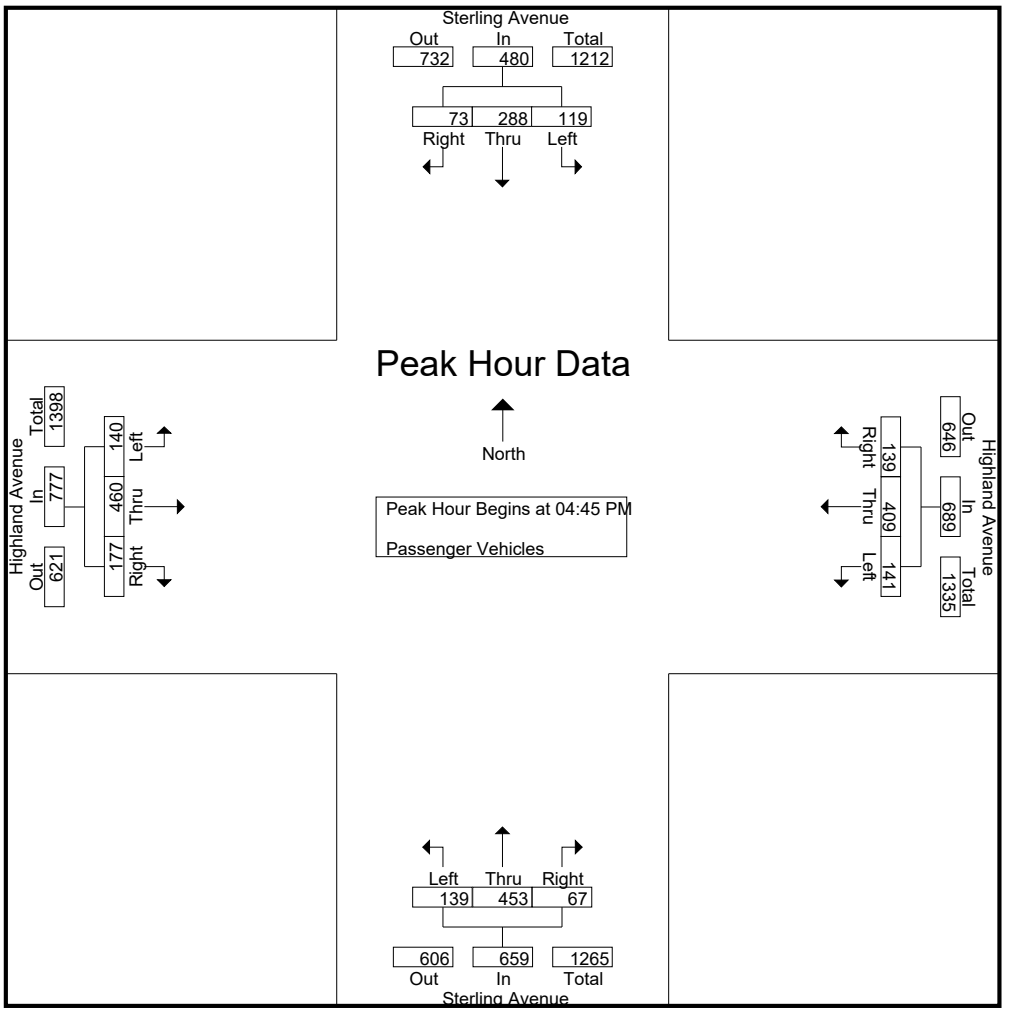

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	28	67	19	114	**41**	101	30	172	35	96	17	148	38	112	36	186
+15 mins.	29	**78**	17	124	33	**115**	29	**177**	**37**	109	15	161	25	114	**49**	188
+30 mins.	28	68	**20**	116	40	99	34	173	36	**130**	**18**	**184**	37	**134**	45	**216**
+45 mins.	**34**	75	17	**126**	27	94	**46**	167	31	118	17	166	**40**	100	47	187
Total Volume	119	288	73	480	141	409	139	689	139	453	67	659	140	460	177	777
% App. Total	24.8	60	15.2		20.5	59.4	20.2		21.1	68.7	10.2		18	59.2	22.8	
PHF	.875	.923	.913	.952	.860	.889	.755	.973	.939	.871	.931	.895	.875	.858	.903	.899

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Groups Printed- Large 2 Axle Vehicles

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	0	1	0	4	1	5	1	1	0	2	0	3	2	5	13
04:15 PM	1	0	0	1	2	3	0	5	1	1	0	2	1	1	0	2	10
04:30 PM	0	1	0	1	0	3	0	3	0	3	0	3	0	1	1	2	9
04:45 PM	0	0	1	1	1	1	0	2	0	1	0	1	0	1	0	1	5
Total	1	2	1	4	3	11	1	15	2	6	0	8	1	6	3	10	37
05:00 PM	1	3	0	4	0	1	0	1	0	0	1	1	0	2	0	2	8
05:15 PM	0	0	1	1	0	2	0	2	2	1	0	3	0	3	0	3	9
05:30 PM	1	0	1	2	1	3	0	4	0	3	0	3	0	1	0	1	10
05:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Total	2	3	2	7	1	7	0	8	2	4	1	7	0	7	0	7	29
Grand Total	3	5	3	11	4	18	1	23	4	10	1	15	1	13	3	17	66
Apprch %	27.3	45.5	27.3		17.4	78.3	4.3		26.7	66.7	6.7		5.9	76.5	17.6		
Total %	4.5	7.6	4.5	16.7	6.1	27.3	1.5	34.8	6.1	15.2	1.5	22.7	1.5	19.7	4.5	25.8	

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	**1**	1	**1**	1	0	2	0	1	0	1	0	1	0	1	5
05:00 PM	**1**	**3**	0	**4**	0	1	0	1	0	0	**1**	1	0	2	0	2	8
05:15 PM	0	0	1	1	0	2	0	2	**2**	1	0	**3**	0	**3**	0	**3**	9
05:30 PM	1	0	1	2	1	**3**	0	**4**	0	**3**	0	3	0	1	0	1	**10**
Total Volume	2	3	3	8	2	7	0	9	2	5	1	8	0	7	0	7	32
% App. Total	25	37.5	37.5		22.2	77.8	0		25	62.5	12.5		0	100	0		
PHF	.500	.250	.750	.500	.500	.583	.000	.563	.250	.417	.250	.667	.000	.583	.000	.583	.800

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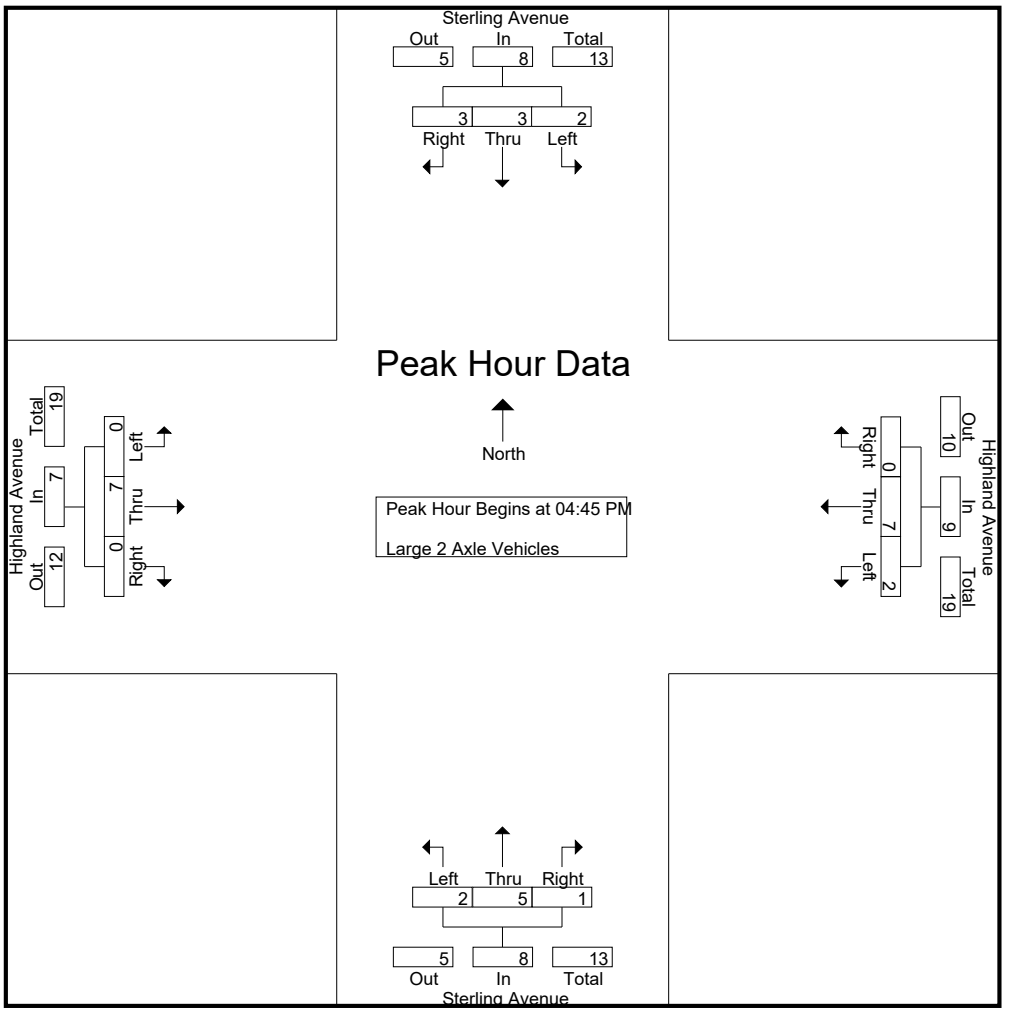

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	0	0	**1**	1	**1**	1	0	2	0	1	0	1	0	1	0	1
+15 mins.	**1**	**3**	0	**4**	0	1	0	1	0	0	**1**	1	0	2	0	2
+30 mins.	0	0	1	1	0	2	0	2	**2**	1	0	**3**	0	**3**	0	**3**
+45 mins.	1	0	1	2	1	**3**	0	**4**	0	**3**	0	3	0	1	0	1
Total Volume	2	3	3	8	2	7	0	9	2	5	1	8	0	7	0	7
% App. Total	25	37.5	37.5		22.2	77.8	0		25	62.5	12.5		0	100	0	
PHF	.500	.250	.750	.500	.500	.583	.000	.563	.250	.417	.250	.667	.000	.583	.000	.583

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Groups Printed- 3 Axle Vehicles

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	1	1	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	2	0	0	2	0	2	0	2	0	0	1	1	5
05:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	1	0	1	0	0	0	0	0	2	0	2	0	1	0	1	4
Grand Total	0	1	0	1	2	0	0	2	0	4	0	4	0	1	1	2	9
Apprch %	0	100	0		100	0	0		0	100	0		0	50	50		
Total %	0	11.1	0	11.1	22.2	0	0	22.2	0	44.4	0	44.4	0	11.1	11.1	22.2	

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	1
05:15 PM	0	**1**	0	**1**	0	0	0	0	0	1	0	1	0	0	0	0	**2**
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	1	0	0	1	0	2	0	2	0	0	0	0	4
% App. Total	0	100	0		100	0	0		0	100	0		0	0	0		
PHF	.000	.250	.000	.250	.250	.000	.000	.250	.000	.500	.000	.500	.000	.000	.000	.000	.500

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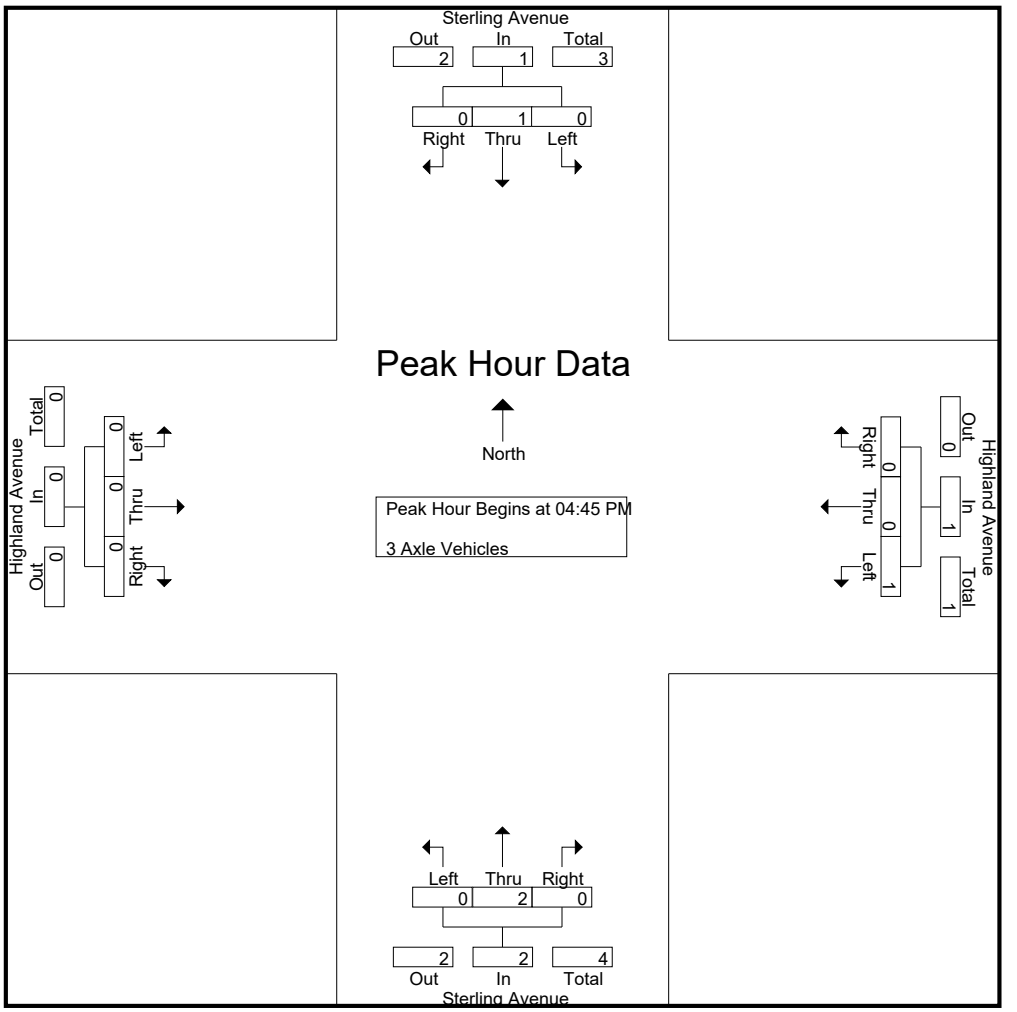

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	0	0	0	0	**1**	0	0	**1**	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+30 mins.	0	**1**	0	**1**	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	0	1	1	0	0	1	0	2	0	2	0	0	0	0
% App. Total	0	100	0		100	0	0		0	100	0		0	0	0	
PHF	.000	.250	.000	.250	.250	.000	.000	.250	.000	.500	.000	.500	.000	.000	.000	.000

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Groups Printed- 4+ Axle Trucks

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	2
Apprch %	0	0	100		0	100	0		0	0	0		0	0	0		
Total %	0	0	50	50	0	50	0	50	0	0	0	0	0	0	0	0	

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
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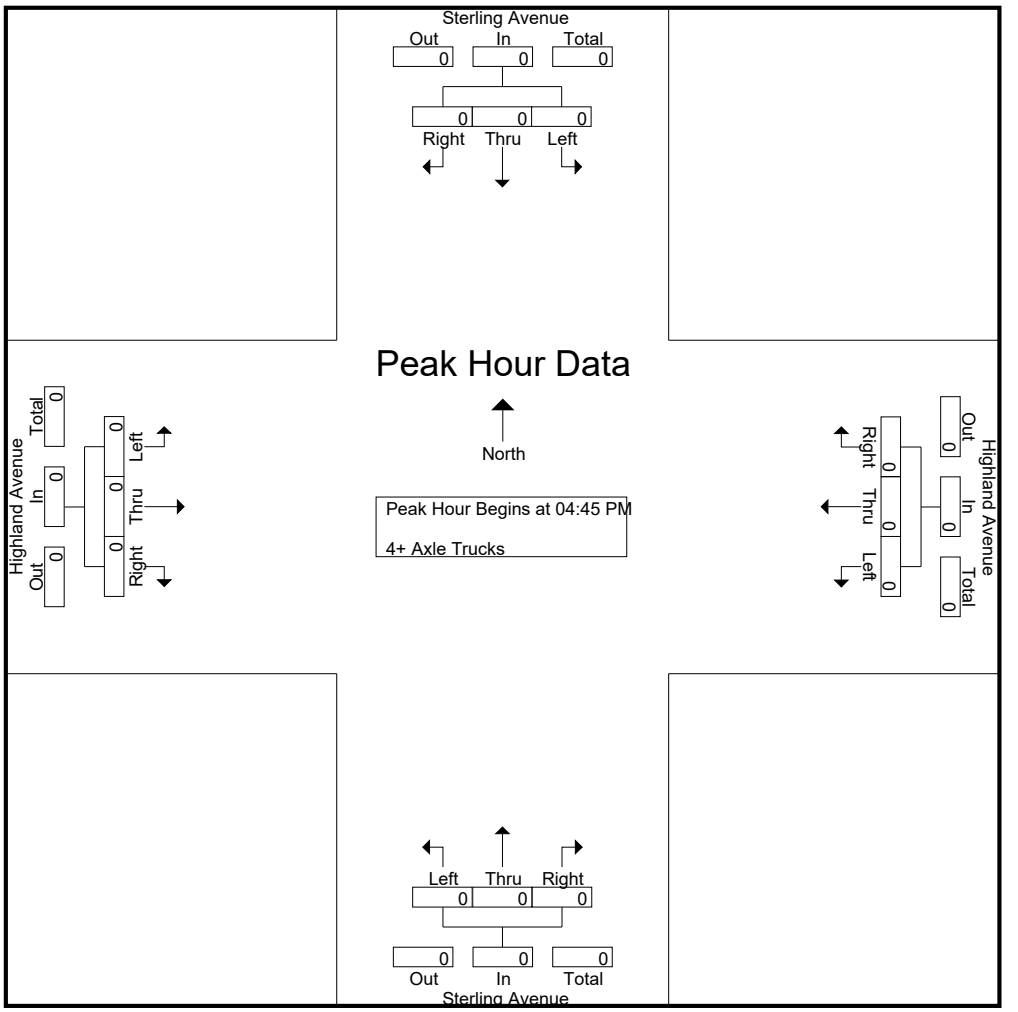
Corona, CA 92878
(951) 268-6268

City of San Bernardino
N/S: Sterling Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCSTHIPM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
N/S: Sterling Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCSTHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	23	56	19	98	44	91	23	158	31	91	17	139	29	95	37	161	556
05:15 PM	18	68	23	109	30	97	25	152	38	74	16	128	25	76	30	131	520
05:30 PM	30	55	20	105	37	105	37	179	41	87	20	148	17	96	31	144	576
05:45 PM	33	47	10	90	39	97	32	168	34	71	17	122	23	77	36	136	516
Total	104	226	72	402	150	390	117	657	144	323	70	537	94	344	134	572	2168
06:00 PM	31	42	25	98	45	102	32	179	23	70	14	107	28	87	29	144	528
06:15 PM	33	41	26	100	53	94	23	170	24	80	17	121	23	77	24	124	515
06:30 PM	19	47	24	90	29	92	21	142	27	64	21	112	24	76	39	139	483
06:45 PM	24	66	16	106	38	86	33	157	30	80	20	130	18	76	24	118	511
Total	107	196	91	394	165	374	109	648	104	294	72	470	93	316	116	525	2037
Grand Total	211	422	163	796	315	764	226	1305	248	617	142	1007	187	660	250	1097	4205
Apprch %	26.5	53	20.5		24.1	58.5	17.3		24.6	61.3	14.1		17	60.2	22.8		
Total %	5	10	3.9	18.9	7.5	18.2	5.4	31	5.9	14.7	3.4	23.9	4.4	15.7	5.9	26.1	
Passenger Vehicles	211	419	162	792	314	750	226	1290	247	616	142	1005	187	651	249	1087	4174
% Passenger Vehicles	100	99.3	99.4	99.5	99.7	98.2	100	98.9	99.6	99.8	100	99.8	100	98.6	99.6	99.1	99.3
Large 2 Axle Vehicles	0	3	1	4	1	14	0	15	1	1	0	2	0	9	1	10	31
% Large 2 Axle Vehicles	0	0.7	0.6	0.5	0.3	1.8	0	1.1	0.4	0.2	0	0.2	0	1.4	0.4	0.9	0.7
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	23	56	19	98	**44**	91	23	158	31	**91**	17	139	**29**	95	**37**	**161**	556
05:15 PM	18	**68**	**23**	**109**	30	97	25	152	38	74	16	128	25	76	30	131	520
05:30 PM	30	55	20	105	37	**105**	**37**	**179**	**41**	87	**20**	**148**	17	**96**	31	144	**576**
05:45 PM	**33**	47	10	90	39	97	32	168	34	71	17	122	23	77	36	136	516
Total Volume	104	226	72	402	150	390	117	657	144	323	70	537	94	344	134	572	2168
% App. Total	25.9	56.2	17.9		22.8	59.4	17.8		26.8	60.1	13		16.4	60.1	23.4		
PHF	.788	.831	.783	.922	.852	.929	.791	.918	.878	.887	.875	.907	.810	.896	.905	.888	.941

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City of San Bernardino
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File Name : SBCSTHISAT
Site Code : 05716653
Start Date : 12/10/2016
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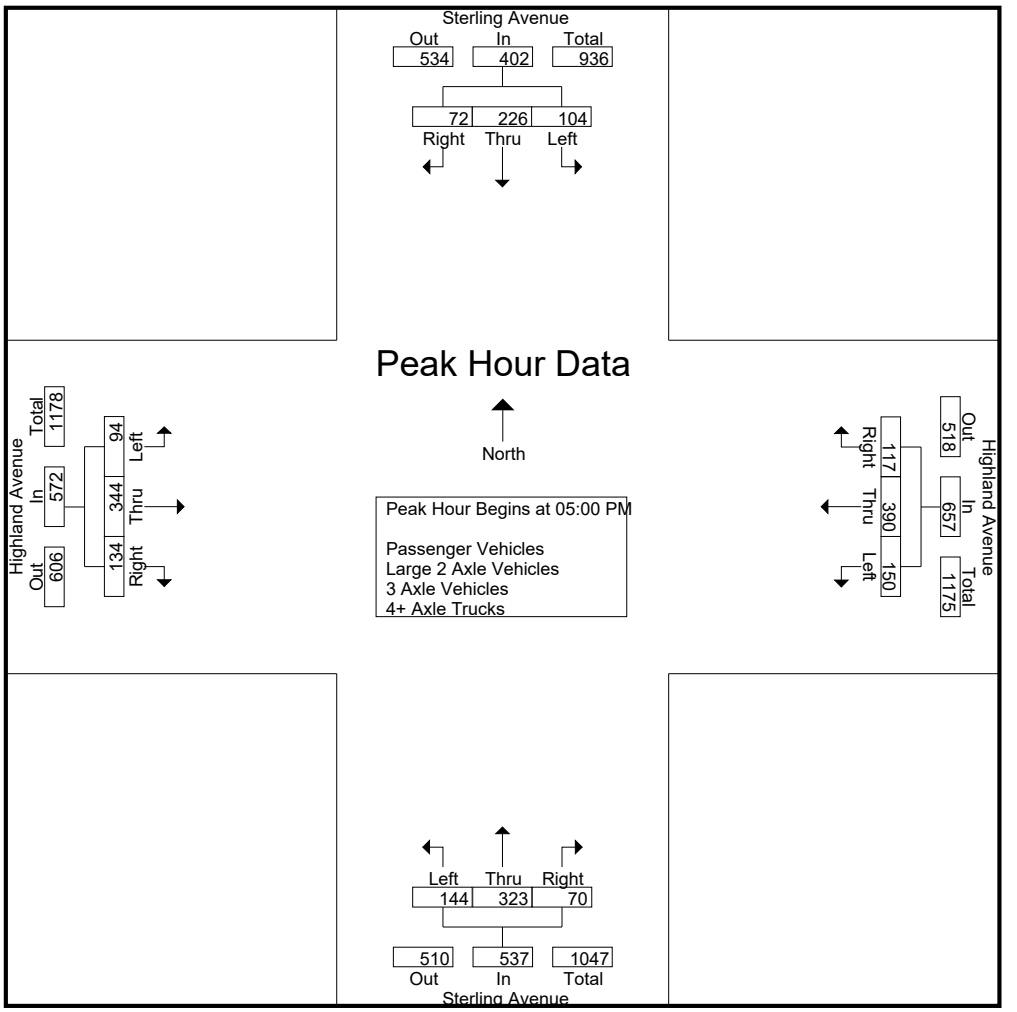

Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:30 PM				05:00 PM				05:00 PM			
+0 mins.	23	56	19	98	37	**105**	**37**	**179**	31	**91**	17	139	**29**	95	**37**	**161**
+15 mins.	18	**68**	**23**	**109**	39	97	32	168	38	74	16	128	25	76	30	131
+30 mins.	30	55	20	105	45	102	32	179	**41**	87	**20**	**148**	17	**96**	31	144
+45 mins.	**33**	47	10	90	**53**	94	23	170	34	71	17	122	23	77	36	136
Total Volume	104	226	72	402	174	398	124	696	144	323	70	537	94	344	134	572
% App. Total	25.9	56.2	17.9		25	57.2	17.8		26.8	60.1	13		16.4	60.1	23.4	
PHF	.788	.831	.783	.922	.821	.948	.838	.972	.878	.887	.875	.907	.810	.896	.905	.888

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Weather: Clear

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Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- Passenger Vehicles

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	23	56	18	97	44	90	23	157	31	91	17	139	29	94	37	160	553
05:15 PM	18	68	23	109	30	94	25	149	38	74	16	128	25	74	30	129	515
05:30 PM	30	54	20	104	37	104	37	178	41	87	20	148	17	93	31	141	571
05:45 PM	33	46	10	89	38	96	32	166	33	70	17	120	23	77	36	136	511
Total	104	224	71	399	149	384	117	650	143	322	70	535	94	338	134	566	2150
06:00 PM	31	42	25	98	45	101	32	178	23	70	14	107	28	85	29	142	525
06:15 PM	33	41	26	100	53	92	23	168	24	80	17	121	23	76	24	123	512
06:30 PM	19	47	24	90	29	88	21	138	27	64	21	112	24	76	39	139	479
06:45 PM	24	65	16	105	38	85	33	156	30	80	20	130	18	76	23	117	508
Total	107	195	91	393	165	366	109	640	104	294	72	470	93	313	115	521	2024
Grand Total	211	419	162	792	314	750	226	1290	247	616	142	1005	187	651	249	1087	4174
Apprch %	26.6	52.9	20.5		24.3	58.1	17.5		24.6	61.3	14.1		17.2	59.9	22.9		
Total %	5.1	10	3.9	19	7.5	18	5.4	30.9	5.9	14.8	3.4	24.1	4.5	15.6	6	26	

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	23	56	18	97	**44**	90	23	157	31	**91**	17	139	**29**	**94**	**37**	**160**	553
05:15 PM	18	**68**	**23**	**109**	30	94	25	149	38	74	16	128	25	74	30	129	515
05:30 PM	30	54	20	104	37	**104**	**37**	**178**	**41**	87	**20**	**148**	17	93	31	141	**571**
05:45 PM	**33**	46	10	89	38	96	32	166	33	70	17	120	23	77	36	136	511
Total Volume	104	224	71	399	149	384	117	650	143	322	70	535	94	338	134	566	2150
% App. Total	26.1	56.1	17.8		22.9	59.1	18		26.7	60.2	13.1		16.6	59.7	23.7		
PHF	.788	.824	.772	.915	.847	.923	.791	.913	.872	.885	.875	.904	.810	.899	.905	.884	.941

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File Name : SBCSTHISAT
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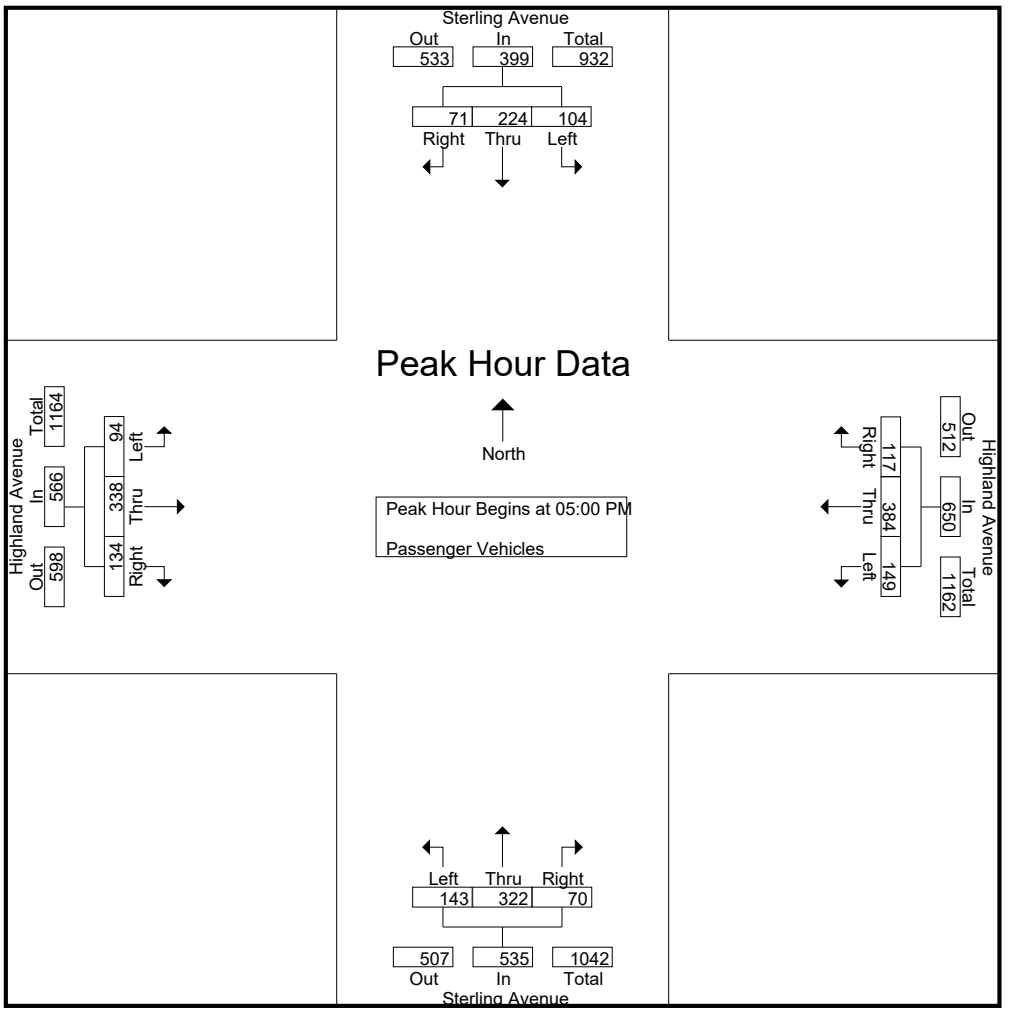
Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	23	56	18	97	**44**	90	23	157	31	**91**	17	139	**29**	**94**	**37**	**160**
+15 mins.	18	**68**	**23**	**109**	30	94	25	149	38	74	16	128	25	74	30	129
+30 mins.	30	54	20	104	37	**104**	**37**	**178**	**41**	87	**20**	**148**	17	93	31	141
+45 mins.	**33**	46	10	89	38	96	32	166	33	70	17	120	23	77	36	136
Total Volume	104	224	71	399	149	384	117	650	143	322	70	535	94	338	134	566
% App. Total	26.1	56.1	17.8		22.9	59.1	18		26.7	60.2	13.1		16.6	59.7	23.7	
PHF	.788	.824	.772	.915	.847	.923	.791	.913	.872	.885	.875	.904	.810	.899	.905	.884

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Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	1	1	0	1	0	1	0	0	0	0	0	1	0	1	3
05:15 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
05:30 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	3	0	3	5
05:45 PM	0	1	0	1	1	1	0	2	1	1	0	2	0	0	0	0	5
Total	0	2	1	3	1	6	0	7	1	1	0	2	0	6	0	6	18
06:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
06:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
06:30 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0	4
06:45 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	1	1	3
Total	0	1	0	1	0	8	0	8	0	0	0	0	0	3	1	4	13
Grand Total	0	3	1	4	1	14	0	15	1	1	0	2	0	9	1	10	31
Apprch %	0	75	25		6.7	93.3	0		50	50	0		0	90	10		
Total %	0	9.7	3.2	12.9	3.2	45.2	0	48.4	3.2	3.2	0	6.5	0	29	3.2	32.3	

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	**1**	**1**	0	1	0	1	0	0	0	0	0	1	0	1	3
05:15 PM	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	2	0	2	**5**
05:30 PM	0	**1**	0	1	0	1	0	1	0	0	0	0	0	**3**	0	**3**	5
05:45 PM	0	1	0	1	**1**	1	0	2	**1**	**1**	0	**2**	0	0	0	0	5
Total Volume	0	2	1	3	1	6	0	7	1	1	0	2	0	6	0	6	18
% App. Total	0	66.7	33.3		14.3	85.7	0		50	50	0		0	100	0		
PHF	.000	.500	.250	.750	.250	.500	.000	.583	.250	.250	.000	.250	.000	.500	.000	.500	.900

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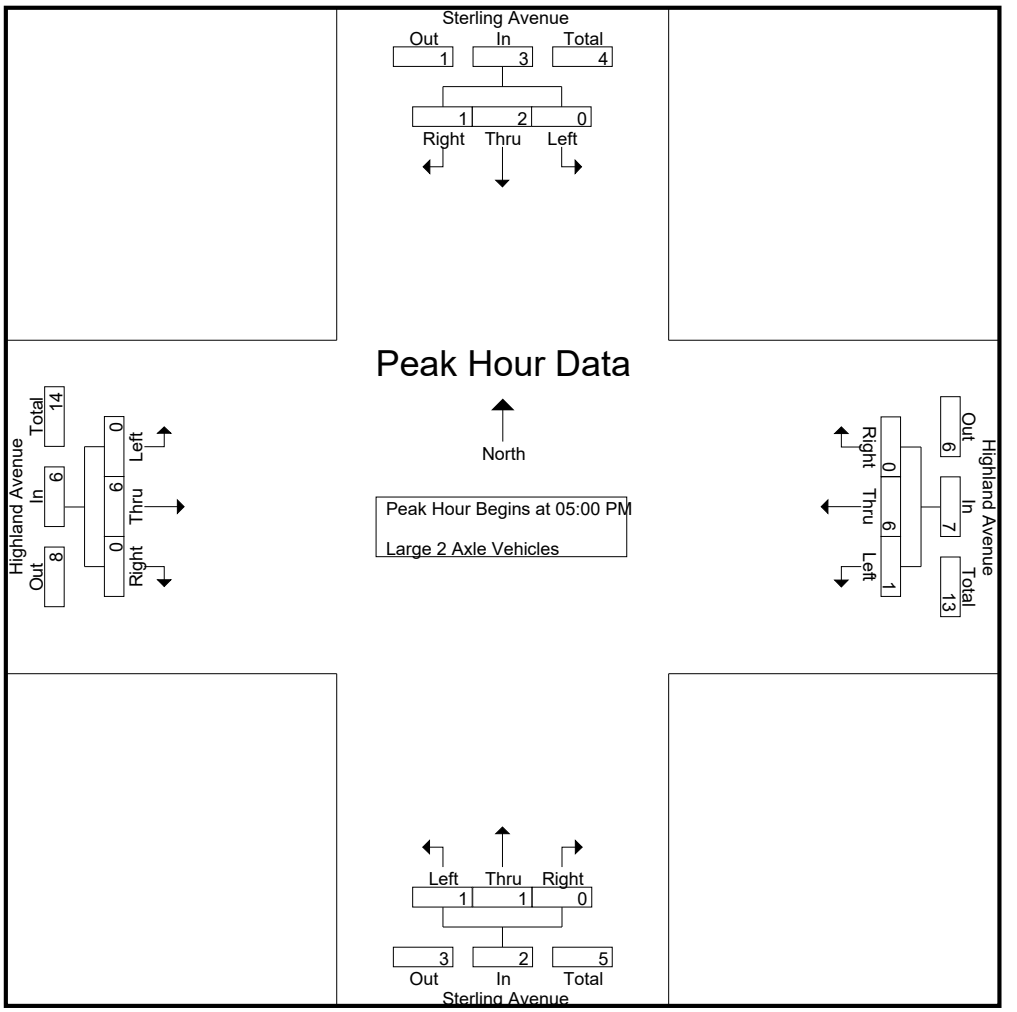

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	**1**	**1**	0	1	0	1	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	2	0	2
+30 mins.	0	**1**	0	1	0	1	0	1	0	0	0	0	0	**3**	0	**3**
+45 mins.	0	1	0	1	**1**	1	0	2	**1**	**1**	0	**2**	0	0	0	0
Total Volume	0	2	1	3	1	6	0	7	1	1	0	2	0	6	0	6
% App. Total	0	66.7	33.3		14.3	85.7	0		50	50	0		0	100	0	
PHF	.000	.500	.250	.750	.250	.500	.000	.583	.250	.250	.000	.250	.000	.500	.000	.500

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Groups Printed- 3 Axle Vehicles

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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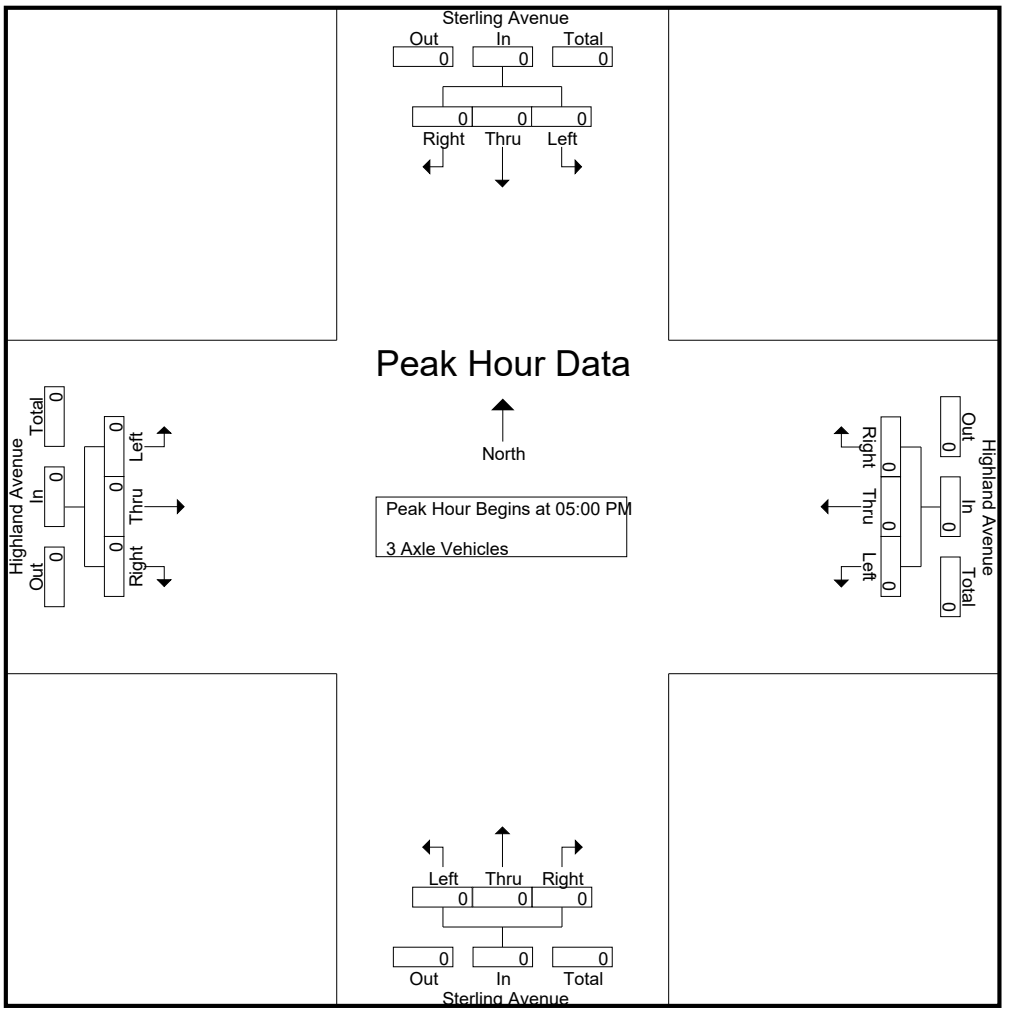

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- 4+ Axle Trucks

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Sterling Avenue Southbound				Highland Avenue Westbound				Sterling Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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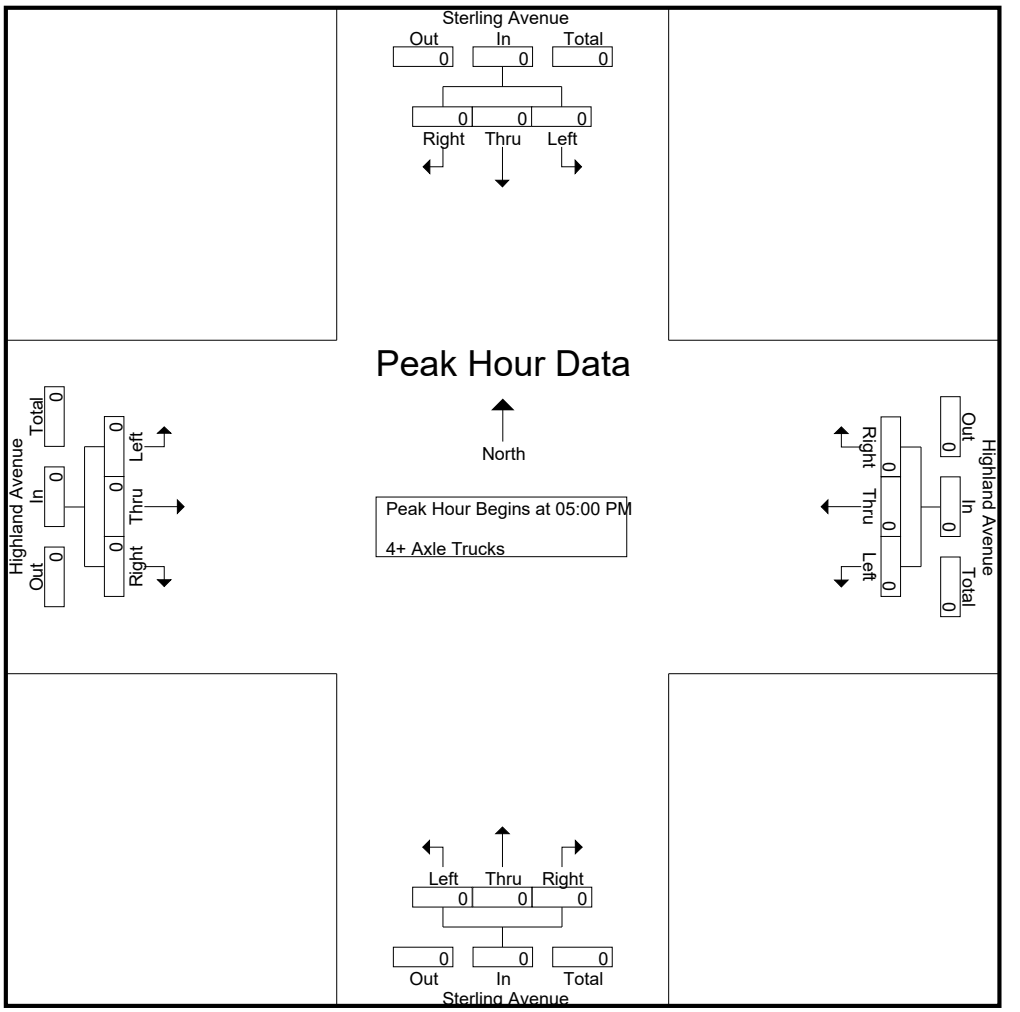
City of San Bernardino
N/S: Sterling Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCSTHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	157	28	185	58	0	58	0	41	41	284
07:15 AM	190	62	252	94	0	94	0	66	66	412
07:30 AM	182	46	228	71	0	71	0	62	62	361
07:45 AM	240	54	294	68	0	68	0	63	63	425
Total	769	190	959	291	0	291	0	232	232	1482
08:00 AM	196	38	234	82	0	82	0	72	72	388
08:15 AM	193	35	228	84	0	84	0	89	89	401
08:30 AM	190	32	222	73	0	73	0	69	69	364
08:45 AM	195	57	252	102	0	102	0	71	71	425
Total	774	162	936	341	0	341	0	301	301	1578
Grand Total	1543	352	1895	632	0	632	0	533	533	3060
Apprch %	81.4	18.6		100	0		0	100		
Total %	50.4	11.5	61.9	20.7	0	20.7	0	17.4	17.4	
Passenger Vehicles	1502	337	1839	600	0	600	0	505	505	2944
% Passenger Vehicles	97.3	95.7	97	94.9	0	94.9	0	94.7	94.7	96.2
Large 2 Axle Vehicles	33	12	45	29	0	29	0	26	26	100
% Large 2 Axle Vehicles	2.1	3.4	2.4	4.6	0	4.6	0	4.9	4.9	3.3
3 Axle Vehicles	2	0	2	1	0	1	0	1	1	4
% 3 Axle Vehicles	0.1	0	0.1	0.2	0	0.2	0	0.2	0.2	0.1
4+ Axle Trucks	6	3	9	2	0	2	0	1	1	12
% 4+ Axle Trucks	0.4	0.9	0.5	0.3	0	0.3	0	0.2	0.2	0.4

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	190	**62**	252	**94**	0	**94**	0	66	66	412
07:30 AM	182	46	228	71	0	71	0	62	62	361
07:45 AM	**240**	54	**294**	68	0	68	0	63	63	**425**
08:00 AM	196	38	234	82	0	82	0	**72**	**72**	388
Total Volume	808	200	1008	315	0	315	0	263	263	1586
% App. Total	80.2	19.8		100	0		0	100		
PHF	.842	.806	.857	.838	.000	.838	.000	.913	.913	.933

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIAM
Site Code : 05716653
Start Date : 12/7/2016
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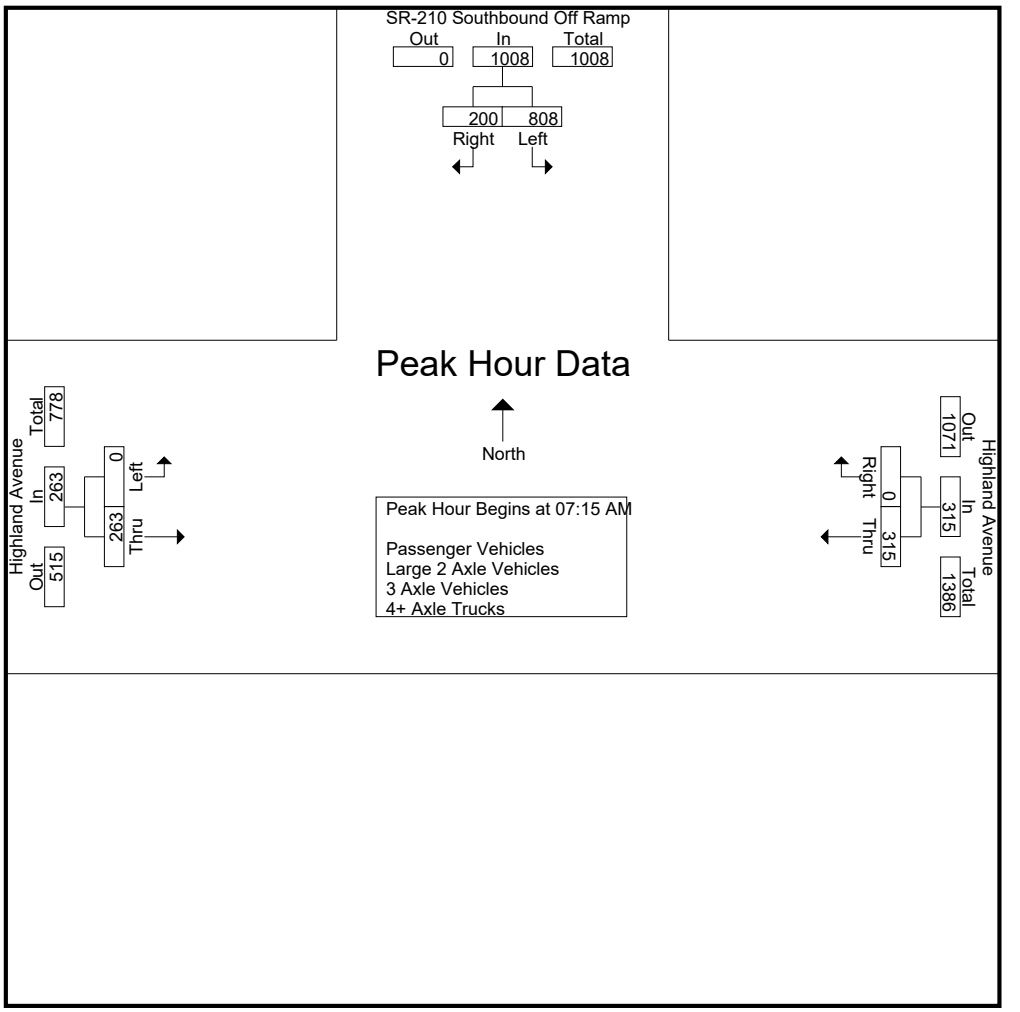

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			08:00 AM			08:00 AM		
+0 mins.	190	**62**	252	82	0	82	0	72	72
+15 mins.	182	46	228	84	0	84	0	**89**	**89**
+30 mins.	**240**	54	**294**	73	0	73	0	69	69
+45 mins.	196	38	234	**102**	0	**102**	0	71	71
Total Volume	808	200	1008	341	0	341	0	301	301
% App. Total	80.2	19.8		100	0		0	100	
PHF	.842	.806	.857	.836	.000	.836	.000	.846	.846

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	151	25	176	56	0	56	0	41	41	273
07:15 AM	184	62	246	92	0	92	0	62	62	400
07:30 AM	177	45	222	70	0	70	0	58	58	350
07:45 AM	236	53	289	65	0	65	0	58	58	412
Total	748	185	933	283	0	283	0	219	219	1435
08:00 AM	193	35	228	71	0	71	0	71	71	370
08:15 AM	187	31	218	80	0	80	0	80	80	378
08:30 AM	185	32	217	68	0	68	0	67	67	352
08:45 AM	189	54	243	98	0	98	0	68	68	409
Total	754	152	906	317	0	317	0	286	286	1509
Grand Total	1502	337	1839	600	0	600	0	505	505	2944
Apprch %	81.7	18.3		100	0		0	100		
Total %	51	11.4	62.5	20.4	0	20.4	0	17.2	17.2	

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	184	**62**	246	**92**	0	**92**	0	62	62	400
07:30 AM	177	45	222	70	0	70	0	58	58	350
07:45 AM	**236**	53	**289**	65	0	65	0	58	58	**412**
08:00 AM	193	35	228	71	0	71	0	**71**	**71**	370
Total Volume	790	195	985	298	0	298	0	249	249	1532
% App. Total	80.2	19.8		100	0		0	100		
PHF	.837	.786	.852	.810	.000	.810	.000	.877	.877	.930

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIAM
Site Code : 05716653
Start Date : 12/7/2016
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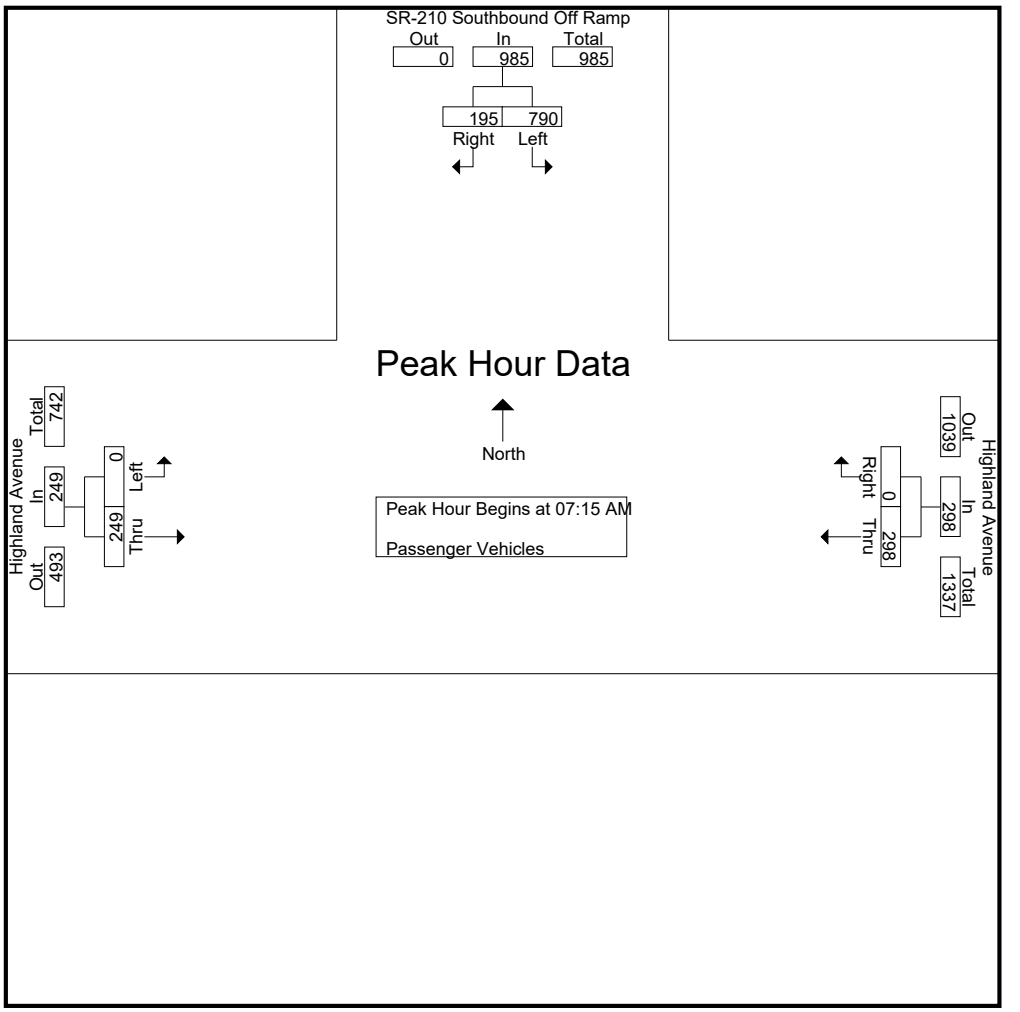

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	184	**62**	246	**92**	0	**92**	0	62	62
+15 mins.	177	45	222	70	0	70	0	58	58
+30 mins.	**236**	53	**289**	65	0	65	0	58	58
+45 mins.	193	35	228	71	0	71	0	**71**	**71**
Total Volume	790	195	985	298	0	298	0	249	249
% App. Total	80.2	19.8		100	0		0	100	
PHF	.837	.786	.852	.810	.000	.810	.000	.877	.877

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIAM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- Large 2 Axle Vehicles

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	6	3	9	2	0	2	0	0	0	11
07:15 AM	3	0	3	2	0	2	0	4	4	9
07:30 AM	4	1	5	1	0	1	0	3	3	9
07:45 AM	3	1	4	3	0	3	0	5	5	12
Total	16	5	21	8	0	8	0	12	12	41
08:00 AM	3	3	6	11	0	11	0	1	1	18
08:15 AM	4	1	5	4	0	4	0	9	9	18
08:30 AM	4	0	4	4	0	4	0	2	2	10
08:45 AM	6	3	9	2	0	2	0	2	2	13
Total	17	7	24	21	0	21	0	14	14	59
Grand Total	33	12	45	29	0	29	0	26	26	100
Apprch %	73.3	26.7		100	0		0	100		
Total %	33	12	45	29	0	29	0	26	26	

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	3	0	3	2	0	2	0	4	4	9
07:30 AM	**4**	1	5	1	0	1	0	3	3	9
07:45 AM	3	1	4	3	0	3	0	**5**	**5**	12
08:00 AM	3	**3**	**6**	**11**	0	**11**	0	1	1	**18**
Total Volume	13	5	18	17	0	17	0	13	13	48
% App. Total	72.2	27.8		100	0		0	100		
PHF	.813	.417	.750	.386	.000	.386	.000	.650	.650	.667

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIAM
Site Code : 05716653
Start Date : 12/7/2016
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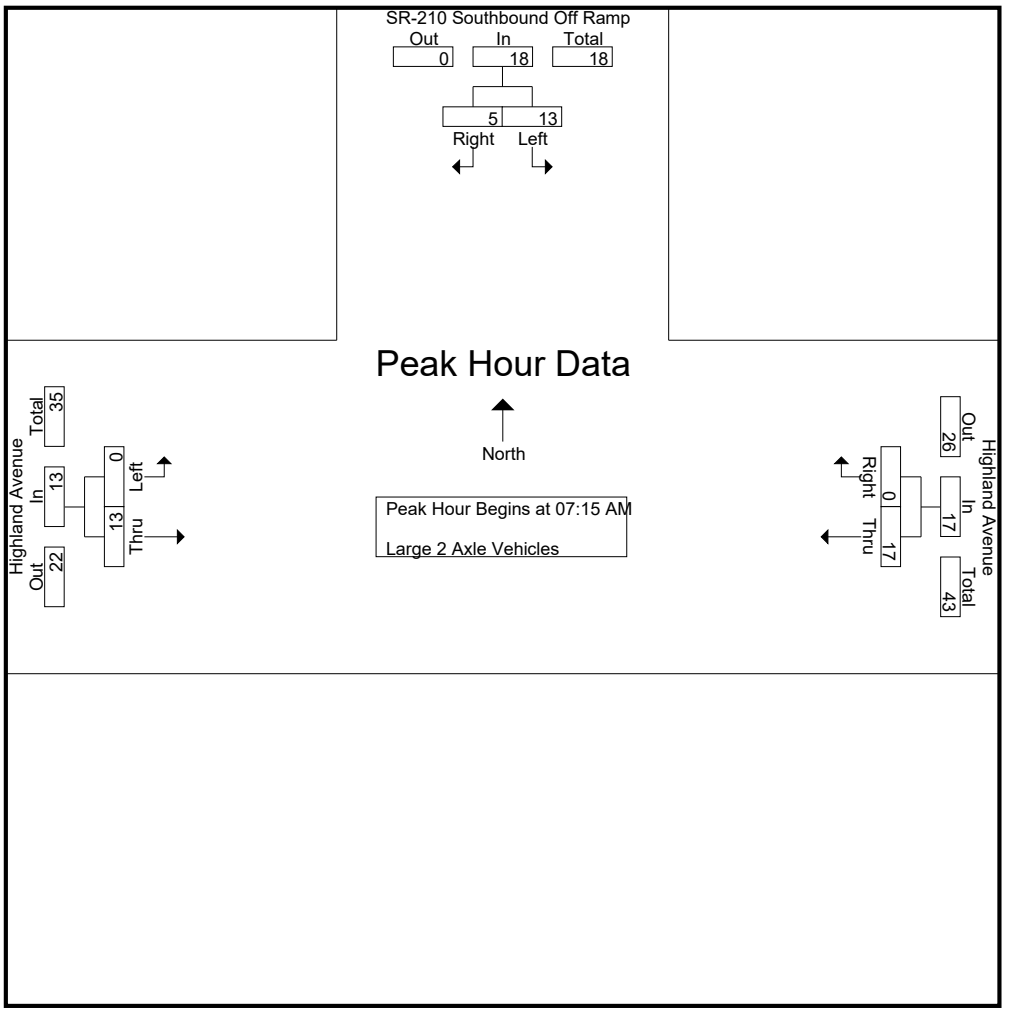

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	3	0	3	2	0	2	0	4	4
+15 mins.	**4**	1	5	1	0	1	0	3	3
+30 mins.	3	1	4	3	0	3	0	**5**	**5**
+45 mins.	3	**3**	**6**	**11**	0	**11**	0	1	1
Total Volume	13	5	18	17	0	17	0	13	13
% App. Total	72.2	27.8		100	0		0	100	
PHF	.813	.417	.750	.386	.000	.386	.000	.650	.650

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- 3 Axle Vehicles

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	1	1	1
07:45 AM	1	0	1	0	0	0	0	0	0	1
Total	1	0	1	0	0	0	0	1	1	2
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	0	1	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	1	0	1	0	0	0	1
Total	1	0	1	1	0	1	0	0	0	2
Grand Total	2	0	2	1	0	1	0	1	1	4
Apprch %	100	0		100	0		0	100		
Total %	50	0	50	25	0	25	0	25	25	

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	**1**	**1**	**1**
07:45 AM	**1**	0	**1**	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	1	1	2
% App. Total	100	0		0	0		0	100		
PHF	.250	.000	.250	.000	.000	.000	.000	.250	.250	.500

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City of San Bernardino
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E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIAM
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Start Date : 12/7/2016
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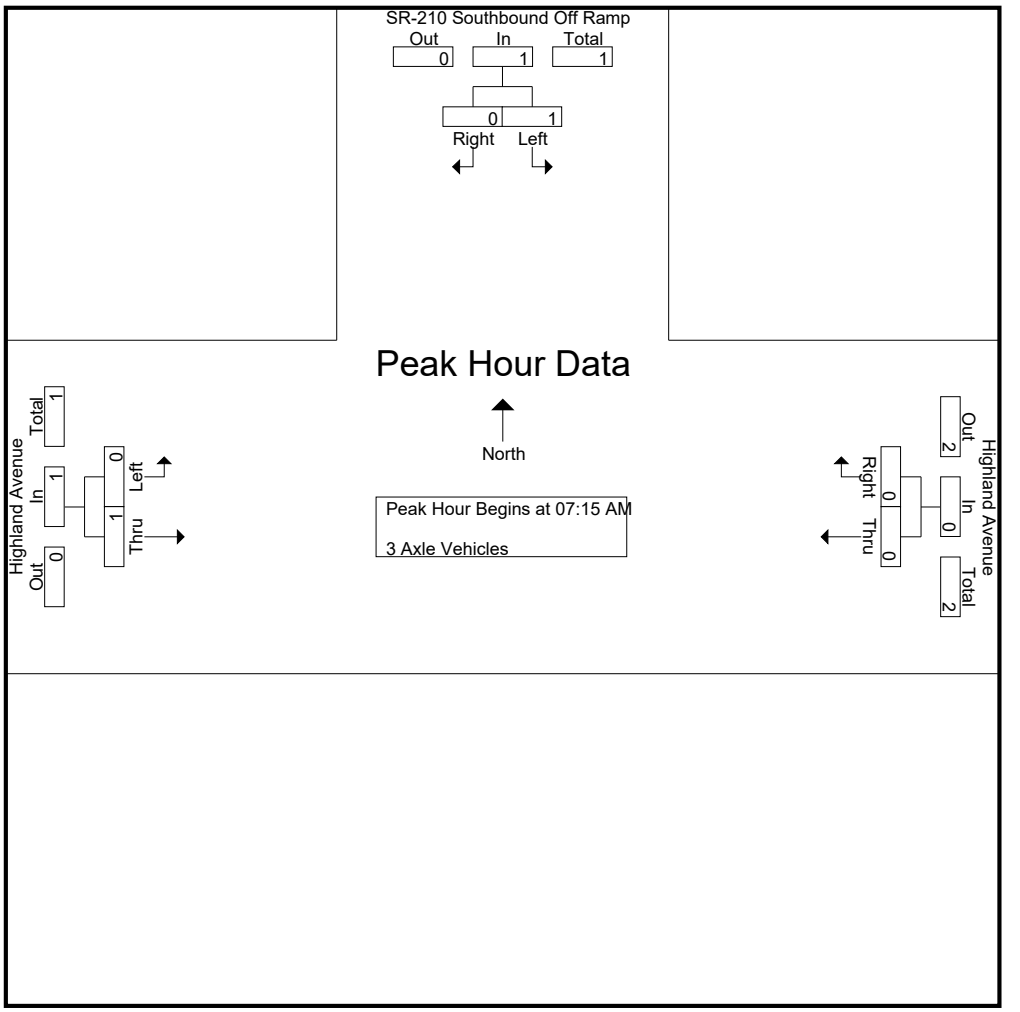

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	**1**	**1**
+30 mins.	**1**	0	**1**	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	1	1
% App. Total	100	0		0	0		0	100	
PHF	.250	.000	.250	.000	.000	.000	.000	.250	.250

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIAM
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Groups Printed- 4+ Axle Trucks

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	3	0	3	0	0	0	0	0	0	3
07:30 AM	1	0	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	4	0	4	0	0	0	0	0	0	4
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	3	4	0	0	0	0	0	0	4
08:30 AM	1	0	1	1	0	1	0	0	0	2
08:45 AM	0	0	0	1	0	1	0	1	1	2
Total	2	3	5	2	0	2	0	1	1	8
Grand Total	6	3	9	2	0	2	0	1	1	12
Apprch %	66.7	33.3		100	0		0	100		
Total %	50	25	75	16.7	0	16.7	0	8.3	8.3	

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	**3**	0	**3**	0	0	0	0	0	0	**3**
07:30 AM	1	0	1	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	4	0	4	0	0	0	0	0	0	4
% App. Total	100	0		0	0		0	0		
PHF	.333	.000	.333	.000	.000	.000	.000	.000	.000	.333

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIAM
Site Code : 05716653
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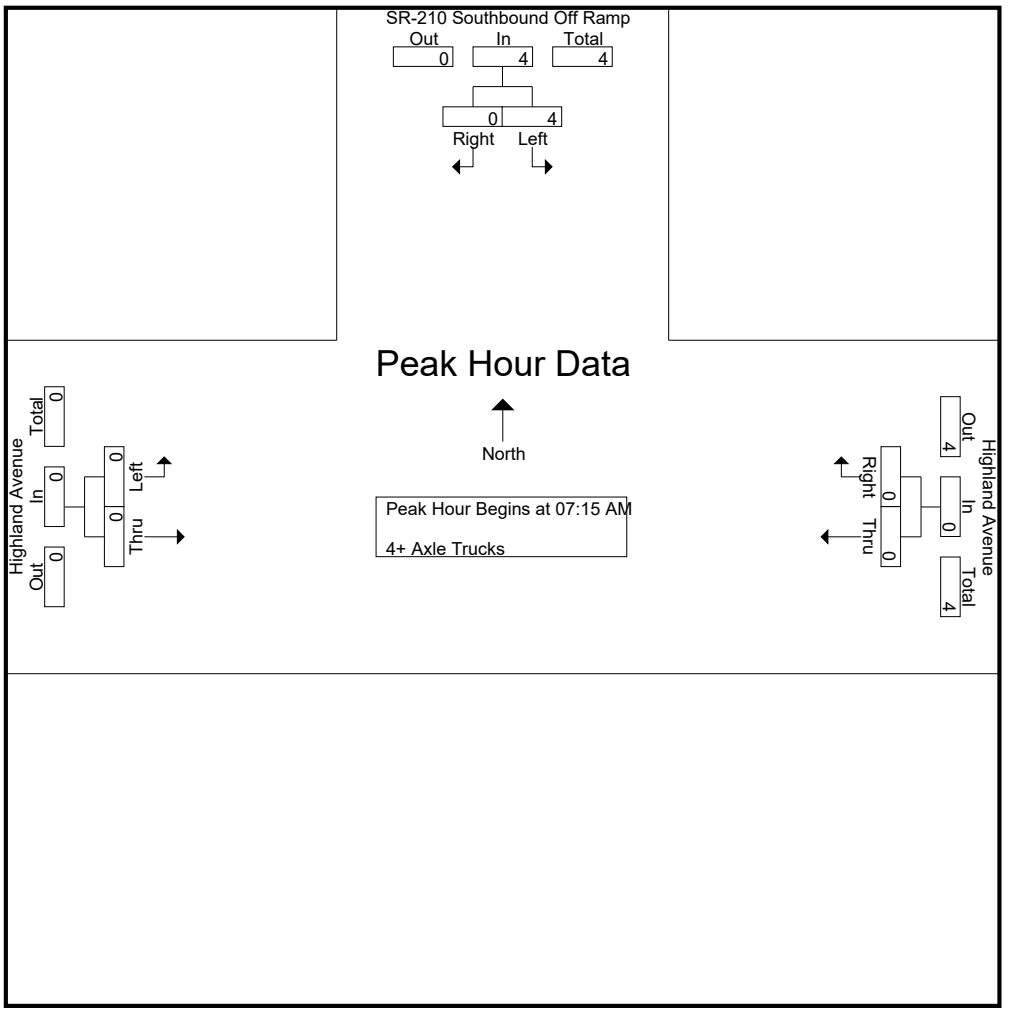

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM			07:15 AM			07:15 AM		
+0 mins.	**3**	0	**3**	0	0	0	0	0	0
+15 mins.	1	0	1	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	4	0	4	0	0	0	0	0	0
% App. Total	100	0		0	0		0	0	
PHF	.333	.000	.333	.000	.000	.000	.000	.000	.000

Counts Unlimited
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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIPM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	193	50	243	146	0	146	0	189	189	578
04:15 PM	205	34	239	114	0	114	0	170	170	523
04:30 PM	209	50	259	128	0	128	0	164	164	551
04:45 PM	208	37	245	139	0	139	0	152	152	536
Total	815	171	986	527	0	527	0	675	675	2188
05:00 PM	170	42	212	131	0	131	0	165	165	508
05:15 PM	223	27	250	116	0	116	0	154	154	520
05:30 PM	239	31	270	113	0	113	0	145	145	528
05:45 PM	226	33	259	118	0	118	0	141	141	518
Total	858	133	991	478	0	478	0	605	605	2074
Grand Total	1673	304	1977	1005	0	1005	0	1280	1280	4262
Apprch %	84.6	15.4		100	0		0	100		
Total %	39.3	7.1	46.4	23.6	0	23.6	0	30	30	
Passenger Vehicles	1649	298	1947	978	0	978	0	1259	1259	4184
% Passenger Vehicles	98.6	98	98.5	97.3	0	97.3	0	98.4	98.4	98.2
Large 2 Axle Vehicles	22	4	26	26	0	26	0	18	18	70
% Large 2 Axle Vehicles	1.3	1.3	1.3	2.6	0	2.6	0	1.4	1.4	1.6
3 Axle Vehicles	0	2	2	0	0	0	0	2	2	4
% 3 Axle Vehicles	0	0.7	0.1	0	0	0	0	0.2	0.2	0.1
4+ Axle Trucks	2	0	2	1	0	1	0	1	1	4
% 4+ Axle Trucks	0.1	0	0.1	0.1	0	0.1	0	0.1	0.1	0.1

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	193	**50**	243	**146**	0	**146**	0	**189**	**189**	**578**
04:15 PM	205	34	239	114	0	114	0	170	170	523
04:30 PM	**209**	50	**259**	128	0	128	0	164	164	551
04:45 PM	208	37	245	139	0	139	0	152	152	536
Total Volume	815	171	986	527	0	527	0	675	675	2188
% App. Total	82.7	17.3		100	0		0	100		
PHF	.975	.855	.952	.902	.000	.902	.000	.893	.893	.946

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIPM
Site Code : 05716653
Start Date : 12/7/2016
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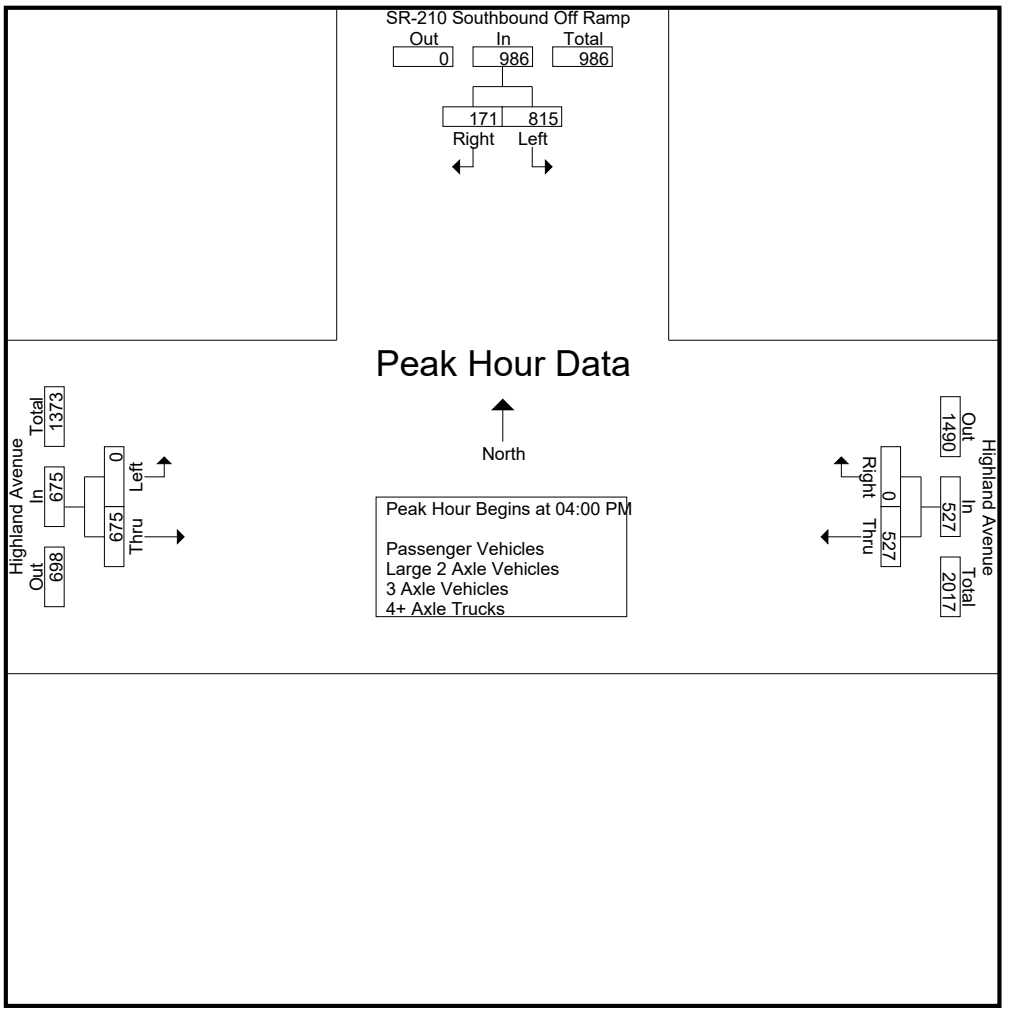

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			04:00 PM			04:00 PM		
+0 mins.	170	**42**	212	**146**	0	**146**	0	**189**	**189**
+15 mins.	223	27	250	114	0	114	0	170	170
+30 mins.	**239**	31	**270**	128	0	128	0	164	164
+45 mins.	226	33	259	139	0	139	0	152	152
Total Volume	858	133	991	527	0	527	0	675	675
% App. Total	86.6	13.4		100	0		0	100	
PHF	.897	.792	.918	.902	.000	.902	.000	.893	.893

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIPM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	186	47	233	140	0	140	0	182	182	555
04:15 PM	202	34	236	110	0	110	0	166	166	512
04:30 PM	205	49	254	122	0	122	0	163	163	539
04:45 PM	205	36	241	136	0	136	0	151	151	528
Total	798	166	964	508	0	508	0	662	662	2134
05:00 PM	168	42	210	129	0	129	0	163	163	502
05:15 PM	223	27	250	114	0	114	0	152	152	516
05:30 PM	237	30	267	110	0	110	0	143	143	520
05:45 PM	223	33	256	117	0	117	0	139	139	512
Total	851	132	983	470	0	470	0	597	597	2050
Grand Total	1649	298	1947	978	0	978	0	1259	1259	4184
Apprch %	84.7	15.3		100	0		0	100		
Total %	39.4	7.1	46.5	23.4	0	23.4	0	30.1	30.1	

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	186	47	233	**140**	0	**140**	0	**182**	**182**	**555**
04:15 PM	202	34	236	110	0	110	0	166	166	512
04:30 PM	**205**	**49**	**254**	122	0	122	0	163	163	539
04:45 PM	205	36	241	136	0	136	0	151	151	528
Total Volume	798	166	964	508	0	508	0	662	662	2134
% App. Total	82.8	17.2		100	0		0	100		
PHF	.973	.847	.949	.907	.000	.907	.000	.909	.909	.961

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
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Weather: Clear

File Name : SBC210SHIPM
Site Code : 05716653
Start Date : 12/7/2016
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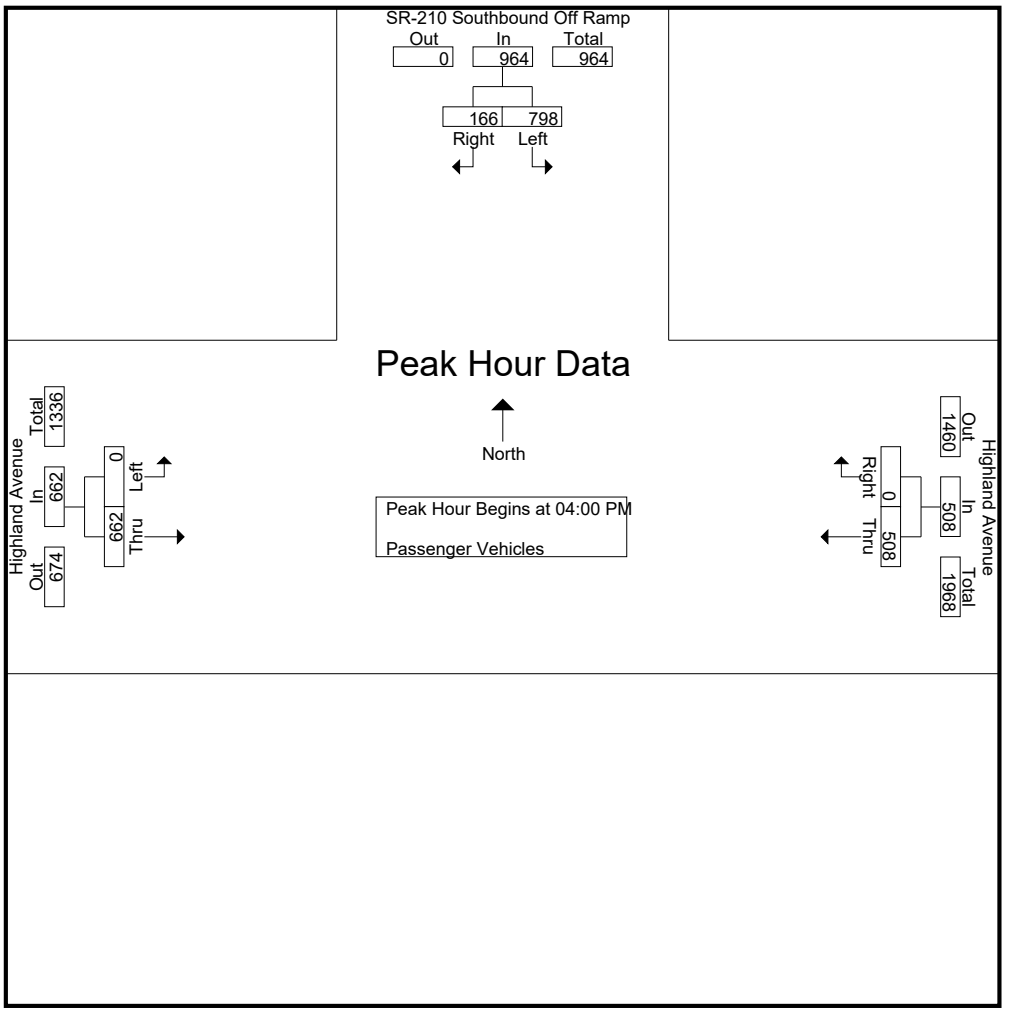

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	186	47	233	**140**	0	**140**	0	**182**	**182**
+15 mins.	202	34	236	110	0	110	0	166	166
+30 mins.	**205**	**49**	**254**	122	0	122	0	163	163
+45 mins.	205	36	241	136	0	136	0	151	151
Total Volume	798	166	964	508	0	508	0	662	662
% App. Total	82.8	17.2		100	0		0	100	
PHF	.973	.847	.949	.907	.000	.907	.000	.909	.909

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIPM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- Large 2 Axle Vehicles

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	7	2	9	6	0	6	0	6	6	21
04:15 PM	3	0	3	3	0	3	0	3	3	9
04:30 PM	4	1	5	6	0	6	0	1	1	12
04:45 PM	2	0	2	3	0	3	0	1	1	6
Total	16	3	19	18	0	18	0	11	11	48
05:00 PM	1	0	1	2	0	2	0	2	2	5
05:15 PM	0	0	0	2	0	2	0	2	2	4
05:30 PM	2	1	3	3	0	3	0	2	2	8
05:45 PM	3	0	3	1	0	1	0	1	1	5
Total	6	1	7	8	0	8	0	7	7	22
Grand Total	22	4	26	26	0	26	0	18	18	70
Apprch %	84.6	15.4		100	0		0	100		
Total %	31.4	5.7	37.1	37.1	0	37.1	0	25.7	25.7	

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	**7**	**2**	**9**	**6**	0	**6**	0	**6**	**6**	**21**
04:15 PM	3	0	3	3	0	3	0	3	3	9
04:30 PM	4	1	5	6	0	6	0	1	1	12
04:45 PM	2	0	2	3	0	3	0	1	1	6
Total Volume	16	3	19	18	0	18	0	11	11	48
% App. Total	84.2	15.8		100	0		0	100		
PHF	.571	.375	.528	.750	.000	.750	.000	.458	.458	.571

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
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Weather: Clear

File Name : SBC210SHIPM
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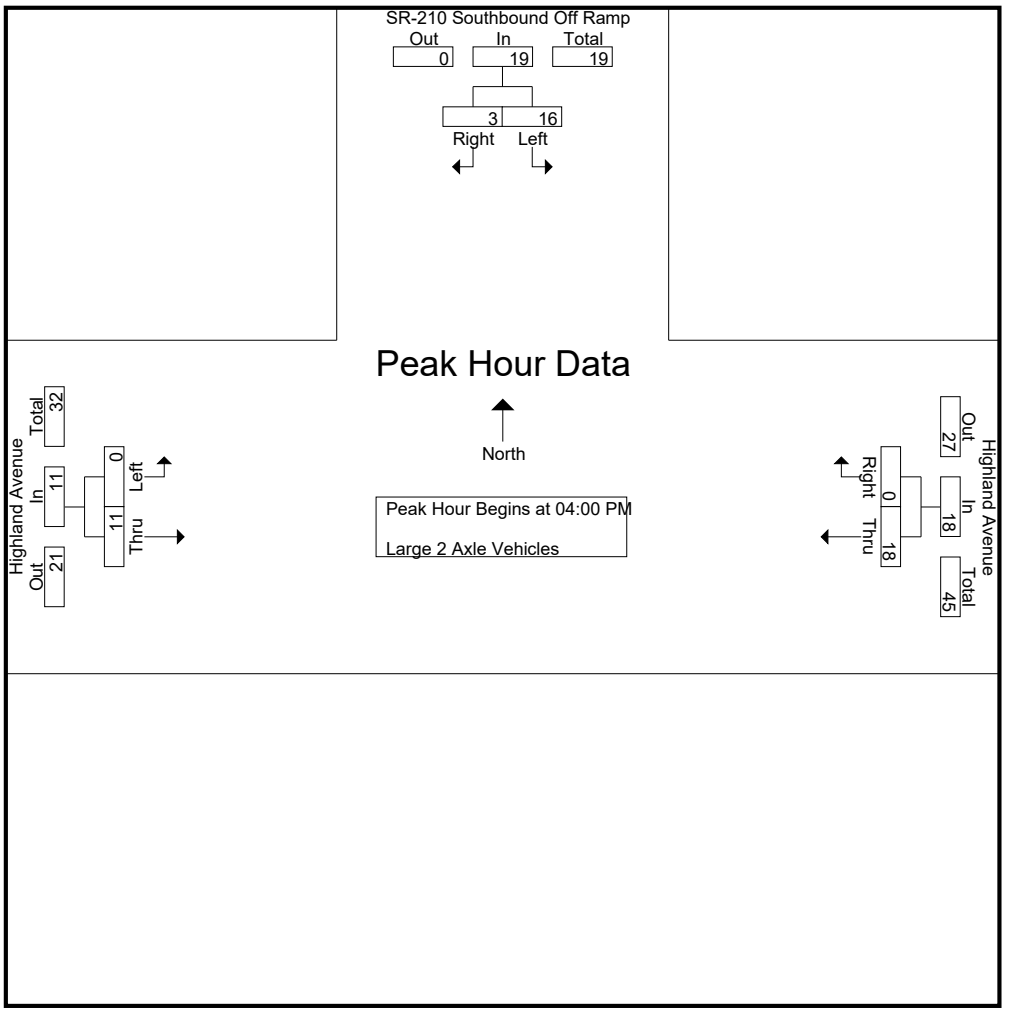

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	**7**	**2**	**9**	**6**	0	**6**	0	**6**	**6**
+15 mins.	3	0	3	3	0	3	0	3	3
+30 mins.	4	1	5	6	0	6	0	1	1
+45 mins.	2	0	2	3	0	3	0	1	1
Total Volume	16	3	19	18	0	18	0	11	11
% App. Total	84.2	15.8		100	0		0	100	
PHF	.571	.375	.528	.750	.000	.750	.000	.458	.458

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIPM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- 3 Axle Vehicles

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	1	1	0	0	0	0	1	1	2
04:15 PM	0	0	0	0	0	0	0	1	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	1	0	0	0	0	0	0	1
Total	0	2	2	0	0	0	0	2	2	4
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	2	2	0	0	0	0	2	2	4
Apprch %	0	100		0	0		0	100		
Total %	0	50	50	0	0	0	0	50	50	

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	**1**	**1**	0	0	0	0	**1**	**1**	**2**
04:15 PM	0	0	0	0	0	0	0	1	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	1	0	0	0	0	0	0	1
Total Volume	0	2	2	0	0	0	0	2	2	4
% App. Total	0	100		0	0		0	100		
PHF	.000	.500	.500	.000	.000	.000	.000	.500	.500	.500

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIPM
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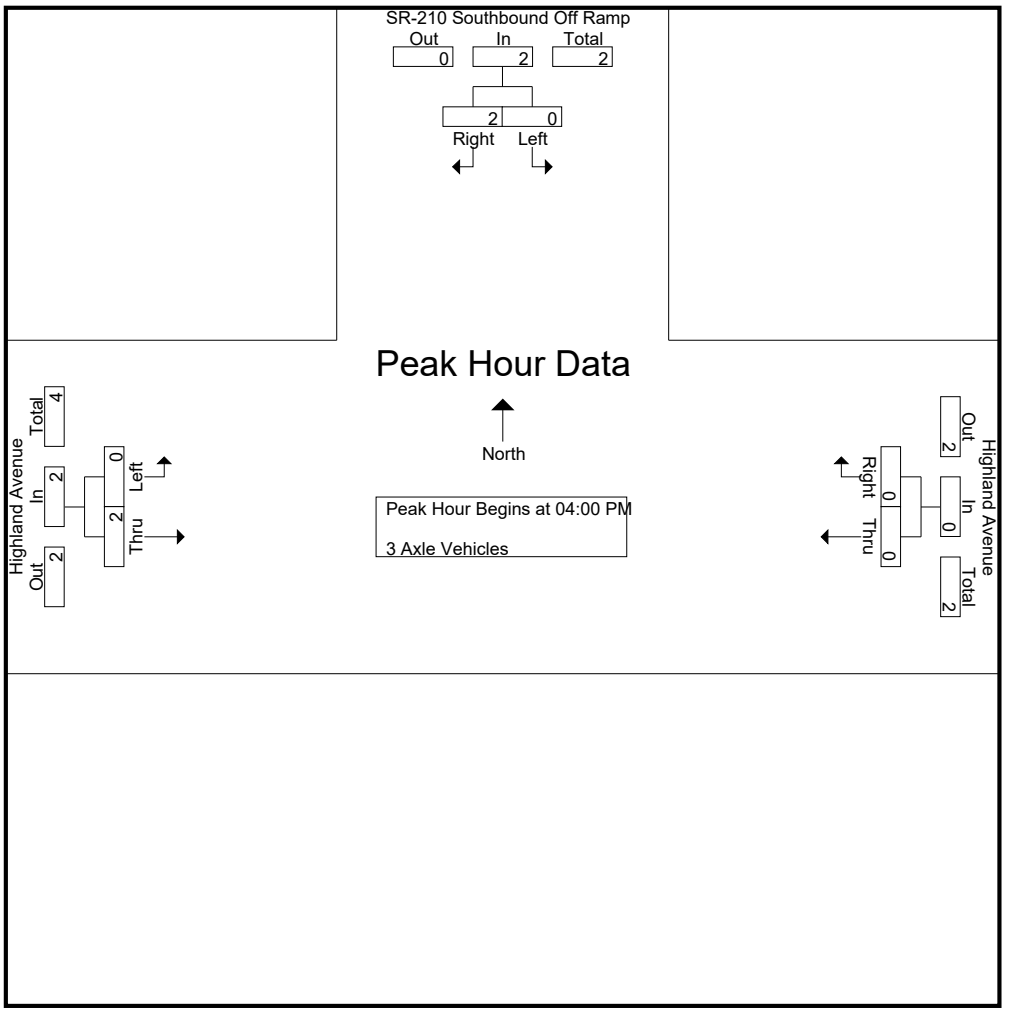

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	**1**	**1**	0	0	0	0	**1**	**1**
+15 mins.	0	0	0	0	0	0	0	1	1
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	1	1	0	0	0	0	0	0
Total Volume	0	2	2	0	0	0	0	2	2
% App. Total	0	100		0	0		0	100	
PHF	.000	.500	.500	.000	.000	.000	.000	.500	.500

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIPM
Site Code : 05716653
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Groups Printed- 4+ Axle Trucks

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	1	0	1	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	1	0	1	0	0	0	0	0	0	1
Total	1	0	1	1	0	1	0	0	0	2
05:00 PM	1	0	1	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	1	1	1
Total	1	0	1	0	0	0	0	1	1	2
Grand Total	2	0	2	1	0	1	0	1	1	4
Apprch %	100	0		100	0		0	100		
Total %	50	0	50	25	0	25	0	25	25	

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:00 PM										
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	**1**	0	**1**	0	0	0	**1**
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	**1**	0	**1**	0	0	0	0	0	0	1
Total Volume	1	0	1	1	0	1	0	0	0	2
% App. Total	100	0		100	0		0	0		
PHF	.250	.000	.250	.250	.000	.250	.000	.000	.000	.500

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHIPM
Site Code : 05716653
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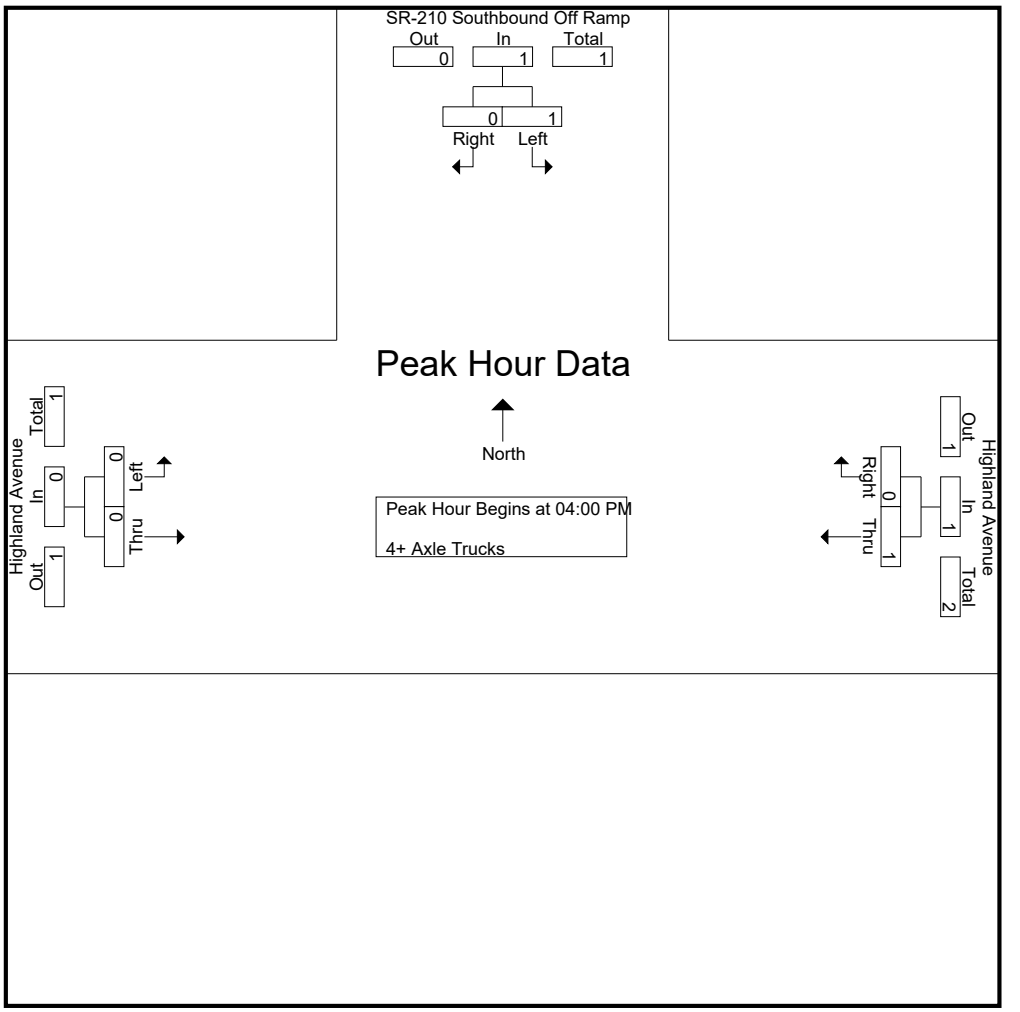

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	**1**	0	**1**	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	**1**	0	**1**	0	0	0	0	0	0
Total Volume	1	0	1	1	0	1	0	0	0
% App. Total	100	0		100	0		0	0	
PHF	.250	.000	.250	.250	.000	.250	.000	.000	.000

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City of San Bernardino
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E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHISAT
Site Code : 05716653
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
05:00 PM	252	39	291	131	0	131	0	142	142	564
05:15 PM	225	45	270	149	0	149	0	111	111	530
05:30 PM	252	37	289	138	0	138	0	133	133	560
05:45 PM	264	31	295	130	0	130	0	135	135	560
Total	993	152	1145	548	0	548	0	521	521	2214
06:00 PM	241	39	280	136	0	136	0	122	122	538
06:15 PM	268	47	315	119	0	119	0	120	120	554
06:30 PM	250	32	282	134	0	134	0	89	89	505
06:45 PM	274	35	309	122	0	122	0	108	108	539
Total	1033	153	1186	511	0	511	0	439	439	2136
Grand Total	2026	305	2331	1059	0	1059	0	960	960	4350
Apprch %	86.9	13.1		100	0		0	100		
Total %	46.6	7	53.6	24.3	0	24.3	0	22.1	22.1	
Passenger Vehicles	2020	305	2325	1049	0	1049	0	959	959	4333
% Passenger Vehicles	99.7	100	99.7	99.1	0	99.1	0	99.9	99.9	99.6
Large 2 Axle Vehicles	3	0	3	10	0	10	0	1	1	14
% Large 2 Axle Vehicles	0.1	0	0.1	0.9	0	0.9	0	0.1	0.1	0.3
3 Axle Vehicles	3	0	3	0	0	0	0	0	0	3
% 3 Axle Vehicles	0.1	0	0.1	0	0	0	0	0	0	0.1
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	252	39	291	131	0	131	0	**142**	**142**	**564**
05:15 PM	225	**45**	270	**149**	0	**149**	0	111	111	530
05:30 PM	252	37	289	138	0	138	0	133	133	560
05:45 PM	**264**	31	**295**	130	0	130	0	135	135	560
Total Volume	993	152	1145	548	0	548	0	521	521	2214
% App. Total	86.7	13.3		100	0		0	100		
PHF	.940	.844	.970	.919	.000	.919	.000	.917	.917	.981

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHISAT
Site Code : 05716653
Start Date : 12/10/2016
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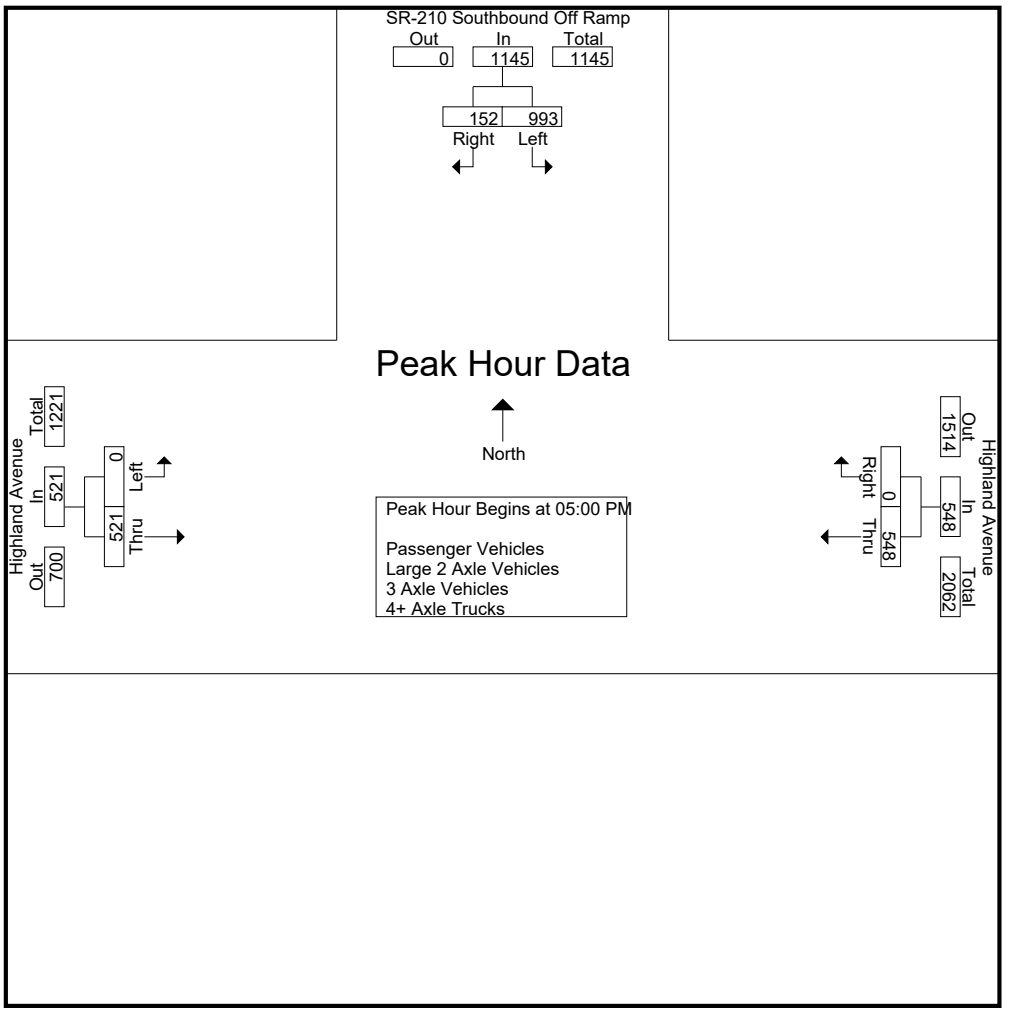

Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM			05:15 PM			05:00 PM		
+0 mins.	241	39	280	**149**	0	**149**	0	**142**	**142**
+15 mins.	268	**47**	**315**	138	0	138	0	111	111
+30 mins.	250	32	282	130	0	130	0	133	133
+45 mins.	**274**	35	309	136	0	136	0	135	135
Total Volume	1033	153	1186	553	0	553	0	521	521
% App. Total	87.1	12.9		100	0		0	100	
PHF	.943	.814	.941	.928	.000	.928	.000	.917	.917

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHISAT
Site Code : 05716653
Start Date : 12/10/2016
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Groups Printed- Passenger Vehicles

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
05:00 PM	251	39	290	131	0	131	0	142	142	563
05:15 PM	224	45	269	147	0	147	0	111	111	527
05:30 PM	252	37	289	136	0	136	0	133	133	558
05:45 PM	263	31	294	130	0	130	0	135	135	559
Total	990	152	1142	544	0	544	0	521	521	2207
06:00 PM	241	39	280	134	0	134	0	121	121	535
06:15 PM	268	47	315	119	0	119	0	120	120	554
06:30 PM	247	32	279	131	0	131	0	89	89	499
06:45 PM	274	35	309	121	0	121	0	108	108	538
Total	1030	153	1183	505	0	505	0	438	438	2126
Grand Total	2020	305	2325	1049	0	1049	0	959	959	4333
Apprch %	86.9	13.1		100	0		0	100		
Total %	46.6	7	53.7	24.2	0	24.2	0	22.1	22.1	

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	251	39	290	131	0	131	0	**142**	**142**	**563**
05:15 PM	224	**45**	269	**147**	0	**147**	0	111	111	527
05:30 PM	252	37	289	136	0	136	0	133	133	558
05:45 PM	**263**	31	**294**	130	0	130	0	135	135	559
Total Volume	990	152	1142	544	0	544	0	521	521	2207
% App. Total	86.7	13.3		100	0		0	100		
PHF	.941	.844	.971	.925	.000	.925	.000	.917	.917	.980

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHISAT
Site Code : 05716653
Start Date : 12/10/2016
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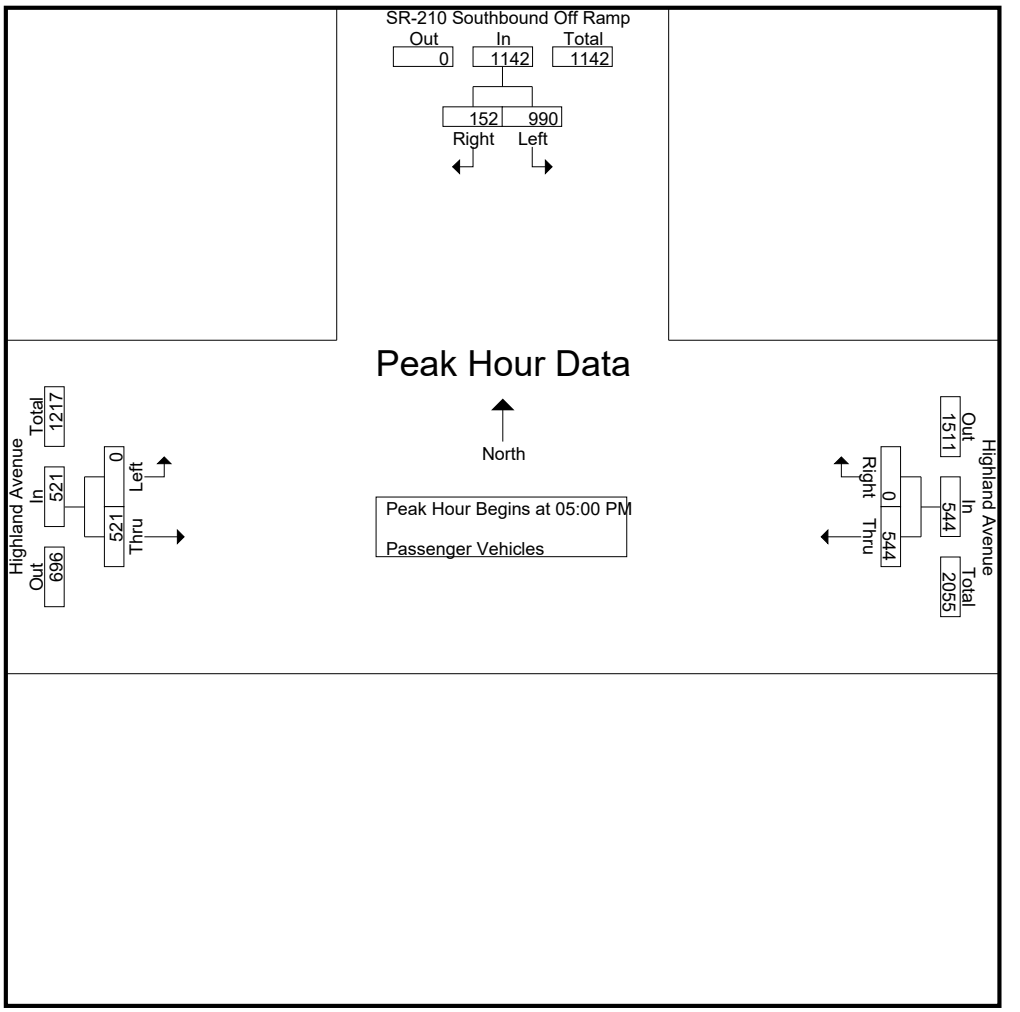

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	251	39	290	131	0	131	0	**142**	**142**
+15 mins.	224	**45**	269	**147**	0	**147**	0	111	111
+30 mins.	252	37	289	136	0	136	0	133	133
+45 mins.	**263**	31	**294**	130	0	130	0	135	135
Total Volume	990	152	1142	544	0	544	0	521	521
% App. Total	86.7	13.3		100	0		0	100	
PHF	.941	.844	.971	.925	.000	.925	.000	.917	.917

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	1	0	1	2	0	2	0	0	0	3
05:30 PM	0	0	0	2	0	2	0	0	0	2
05:45 PM	1	0	1	0	0	0	0	0	0	1
Total	2	0	2	4	0	4	0	0	0	6
06:00 PM	0	0	0	2	0	2	0	1	1	3
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	1	0	1	3	0	3	0	0	0	4
06:45 PM	0	0	0	1	0	1	0	0	0	1
Total	1	0	1	6	0	6	0	1	1	8
Grand Total	3	0	3	10	0	10	0	1	1	14
Apprch %	100	0		100	0		0	100		
Total %	21.4	0	21.4	71.4	0	71.4	0	7.1	7.1	

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	**1**	0	**1**	**2**	0	**2**	0	0	0	**3**
05:30 PM	0	0	0	2	0	2	0	0	0	2
05:45 PM	1	0	1	0	0	0	0	0	0	1
Total Volume	2	0	2	4	0	4	0	0	0	6
% App. Total	100	0		100	0		0	0		
PHF	.500	.000	.500	.500	.000	.500	.000	.000	.000	.500

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHISAT
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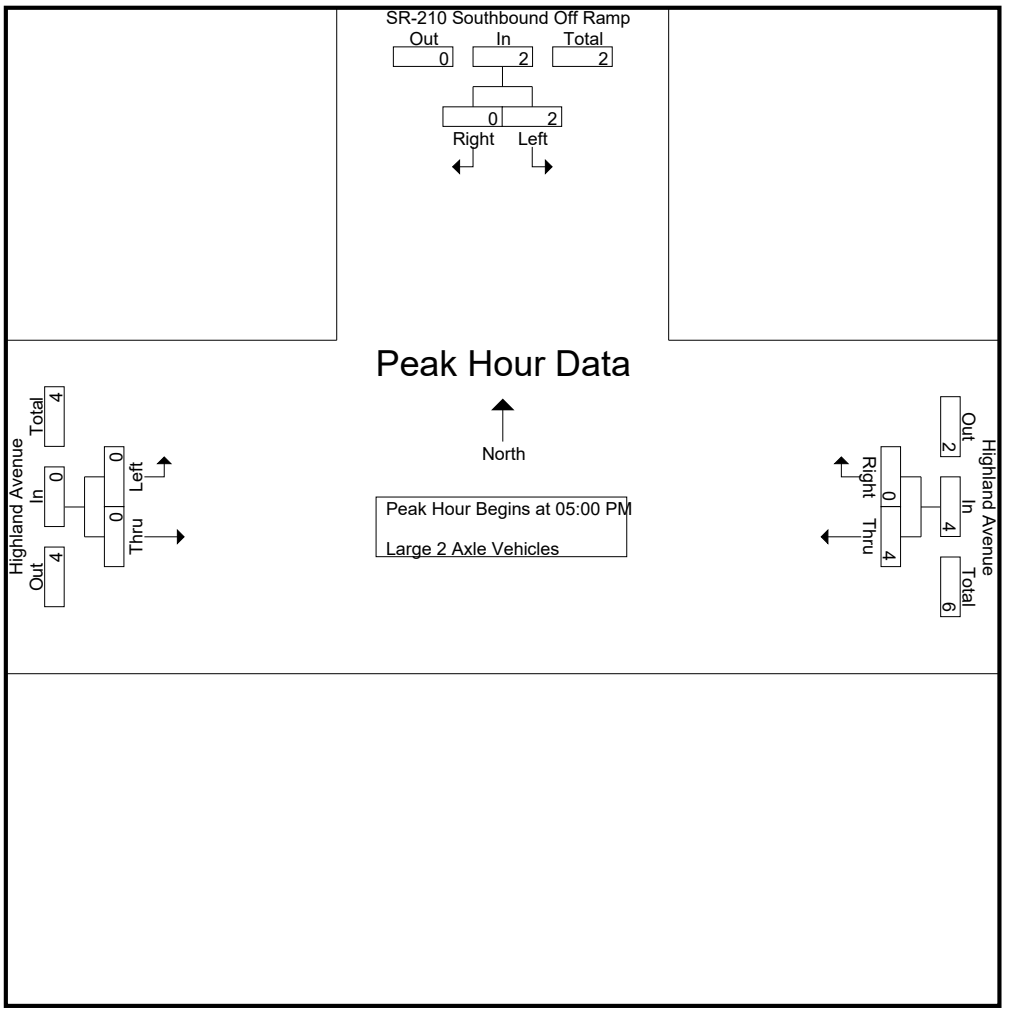

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	**1**	0	**1**	**2**	0	**2**	0	0	0
+30 mins.	0	0	0	2	0	2	0	0	0
+45 mins.	1	0	1	0	0	0	0	0	0
Total Volume	2	0	2	4	0	4	0	0	0
% App. Total	100	0		100	0		0	0	
PHF	.500	.000	.500	.500	.000	.500	.000	.000	.000

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHISAT
Site Code : 05716653
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Groups Printed- 3 Axle Vehicles

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
05:00 PM	1	0	1	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	1	0	1	0	0	0	0	0	0	1
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	2	0	2	0	0	0	0	0	0	2
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total	2	0	2	0	0	0	0	0	0	2
Grand Total	3	0	3	0	0	0	0	0	0	3
Apprch %	100	0		0	0		0	0		
Total %	100	0	100	0	0	0	0	0	0	

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**1**	0	**1**	0	0	0	0	0	0	**1**
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	0	0	1
% App. Total	100	0		0	0		0	0		
PHF	.250	.000	.250	.000	.000	.000	.000	.000	.000	.250

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File Name : SBC210SHISAT
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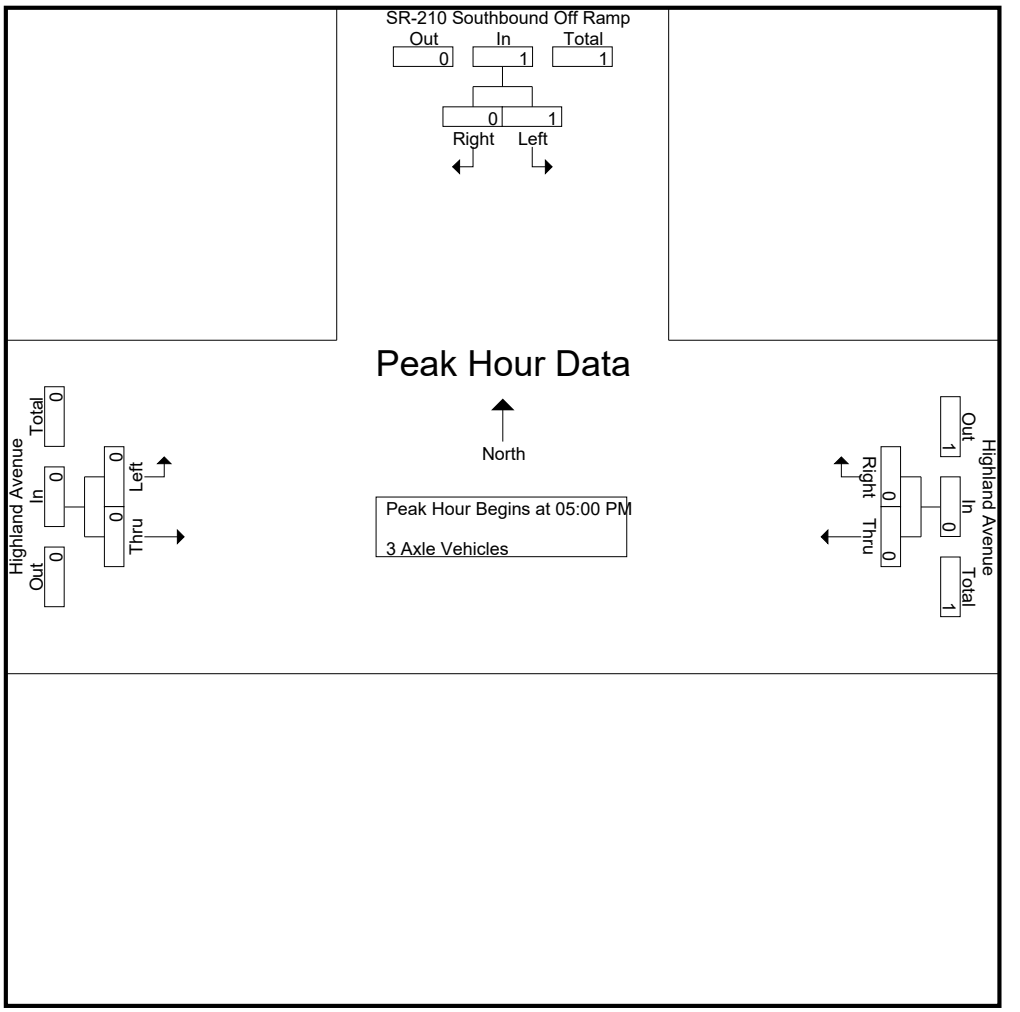

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	**1**	0	**1**	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	1	0	1	0	0	0	0	0	0
% App. Total	100	0		0	0		0	0	
PHF	.250	.000	.250	.000	.000	.000	.000	.000	.000

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City of San Bernardino
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E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- 4+ Axle Trucks

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	SR-210 Southbound Off Ramp Southbound			Highland Avenue Westbound			Highland Avenue Eastbound			
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Left	Thru	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
N/S: SR-210 Southbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210SHISAT
Site Code : 05716653
Start Date : 12/10/2016
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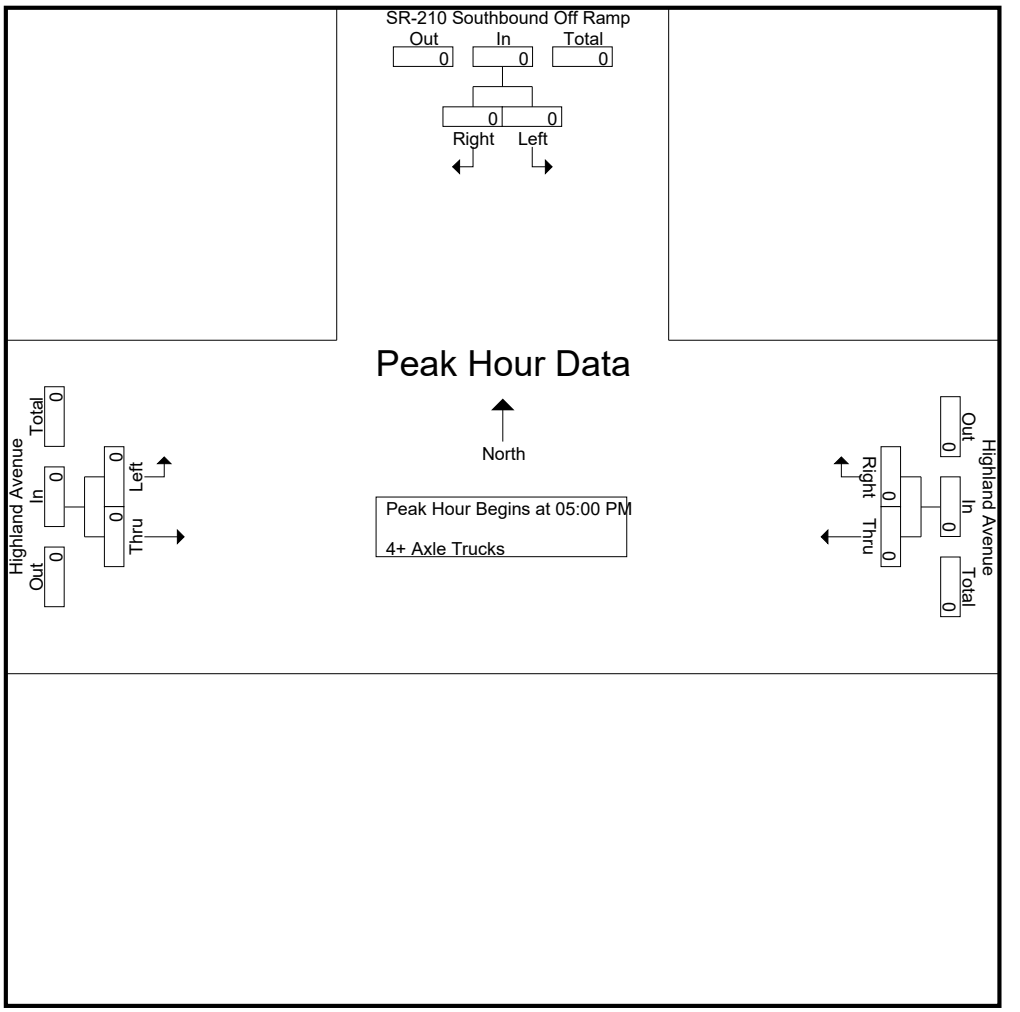

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
N/S: Arden Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCARHIAM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	6	98	87	191	34	192	31	257	65	26	12	103	19	135	41	195	746
07:15 AM	8	109	82	199	56	231	35	322	89	51	35	175	16	160	74	250	946
07:30 AM	8	88	82	178	35	196	45	276	82	70	19	171	26	160	53	239	864
07:45 AM	18	56	71	145	24	179	31	234	52	19	4	75	18	245	39	302	756
Total	40	351	322	713	149	798	142	1089	288	166	70	524	79	700	207	986	3312
08:00 AM	9	50	52	111	23	178	31	232	47	10	2	59	33	167	55	255	657
08:15 AM	18	58	61	137	34	182	29	245	52	22	8	82	34	202	50	286	750
08:30 AM	25	68	74	167	28	152	34	214	57	19	3	79	31	183	46	260	720
08:45 AM	26	63	73	162	17	179	38	234	46	16	9	71	33	186	41	260	727
Total	78	239	260	577	102	691	132	925	202	67	22	291	131	738	192	1061	2854
Grand Total	118	590	582	1290	251	1489	274	2014	490	233	92	815	210	1438	399	2047	6166
Apprch %	9.1	45.7	45.1		12.5	73.9	13.6		60.1	28.6	11.3		10.3	70.2	19.5		
Total %	1.9	9.6	9.4	20.9	4.1	24.1	4.4	32.7	7.9	3.8	1.5	13.2	3.4	23.3	6.5	33.2	
Passenger Vehicles	112	585	563	1260	245	1422	263	1930	474	228	88	790	203	1381	386	1970	5950
% Passenger Vehicles	94.9	99.2	96.7	97.7	97.6	95.5	96	95.8	96.7	97.9	95.7	96.9	96.7	96	96.7	96.2	96.5
Large 2 Axle Vehicles	5	5	15	25	4	54	11	69	16	5	4	25	6	51	10	67	186
% Large 2 Axle Vehicles	4.2	0.8	2.6	1.9	1.6	3.6	4	3.4	3.3	2.1	4.3	3.1	2.9	3.5	2.5	3.3	3
3 Axle Vehicles	0	0	4	4	0	4	0	4	0	0	0	0	0	3	0	3	11
% 3 Axle Vehicles	0	0	0.7	0.3	0	0.3	0	0.2	0	0	0	0	0	0.2	0	0.1	0.2
4+ Axle Trucks	1	0	0	1	2	9	0	11	0	0	0	0	1	3	3	7	19
% 4+ Axle Trucks	0.8	0	0	0.1	0.8	0.6	0	0.5	0	0	0	0	0.5	0.2	0.8	0.3	0.3

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	6	98	**87**	191	34	192	31	257	65	26	12	103	19	135	41	195	746
07:15 AM	8	**109**	82	**199**	**56**	**231**	35	**322**	**89**	51	**35**	**175**	16	160	**74**	250	**946**
07:30 AM	8	88	82	178	35	196	**45**	276	82	**70**	19	171	**26**	160	53	239	864
07:45 AM	**18**	56	71	145	24	179	31	234	52	19	4	75	18	**245**	39	**302**	756
Total Volume	40	351	322	713	149	798	142	1089	288	166	70	524	79	700	207	986	3312
% App. Total	5.6	49.2	45.2		13.7	73.3	13		55	31.7	13.4		8	71	21		
PHF	.556	.805	.925	.896	.665	.864	.789	.845	.809	.593	.500	.749	.760	.714	.699	.816	.875

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File Name : SBCARHIAM
Site Code : 05716653
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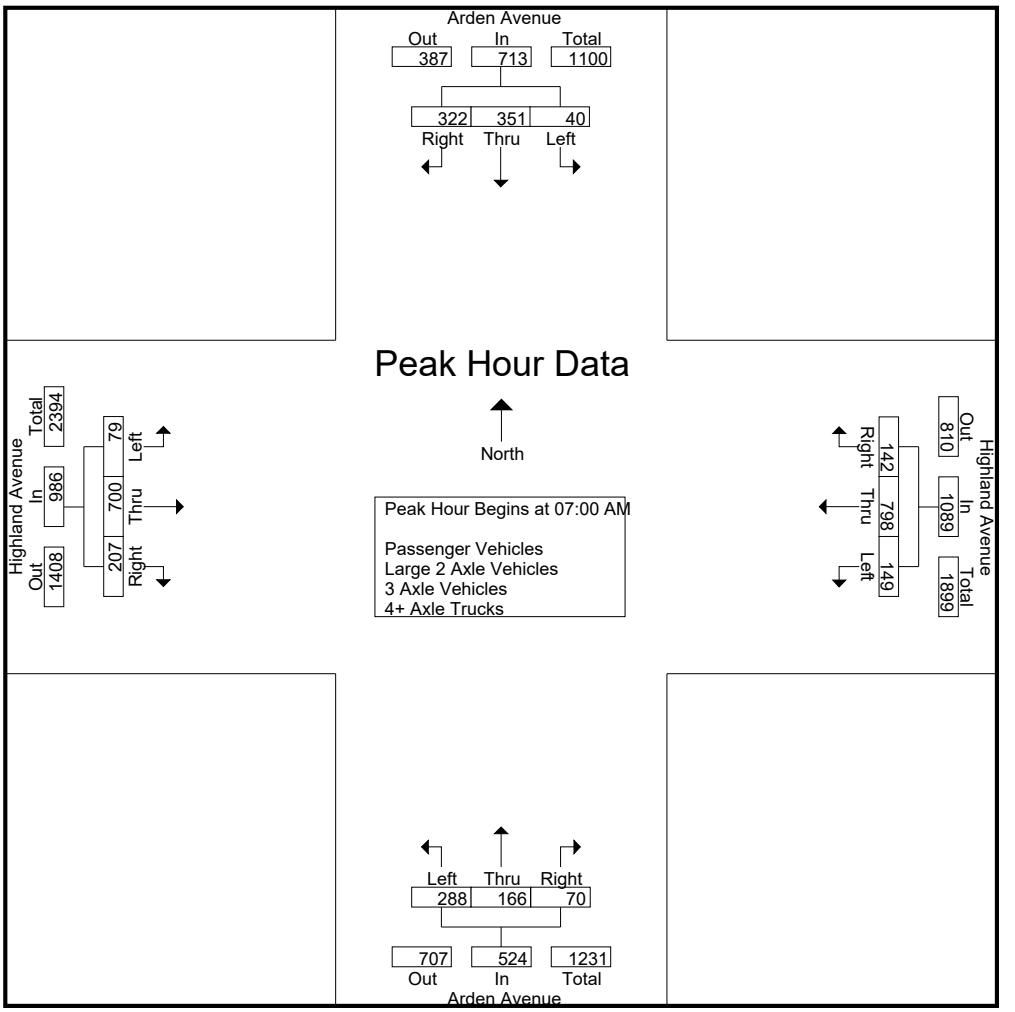

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:45 AM			
+0 mins.	6	98	**87**	191	34	192	31	257	65	26	12	103	18	**245**	39	**302**
+15 mins.	8	**109**	82	**199**	**56**	**231**	35	**322**	**89**	51	**35**	**175**	33	167	**55**	255
+30 mins.	8	88	82	178	35	196	**45**	276	82	**70**	19	171	**34**	202	50	286
+45 mins.	**18**	56	71	145	24	179	31	234	52	19	4	75	31	183	46	260
Total Volume	40	351	322	713	149	798	142	1089	288	166	70	524	116	797	190	1103
% App. Total	5.6	49.2	45.2		13.7	73.3	13		55	31.7	13.4		10.5	72.3	17.2	
PHF	.556	.805	.925	.896	.665	.864	.789	.845	.809	.593	.500	.749	.853	.813	.864	.913

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City of San Bernardino
N/S: Arden Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCARHIAM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- Passenger Vehicles

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	4	97	85	186	34	187	28	249	65	25	10	100	17	126	39	182	717
07:15 AM	8	109	81	198	55	226	34	315	89	51	34	174	16	152	70	238	925
07:30 AM	8	87	80	175	35	189	43	267	81	70	19	170	25	153	52	230	842
07:45 AM	17	55	68	140	22	170	30	222	52	18	4	74	18	238	39	295	731
Total	37	348	314	699	146	772	135	1053	287	164	67	518	76	669	200	945	3215
08:00 AM	9	50	51	110	22	166	30	218	44	10	2	56	33	163	55	251	635
08:15 AM	17	57	57	131	34	168	28	230	41	20	7	68	31	192	47	270	699
08:30 AM	23	67	70	160	27	145	33	205	57	18	3	78	30	177	46	253	696
08:45 AM	26	63	71	160	16	171	37	224	45	16	9	70	33	180	38	251	705
Total	75	237	249	561	99	650	128	877	187	64	21	272	127	712	186	1025	2735
Grand Total	112	585	563	1260	245	1422	263	1930	474	228	88	790	203	1381	386	1970	5950
Apprch %	8.9	46.4	44.7		12.7	73.7	13.6		60	28.9	11.1		10.3	70.1	19.6		
Total %	1.9	9.8	9.5	21.2	4.1	23.9	4.4	32.4	8	3.8	1.5	13.3	3.4	23.2	6.5	33.1	

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	4	97	**85**	186	34	187	28	249	65	25	10	100	17	126	39	182	717
07:15 AM	8	**109**	81	**198**	**55**	**226**	34	**315**	**89**	51	**34**	**174**	16	152	**70**	238	**925**
07:30 AM	8	87	80	175	35	189	**43**	267	81	**70**	19	170	**25**	153	52	230	842
07:45 AM	**17**	55	68	140	22	170	30	222	52	18	4	74	18	**238**	39	**295**	731
Total Volume	37	348	314	699	146	772	135	1053	287	164	67	518	76	669	200	945	3215
% App. Total	5.3	49.8	44.9		13.9	73.3	12.8		55.4	31.7	12.9		8	70.8	21.2		
PHF	.544	.798	.924	.883	.664	.854	.785	.836	.806	.586	.493	.744	.760	.703	.714	.801	.869

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City of San Bernardino
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E/W: Highland Avenue
Weather: Clear

File Name : SBCARHIAM
Site Code : 05716653
Start Date : 12/7/2016
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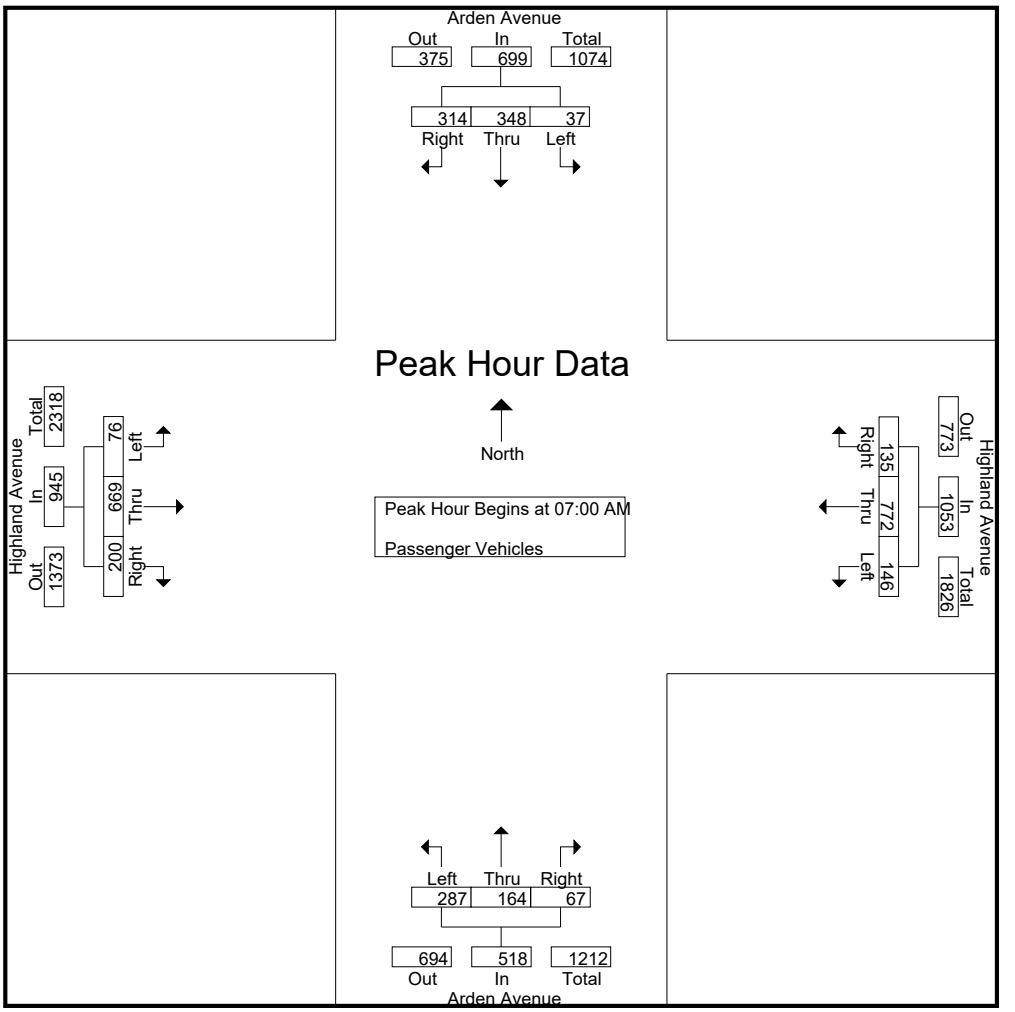

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	4	97	**85**	186	34	187	28	249	65	25	10	100	17	126	39	182
+15 mins.	8	**109**	81	**198**	**55**	**226**	34	**315**	**89**	51	**34**	**174**	16	152	**70**	238
+30 mins.	8	87	80	175	35	189	**43**	267	81	**70**	19	170	**25**	153	52	230
+45 mins.	**17**	55	68	140	22	170	30	222	52	18	4	74	18	**238**	39	**295**
Total Volume	37	348	314	699	146	772	135	1053	287	164	67	518	76	669	200	945
% App. Total	5.3	49.8	44.9		13.9	73.3	12.8		55.4	31.7	12.9		8	70.8	21.2	
PHF	.544	.798	.924	.883	.664	.854	.785	.836	.806	.586	.493	.744	.760	.703	.714	.801

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Groups Printed- Large 2 Axle Vehicles

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	1	1	4	0	3	3	6	0	1	2	3	2	9	2	13	26
07:15 AM	0	0	1	1	1	4	1	6	0	0	1	1	0	7	2	9	17
07:30 AM	0	1	2	3	0	5	2	7	1	0	0	1	1	5	1	7	18
07:45 AM	1	1	3	5	2	6	1	9	0	1	0	1	0	6	0	6	21
Total	3	3	7	13	3	18	7	28	1	2	3	6	3	27	5	35	82
08:00 AM	0	0	0	0	0	11	1	12	3	0	0	3	0	4	0	4	19
08:15 AM	1	1	3	5	0	13	1	14	11	2	1	14	2	9	3	14	47
08:30 AM	1	1	4	6	0	6	1	7	0	1	0	1	1	5	0	6	20
08:45 AM	0	0	1	1	1	6	1	8	1	0	0	1	0	6	2	8	18
Total	2	2	8	12	1	36	4	41	15	3	1	19	3	24	5	32	104
Grand Total	5	5	15	25	4	54	11	69	16	5	4	25	6	51	10	67	186
Apprch %	20	20	60		5.8	78.3	15.9		64	20	16		9	76.1	14.9		
Total %	2.7	2.7	8.1	13.4	2.2	29	5.9	37.1	8.6	2.7	2.2	13.4	3.2	27.4	5.4	36	

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**2**	**1**	1	4	0	3	**3**	6	0	**1**	**2**	**3**	**2**	**9**	**2**	**13**	**26**
07:15 AM	0	0	1	1	1	4	1	6	0	0	1	1	0	7	2	9	17
07:30 AM	0	1	2	3	0	5	2	7	**1**	0	0	1	1	5	1	7	18
07:45 AM	1	1	**3**	**5**	**2**	**6**	1	**9**	0	1	0	1	0	6	0	6	21
Total Volume	3	3	7	13	3	18	7	28	1	2	3	6	3	27	5	35	82
% App. Total	23.1	23.1	53.8		10.7	64.3	25		16.7	33.3	50		8.6	77.1	14.3		
PHF	.375	.750	.583	.650	.375	.750	.583	.778	.250	.500	.375	.500	.375	.750	.625	.673	.788

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File Name : SBCARHIAM
Site Code : 05716653
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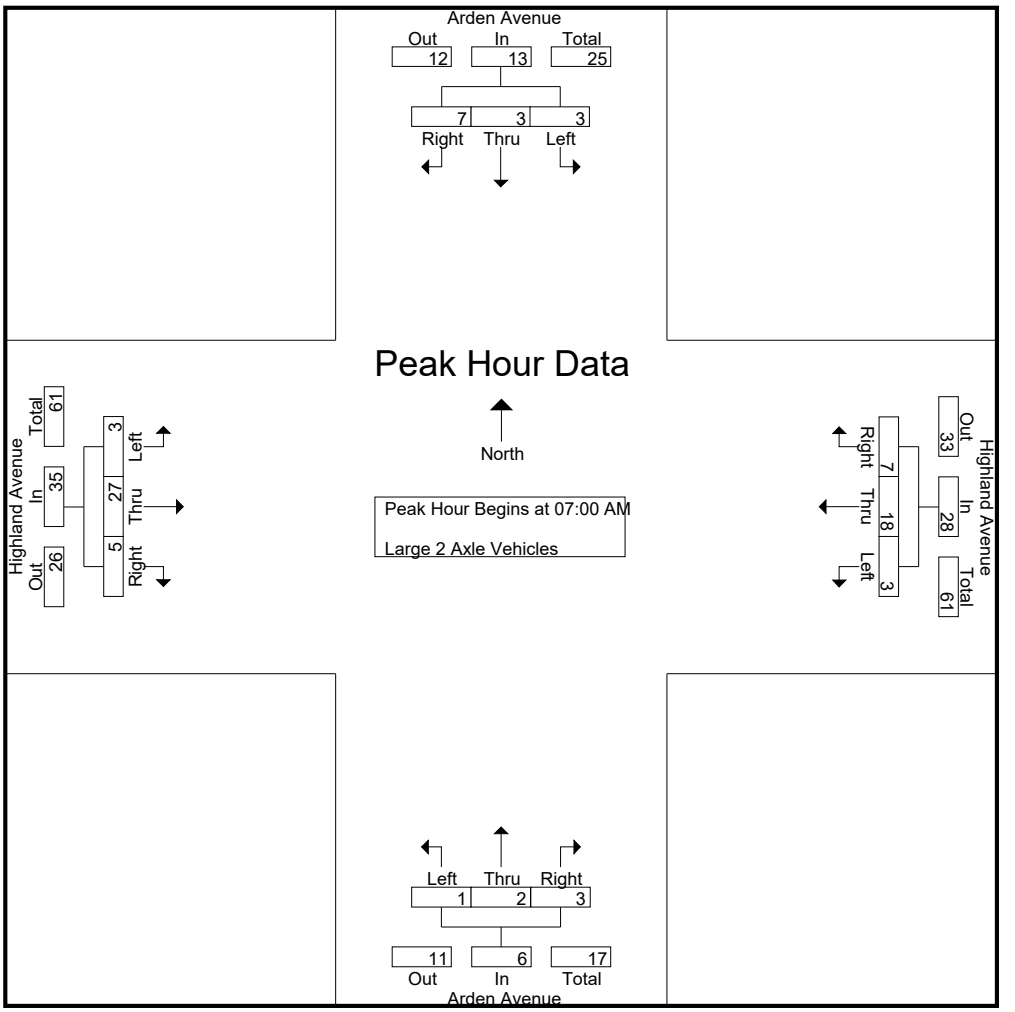

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	**2**	**1**	1	4	0	3	**3**	6	0	**1**	**2**	**3**	**2**	**9**	**2**	**13**
+15 mins.	0	0	1	1	1	4	1	6	0	0	1	1	0	7	2	9
+30 mins.	0	1	2	3	0	5	2	7	**1**	0	0	1	1	5	1	7
+45 mins.	1	1	**3**	**5**	**2**	**6**	1	**9**	0	1	0	1	0	6	0	6
Total Volume	3	3	7	13	3	18	7	28	1	2	3	6	3	27	5	35
% App. Total	23.1	23.1	53.8		10.7	64.3	25		16.7	33.3	50		8.6	77.1	14.3	
PHF	.375	.750	.583	.650	.375	.750	.583	.778	.250	.500	.375	.500	.375	.750	.625	.673

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Groups Printed- 3 Axle Vehicles

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	1	1	0	2	0	2	0	0	0	0	0	2	0	2	5
08:00 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:15 AM	0	0	1	1	0	1	0	1	0	0	0	0	0	1	0	1	3
08:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	3	3	0	2	0	2	0	0	0	0	0	1	0	1	6
Grand Total	0	0	4	4	0	4	0	4	0	0	0	0	0	3	0	3	11
Apprch %	0	0	100		0	100	0		0	0	0		0	100	0		
Total %	0	0	36.4	36.4	0	36.4	0	36.4	0	0	0	0	0	27.3	0	27.3	

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	**1**	**1**	0	**1**	0	**1**	0	0	0	0	0	0	0	0	**2**
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	**1**	0	**1**	2
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	1	1	0	2	0	2	0	0	0	0	0	2	0	2	5
% App. Total	0	0	100		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.250	.250	.000	.500	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500	.625

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File Name : SBCARHIAM
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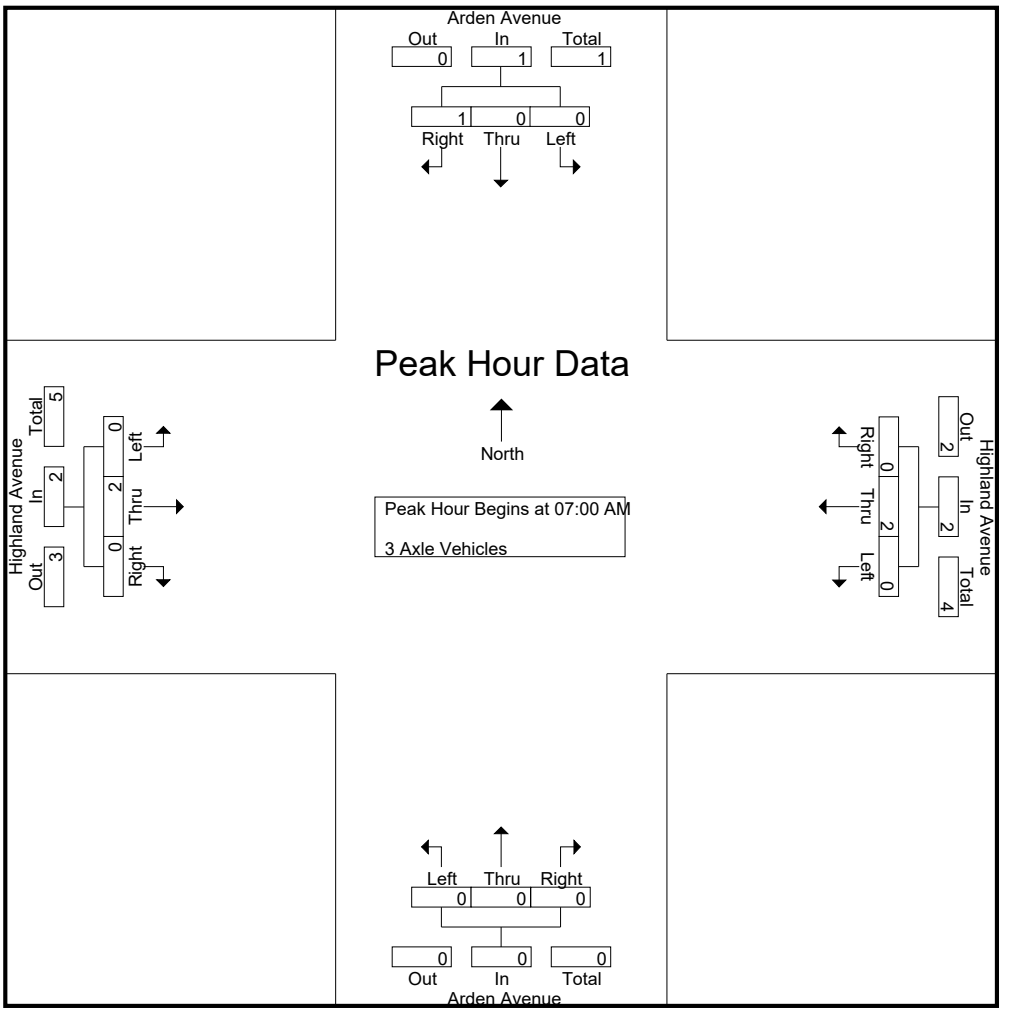

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	**1**	**1**	0	**1**	0	**1**	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	**1**	0	**1**
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total Volume	0	0	1	1	0	2	0	2	0	0	0	0	0	2	0	2
% App. Total	0	0	100		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.250	.250	.000	.500	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500

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Groups Printed- 4+ Axle Trucks

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	2	3	4
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
07:45 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	6	0	6	0	0	0	0	0	2	2	4	10
08:00 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
08:30 AM	1	0	0	1	1	0	0	1	0	0	0	0	0	1	0	1	3
08:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	1	1	3
Total	1	0	0	1	2	3	0	5	0	0	0	0	1	1	1	3	9
Grand Total	1	0	0	1	2	9	0	11	0	0	0	0	1	3	3	7	19
Apprch %	100	0	0		18.2	81.8	0		0	0	0		14.3	42.9	42.9		
Total %	5.3	0	0	5.3	10.5	47.4	0	57.9	0	0	0	0	5.3	15.8	15.8	36.8	

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	**1**	**2**	**3**	**4**
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
07:45 AM	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	0	0	0	3
Total Volume	0	0	0	0	0	6	0	6	0	0	0	0	0	2	2	4	10
% App. Total	0	0	0		0	100	0		0	0	0		0	50	50		
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.500	.250	.333	.625

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File Name : SBCARHIAM
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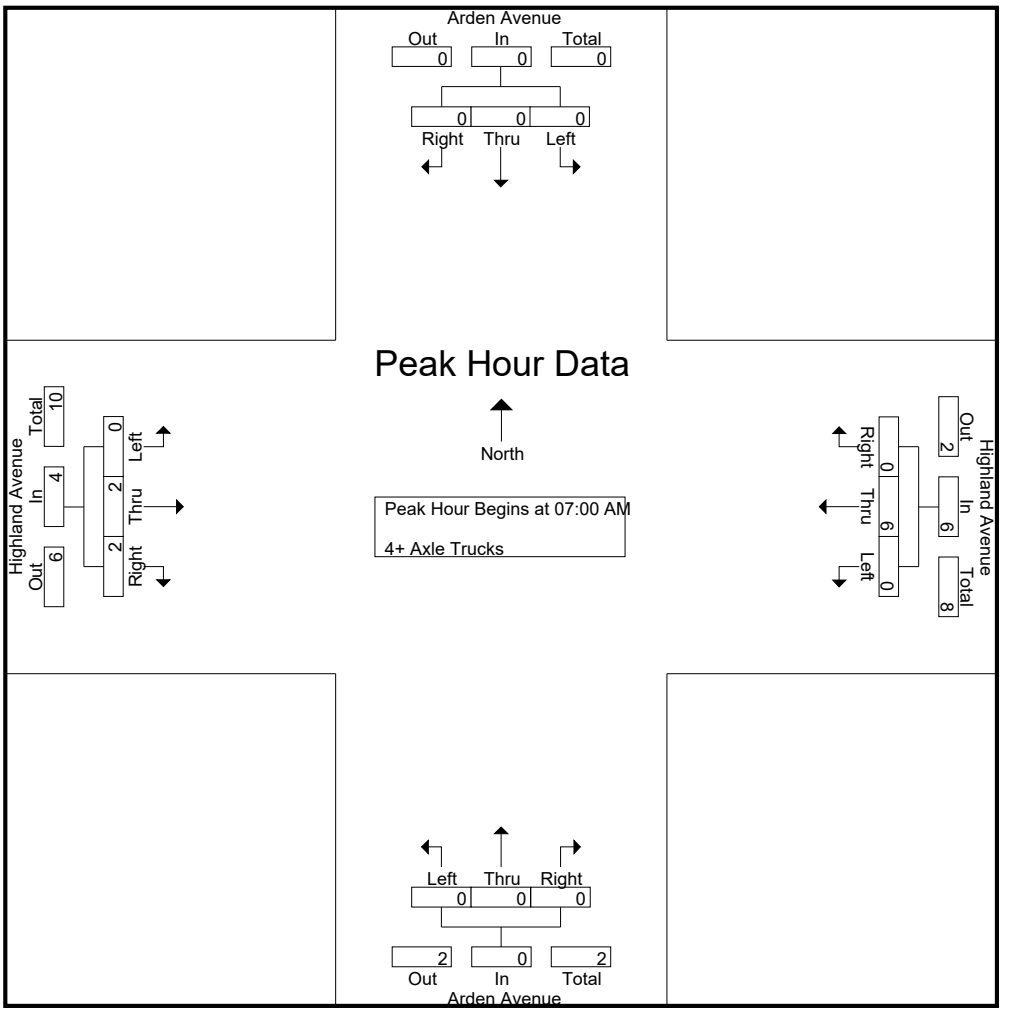

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	**1**	**2**	**3**
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	6	0	6	0	0	0	0	0	2	2	4
% App. Total	0	0	0		0	100	0		0	0	0		0	50	50	
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.500	.250	.333

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	18	44	42	104	39	299	41	379	53	24	13	90	40	248	93	381	954
04:15 PM	14	48	72	134	32	302	41	375	52	18	10	80	41	245	86	372	961
04:30 PM	15	59	65	139	28	302	41	371	39	17	5	61	41	238	89	368	939
04:45 PM	23	50	69	142	30	345	48	423	42	30	12	84	37	235	88	360	1009
Total	70	201	248	519	129	1248	171	1548	186	89	40	315	159	966	356	1481	3863
05:00 PM	30	56	46	132	36	297	49	382	54	32	8	94	26	244	72	342	950
05:15 PM	26	57	59	142	23	290	44	357	51	10	16	77	36	266	70	372	948
05:30 PM	13	40	58	111	31	284	48	363	52	15	12	79	41	264	74	379	932
05:45 PM	22	41	38	101	17	271	51	339	39	11	6	56	30	259	76	365	861
Total	91	194	201	486	107	1142	192	1441	196	68	42	306	133	1033	292	1458	3691
Grand Total	161	395	449	1005	236	2390	363	2989	382	157	82	621	292	1999	648	2939	7554
Apprch %	16	39.3	44.7		7.9	80	12.1		61.5	25.3	13.2		9.9	68	22		
Total %	2.1	5.2	5.9	13.3	3.1	31.6	4.8	39.6	5.1	2.1	1.1	8.2	3.9	26.5	8.6	38.9	
Passenger Vehicles	160	388	442	990	233	2345	361	2939	372	154	80	606	286	1966	646	2898	7433
% Passenger Vehicles	99.4	98.2	98.4	98.5	98.7	98.1	99.4	98.3	97.4	98.1	97.6	97.6	97.9	98.3	99.7	98.6	98.4
Large 2 Axle Vehicles	1	7	7	15	1	35	2	38	8	3	2	13	5	30	2	37	103
% Large 2 Axle Vehicles	0.6	1.8	1.6	1.5	0.4	1.5	0.6	1.3	2.1	1.9	2.4	2.1	1.7	1.5	0.3	1.3	1.4
3 Axle Vehicles	0	0	0	0	1	2	0	3	2	0	0	2	1	2	0	3	8
% 3 Axle Vehicles	0	0	0	0	0.4	0.1	0	0.1	0.5	0	0	0.3	0.3	0.1	0	0.1	0.1
4+ Axle Trucks	0	0	0	0	1	8	0	9	0	0	0	0	0	1	0	1	10
% 4+ Axle Trucks	0	0	0	0	0.4	0.3	0	0.3	0	0	0	0	0	0.1	0	0	0.1

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	18	44	42	104	**39**	299	41	379	**53**	24	**13**	**90**	40	**248**	**93**	**381**	954
04:15 PM	14	48	**72**	134	32	302	41	375	52	18	10	80	**41**	245	86	372	961
04:30 PM	15	**59**	65	139	28	302	41	371	39	17	5	61	41	238	89	368	939
04:45 PM	**23**	50	69	**142**	30	**345**	**48**	**423**	42	**30**	12	84	37	235	88	360	**1009**
Total Volume	70	201	248	519	129	1248	171	1548	186	89	40	315	159	966	356	1481	3863
% App. Total	13.5	38.7	47.8		8.3	80.6	11		59	28.3	12.7		10.7	65.2	24		
PHF	.761	.852	.861	.914	.827	.904	.891	.915	.877	.742	.769	.875	.970	.974	.957	.972	.957

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City of San Bernardino
N/S: Arden Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCARHIPM
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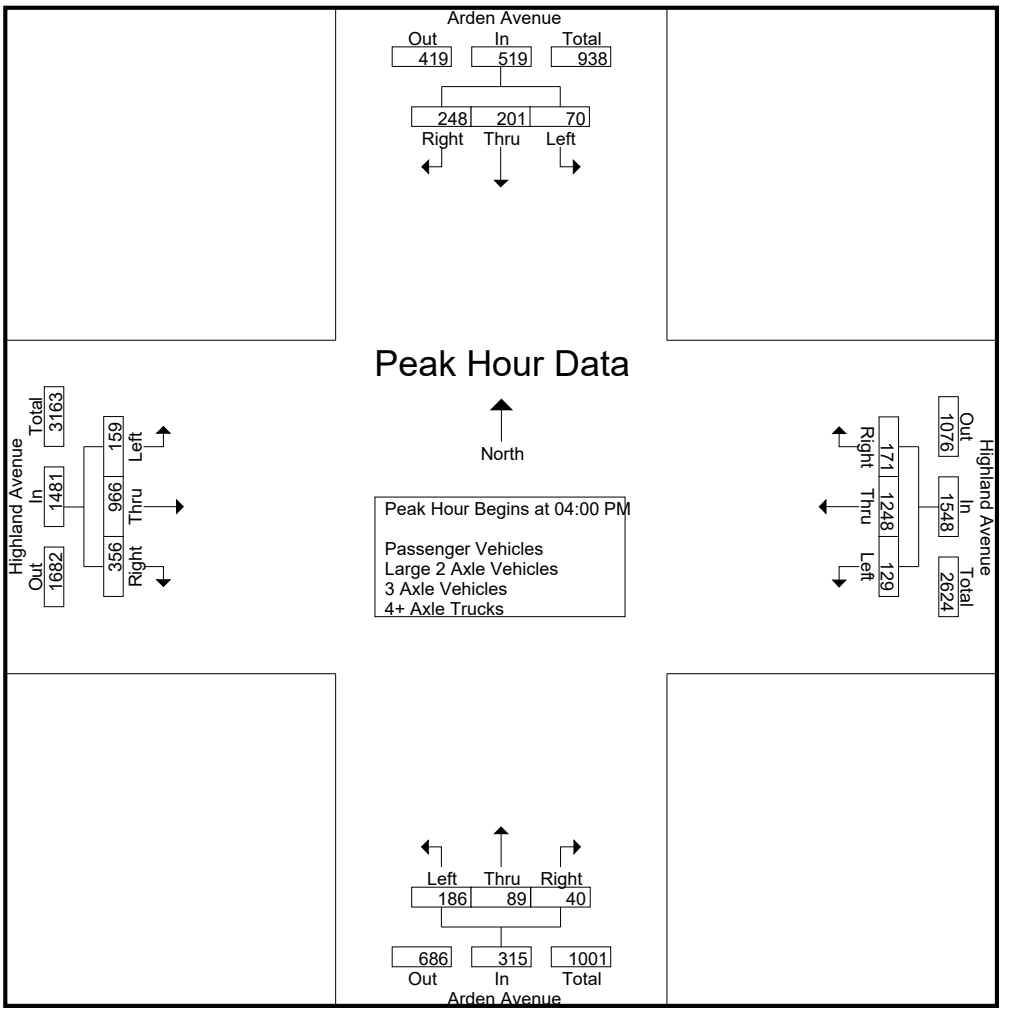

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:15 PM				04:45 PM				04:00 PM			
+0 mins.	15	**59**	65	139	32	302	41	375	42	30	12	84	40	**248**	**93**	**381**
+15 mins.	23	50	**69**	**142**	28	302	41	371	**54**	**32**	8	**94**	**41**	245	86	372
+30 mins.	**30**	56	46	132	30	**345**	48	**423**	51	10	**16**	77	41	238	89	368
+45 mins.	26	57	59	142	**36**	297	**49**	382	52	15	12	79	37	235	88	360
Total Volume	94	222	239	555	126	1246	179	1551	199	87	48	334	159	966	356	1481
% App. Total	16.9	40	43.1		8.1	80.3	11.5		59.6	26	14.4		10.7	65.2	24	
PHF	.783	.941	.866	.977	.875	.903	.913	.917	.921	.680	.750	.888	.970	.974	.957	.972

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City of San Bernardino
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Groups Printed- Passenger Vehicles

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	17	43	42	102	38	293	40	371	47	22	13	82	39	237	92	368	923
04:15 PM	14	46	71	131	32	295	40	367	52	17	9	78	41	241	85	367	943
04:30 PM	15	59	63	137	28	291	41	360	38	17	5	60	39	236	89	364	921
04:45 PM	23	48	68	139	29	341	48	418	41	30	12	83	36	233	88	357	997
Total	69	196	244	509	127	1220	169	1516	178	86	39	303	155	947	354	1456	3784
05:00 PM	30	56	46	132	36	291	49	376	54	32	8	94	25	239	72	336	938
05:15 PM	26	57	58	141	22	287	44	353	50	10	15	75	35	266	70	371	940
05:30 PM	13	39	57	109	31	279	48	358	52	15	12	79	41	259	74	374	920
05:45 PM	22	40	37	99	17	268	51	336	38	11	6	55	30	255	76	361	851
Total	91	192	198	481	106	1125	192	1423	194	68	41	303	131	1019	292	1442	3649
Grand Total	160	388	442	990	233	2345	361	2939	372	154	80	606	286	1966	646	2898	7433
Apprch %	16.2	39.2	44.6		7.9	79.8	12.3		61.4	25.4	13.2		9.9	67.8	22.3		
Total %	2.2	5.2	5.9	13.3	3.1	31.5	4.9	39.5	5	2.1	1.1	8.2	3.8	26.4	8.7	39	

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	17	43	42	102	**38**	293	40	371	47	22	**13**	82	39	237	**92**	**368**	923
04:15 PM	14	46	**71**	131	32	295	40	367	**52**	17	9	78	**41**	**241**	85	367	943
04:30 PM	15	**59**	63	137	28	291	41	360	38	17	5	60	39	236	89	364	921
04:45 PM	**23**	48	68	**139**	29	**341**	**48**	**418**	41	**30**	12	**83**	36	233	88	357	**997**
Total Volume	69	196	244	509	127	1220	169	1516	178	86	39	303	155	947	354	1456	3784
% App. Total	13.6	38.5	47.9		8.4	80.5	11.1		58.7	28.4	12.9		10.6	65	24.3		
PHF	.750	.831	.859	.915	.836	.894	.880	.907	.856	.717	.750	.913	.945	.982	.962	.989	.949

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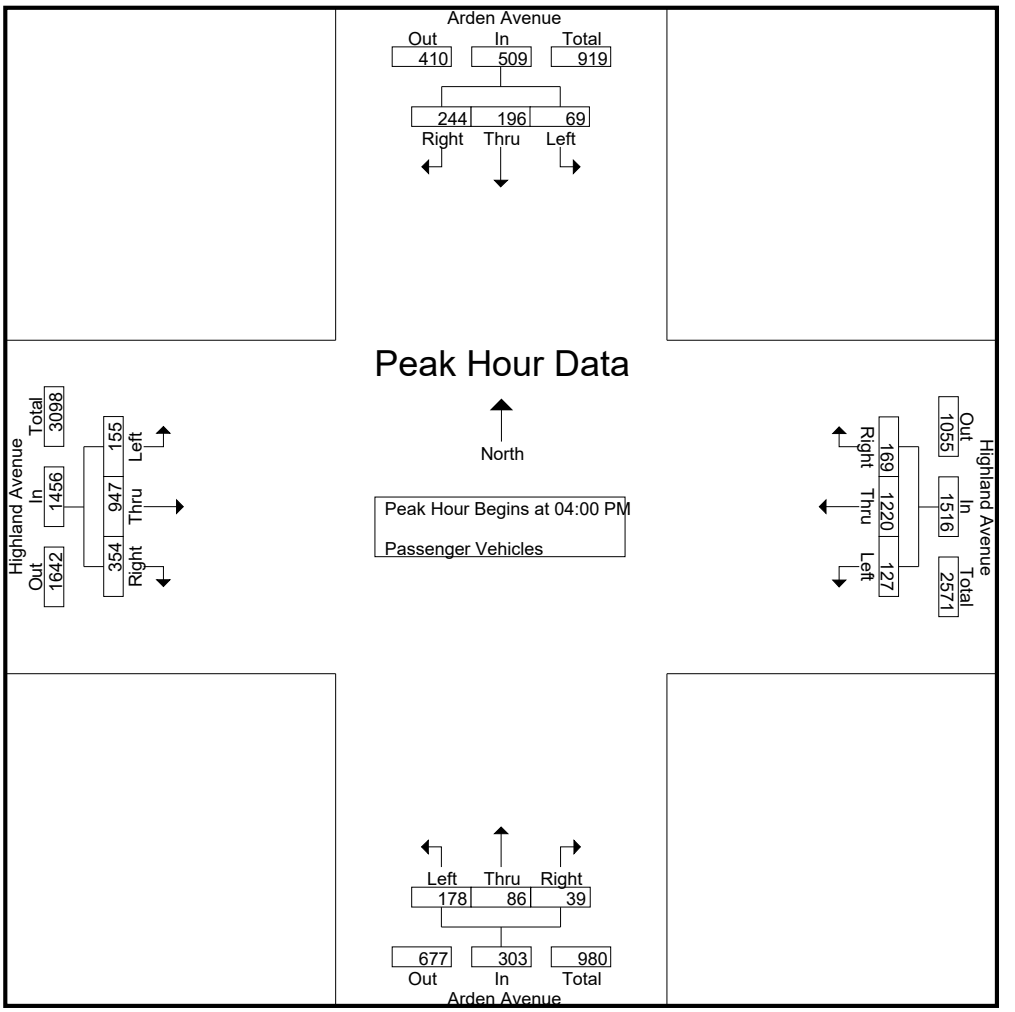

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	17	43	42	102	**38**	293	40	371	47	22	**13**	82	39	237	**92**	**368**
+15 mins.	14	46	**71**	131	32	295	40	367	**52**	17	9	78	**41**	**241**	85	367
+30 mins.	15	**59**	63	137	28	291	41	360	38	17	5	60	39	236	89	364
+45 mins.	**23**	48	68	**139**	29	**341**	**48**	**418**	41	**30**	12	**83**	36	233	88	357
Total Volume	69	196	244	509	127	1220	169	1516	178	86	39	303	155	947	354	1456
% App. Total	13.6	38.5	47.9		8.4	80.5	11.1		58.7	28.4	12.9		10.6	65	24.3	
PHF	.750	.831	.859	.915	.836	.894	.880	.907	.856	.717	.750	.913	.945	.982	.962	.989

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Groups Printed- Large 2 Axle Vehicles

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	1	0	2	0	6	1	7	4	2	0	6	1	11	1	13	28
04:15 PM	0	2	1	3	0	4	1	5	0	1	1	2	0	3	1	4	14
04:30 PM	0	0	2	2	0	8	0	8	1	0	0	1	2	2	0	4	15
04:45 PM	0	2	1	3	0	4	0	4	1	0	0	1	0	2	0	2	10
Total	1	5	4	10	0	22	2	24	6	3	1	10	3	18	2	23	67
05:00 PM	0	0	0	0	0	5	0	5	0	0	0	0	1	4	0	5	10
05:15 PM	0	0	1	1	1	3	0	4	1	0	1	2	1	0	0	1	8
05:30 PM	0	1	1	2	0	3	0	3	0	0	0	0	0	4	0	4	9
05:45 PM	0	1	1	2	0	2	0	2	1	0	0	1	0	4	0	4	9
Total	0	2	3	5	1	13	0	14	2	0	1	3	2	12	0	14	36
Grand Total	1	7	7	15	1	35	2	38	8	3	2	13	5	30	2	37	103
Apprch %	6.7	46.7	46.7		2.6	92.1	5.3		61.5	23.1	15.4		13.5	81.1	5.4		
Total %	1	6.8	6.8	14.6	1	34	1.9	36.9	7.8	2.9	1.9	12.6	4.9	29.1	1.9	35.9	

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	**1**	1	0	2	0	6	**1**	7	**4**	**2**	0	**6**	1	**11**	**1**	**13**	**28**
04:15 PM	0	**2**	1	**3**	0	4	1	5	0	1	**1**	2	0	3	1	4	14
04:30 PM	0	0	**2**	2	0	**8**	0	**8**	1	0	0	1	**2**	2	0	4	15
04:45 PM	0	2	1	3	0	4	0	4	1	0	0	1	0	2	0	2	10
Total Volume	1	5	4	10	0	22	2	24	6	3	1	10	3	18	2	23	67
% App. Total	10	50	40		0	91.7	8.3		60	30	10		13	78.3	8.7		
PHF	.250	.625	.500	.833	.000	.688	.500	.750	.375	.375	.250	.417	.375	.409	.500	.442	.598

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File Name : SBCARHIPM
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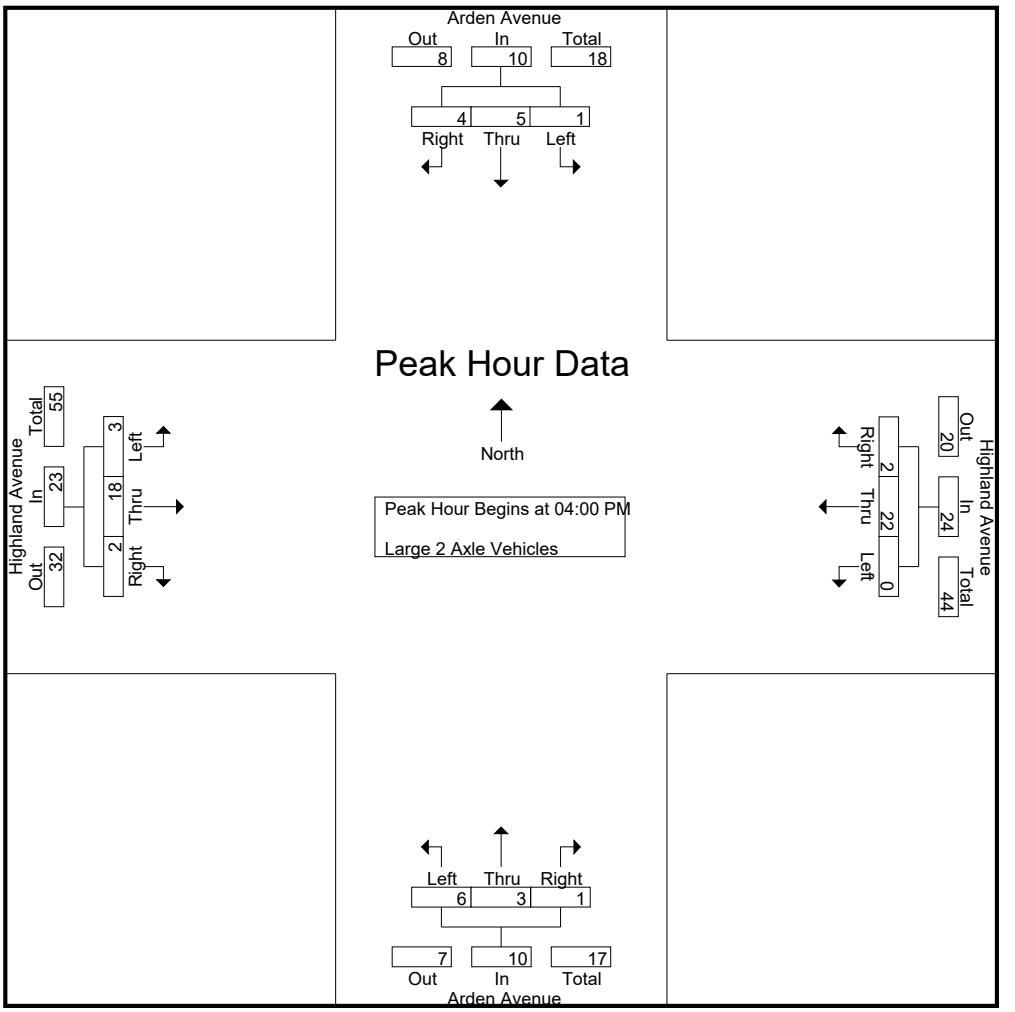

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	**1**	1	0	2	0	6	**1**	7	**4**	**2**	0	**6**	1	**11**	**1**	**13**
+15 mins.	0	**2**	1	**3**	0	4	1	5	0	1	**1**	2	0	3	1	4
+30 mins.	0	0	**2**	2	0	**8**	0	**8**	1	0	0	1	**2**	2	0	4
+45 mins.	0	2	1	3	0	4	0	4	1	0	0	1	0	2	0	2
Total Volume	1	5	4	10	0	22	2	24	6	3	1	10	3	18	2	23
% App. Total	10	50	40		0	91.7	8.3		60	30	10		13	78.3	8.7	
PHF	.250	.625	.500	.833	.000	.688	.500	.750	.375	.375	.250	.417	.375	.409	.500	.442

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Weather: Clear

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Groups Printed- 3 Axle Vehicles

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	1	0	0	1	2	0	0	2	0	0	0	0	3
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	1	0	0	1	2	0	0	2	1	1	0	2	5
05:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
Grand Total	0	0	0	0	1	2	0	3	2	0	0	2	1	2	0	3	8
Apprch %	0	0	0		33.3	66.7	0		100	0	0		33.3	66.7	0		
Total %	0	0	0	0	12.5	25	0	37.5	25	0	0	25	12.5	25	0	37.5	

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	**1**	0	0	**1**	**2**	0	0	**2**	0	0	0	0	**3**
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	1	1
Total Volume	0	0	0	0	1	0	0	1	2	0	0	2	1	1	0	2	5
% App. Total	0	0	0		100	0	0		100	0	0		50	50	0		
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.250	.000	.000	.250	.250	.250	.000	.500	.417

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City of San Bernardino
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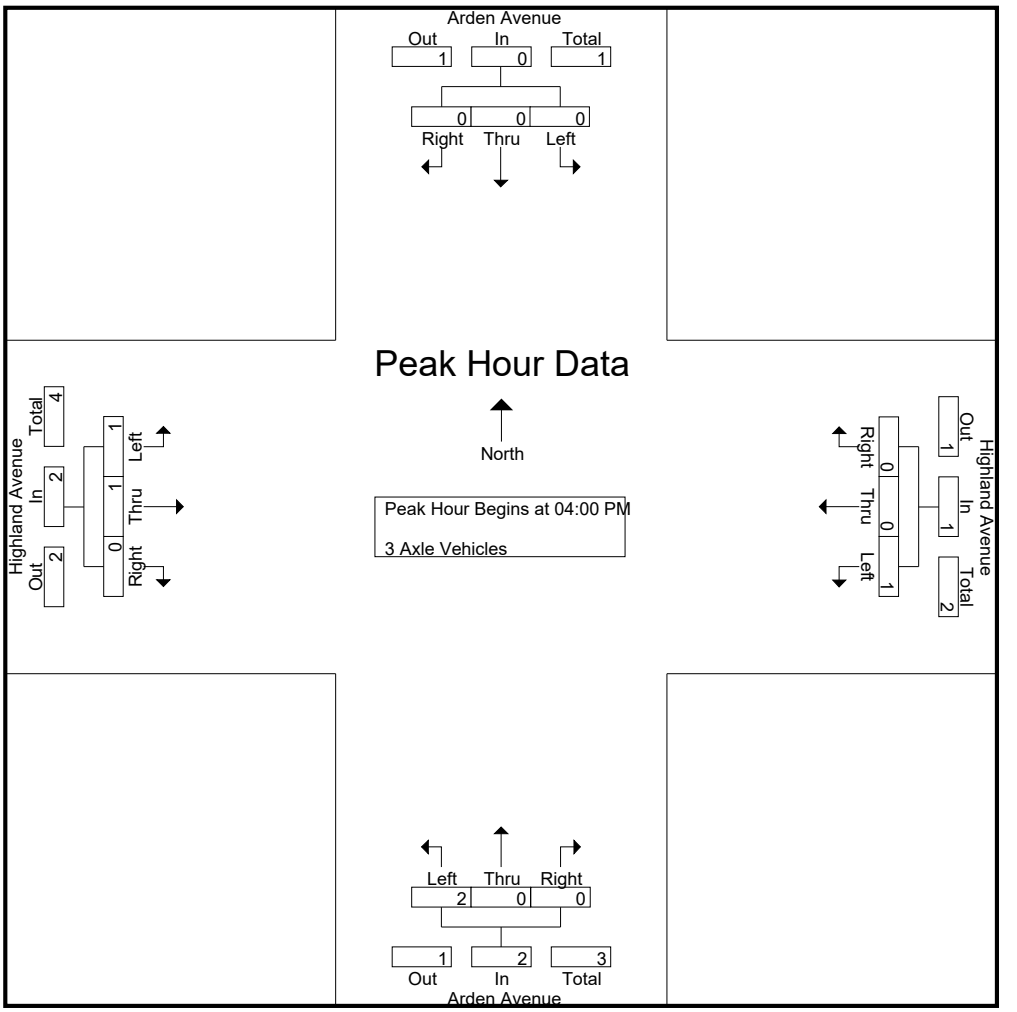

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	**1**	0	0	**1**	**2**	0	0	**2**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	1
Total Volume	0	0	0	0	1	0	0	1	2	0	0	2	1	1	0	2
% App. Total	0	0	0		100	0	0		100	0	0		50	50	0	
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.250	.000	.000	.250	.250	.250	.000	.500

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Groups Printed- 4+ Axle Trucks

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
04:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
04:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	6	0	7	0	0	0	0	0	0	0	0	7
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
Grand Total	0	0	0	0	1	8	0	9	0	0	0	0	0	1	0	1	10
Apprch %	0	0	0		11.1	88.9	0		0	0	0		0	100	0		
Total %	0	0	0	0	10	80	0	90	0	0	0	0	0	10	0	10	

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	0	0	0	**3**
04:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
04:45 PM	0	0	0	0	**1**	0	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	1	6	0	7	0	0	0	0	0	0	0	0	7
% App. Total	0	0	0		14.3	85.7	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.250	.500	.000	.583	.000	.000	.000	.000	.000	.000	.000	.000	.583

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Weather: Clear

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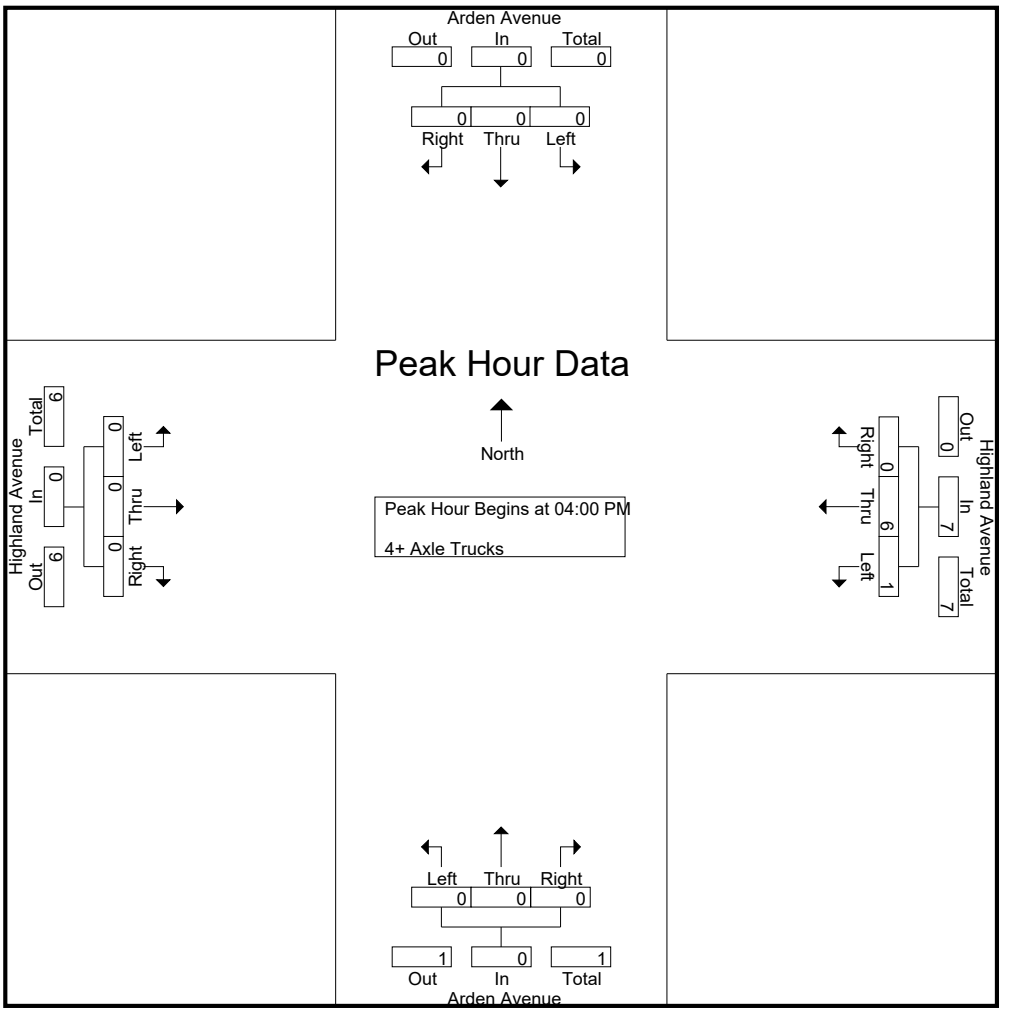

Peak Hour Analysis From 04:00 PM to 04:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				04:00 PM				04:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	**1**	0	0	1	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	1	6	0	7	0	0	0	0	0	0	0	0
% App. Total	0	0	0		14.3	85.7	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.250	.500	.000	.583	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
N/S: Arden Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCARHISAT
Site Code : 05716653
Start Date : 12/10/2016
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	24	40	67	131	32	270	38	340	40	8	7	55	37	296	41	374	900
05:15 PM	22	40	53	115	33	321	38	392	37	10	5	52	39	254	73	366	925
05:30 PM	15	34	63	112	24	315	35	374	50	14	10	74	41	318	59	418	978
05:45 PM	19	40	66	125	29	283	43	355	37	13	7	57	37	287	58	382	919
Total	80	154	249	483	118	1189	154	1461	164	45	29	238	154	1155	231	1540	3722
06:00 PM	22	32	61	115	28	308	54	390	40	12	9	61	42	274	54	370	936
06:15 PM	19	37	44	100	35	323	36	394	38	8	5	51	38	302	52	392	937
06:30 PM	17	34	37	88	29	297	42	368	24	7	5	36	39	263	55	357	849
06:45 PM	15	38	45	98	27	300	39	366	32	14	4	50	32	288	51	371	885
Total	73	141	187	401	119	1228	171	1518	134	41	23	198	151	1127	212	1490	3607
Grand Total	153	295	436	884	237	2417	325	2979	298	86	52	436	305	2282	443	3030	7329
Apprch %	17.3	33.4	49.3		8	81.1	10.9		68.3	19.7	11.9		10.1	75.3	14.6		
Total %	2.1	4	5.9	12.1	3.2	33	4.4	40.6	4.1	1.2	0.7	5.9	4.2	31.1	6	41.3	
Passenger Vehicles	152	295	434	881	237	2398	316	2951	298	85	48	431	301	2268	443	3012	7275
% Passenger Vehicles	99.3	100	99.5	99.7	100	99.2	97.2	99.1	100	98.8	92.3	98.9	98.7	99.4	100	99.4	99.3
Large 2 Axle Vehicles	0	0	2	2	0	13	8	21	0	0	2	2	4	9	0	13	38
% Large 2 Axle Vehicles	0	0	0.5	0.2	0	0.5	2.5	0.7	0	0	3.8	0.5	1.3	0.4	0	0.4	0.5
3 Axle Vehicles	1	0	0	1	0	6	0	6	0	0	2	2	0	4	0	4	13
% 3 Axle Vehicles	0.7	0	0	0.1	0	0.2	0	0.2	0	0	3.8	0.5	0	0.2	0	0.1	0.2
4+ Axle Trucks	0	0	0	0	0	0	1	1	0	1	0	1	0	1	0	1	3
% 4+ Axle Trucks	0	0	0	0	0	0	0.3	0	0	1.2	0	0.2	0	0	0	0	0

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:30 PM																	
05:30 PM	15	34	63	112	24	315	35	374	**50**	**14**	**10**	**74**	41	**318**	**59**	**418**	**978**
05:45 PM	19	**40**	**66**	**125**	29	283	43	355	37	13	7	57	37	287	58	382	919
06:00 PM	**22**	32	61	115	28	308	**54**	390	40	12	9	61	**42**	274	54	370	936
06:15 PM	19	37	44	100	**35**	**323**	36	**394**	38	8	5	51	38	302	52	392	937
Total Volume	75	143	234	452	116	1229	168	1513	165	47	31	243	158	1181	223	1562	3770
% App. Total	16.6	31.6	51.8		7.7	81.2	11.1		67.9	19.3	12.8		10.1	75.6	14.3		
PHF	.852	.894	.886	.904	.829	.951	.778	.960	.825	.839	.775	.821	.940	.928	.945	.934	.964

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File Name : SBCARHISAT
Site Code : 05716653
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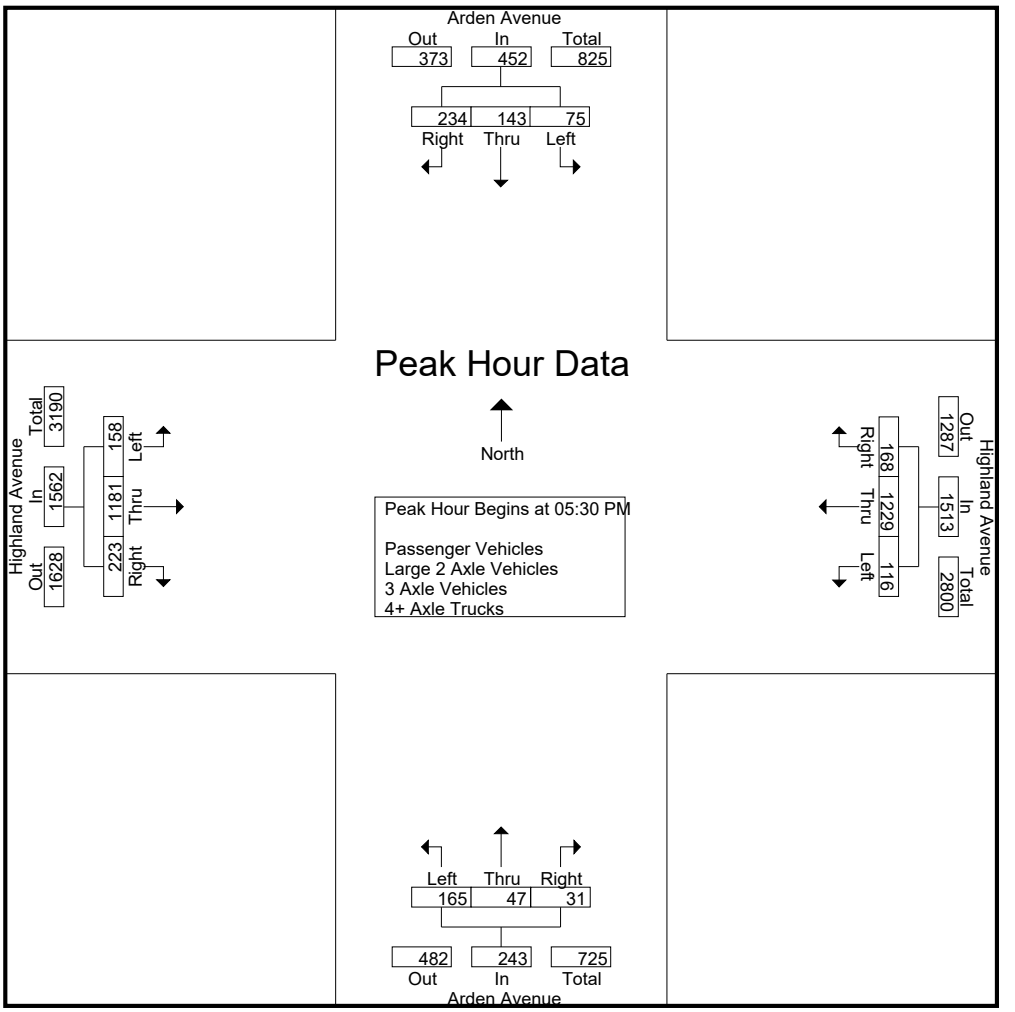

Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				06:00 PM				05:15 PM				05:30 PM			
+0 mins.	**24**	**40**	**67**	**131**	28	308	**54**	390	37	10	5	52	41	**318**	**59**	**418**
+15 mins.	22	40	53	115	**35**	**323**	36	**394**	**50**	**14**	**10**	**74**	37	287	58	382
+30 mins.	15	34	63	112	29	297	42	368	37	13	7	57	**42**	274	54	370
+45 mins.	19	40	66	125	27	300	39	366	40	12	9	61	38	302	52	392
Total Volume	80	154	249	483	119	1228	171	1518	164	49	31	244	158	1181	223	1562
% App. Total	16.6	31.9	51.6		7.8	80.9	11.3		67.2	20.1	12.7		10.1	75.6	14.3	
PHF	.833	.963	.929	.922	.850	.950	.792	.963	.820	.875	.775	.824	.940	.928	.945	.934

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File Name : SBCARHISAT
Site Code : 05716653
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Groups Printed- Passenger Vehicles

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	24	40	67	131	32	269	37	338	40	8	7	55	37	295	41	373	897
05:15 PM	21	40	53	114	33	318	38	389	37	10	5	52	39	252	73	364	919
05:30 PM	15	34	63	112	24	313	34	371	50	14	7	71	40	317	59	416	970
05:45 PM	19	40	66	125	29	283	40	352	37	13	7	57	37	283	58	378	912
Total	79	154	249	482	118	1183	149	1450	164	45	26	235	153	1147	231	1531	3698
06:00 PM	22	32	61	115	28	303	51	382	40	12	9	61	40	273	54	367	925
06:15 PM	19	37	44	100	35	320	36	391	38	7	5	50	38	300	52	390	931
06:30 PM	17	34	35	86	29	293	42	364	24	7	5	36	38	261	55	354	840
06:45 PM	15	38	45	98	27	299	38	364	32	14	3	49	32	287	51	370	881
Total	73	141	185	399	119	1215	167	1501	134	40	22	196	148	1121	212	1481	3577
Grand Total	152	295	434	881	237	2398	316	2951	298	85	48	431	301	2268	443	3012	7275
Apprch %	17.3	33.5	49.3		8	81.3	10.7		69.1	19.7	11.1		10	75.3	14.7		
Total %	2.1	4.1	6	12.1	3.3	33	4.3	40.6	4.1	1.2	0.7	5.9	4.1	31.2	6.1	41.4	

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:30 PM																	
05:30 PM	15	34	63	112	24	313	34	371	**50**	**14**	7	**71**	**40**	**317**	**59**	**416**	**970**
05:45 PM	19	**40**	**66**	**125**	29	283	40	352	37	13	7	57	37	283	58	378	912
06:00 PM	**22**	32	61	115	28	303	**51**	382	40	12	**9**	61	40	273	54	367	925
06:15 PM	19	37	44	100	**35**	**320**	36	**391**	38	7	5	50	38	300	52	390	931
Total Volume	75	143	234	452	116	1219	161	1496	165	46	28	239	155	1173	223	1551	3738
% App. Total	16.6	31.6	51.8		7.8	81.5	10.8		69	19.2	11.7		10	75.6	14.4		
PHF	.852	.894	.886	.904	.829	.952	.789	.957	.825	.821	.778	.842	.969	.925	.945	.932	.963

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File Name : SBCARHISAT
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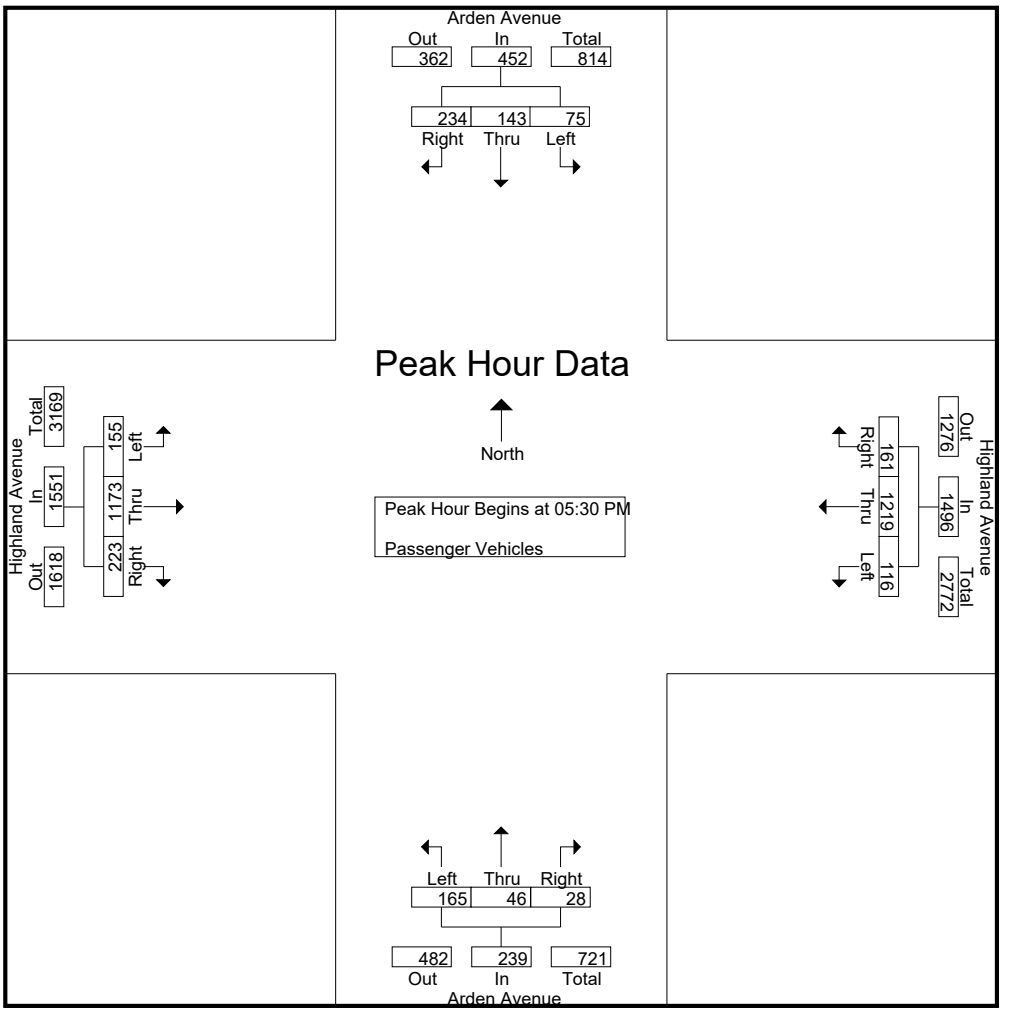

Peak Hour Analysis From 05:30 PM to 06:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:30 PM				05:30 PM				05:30 PM				05:30 PM			
+0 mins.	15	34	63	112	24	313	34	371	**50**	**14**	7	**71**	**40**	**317**	**59**	**416**
+15 mins.	19	**40**	**66**	**125**	29	283	40	352	37	13	7	57	37	283	58	378
+30 mins.	**22**	32	61	115	28	303	**51**	382	40	12	**9**	61	40	273	54	367
+45 mins.	19	37	44	100	**35**	**320**	36	**391**	38	7	5	50	38	300	52	390
Total Volume	75	143	234	452	116	1219	161	1496	165	46	28	239	155	1173	223	1551
% App. Total	16.6	31.6	51.8		7.8	81.5	10.8		69	19.2	11.7		10	75.6	14.4	
PHF	.852	.894	.886	.904	.829	.952	.789	.957	.825	.821	.778	.842	.969	.925	.945	.932

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Groups Printed- Large 2 Axle Vehicles

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	1	0	1	3
05:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
05:30 PM	0	0	0	0	0	2	1	3	0	0	2	2	1	0	0	1	6
05:45 PM	0	0	0	0	0	0	3	3	0	0	0	0	0	3	0	3	6
Total	0	0	0	0	0	5	5	10	0	0	2	2	1	6	0	7	19
06:00 PM	0	0	0	0	0	3	2	5	0	0	0	0	2	1	0	3	8
06:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
06:30 PM	0	0	2	2	0	2	0	2	0	0	0	0	1	0	0	1	5
06:45 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	1	0	1	3
Total	0	0	2	2	0	8	3	11	0	0	0	0	3	3	0	6	19
Grand Total	0	0	2	2	0	13	8	21	0	0	2	2	4	9	0	13	38
Apprch %	0	0	100		0	61.9	38.1		0	0	100		30.8	69.2	0		
Total %	0	0	5.3	5.3	0	34.2	21.1	55.3	0	0	5.3	5.3	10.5	23.7	0	34.2	

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:30 PM																	
05:30 PM	0	0	0	0	0	2	1	3	0	0	**2**	**2**	1	0	0	1	6
05:45 PM	0	0	0	0	0	0	**3**	3	0	0	0	0	0	**3**	0	**3**	6
06:00 PM	0	0	0	0	0	**3**	2	**5**	0	0	0	0	**2**	1	0	3	**8**
06:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
Total Volume	0	0	0	0	0	7	6	13	0	0	2	2	3	5	0	8	23
% App. Total	0	0	0		0	53.8	46.2		0	0	100		37.5	62.5	0		
PHF	.000	.000	.000	.000	.000	.583	.500	.650	.000	.000	.250	.250	.375	.417	.000	.667	.719

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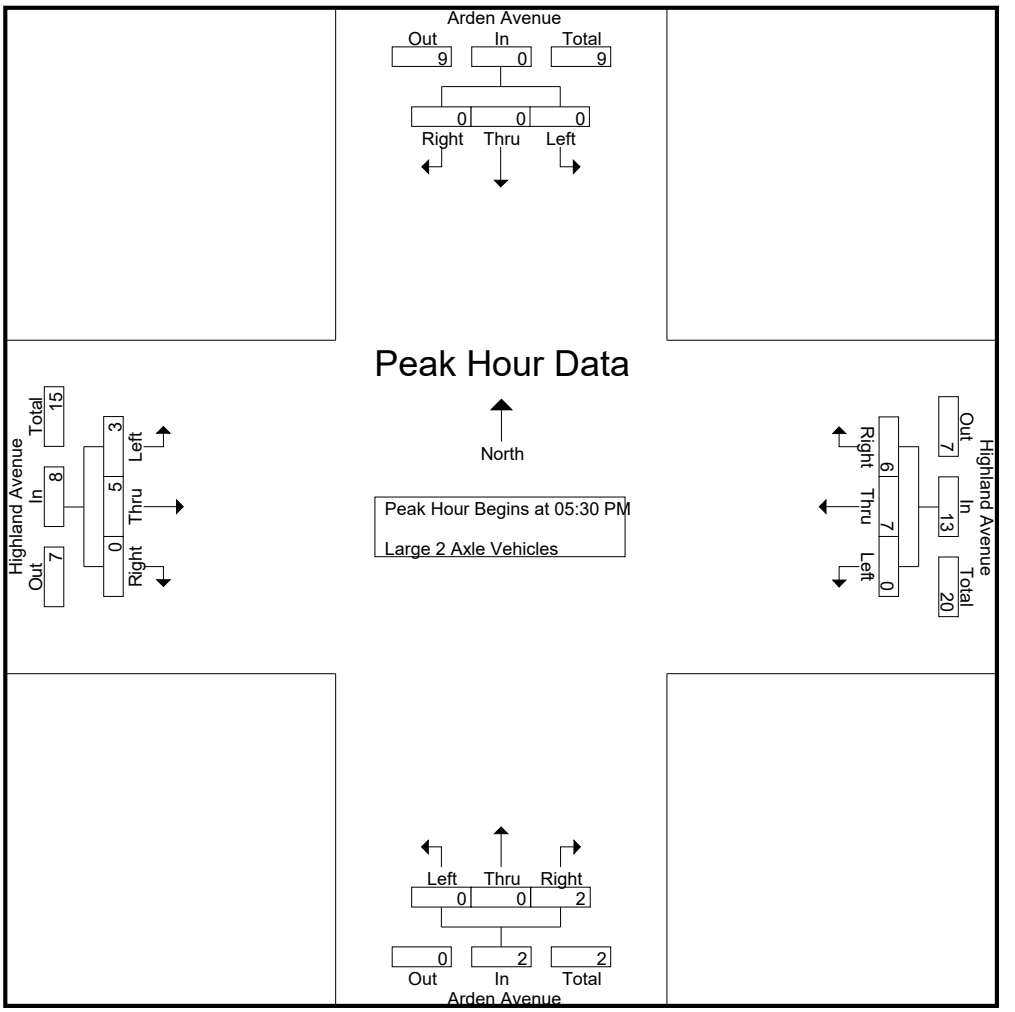

Peak Hour Analysis From 05:30 PM to 06:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:30 PM				05:30 PM				05:30 PM				05:30 PM			
+0 mins.	0	0	0	0	0	2	1	3	0	0	**2**	**2**	1	0	0	1
+15 mins.	0	0	0	0	0	0	**3**	3	0	0	0	0	0	**3**	0	**3**
+30 mins.	0	0	0	0	0	**3**	2	**5**	0	0	0	0	**2**	1	0	3
+45 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	7	6	13	0	0	2	2	3	5	0	8
% App. Total	0	0	0		0	53.8	46.2		0	0	100		37.5	62.5	0	
PHF	.000	.000	.000	.000	.000	.583	.500	.650	.000	.000	.250	.250	.375	.417	.000	.667

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Groups Printed- 3 Axle Vehicles

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	1	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
05:30 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	1	0	0	1	0	1	0	1	0	0	1	1	0	2	0	2	5
06:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
06:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
06:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
06:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total	0	0	0	0	0	5	0	5	0	0	1	1	0	2	0	2	8
Grand Total	1	0	0	1	0	6	0	6	0	0	2	2	0	4	0	4	13
Apprch %	100	0	0		0	100	0		0	0	100		0	100	0		
Total %	7.7	0	0	7.7	0	46.2	0	46.2	0	0	15.4	15.4	0	30.8	0	30.8	

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:30 PM																	
05:30 PM	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	**1**	0	**1**	**2**
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
06:00 PM	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	0	0	0	2
06:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	3	0	3	0	0	1	1	0	2	0	2	6
% App. Total	0	0	0		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.000	.375	.000	.375	.000	.000	.250	.250	.000	.500	.000	.500	.750

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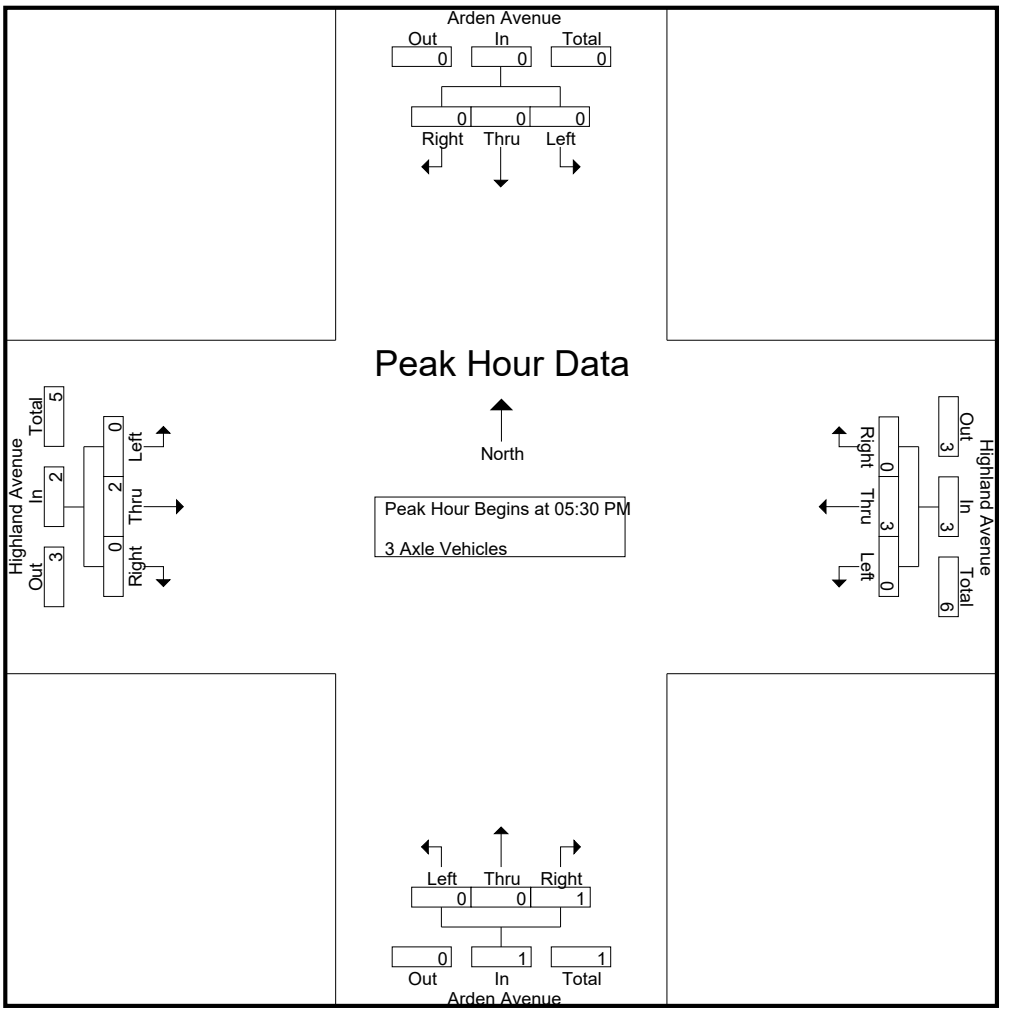

Peak Hour Analysis From 05:30 PM to 06:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:30 PM				05:30 PM				05:30 PM				05:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	**1**	0	**1**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	3	0	3	0	0	1	1	0	2	0	2
% App. Total	0	0	0		0	100	0		0	0	100		0	100	0	
PHF	.000	.000	.000	.000	.000	.375	.000	.375	.000	.000	.250	.250	.000	.500	.000	.500

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Groups Printed- 4+ Axle Trucks

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
06:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	1	2
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	1	0	1	0	1	0	1	0	1	3
Grand Total	0	0	0	0	0	0	1	1	0	1	0	1	0	1	0	1	3
Apprch %	0	0	0		0	0	100		0	100	0		0	100	0		
Total %	0	0	0	0	0	0	33.3	33.3	0	33.3	0	33.3	0	33.3	0	33.3	

	Arden Avenue Southbound				Highland Avenue Westbound				Arden Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:30 PM																	
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	**1**	**1**	0	0	0	0	0	0	0	0	1
06:15 PM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	**1**	0	**1**	**2**
Total Volume	0	0	0	0	0	0	1	1	0	1	0	1	0	1	0	1	3
% App. Total	0	0	0		0	0	100		0	100	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.000	.250	.000	.250	.000	.250	.000	.250	.375

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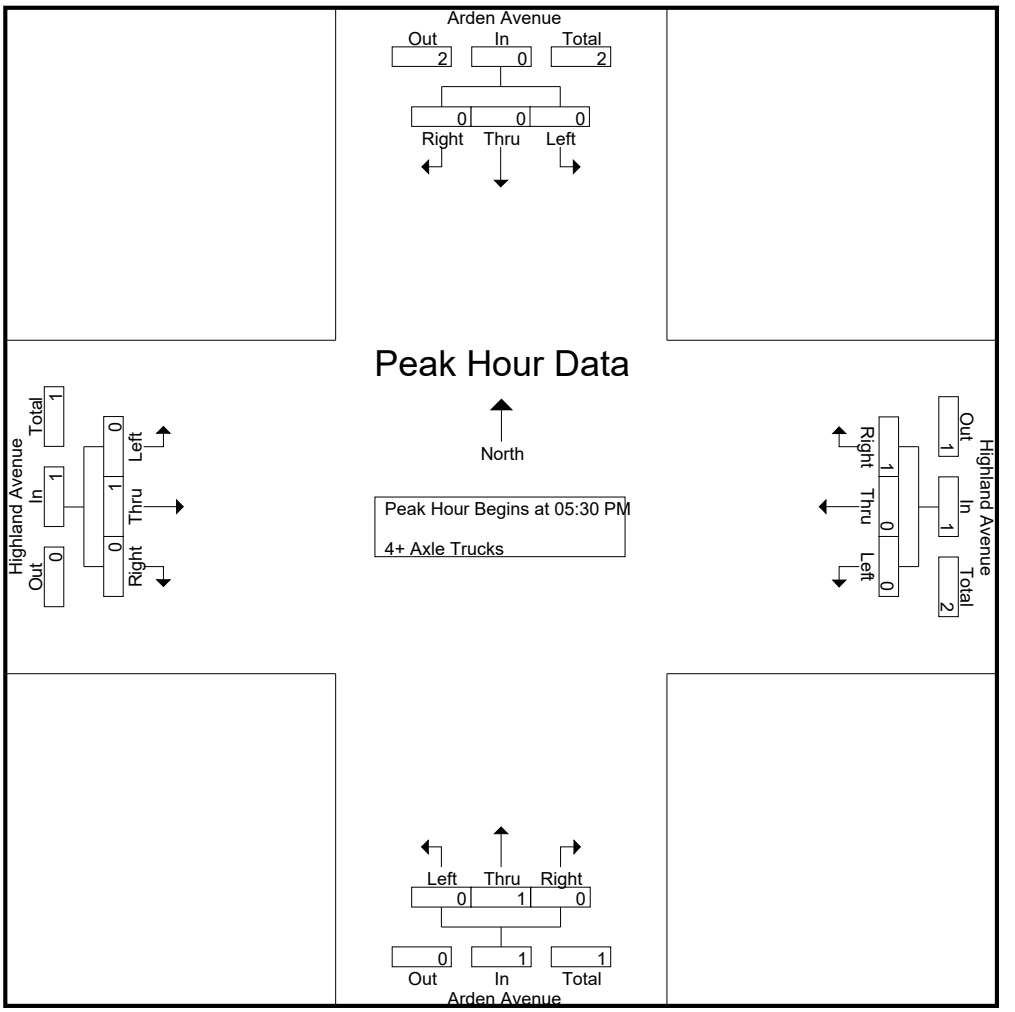
City of San Bernardino
N/S: Arden Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCARHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 2



Peak Hour Analysis From 05:30 PM to 06:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:30 PM				05:30 PM				05:30 PM				05:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	**1**	**1**	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	**1**	0	**1**
Total Volume	0	0	0	0	0	0	1	1	0	1	0	1	0	1	0	1
% App. Total	0	0	0		0	0	100		0	100	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.000	.250	.000	.250	.000	.250	.000	.250

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City of San Bernardino
N/S: Arden Avenue
E/W: SR-210 Southbound On Ramp
Weather: Clear

File Name : SBCAR210SAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	74	103	177	0	0	0	104	27	131	308
07:15 AM	66	170	236	0	0	0	175	34	209	445
07:30 AM	74	95	169	0	0	0	177	24	201	370
07:45 AM	51	75	126	0	0	0	67	15	82	208
Total	265	443	708	0	0	0	523	100	623	1331
08:00 AM	55	65	120	0	0	0	63	12	75	195
08:15 AM	73	68	141	0	0	0	83	9	92	233
08:30 AM	67	71	138	0	0	0	77	19	96	234
08:45 AM	56	66	122	0	0	0	70	13	83	205
Total	251	270	521	0	0	0	293	53	346	867
Grand Total	516	713	1229	0	0	0	816	153	969	2198
Apprch %	42	58		0	0		84.2	15.8		
Total %	23.5	32.4	55.9	0	0	0	37.1	7	44.1	
Passenger Vehicles	508	697	1205	0	0	0	790	151	941	2146
% Passenger Vehicles	98.4	97.8	98	0	0	0	96.8	98.7	97.1	97.6
Large 2 Axle Vehicles	5	14	19	0	0	0	25	2	27	46
% Large 2 Axle Vehicles	1	2	1.5	0	0	0	3.1	1.3	2.8	2.1
3 Axle Vehicles	1	0	1	0	0	0	1	0	1	2
% 3 Axle Vehicles	0.2	0	0.1	0	0	0	0.1	0	0.1	0.1
4+ Axle Trucks	2	2	4	0	0	0	0	0	0	4
% 4+ Axle Trucks	0.4	0.3	0.3	0	0	0	0	0	0	0.2

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	**74**	103	177	0	0	0	104	27	131	308
07:15 AM	66	**170**	**236**	0	0	0	175	**34**	**209**	**445**
07:30 AM	74	95	169	0	0	0	**177**	24	201	370
07:45 AM	51	75	126	0	0	0	67	15	82	208
Total Volume	265	443	708	0	0	0	523	100	623	1331
% App. Total	37.4	62.6		0	0		83.9	16.1		
PHF	.895	.651	.750	.000	.000	.000	.739	.735	.745	.748

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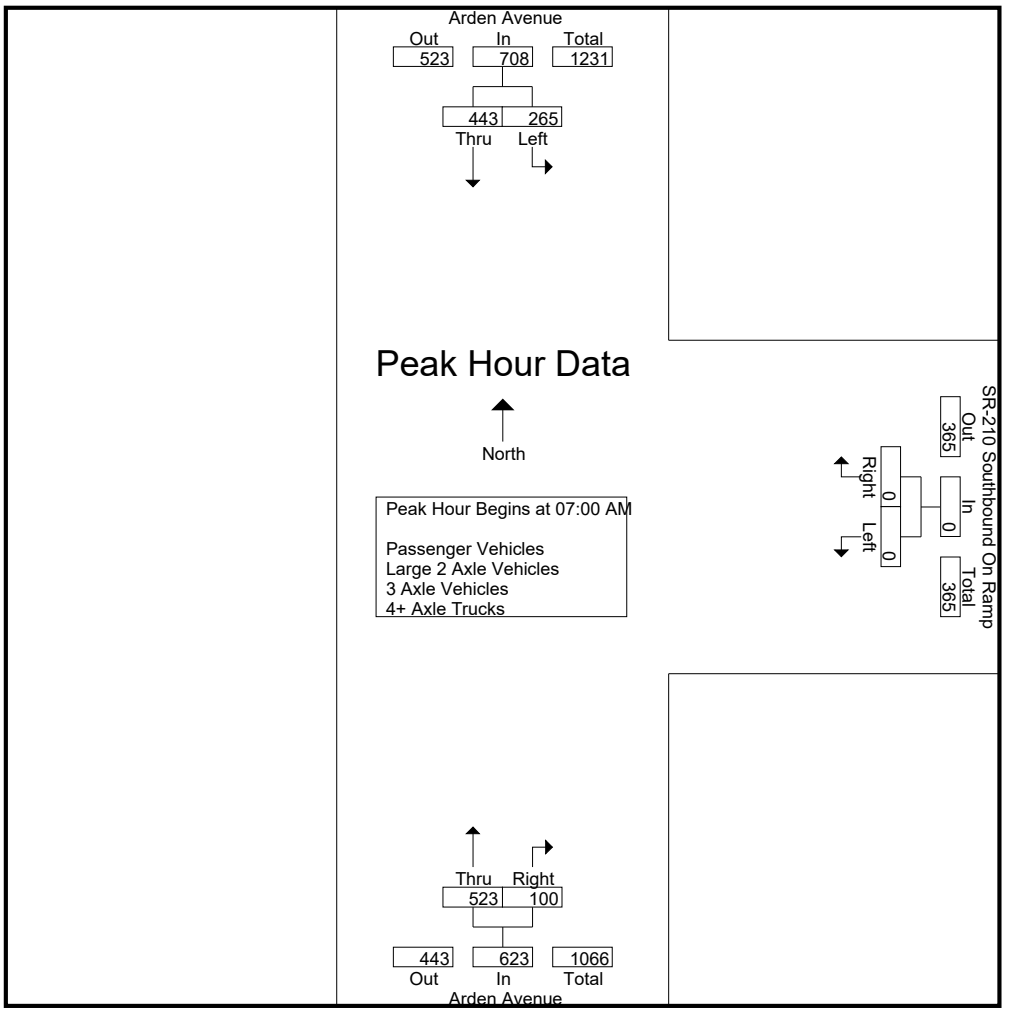
City of San Bernardino
N/S: Arden Avenue
E/W: SR-210 Southbound On Ramp
Weather: Clear

File Name : SBCAR210SAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	**74**	103	177	0	0	0	104	27	131
+15 mins.	66	**170**	**236**	0	0	0	175	**34**	**209**
+30 mins.	74	95	169	0	0	0	**177**	24	201
+45 mins.	51	75	126	0	0	0	67	15	82
Total Volume	265	443	708	0	0	0	523	100	623
% App. Total	37.4	62.6		0	0		83.9	16.1	
PHF	.895	.651	.750	.000	.000	.000	.739	.735	.745

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City of San Bernardino
N/S: Arden Avenue
E/W: SR-210 Southbound On Ramp
Weather: Clear

File Name : SBCAR210SAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	74	102	176	0	0	0	101	26	127	303
07:15 AM	65	165	230	0	0	0	174	34	208	438
07:30 AM	73	94	167	0	0	0	176	24	200	367
07:45 AM	51	73	124	0	0	0	67	15	82	206
Total	263	434	697	0	0	0	518	99	617	1314
08:00 AM	53	65	118	0	0	0	59	12	71	189
08:15 AM	73	64	137	0	0	0	69	9	78	215
08:30 AM	65	71	136	0	0	0	76	18	94	230
08:45 AM	54	63	117	0	0	0	68	13	81	198
Total	245	263	508	0	0	0	272	52	324	832
Grand Total	508	697	1205	0	0	0	790	151	941	2146
Apprch %	42.2	57.8		0	0		84	16		
Total %	23.7	32.5	56.2	0	0	0	36.8	7	43.8	

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	**74**	102	176	0	0	0	101	26	127	303
07:15 AM	65	**165**	**230**	0	0	0	174	**34**	**208**	**438**
07:30 AM	73	94	167	0	0	0	**176**	24	200	367
07:45 AM	51	73	124	0	0	0	67	15	82	206
Total Volume	263	434	697	0	0	0	518	99	617	1314
% App. Total	37.7	62.3		0	0		84	16		
PHF	.889	.658	.758	.000	.000	.000	.736	.728	.742	.750

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City of San Bernardino
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E/W: SR-210 Southbound On Ramp
Weather: Clear

File Name : SBCAR210SAM
Site Code : 05716653
Start Date : 12/7/2016
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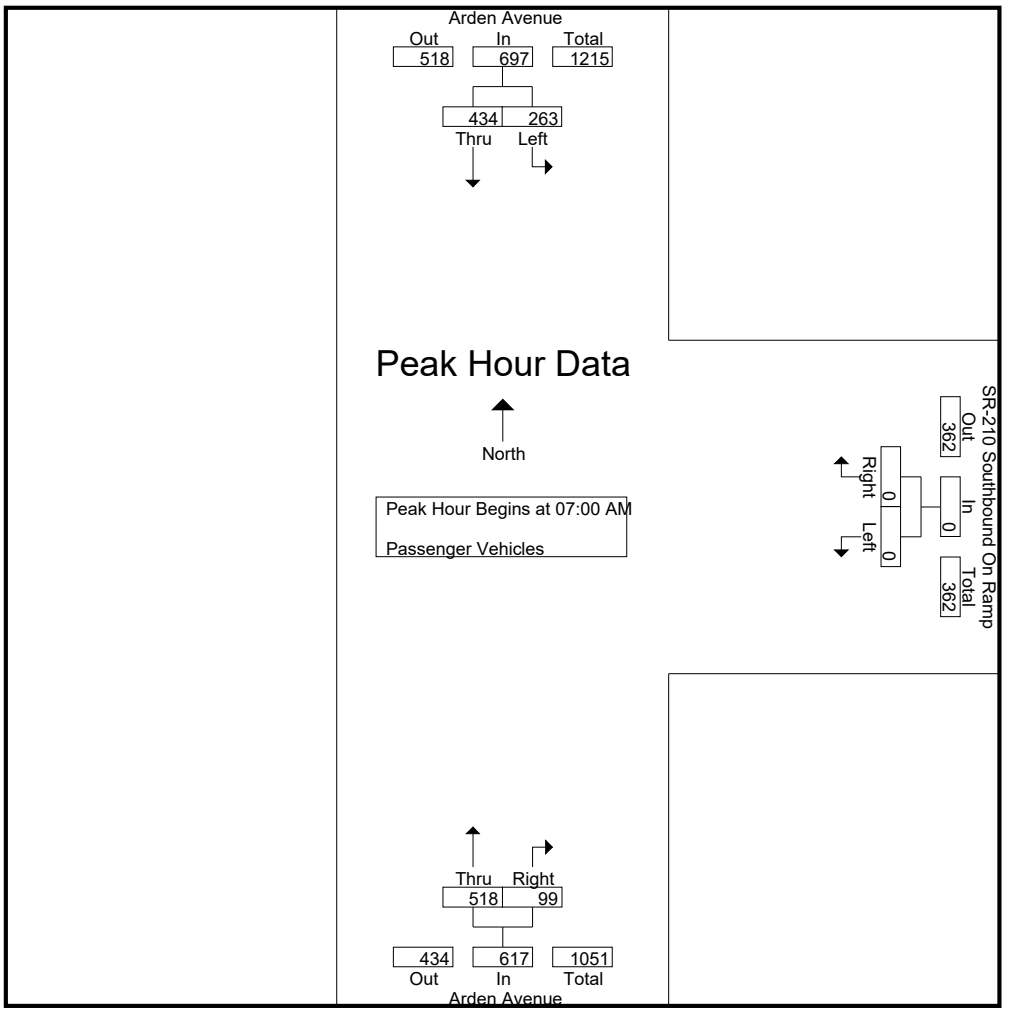

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	**74**	102	176	0	0	0	101	26	127
+15 mins.	65	**165**	**230**	0	0	0	174	**34**	**208**
+30 mins.	73	94	167	0	0	0	**176**	24	200
+45 mins.	51	73	124	0	0	0	67	15	82
Total Volume	263	434	697	0	0	0	518	99	617
% App. Total	37.7	62.3		0	0		84	16	
PHF	.889	.658	.758	.000	.000	.000	.736	.728	.742

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City of San Bernardino
N/S: Arden Avenue
E/W: SR-210 Southbound On Ramp
Weather: Clear

File Name : SBCAR210SAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	1	0	0	0	2	1	3	4
07:15 AM	1	3	4	0	0	0	1	0	1	5
07:30 AM	1	1	2	0	0	0	1	0	1	3
07:45 AM	0	2	2	0	0	0	0	0	0	2
Total	2	7	9	0	0	0	4	1	5	14
08:00 AM	1	0	1	0	0	0	4	0	4	5
08:15 AM	0	4	4	0	0	0	14	0	14	18
08:30 AM	1	0	1	0	0	0	1	1	2	3
08:45 AM	1	3	4	0	0	0	2	0	2	6
Total	3	7	10	0	0	0	21	1	22	32
Grand Total	5	14	19	0	0	0	25	2	27	46
Apprch %	26.3	73.7		0	0		92.6	7.4		
Total %	10.9	30.4	41.3	0	0	0	54.3	4.3	58.7	

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	1	1	0	0	0	**2**	**1**	**3**	4
07:15 AM	**1**	**3**	**4**	0	0	0	1	0	1	**5**
07:30 AM	1	1	2	0	0	0	1	0	1	3
07:45 AM	0	2	2	0	0	0	0	0	0	2
Total Volume	2	7	9	0	0	0	4	1	5	14
% App. Total	22.2	77.8		0	0		80	20		
PHF	.500	.583	.563	.000	.000	.000	.500	.250	.417	.700

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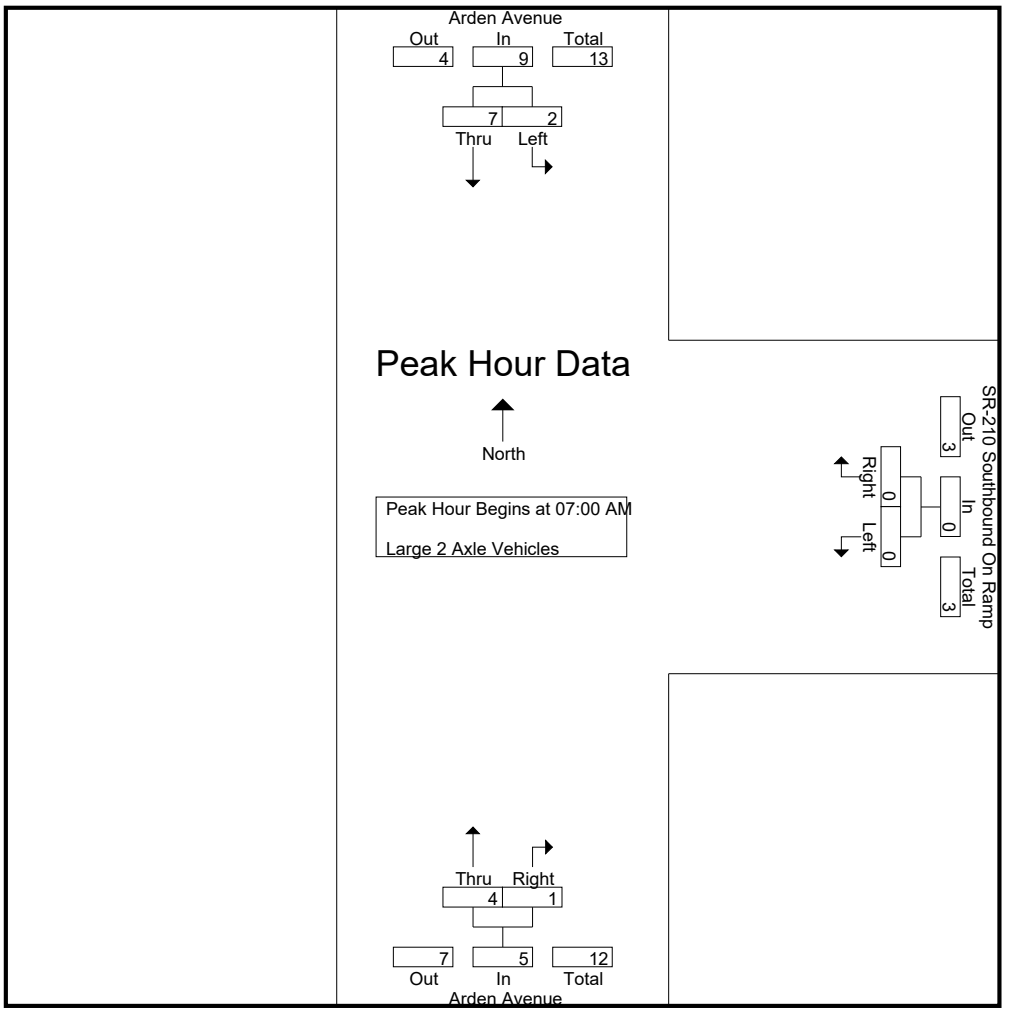
City of San Bernardino
N/S: Arden Avenue
E/W: SR-210 Southbound On Ramp
Weather: Clear

File Name : SBCAR210SAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	1	1	0	0	0	**2**	**1**	**3**
+15 mins.	**1**	**3**	**4**	0	0	0	1	0	1
+30 mins.	1	1	2	0	0	0	1	0	1
+45 mins.	0	2	2	0	0	0	0	0	0
Total Volume	2	7	9	0	0	0	4	1	5
% App. Total	22.2	77.8		0	0		80	20	
PHF	.500	.583	.563	.000	.000	.000	.500	.250	.417

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City of San Bernardino
N/S: Arden Avenue
E/W: SR-210 Southbound On Ramp
Weather: Clear

File Name : SBCAR210SAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- 3 Axle Vehicles

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	1	0	1	1
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	1	1
08:00 AM	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0
08:45 AM	1	0	1	0	0	0	0	0	0	1
Total	1	0	1	0	0	0	0	0	0	1
Grand Total	1	0	1	0	0	0	1	0	1	2
Apprch %	100	0		0	0		100	0		
Total %	50	0	50	0	0	0	50	0	50	

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	**1**	0	**1**	**1**
07:15 AM	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	1	1
% App. Total	0	0		0	0		100	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250

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City of San Bernardino
N/S: Arden Avenue
E/W: SR-210 Southbound On Ramp
Weather: Clear

File Name : SBCAR210SAM
Site Code : 05716653
Start Date : 12/7/2016
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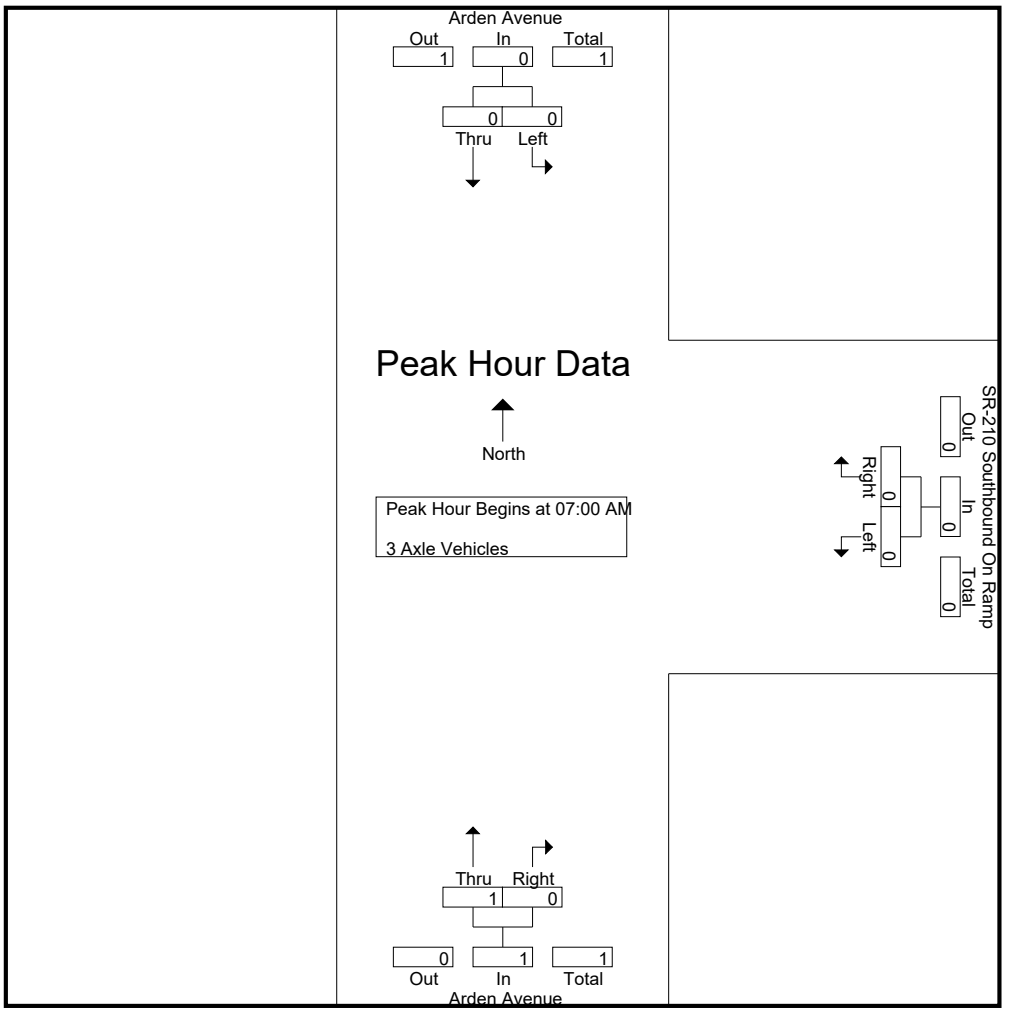

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	**1**	0	**1**
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	1	0	1
% App. Total	0	0		0	0		100	0	
PHF	.000	.000	.000	.000	.000	.000	.250	.000	.250

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City of San Bernardino
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E/W: SR-210 Southbound On Ramp
Weather: Clear

File Name : SBCAR210SAM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- 4+ Axle Trucks

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	2	2	0	0	0	0	0	0	2
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total	0	2	2	0	0	0	0	0	0	2
08:00 AM	1	0	1	0	0	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0
08:30 AM	1	0	1	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0
Total	2	0	2	0	0	0	0	0	0	2
Grand Total	2	2	4	0	0	0	0	0	0	4
Apprch %	50	50		0	0		0	0		
Total %	50	50	100	0	0	0	0	0	0	

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:00 AM										
07:00 AM	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	**2**	**2**	0	0	0	0	0	0	**2**
07:30 AM	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	2	2	0	0	0	0	0	0	2
% App. Total	0	100		0	0		0	0		
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000	.250

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City of San Bernardino
N/S: Arden Avenue
E/W: SR-210 Southbound On Ramp
Weather: Clear

File Name : SBCAR210SAM
Site Code : 05716653
Start Date : 12/7/2016
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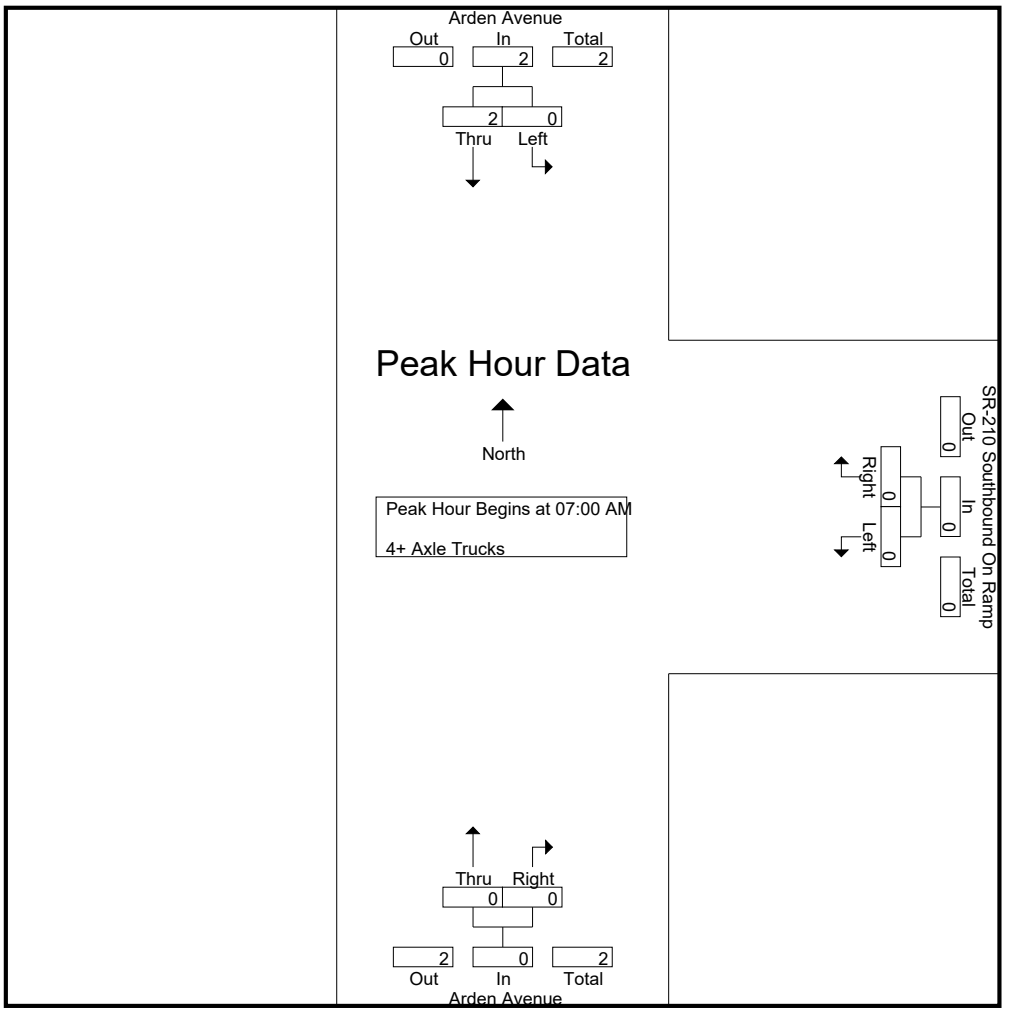

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM			07:00 AM			07:00 AM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	**2**	**2**	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	2	2	0	0	0	0	0	0
% App. Total	0	100		0	0		0	0	
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000

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City of San Bernardino
N/S: Arden Avenue
E/W: SR-210 Southbound On Ramp
Weather: Clear

File Name : SBCAR210SPM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	101	68	169	0	0	0	79	24	103	272
04:15 PM	86	82	168	0	0	0	76	21	97	265
04:30 PM	89	83	172	0	0	0	65	24	89	261
04:45 PM	85	83	168	0	0	0	85	20	105	273
Total	361	316	677	0	0	0	305	89	394	1071
05:00 PM	79	83	162	0	0	0	98	23	121	283
05:15 PM	72	79	151	0	0	0	77	12	89	240
05:30 PM	71	77	148	0	0	0	79	24	103	251
05:45 PM	48	77	125	0	0	0	58	16	74	199
Total	270	316	586	0	0	0	312	75	387	973
Grand Total	631	632	1263	0	0	0	617	164	781	2044
Apprch %	50	50		0	0		79	21		
Total %	30.9	30.9	61.8	0	0	0	30.2	8	38.2	
Passenger Vehicles	627	625	1252	0	0	0	604	163	767	2019
% Passenger Vehicles	99.4	98.9	99.1	0	0	0	97.9	99.4	98.2	98.8
Large 2 Axle Vehicles	4	6	10	0	0	0	13	1	14	24
% Large 2 Axle Vehicles	0.6	0.9	0.8	0	0	0	2.1	0.6	1.8	1.2
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	1	1	0	0	0	0	0	0	1
% 4+ Axle Trucks	0	0.2	0.1	0	0	0	0	0	0	0

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	86	82	168	0	0	0	76	21	97	265
04:30 PM	**89**	**83**	**172**	0	0	0	65	**24**	89	261
04:45 PM	85	83	168	0	0	0	85	20	105	273
05:00 PM	79	83	162	0	0	0	**98**	23	**121**	**283**
Total Volume	339	331	670	0	0	0	324	88	412	1082
% App. Total	50.6	49.4		0	0		78.6	21.4		
PHF	.952	.997	.974	.000	.000	.000	.827	.917	.851	.956

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File Name : SBCAR210SPM
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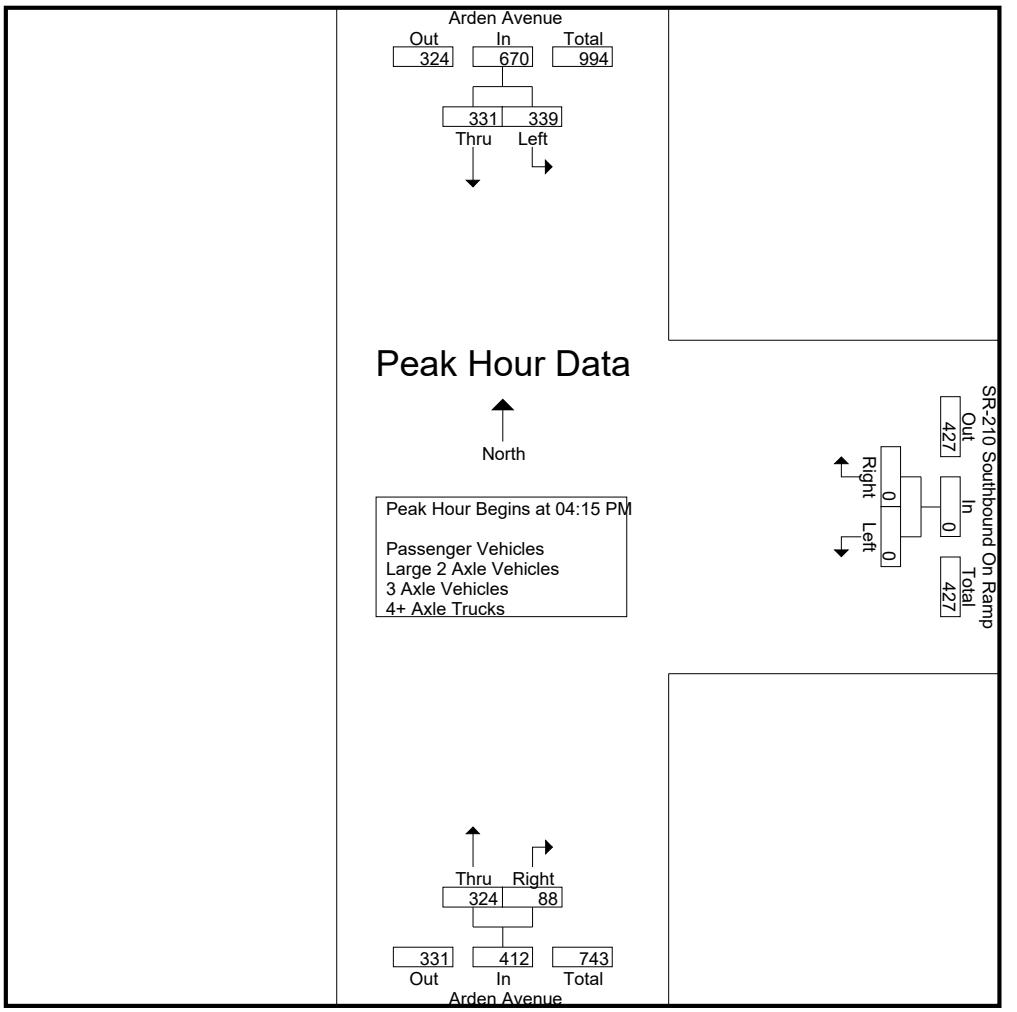

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM			04:00 PM			04:45 PM		
+0 mins.	**101**	68	169	0	0	0	85	20	105
+15 mins.	86	82	168	0	0	0	**98**	23	**121**
+30 mins.	89	**83**	**172**	0	0	0	77	12	89
+45 mins.	85	83	168	0	0	0	79	**24**	103
Total Volume	361	316	677	0	0	0	339	79	418
% App. Total	53.3	46.7		0	0		81.1	18.9	
PHF	.894	.952	.984	.000	.000	.000	.865	.823	.864

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Groups Printed- Passenger Vehicles

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	100	67	167	0	0	0	73	24	97	264
04:15 PM	85	80	165	0	0	0	74	21	95	260
04:30 PM	89	83	172	0	0	0	64	24	88	260
04:45 PM	85	81	166	0	0	0	84	19	103	269
Total	359	311	670	0	0	0	295	88	383	1053
05:00 PM	79	83	162	0	0	0	98	23	121	283
05:15 PM	72	78	150	0	0	0	75	12	87	237
05:30 PM	70	76	146	0	0	0	79	24	103	249
05:45 PM	47	77	124	0	0	0	57	16	73	197
Total	268	314	582	0	0	0	309	75	384	966
Grand Total	627	625	1252	0	0	0	604	163	767	2019
Apprch %	50.1	49.9		0	0		78.7	21.3		
Total %	31.1	31	62	0	0	0	29.9	8.1	38	

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	85	80	165	0	0	0	74	21	95	260
04:30 PM	**89**	**83**	**172**	0	0	0	64	**24**	88	260
04:45 PM	85	81	166	0	0	0	84	19	103	269
05:00 PM	79	83	162	0	0	0	**98**	23	**121**	**283**
Total Volume	338	327	665	0	0	0	320	87	407	1072
% App. Total	50.8	49.2		0	0		78.6	21.4		
PHF	.949	.985	.967	.000	.000	.000	.816	.906	.841	.947

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File Name : SBCAR210SPM
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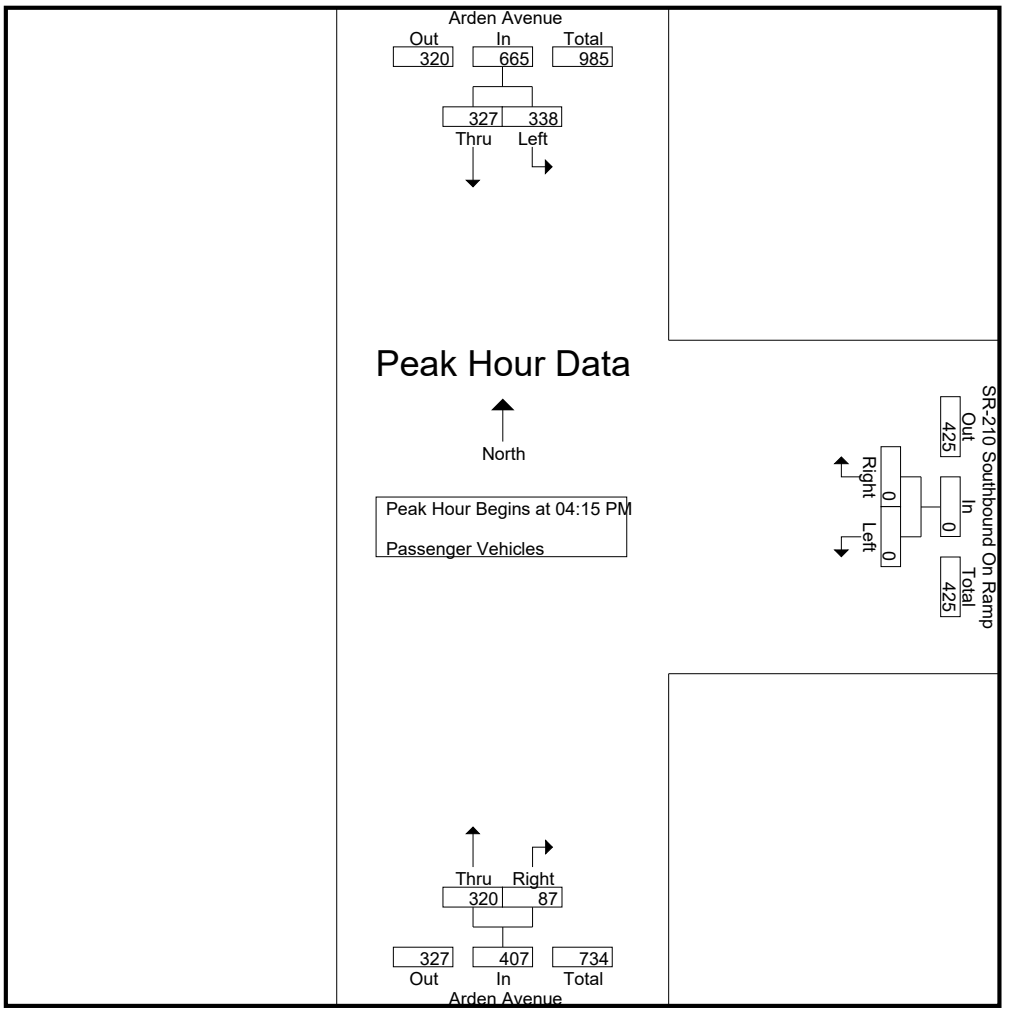

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	85	80	165	0	0	0	74	21	95
+15 mins.	**89**	**83**	**172**	0	0	0	64	**24**	88
+30 mins.	85	81	166	0	0	0	84	19	103
+45 mins.	79	83	162	0	0	0	**98**	23	**121**
Total Volume	338	327	665	0	0	0	320	87	407
% App. Total	50.8	49.2		0	0		78.6	21.4	
PHF	.949	.985	.967	.000	.000	.000	.816	.906	.841

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Groups Printed- Large 2 Axle Vehicles

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	1	1	2	0	0	0	6	0	6	8
04:15 PM	1	2	3	0	0	0	2	0	2	5
04:30 PM	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	1	1	0	0	0	1	1	2	3
Total	2	4	6	0	0	0	10	1	11	17
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	1	0	0	0	2	0	2	3
05:30 PM	1	1	2	0	0	0	0	0	0	2
05:45 PM	1	0	1	0	0	0	1	0	1	2
Total	2	2	4	0	0	0	3	0	3	7
Grand Total	4	6	10	0	0	0	13	1	14	24
Apprch %	40	60		0	0		92.9	7.1		
Total %	16.7	25	41.7	0	0	0	54.2	4.2	58.3	

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	**1**	**2**	**3**	0	0	0	**2**	0	**2**	**5**
04:30 PM	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	1	1	0	0	0	1	**1**	2	3
05:00 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	1	3	4	0	0	0	4	1	5	9
% App. Total	25	75		0	0		80	20		
PHF	.250	.375	.333	.000	.000	.000	.500	.250	.625	.450

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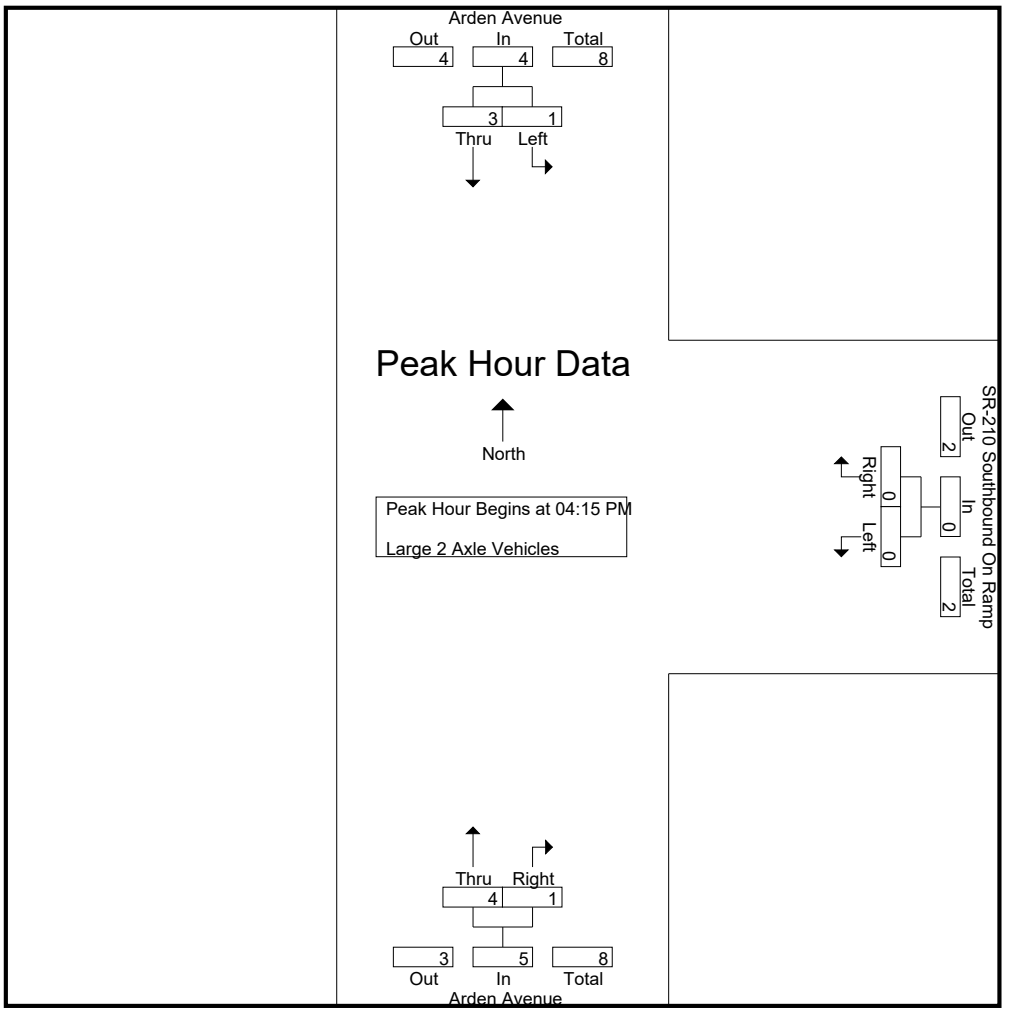

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	**1**	**2**	**3**	0	0	0	**2**	0	**2**
+15 mins.	0	0	0	0	0	0	1	0	1
+30 mins.	0	1	1	0	0	0	1	**1**	2
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	1	3	4	0	0	0	4	1	5
% App. Total	25	75		0	0		80	20	
PHF	.250	.375	.333	.000	.000	.000	.500	.250	.625

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City of San Bernardino
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Weather: Clear

File Name : SBCAR210SPM
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Groups Printed- 3 Axle Vehicles

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
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Weather: Clear

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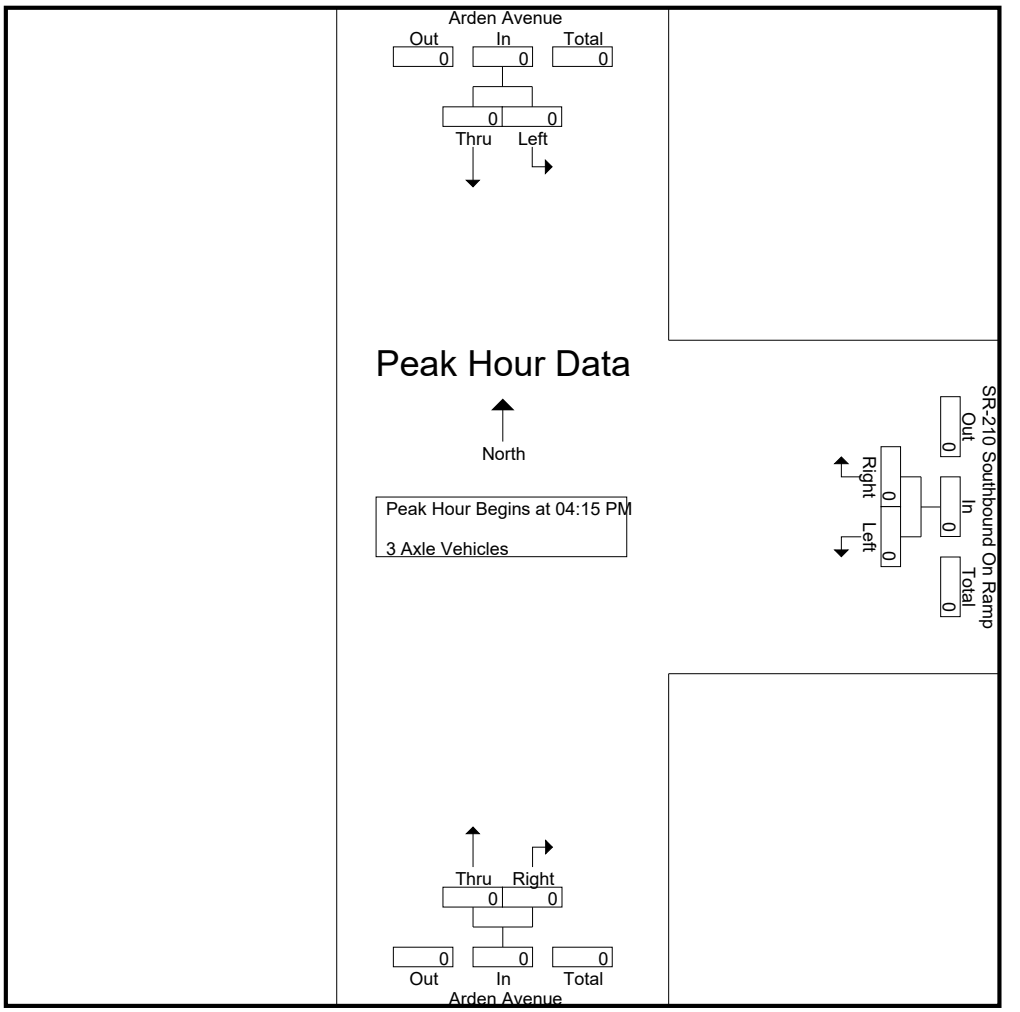

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
N/S: Arden Avenue
E/W: SR-210 Southbound On Ramp
Weather: Clear

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Groups Printed- 4+ Axle Trucks

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	1	0	0	0	0	0	0	1
Total	0	1	1	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	1	1	0	0	0	0	0	0	1
Apprch %	0	100		0	0		0	0		
Total %	0	100	100	0	0	0	0	0	0	

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	**1**	**1**	0	0	0	0	0	0	**1**
05:00 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	0	0	0	1
% App. Total	0	100		0	0		0	0		
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000	.250

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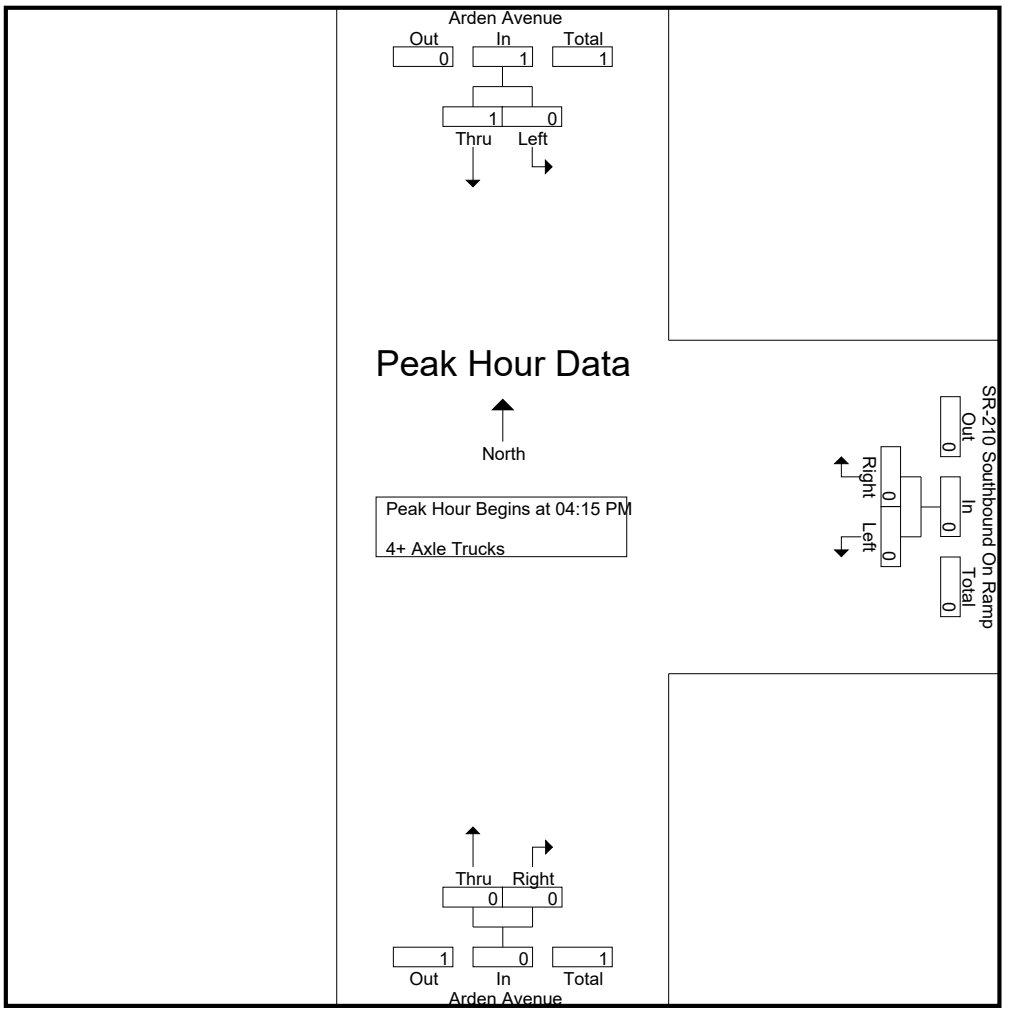

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	**1**	**1**	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	1	1	0	0	0	0	0	0
% App. Total	0	100		0	0		0	0	
PHF	.000	.250	.250	.000	.000	.000	.000	.000	.000

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City of San Bernardino
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
05:00 PM	73	68	141	0	0	0	48	12	60	201
05:15 PM	58	52	110	0	0	0	58	16	74	184
05:30 PM	67	63	130	0	0	0	73	17	90	220
05:45 PM	68	61	129	0	0	0	55	20	75	204
Total	266	244	510	0	0	0	234	65	299	809
06:00 PM	61	56	117	0	0	0	58	13	71	188
06:15 PM	57	67	124	0	0	0	49	17	66	190
06:30 PM	64	48	112	0	0	0	35	11	46	158
06:45 PM	62	65	127	0	0	0	56	18	74	201
Total	244	236	480	0	0	0	198	59	257	737
Grand Total	510	480	990	0	0	0	432	124	556	1546
Apprch %	51.5	48.5		0	0		77.7	22.3		
Total %	33	31	64	0	0	0	27.9	8	36	
Passenger Vehicles	508	480	988	0	0	0	430	124	554	1542
% Passenger Vehicles	99.6	100	99.8	0	0	0	99.5	100	99.6	99.7
Large 2 Axle Vehicles	2	0	2	0	0	0	2	0	2	4
% Large 2 Axle Vehicles	0.4	0	0.2	0	0	0	0.5	0	0.4	0.3
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**73**	**68**	**141**	0	0	0	48	12	60	201
05:15 PM	58	52	110	0	0	0	58	16	74	184
05:30 PM	67	63	130	0	0	0	**73**	17	**90**	**220**
05:45 PM	68	61	129	0	0	0	55	**20**	75	204
Total Volume	266	244	510	0	0	0	234	65	299	809
% App. Total	52.2	47.8		0	0		78.3	21.7		
PHF	.911	.897	.904	.000	.000	.000	.801	.813	.831	.919

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City of San Bernardino
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Weather: Clear

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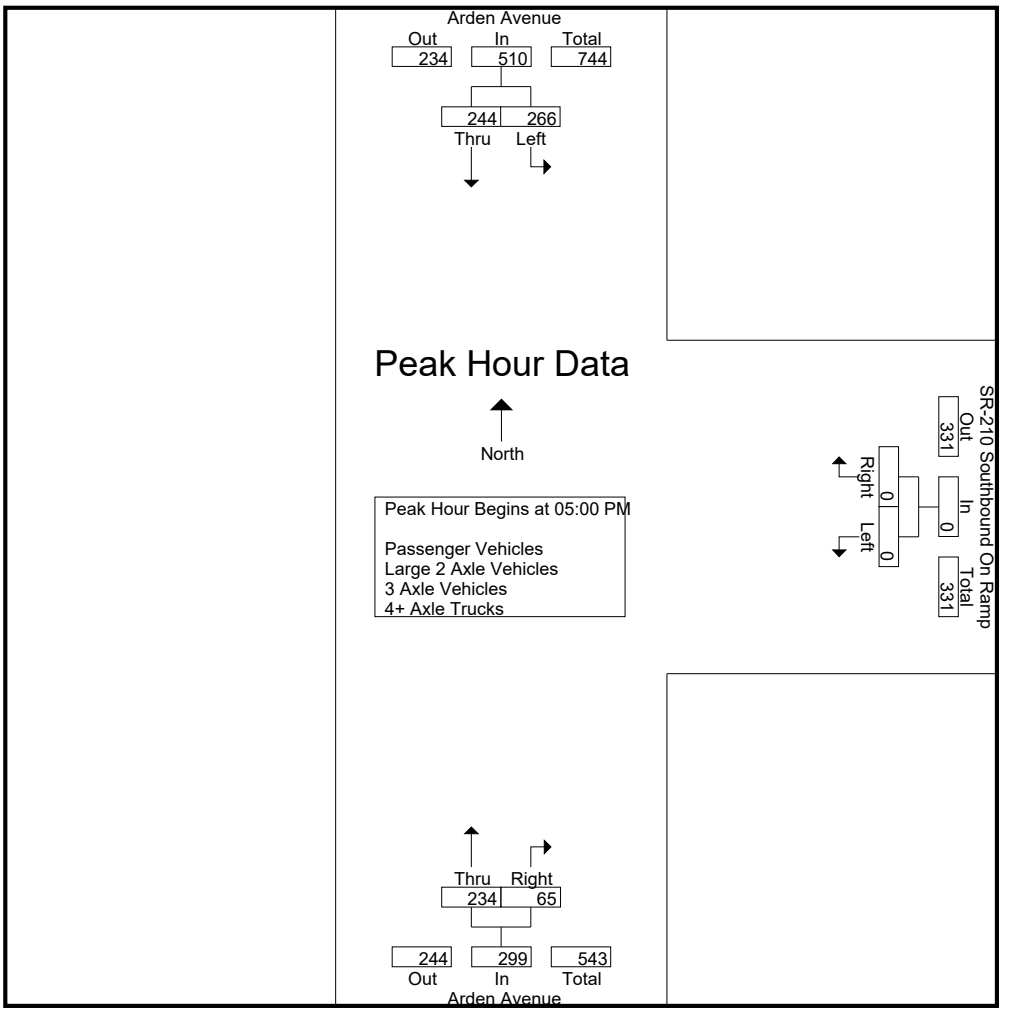

Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:15 PM		
+0 mins.	**73**	**68**	**141**	0	0	0	58	16	74
+15 mins.	58	52	110	0	0	0	**73**	17	**90**
+30 mins.	67	63	130	0	0	0	55	**20**	75
+45 mins.	68	61	129	0	0	0	58	13	71
Total Volume	266	244	510	0	0	0	244	66	310
% App. Total	52.2	47.8		0	0		78.7	21.3	
PHF	.911	.897	.904	.000	.000	.000	.836	.825	.861

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City of San Bernardino
N/S: Arden Avenue
E/W: SR-210 Southbound On Ramp
Weather: Clear

File Name : SBCAR210SSAT
Site Code : 05716653
Start Date : 12/10/2016
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Groups Printed- Passenger Vehicles

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
05:00 PM	73	68	141	0	0	0	48	12	60	201
05:15 PM	57	52	109	0	0	0	58	16	74	183
05:30 PM	66	63	129	0	0	0	72	17	89	218
05:45 PM	68	61	129	0	0	0	55	20	75	204
Total	264	244	508	0	0	0	233	65	298	806
06:00 PM	61	56	117	0	0	0	58	13	71	188
06:15 PM	57	67	124	0	0	0	49	17	66	190
06:30 PM	64	48	112	0	0	0	35	11	46	158
06:45 PM	62	65	127	0	0	0	55	18	73	200
Total	244	236	480	0	0	0	197	59	256	736
Grand Total	508	480	988	0	0	0	430	124	554	1542
Apprch %	51.4	48.6		0	0		77.6	22.4		
Total %	32.9	31.1	64.1	0	0	0	27.9	8	35.9	

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**73**	**68**	**141**	0	0	0	48	12	60	201
05:15 PM	57	52	109	0	0	0	58	16	74	183
05:30 PM	66	63	129	0	0	0	**72**	17	**89**	**218**
05:45 PM	68	61	129	0	0	0	55	**20**	75	204
Total Volume	264	244	508	0	0	0	233	65	298	806
% App. Total	52	48		0	0		78.2	21.8		
PHF	.904	.897	.901	.000	.000	.000	.809	.813	.837	.924

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City of San Bernardino
N/S: Arden Avenue
E/W: SR-210 Southbound On Ramp
Weather: Clear

File Name : SBCAR210SSAT
Site Code : 05716653
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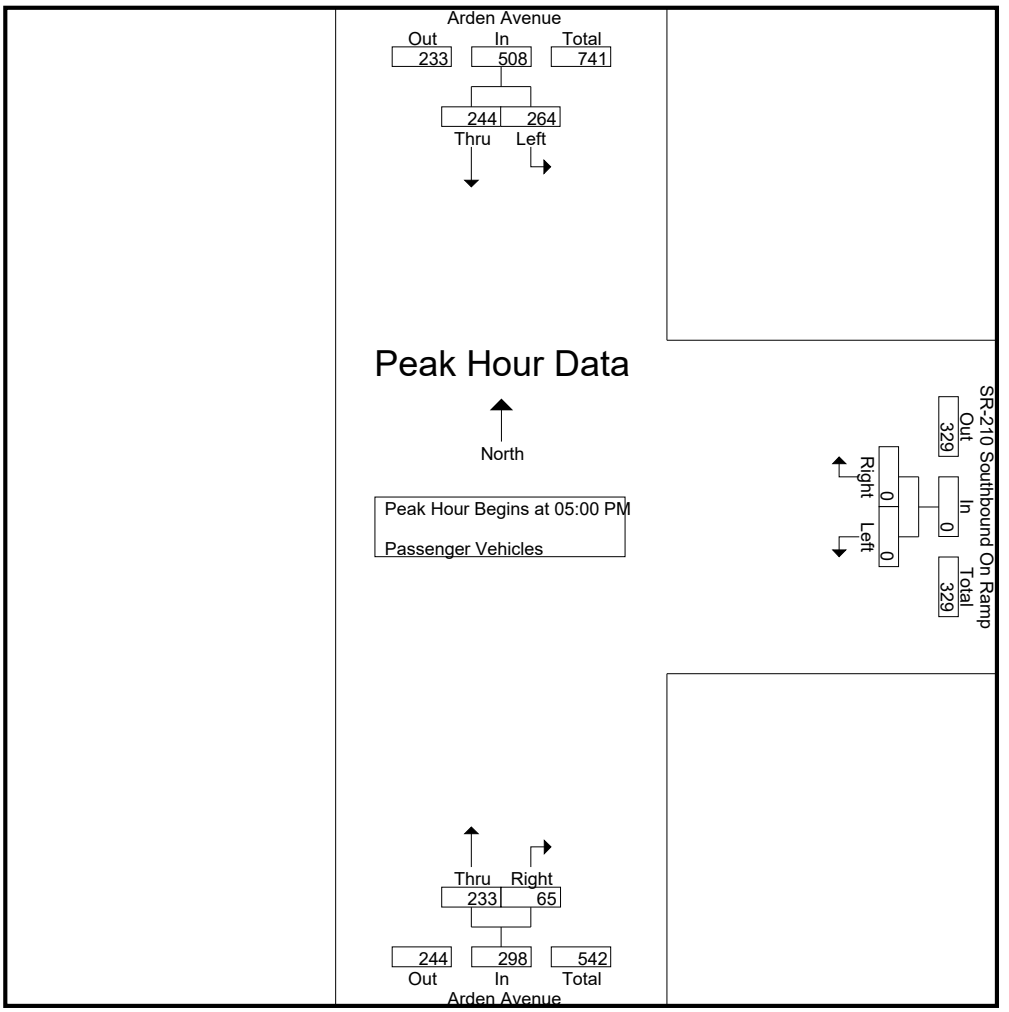

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	**73**	**68**	**141**	0	0	0	48	12	60
+15 mins.	57	52	109	0	0	0	58	16	74
+30 mins.	66	63	129	0	0	0	**72**	17	**89**
+45 mins.	68	61	129	0	0	0	55	**20**	75
Total Volume	264	244	508	0	0	0	233	65	298
% App. Total	52	48		0	0		78.2	21.8	
PHF	.904	.897	.901	.000	.000	.000	.809	.813	.837

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City of San Bernardino
N/S: Arden Avenue
E/W: SR-210 Southbound On Ramp
Weather: Clear

File Name : SBCAR210SSAT
Site Code : 05716653
Start Date : 12/10/2016
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Groups Printed- Large 2 Axle Vehicles

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	1	0	1	0	0	0	0	0	0	1
05:30 PM	1	0	1	0	0	0	1	0	1	2
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	2	0	2	0	0	0	1	0	1	3
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	0	1	0	1	1
Grand Total	2	0	2	0	0	0	2	0	2	4
Apprch %	100	0		0	0		100	0		
Total %	50	0	50	0	0	0	50	0	50	

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	**1**	0	**1**	0	0	0	0	0	0	1
05:30 PM	1	0	1	0	0	0	**1**	0	**1**	**2**
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	2	0	2	0	0	0	1	0	1	3
% App. Total	100	0		0	0		100	0		
PHF	.500	.000	.500	.000	.000	.000	.250	.000	.250	.375

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City of San Bernardino
N/S: Arden Avenue
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Weather: Clear

File Name : SBCAR210SSAT
Site Code : 05716653
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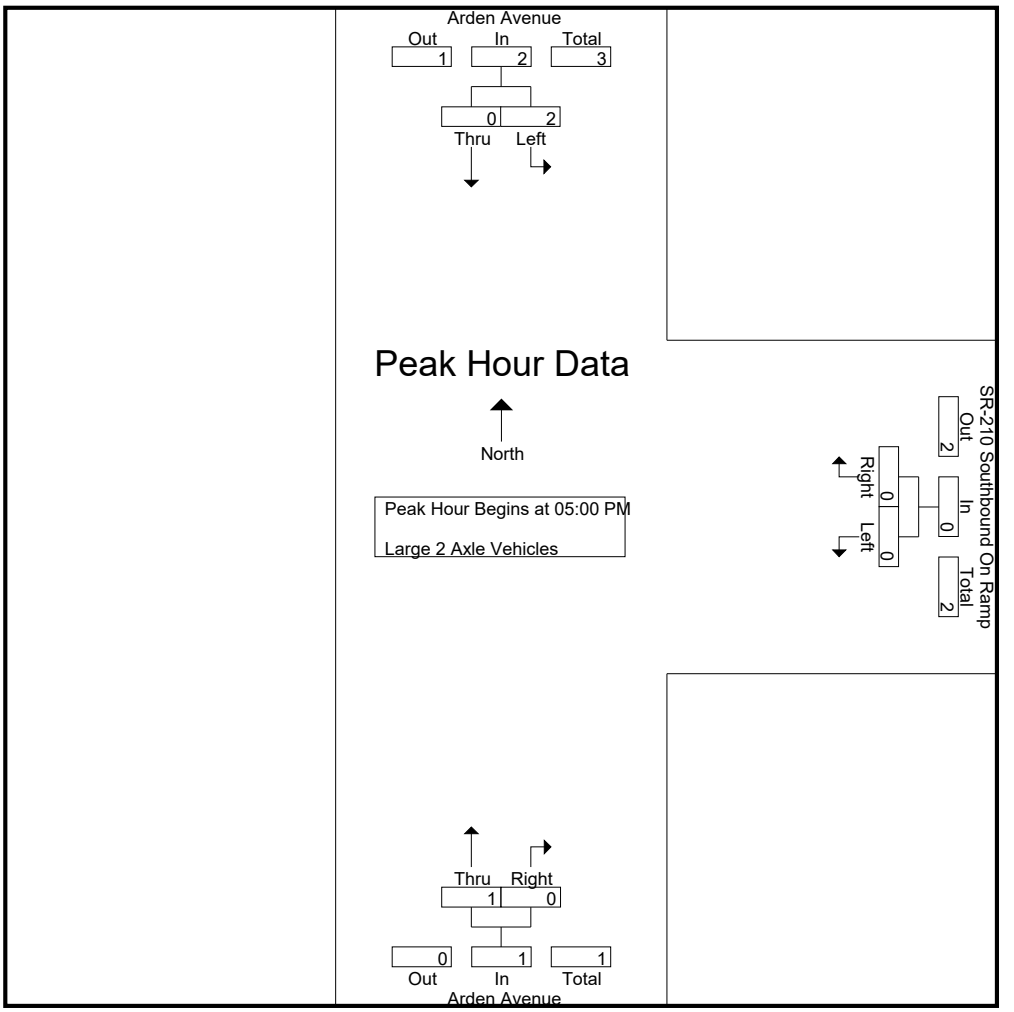

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	**1**	0	**1**	0	0	0	0	0	0
+30 mins.	1	0	1	0	0	0	**1**	0	**1**
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	2	0	2	0	0	0	1	0	1
% App. Total	100	0		0	0		100	0	
PHF	.500	.000	.500	.000	.000	.000	.250	.000	.250

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City of San Bernardino
N/S: Arden Avenue
E/W: SR-210 Southbound On Ramp
Weather: Clear

File Name : SBCAR210SSAT
Site Code : 05716653
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Groups Printed- 3 Axle Vehicles

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
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Weather: Clear

File Name : SBCAR210SSAT
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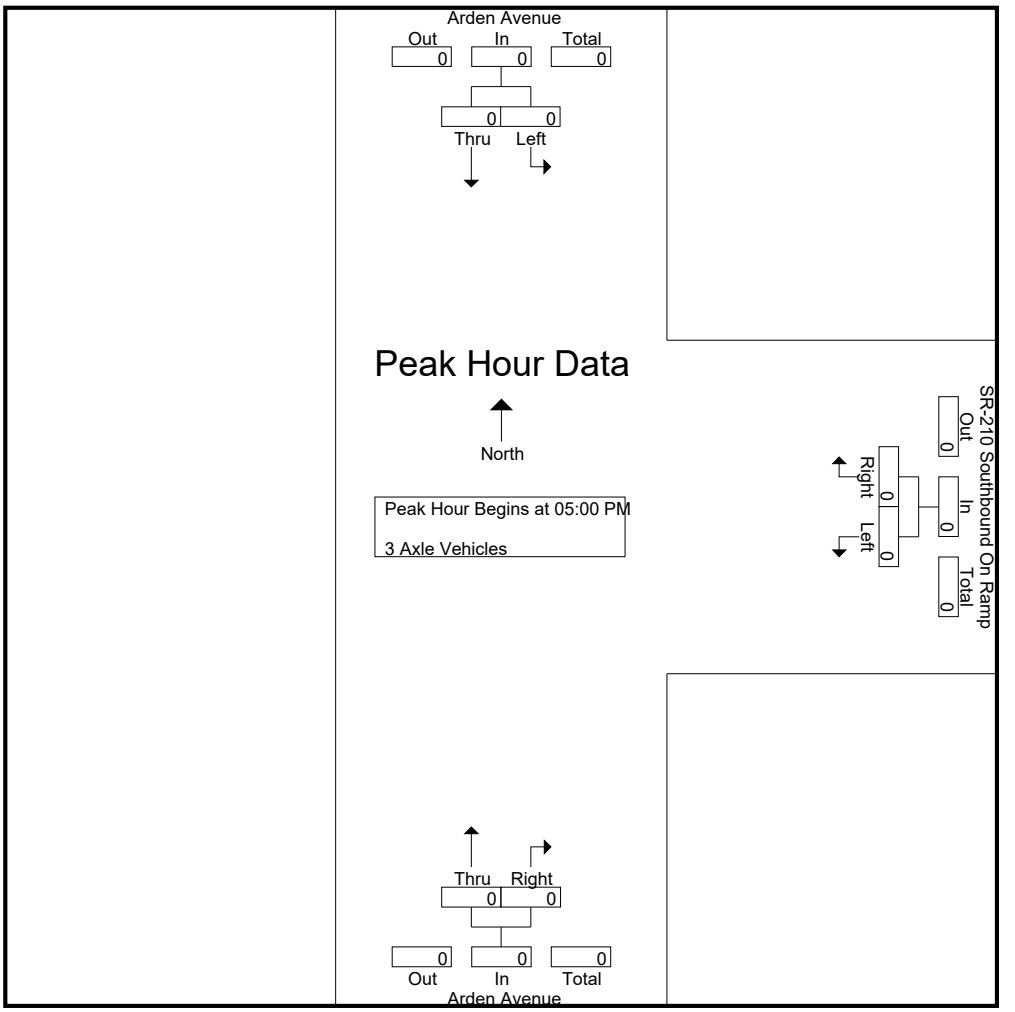

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
N/S: Arden Avenue
E/W: SR-210 Southbound On Ramp
Weather: Clear

File Name : SBCAR210SSAT
Site Code : 05716653
Start Date : 12/10/2016
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Groups Printed- 4+ Axle Trucks

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0		0	0		0	0		
Total %										

	Arden Avenue Southbound			SR-210 Southbound On Ramp Westbound			Arden Avenue Northbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
N/S: Arden Avenue
E/W: SR-210 Southbound On Ramp
Weather: Clear

File Name : SBCAR210SSAT
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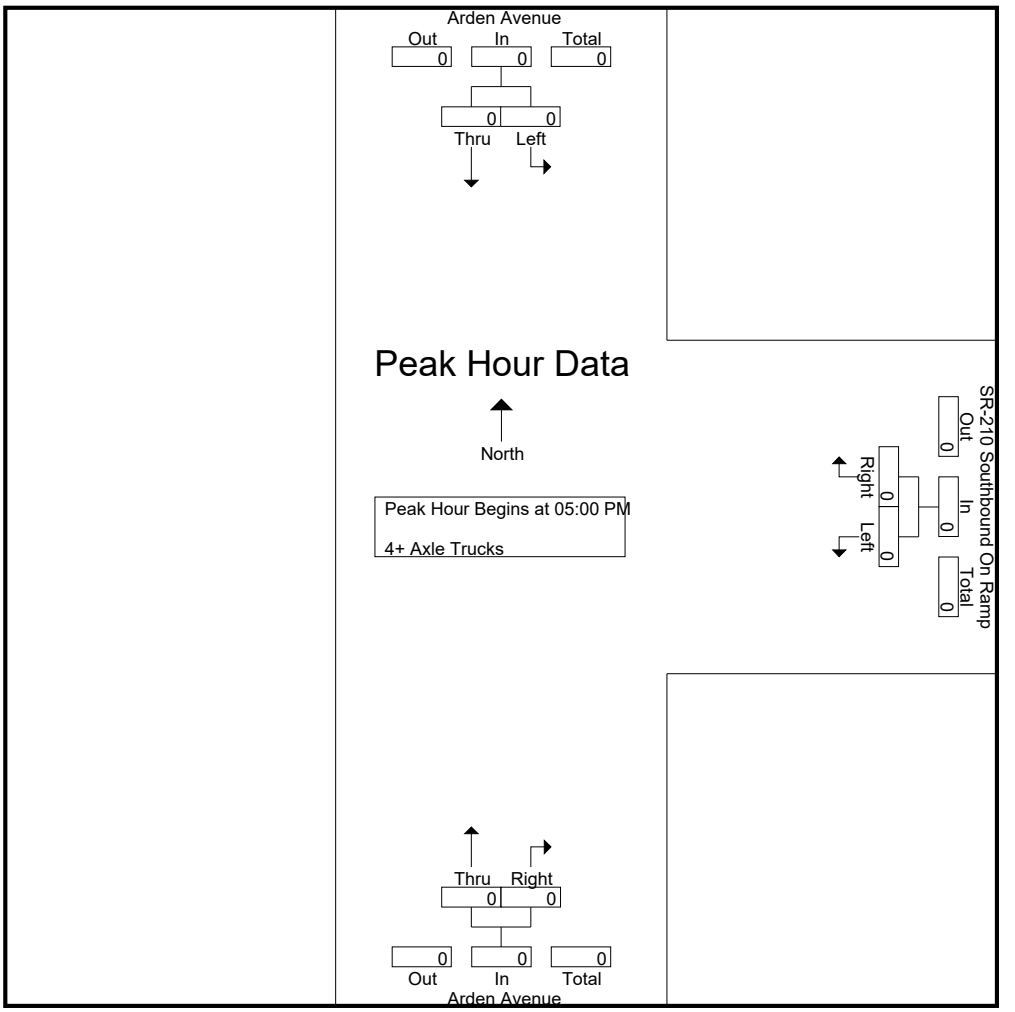

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM			05:00 PM			05:00 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0
% App. Total	0	0		0	0		0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIAM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	0	0	1	0	212	0	212	68	2	29	99	1	153	0	154	466
07:15 AM	1	0	1	2	0	218	2	220	81	0	21	102	1	196	0	197	521
07:30 AM	0	0	0	0	0	211	0	211	70	1	31	102	3	188	0	191	504
07:45 AM	0	0	0	0	0	187	0	187	52	1	34	87	2	267	0	269	543
Total	2	0	1	3	0	828	2	830	271	4	115	390	7	804	0	811	2034
08:00 AM	0	0	3	3	0	189	1	190	61	0	30	91	1	179	0	180	464
08:15 AM	0	0	0	0	0	183	0	183	49	0	26	75	3	216	0	219	477
08:30 AM	0	0	1	1	0	174	2	176	63	0	27	90	0	201	0	201	468
08:45 AM	0	0	1	1	0	161	2	163	58	2	31	91	2	213	0	215	470
Total	0	0	5	5	0	707	5	712	231	2	114	347	6	809	0	815	1879
Grand Total	2	0	6	8	0	1535	7	1542	502	6	229	737	13	1613	0	1626	3913
Apprch %	25	0	75		0	99.5	0.5		68.1	0.8	31.1		0.8	99.2	0		
Total %	0.1	0	0.2	0.2	0	39.2	0.2	39.4	12.8	0.2	5.9	18.8	0.3	41.2	0	41.6	
Passenger Vehicles	2	0	5	7	0	1454	6	1460	497	6	223	726	12	1549	0	1561	3754
% Passenger Vehicles	100	0	83.3	87.5	0	94.7	85.7	94.7	99	100	97.4	98.5	92.3	96	0	96	95.9
Large 2 Axle Vehicles	0	0	0	0	0	69	1	70	4	0	5	9	0	57	0	57	136
% Large 2 Axle Vehicles	0	0	0	0	0	4.5	14.3	4.5	0.8	0	2.2	1.2	0	3.5	0	3.5	3.5
3 Axle Vehicles	0	0	0	0	0	5	0	5	0	0	1	1	0	4	0	4	10
% 3 Axle Vehicles	0	0	0	0	0	0.3	0	0.3	0	0	0.4	0.1	0	0.2	0	0.2	0.3
4+ Axle Trucks	0	0	1	1	0	7	0	7	1	0	0	1	1	3	0	4	13
% 4+ Axle Trucks	0	0	16.7	12.5	0	0.5	0	0.5	0.2	0	0	0.1	7.7	0.2	0	0.2	0.3

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**1**	0	0	1	0	212	0	212	68	**2**	29	99	1	153	0	154	466
07:15 AM	1	0	**1**	**2**	0	**218**	**2**	**220**	**81**	0	21	**102**	1	196	0	197	521
07:30 AM	0	0	0	0	0	211	0	211	70	1	31	102	**3**	188	0	191	504
07:45 AM	0	0	0	0	0	187	0	187	52	1	**34**	87	2	**267**	0	**269**	**543**
Total Volume	2	0	1	3	0	828	2	830	271	4	115	390	7	804	0	811	2034
% App. Total	66.7	0	33.3		0	99.8	0.2		69.5	1	29.5		0.9	99.1	0		
PHF	.500	.000	.250	.375	.000	.950	.250	.943	.836	.500	.846	.956	.583	.753	.000	.754	.936

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E/W: Highland Avenue
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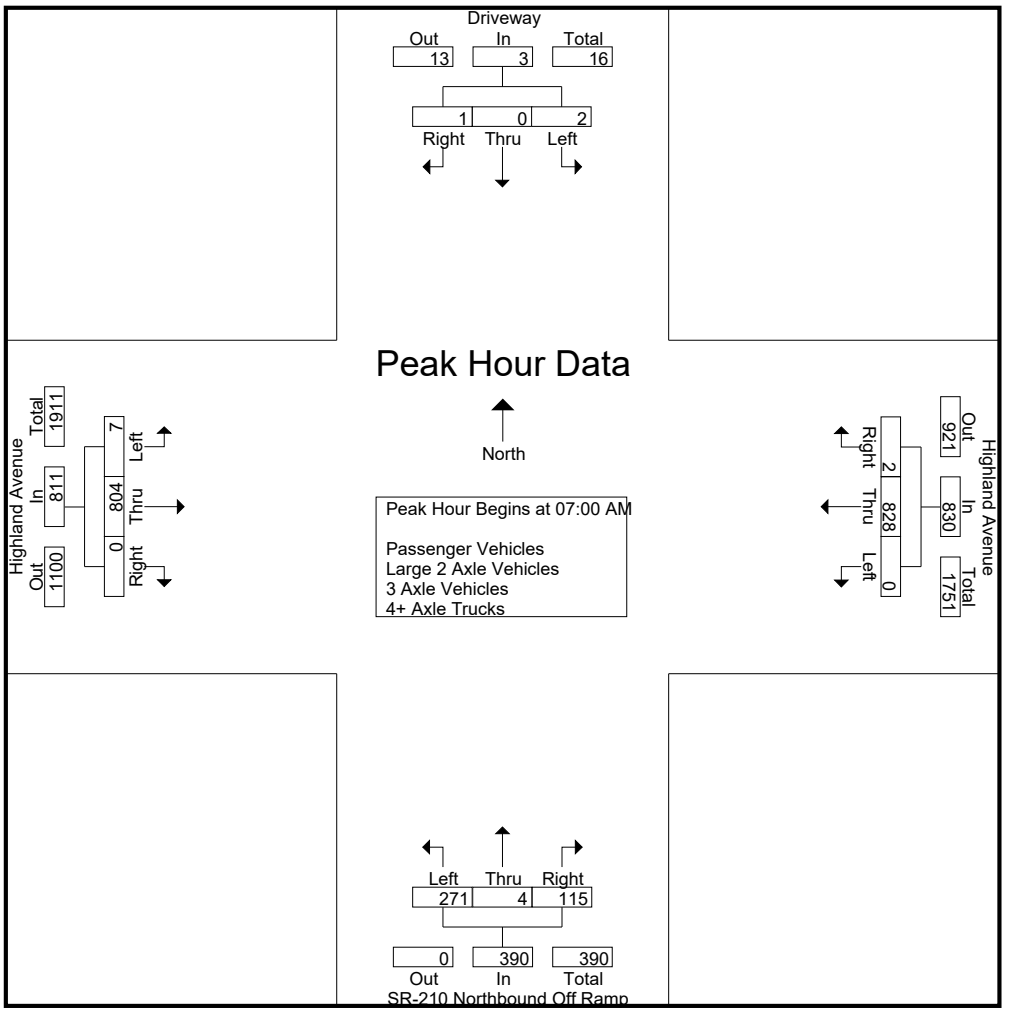

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:00 AM				07:00 AM				07:45 AM			
+0 mins.	**1**	0	1	2	0	212	0	212	68	**2**	29	99	2	**267**	0	**269**
+15 mins.	0	0	0	0	0	**218**	**2**	**220**	**81**	0	21	**102**	1	179	0	180
+30 mins.	0	0	0	0	0	211	0	211	70	1	31	102	**3**	216	0	219
+45 mins.	0	0	**3**	**3**	0	187	0	187	52	1	**34**	87	0	201	0	201
Total Volume	1	0	4	5	0	828	2	830	271	4	115	390	6	863	0	869
% App. Total	20	0	80		0	99.8	0.2		69.5	1	29.5		0.7	99.3	0	
PHF	.250	.000	.333	.417	.000	.950	.250	.943	.836	.500	.846	.956	.500	.808	.000	.808

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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIAM
Site Code : 05716653
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Groups Printed- Passenger Vehicles

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	0	0	1	0	203	0	203	67	2	28	97	1	142	0	143	444
07:15 AM	1	0	1	2	0	212	2	214	81	0	16	97	0	187	0	187	500
07:30 AM	0	0	0	0	0	202	0	202	70	1	31	102	3	181	0	184	488
07:45 AM	0	0	0	0	0	177	0	177	50	1	34	85	2	261	0	263	525
Total	2	0	1	3	0	794	2	796	268	4	109	381	6	771	0	777	1957
08:00 AM	0	0	2	2	0	177	1	178	60	0	30	90	1	175	0	176	446
08:15 AM	0	0	0	0	0	168	0	168	49	0	26	75	3	204	0	207	450
08:30 AM	0	0	1	1	0	164	1	165	62	0	27	89	0	192	0	192	447
08:45 AM	0	0	1	1	0	151	2	153	58	2	31	91	2	207	0	209	454
Total	0	0	4	4	0	660	4	664	229	2	114	345	6	778	0	784	1797
Grand Total	2	0	5	7	0	1454	6	1460	497	6	223	726	12	1549	0	1561	3754
Apprch %	28.6	0	71.4		0	99.6	0.4		68.5	0.8	30.7		0.8	99.2	0		
Total %	0.1	0	0.1	0.2	0	38.7	0.2	38.9	13.2	0.2	5.9	19.3	0.3	41.3	0	41.6	

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	**1**	0	0	1	0	203	0	203	67	**2**	28	97	1	142	0	143	444
07:15 AM	1	0	**1**	**2**	0	**212**	**2**	**214**	**81**	0	16	97	0	187	0	187	500
07:30 AM	0	0	0	0	0	202	0	202	70	1	31	**102**	**3**	181	0	184	488
07:45 AM	0	0	0	0	0	177	0	177	50	1	**34**	85	2	**261**	0	**263**	**525**
Total Volume	2	0	1	3	0	794	2	796	268	4	109	381	6	771	0	777	1957
% App. Total	66.7	0	33.3		0	99.7	0.3		70.3	1	28.6		0.8	99.2	0		
PHF	.500	.000	.250	.375	.000	.936	.250	.930	.827	.500	.801	.934	.500	.739	.000	.739	.932

Counts Unlimited
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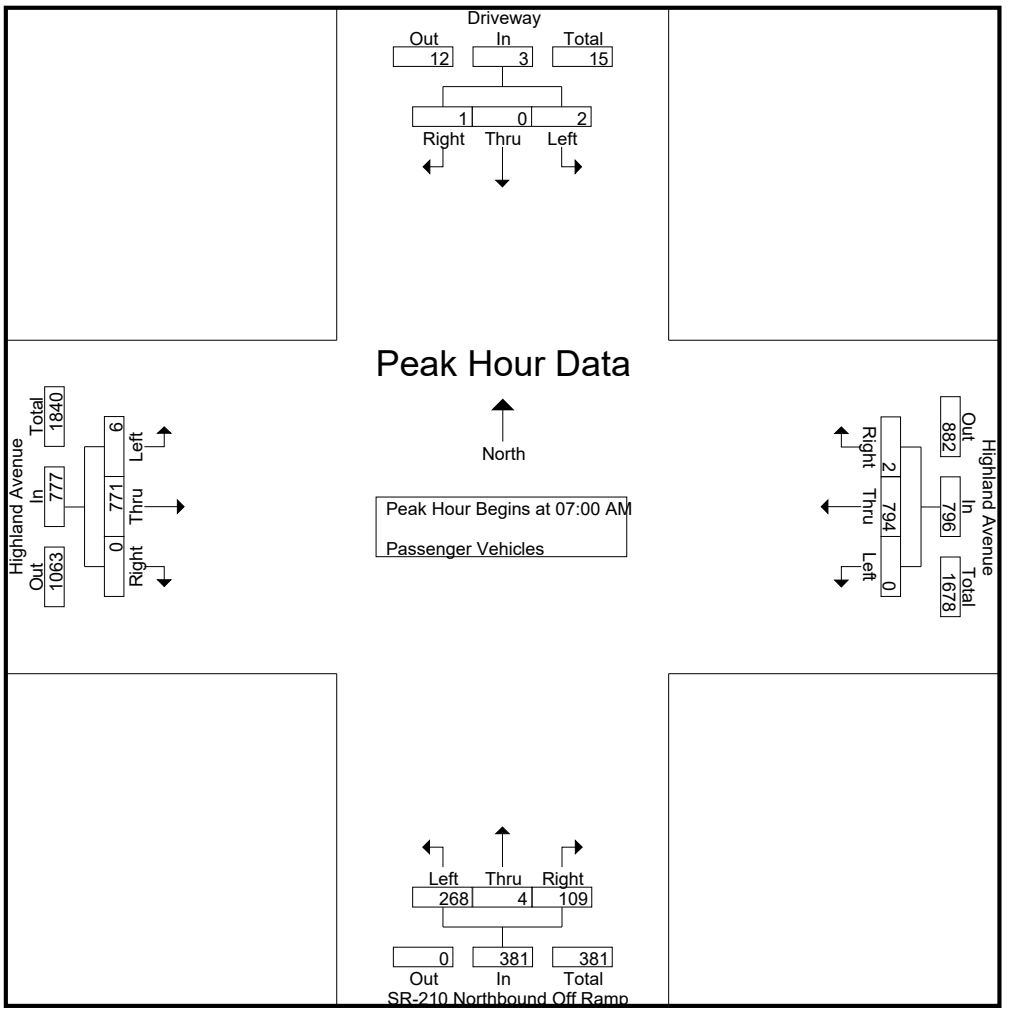
City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	**1**	0	0	1	0	203	0	203	67	**2**	28	97	1	142	0	143
+15 mins.	1	0	**1**	**2**	0	**212**	**2**	**214**	**81**	0	16	97	0	187	0	187
+30 mins.	0	0	0	0	0	202	0	202	70	1	31	**102**	**3**	181	0	184
+45 mins.	0	0	0	0	0	177	0	177	50	1	**34**	85	2	**261**	0	**263**
Total Volume	2	0	1	3	0	794	2	796	268	4	109	381	6	771	0	777
% App. Total	66.7	0	33.3		0	99.7	0.3		70.3	1	28.6		0.8	99.2	0	
PHF	.500	.000	.250	.375	.000	.936	.250	.930	.827	.500	.801	.934	.500	.739	.000	.739

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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	8	0	8	0	0	1	1	0	10	0	10	19
07:15 AM	0	0	0	0	0	6	0	6	0	0	4	4	0	8	0	8	18
07:30 AM	0	0	0	0	0	7	0	7	0	0	0	0	0	6	0	6	13
07:45 AM	0	0	0	0	0	7	0	7	2	0	0	2	0	6	0	6	15
Total	0	0	0	0	0	28	0	28	2	0	5	7	0	30	0	30	65
08:00 AM	0	0	0	0	0	11	0	11	1	0	0	1	0	4	0	4	16
08:15 AM	0	0	0	0	0	14	0	14	0	0	0	0	0	11	0	11	25
08:30 AM	0	0	0	0	0	8	1	9	1	0	0	1	0	7	0	7	17
08:45 AM	0	0	0	0	0	8	0	8	0	0	0	0	0	5	0	5	13
Total	0	0	0	0	0	41	1	42	2	0	0	2	0	27	0	27	71
Grand Total	0	0	0	0	0	69	1	70	4	0	5	9	0	57	0	57	136
Apprch %	0	0	0		0	98.6	1.4		44.4	0	55.6		0	100	0		
Total %	0	0	0	0	0	50.7	0.7	51.5	2.9	0	3.7	6.6	0	41.9	0	41.9	

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	**8**	0	**8**	0	0	1	1	0	**10**	0	**10**	**19**
07:15 AM	0	0	0	0	0	6	0	6	0	0	**4**	**4**	0	8	0	8	18
07:30 AM	0	0	0	0	0	7	0	7	0	0	0	0	0	6	0	6	13
07:45 AM	0	0	0	0	0	7	0	7	**2**	0	0	2	0	6	0	6	15
Total Volume	0	0	0	0	0	28	0	28	2	0	5	7	0	30	0	30	65
% App. Total	0	0	0		0	100	0		28.6	0	71.4		0	100	0		
PHF	.000	.000	.000	.000	.000	.875	.000	.875	.250	.000	.313	.438	.000	.750	.000	.750	.855

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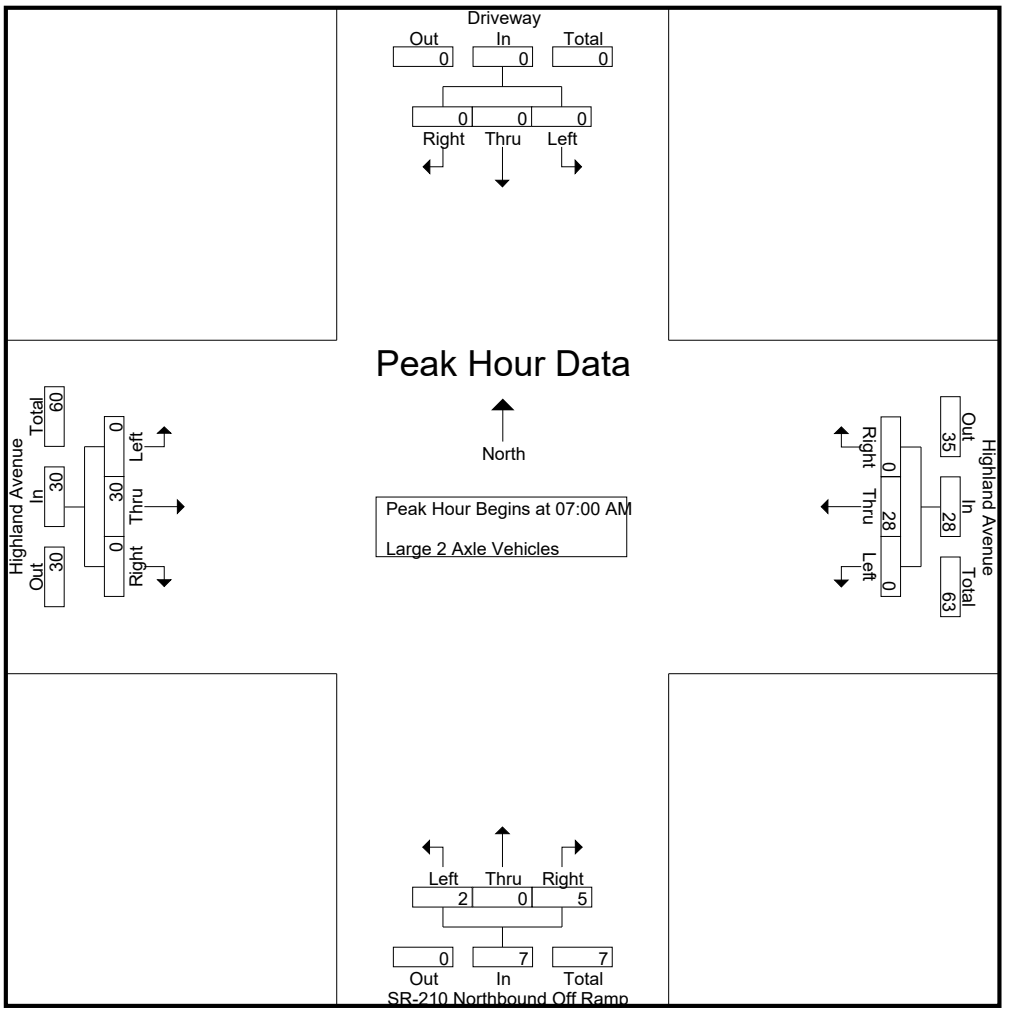
City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	**8**	0	**8**	0	0	1	1	0	**10**	0	**10**
+15 mins.	0	0	0	0	0	6	0	6	0	0	**4**	**4**	0	8	0	8
+30 mins.	0	0	0	0	0	7	0	7	0	0	0	0	0	6	0	6
+45 mins.	0	0	0	0	0	7	0	7	**2**	0	0	2	0	6	0	6
Total Volume	0	0	0	0	0	28	0	28	2	0	5	7	0	30	0	30
% App. Total	0	0	0		0	100	0		28.6	0	71.4		0	100	0	
PHF	.000	.000	.000	.000	.000	.875	.000	.875	.250	.000	.313	.438	.000	.750	.000	.750

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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- 3 Axle Vehicles

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	3	0	3	0	0	1	1	0	2	0	2	6
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
08:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
Grand Total	0	0	0	0	0	5	0	5	0	0	1	1	0	4	0	4	10
Apprch %	0	0	0		0	100	0		0	0	100		0	100	0		
Total %	0	0	0	0	0	50	0	50	0	0	10	10	0	40	0	40	

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	**1**	0	**1**	**2**
07:15 AM	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	0	0	0	1
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	3	0	3	0	0	1	1	0	2	0	2	6
% App. Total	0	0	0		0	100	0		0	0	100		0	100	0		
PHF	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.250	.250	.000	.500	.000	.500	.750

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City of San Bernardino
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E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIAM
Site Code : 05716653
Start Date : 12/7/2016
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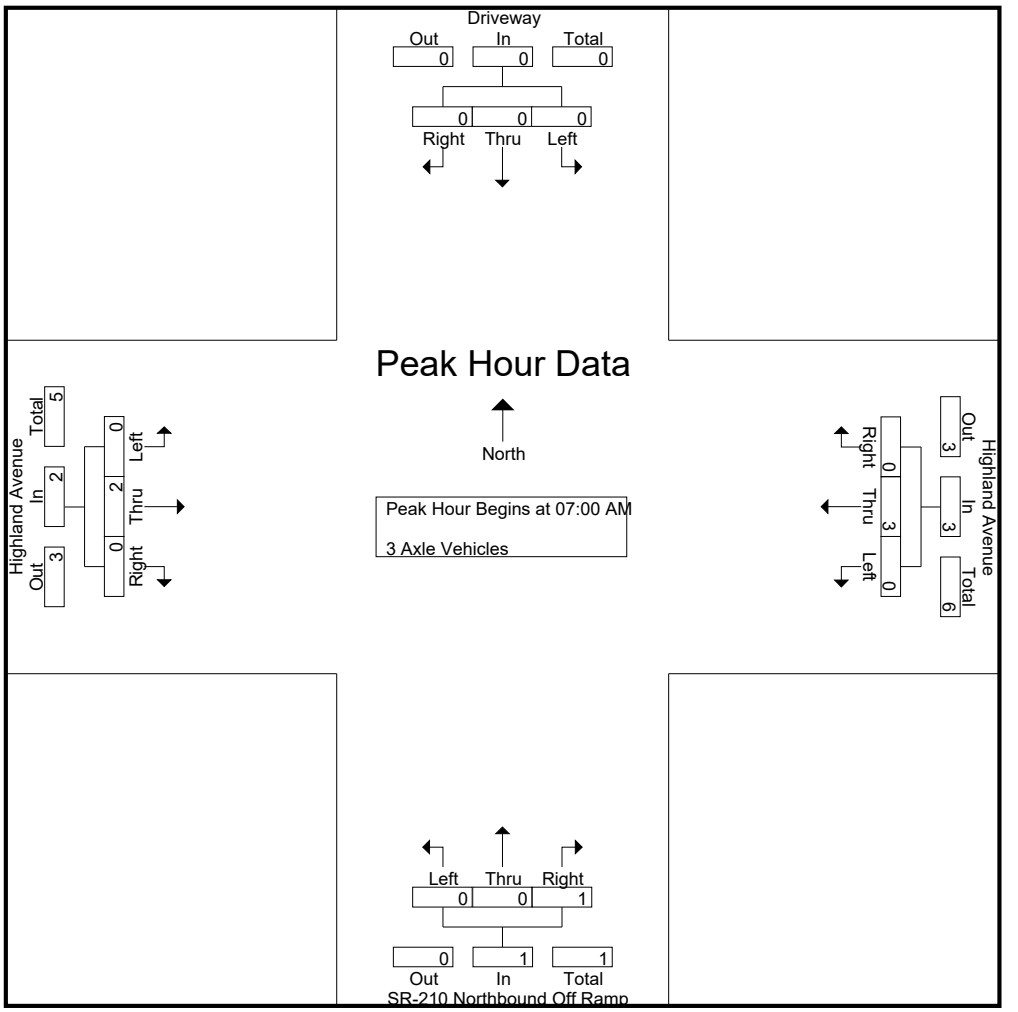

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	**1**	0	**1**
+15 mins.	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	0	0	0
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	3	0	3	0	0	1	1	0	2	0	2
% App. Total	0	0	0		0	100	0		0	0	100		0	100	0	
PHF	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.250	.250	.000	.500	.000	.500

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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- 4+ Axle Trucks

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	3	0	3	1	0	0	1	1	1	0	2	6
08:00 AM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	2
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
08:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
Total	0	0	1	1	0	4	0	4	0	0	0	0	0	2	0	2	7
Grand Total	0	0	1	1	0	7	0	7	1	0	0	1	1	3	0	4	13
Apprch %	0	0	100		0	100	0		100	0	0		25	75	0		
Total %	0	0	7.7	7.7	0	53.8	0	53.8	7.7	0	0	7.7	7.7	23.1	0	30.8	

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	**2**	**2**
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	0	0	0	2
Total Volume	0	0	0	0	0	3	0	3	1	0	0	1	1	1	0	2	6
% App. Total	0	0	0		0	100	0		100	0	0		50	50	0		
PHF	.000	.000	.000	.000	.000	.375	.000	.375	.250	.000	.000	.250	.250	.250	.000	.250	.750

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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
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Weather: Clear

File Name : SBC210NHIAM
Site Code : 05716653
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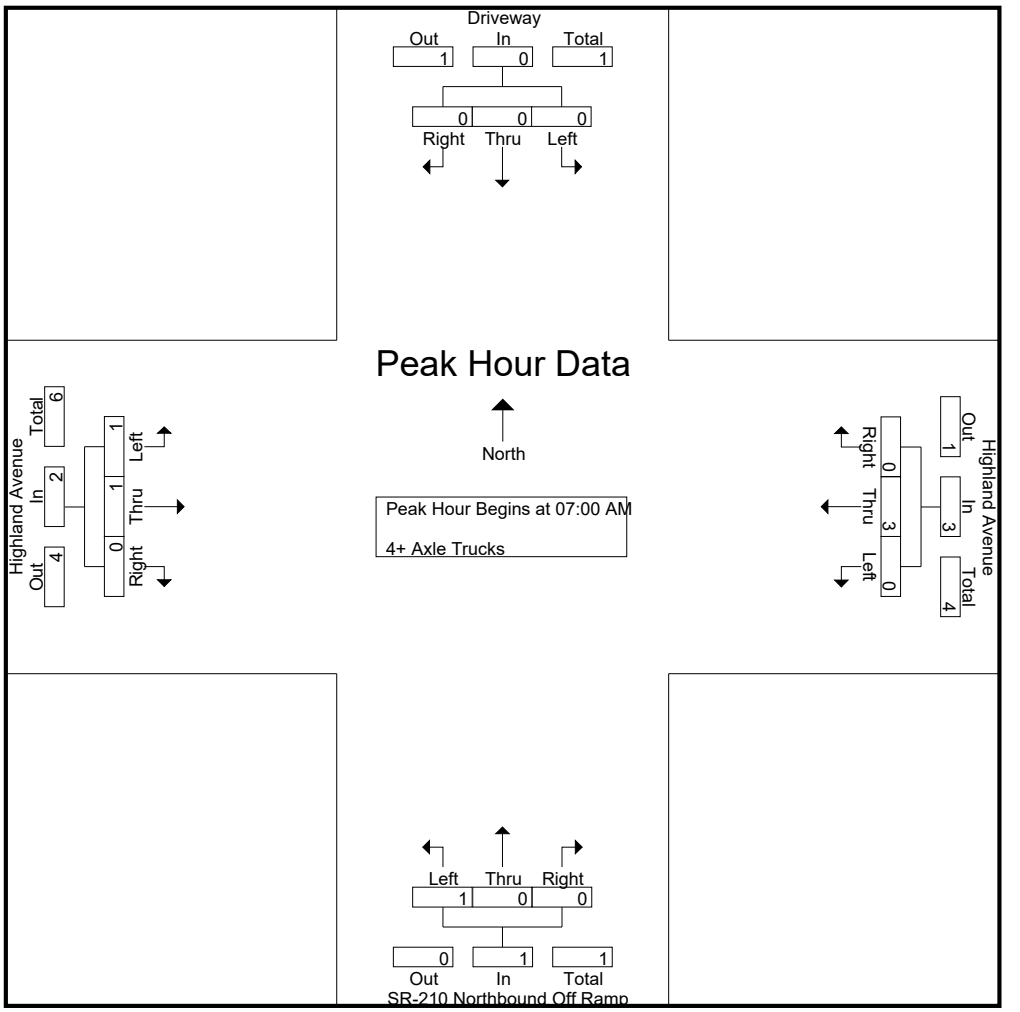

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	0	**2**
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	3	0	3	1	0	0	1	1	1	0	2
% App. Total	0	0	0		0	100	0		100	0	0		50	50	0	
PHF	.000	.000	.000	.000	.000	.375	.000	.375	.250	.000	.000	.250	.250	.250	.000	.250

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City of San Bernardino
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E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIPM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	3	0	6	9	0	324	1	325	64	2	39	105	11	273	0	284	723
04:15 PM	3	0	14	17	0	307	5	312	54	3	27	84	3	265	0	268	681
04:30 PM	2	0	8	10	0	323	3	326	60	2	28	90	4	253	0	257	683
04:45 PM	4	0	6	10	0	339	5	344	59	1	22	82	4	263	0	267	703
Total	12	0	34	46	0	1293	14	1307	237	8	116	361	22	1054	0	1076	2790
05:00 PM	2	0	6	8	0	316	3	319	70	0	17	87	3	273	0	276	690
05:15 PM	3	0	4	7	0	305	3	308	64	1	27	92	4	309	0	313	720
05:30 PM	0	0	9	9	0	308	7	315	67	1	31	99	10	272	0	282	705
05:45 PM	2	0	10	12	0	281	3	284	62	0	32	94	4	271	0	275	665
Total	7	0	29	36	0	1210	16	1226	263	2	107	372	21	1125	0	1146	2780
Grand Total	19	0	63	82	0	2503	30	2533	500	10	223	733	43	2179	0	2222	5570
Apprch %	23.2	0	76.8		0	98.8	1.2		68.2	1.4	30.4		1.9	98.1	0		
Total %	0.3	0	1.1	1.5	0	44.9	0.5	45.5	9	0.2	4	13.2	0.8	39.1	0	39.9	
Passenger Vehicles	19	0	63	82	0	2456	30	2486	496	10	219	725	42	2142	0	2184	5477
% Passenger Vehicles	100	0	100	100	0	98.1	100	98.1	99.2	100	98.2	98.9	97.7	98.3	0	98.3	98.3
Large 2 Axle Vehicles	0	0	0	0	0	36	0	36	2	0	1	3	0	33	0	33	72
% Large 2 Axle Vehicles	0	0	0	0	0	1.4	0	1.4	0.4	0	0.4	0.4	0	1.5	0	1.5	1.3
3 Axle Vehicles	0	0	0	0	0	5	0	5	0	0	1	1	0	4	0	4	10
% 3 Axle Vehicles	0	0	0	0	0	0.2	0	0.2	0	0	0.4	0.1	0	0.2	0	0.2	0.2
4+ Axle Trucks	0	0	0	0	0	6	0	6	2	0	2	4	1	0	0	1	11
% 4+ Axle Trucks	0	0	0	0	0	0.2	0	0.2	0.4	0	0.9	0.5	2.3	0	0	0	0.2

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**4**	0	6	**10**	0	**339**	5	**344**	59	**1**	22	82	4	263	0	267	703
05:00 PM	2	0	6	8	0	316	3	319	**70**	0	17	87	3	273	0	276	690
05:15 PM	3	0	4	7	0	305	3	308	64	1	27	92	4	**309**	0	**313**	**720**
05:30 PM	0	0	**9**	9	0	308	**7**	315	67	1	**31**	**99**	**10**	272	0	282	705
Total Volume	9	0	25	34	0	1268	18	1286	260	3	97	360	21	1117	0	1138	2818
% App. Total	26.5	0	73.5		0	98.6	1.4		72.2	0.8	26.9		1.8	98.2	0		
PHF	.563	.000	.694	.850	.000	.935	.643	.935	.929	.750	.782	.909	.525	.904	.000	.909	.978

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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIPM
Site Code : 05716653
Start Date : 12/7/2016
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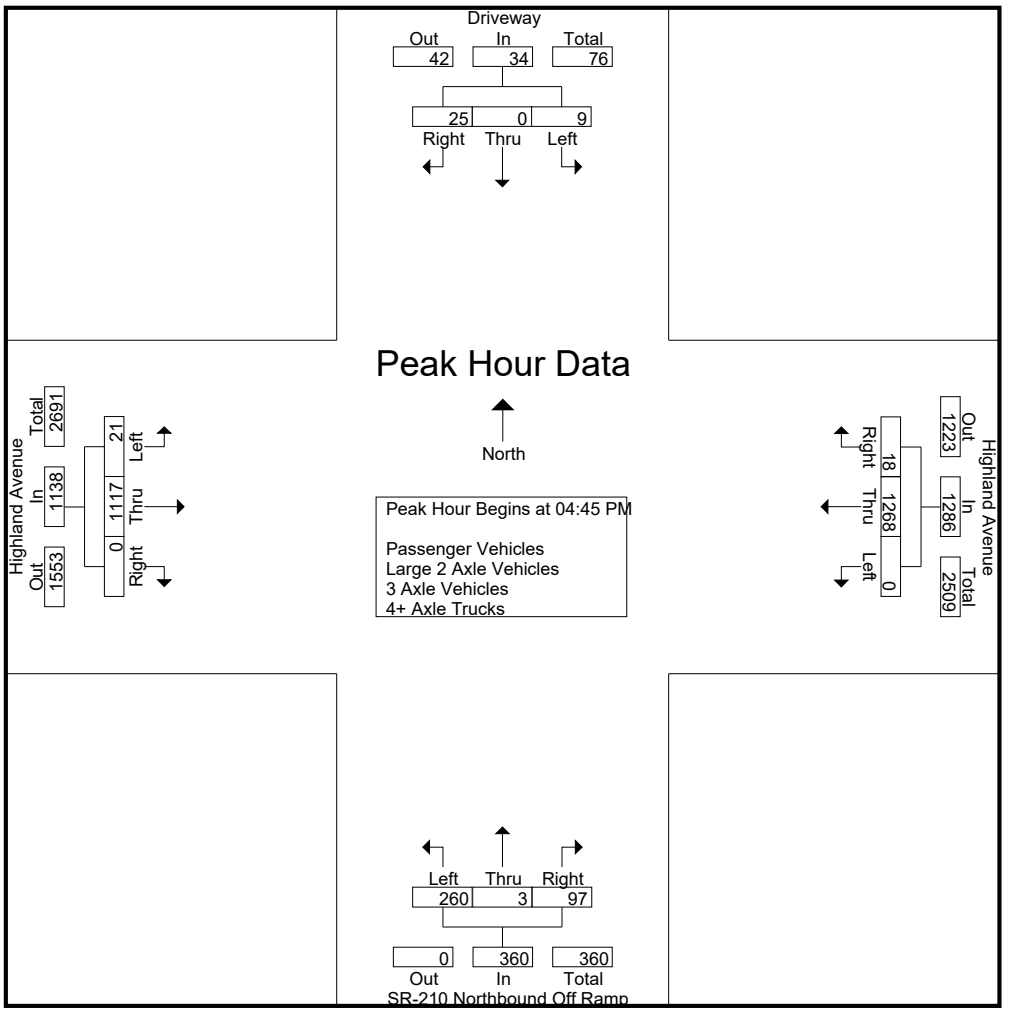

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:00 PM				05:00 PM				05:00 PM			
+0 mins.	3	0	6	9	0	324	1	325	**70**	0	17	87	3	273	0	276
+15 mins.	3	0	**14**	**17**	0	307	**5**	312	64	**1**	27	92	4	**309**	0	**313**
+30 mins.	2	0	8	10	0	323	3	326	67	1	31	**99**	**10**	272	0	282
+45 mins.	**4**	0	6	10	0	**339**	5	**344**	62	0	**32**	94	4	271	0	275
Total Volume	12	0	34	46	0	1293	14	1307	263	2	107	372	21	1125	0	1146
% App. Total	26.1	0	73.9		0	98.9	1.1		70.7	0.5	28.8		1.8	98.2	0	
PHF	.750	.000	.607	.676	.000	.954	.700	.950	.939	.500	.836	.939	.525	.910	.000	.915

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIPM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	3	0	6	9	0	317	1	318	63	2	37	102	11	262	0	273	702
04:15 PM	3	0	14	17	0	300	5	305	53	3	25	81	3	259	0	262	665
04:30 PM	2	0	8	10	0	312	3	315	60	2	28	90	4	251	0	255	670
04:45 PM	4	0	6	10	0	335	5	340	58	1	22	81	4	261	0	265	696
Total	12	0	34	46	0	1264	14	1278	234	8	112	354	22	1033	0	1055	2733
05:00 PM	2	0	6	8	0	309	3	312	70	0	17	87	2	268	0	270	677
05:15 PM	3	0	4	7	0	301	3	304	63	1	27	91	4	307	0	311	713
05:30 PM	0	0	9	9	0	304	7	311	67	1	31	99	10	268	0	278	697
05:45 PM	2	0	10	12	0	278	3	281	62	0	32	94	4	266	0	270	657
Total	7	0	29	36	0	1192	16	1208	262	2	107	371	20	1109	0	1129	2744
Grand Total	19	0	63	82	0	2456	30	2486	496	10	219	725	42	2142	0	2184	5477
Apprch %	23.2	0	76.8		0	98.8	1.2		68.4	1.4	30.2		1.9	98.1	0		
Total %	0.3	0	1.2	1.5	0	44.8	0.5	45.4	9.1	0.2	4	13.2	0.8	39.1	0	39.9	

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**4**	0	6	**10**	0	**335**	5	**340**	58	**1**	22	81	4	261	0	265	696
05:00 PM	2	0	6	8	0	309	3	312	**70**	0	17	87	2	268	0	270	677
05:15 PM	3	0	4	7	0	301	3	304	63	1	27	91	4	**307**	0	**311**	**713**
05:30 PM	0	0	**9**	9	0	304	**7**	311	67	1	**31**	**99**	**10**	268	0	278	697
Total Volume	9	0	25	34	0	1249	18	1267	258	3	97	358	20	1104	0	1124	2783
% App. Total	26.5	0	73.5		0	98.6	1.4		72.1	0.8	27.1		1.8	98.2	0		
PHF	.563	.000	.694	.850	.000	.932	.643	.932	.921	.750	.782	.904	.500	.899	.000	.904	.976

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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIPM
Site Code : 05716653
Start Date : 12/7/2016
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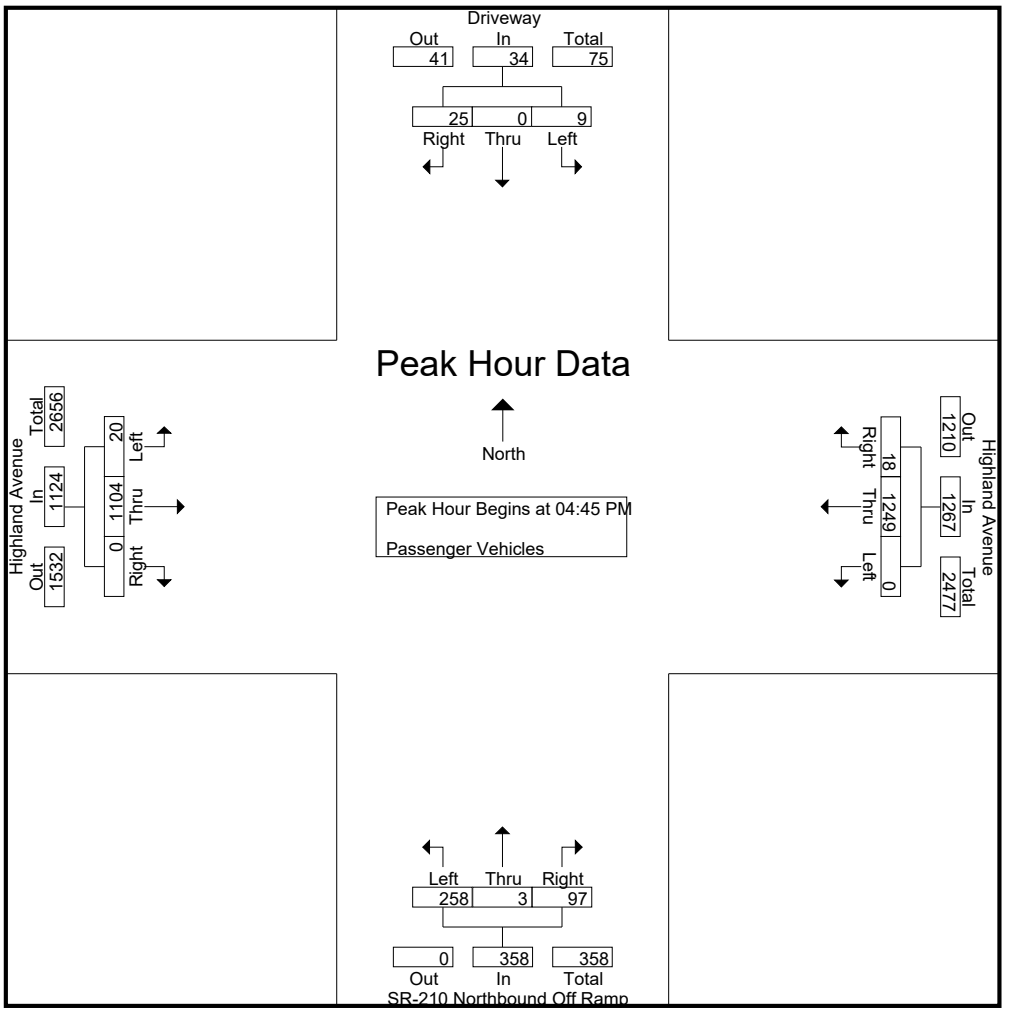

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	**4**	0	6	**10**	0	**335**	5	**340**	58	**1**	22	81	4	261	0	265
+15 mins.	2	0	6	8	0	309	3	312	**70**	0	17	87	2	268	0	270
+30 mins.	3	0	4	7	0	301	3	304	63	1	27	91	4	**307**	0	**311**
+45 mins.	0	0	**9**	9	0	304	**7**	311	67	1	**31**	**99**	**10**	268	0	278
Total Volume	9	0	25	34	0	1249	18	1267	258	3	97	358	20	1104	0	1124
% App. Total	26.5	0	73.5		0	98.6	1.4		72.1	0.8	27.1		1.8	98.2	0	
PHF	.563	.000	.694	.850	.000	.932	.643	.932	.921	.750	.782	.904	.500	.899	.000	.904

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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIPM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	6	0	6	1	0	1	2	0	11	0	11	19
04:15 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4	8
04:30 PM	0	0	0	0	0	8	0	8	0	0	0	0	0	2	0	2	10
04:45 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	2	0	2	6
Total	0	0	0	0	0	22	0	22	1	0	1	2	0	19	0	19	43
05:00 PM	0	0	0	0	0	6	0	6	0	0	0	0	0	4	0	4	10
05:15 PM	0	0	0	0	0	4	0	4	1	0	0	1	0	2	0	2	7
05:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	3	0	3	5
05:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	5	0	5	7
Total	0	0	0	0	0	14	0	14	1	0	0	1	0	14	0	14	29
Grand Total	0	0	0	0	0	36	0	36	2	0	1	3	0	33	0	33	72
Apprch %	0	0	0		0	100	0		66.7	0	33.3		0	100	0		
Total %	0	0	0	0	0	50	0	50	2.8	0	1.4	4.2	0	45.8	0	45.8	

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	2	0	2	6
05:00 PM	0	0	0	0	0	**6**	0	**6**	0	0	0	0	0	**4**	0	**4**	**10**
05:15 PM	0	0	0	0	0	4	0	4	**1**	0	0	**1**	0	2	0	2	7
05:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	3	0	3	5
Total Volume	0	0	0	0	0	16	0	16	1	0	0	1	0	11	0	11	28
% App. Total	0	0	0		0	100	0		100	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.667	.000	.667	.250	.000	.000	.250	.000	.688	.000	.688	.700

Counts Unlimited
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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIPM
Site Code : 05716653
Start Date : 12/7/2016
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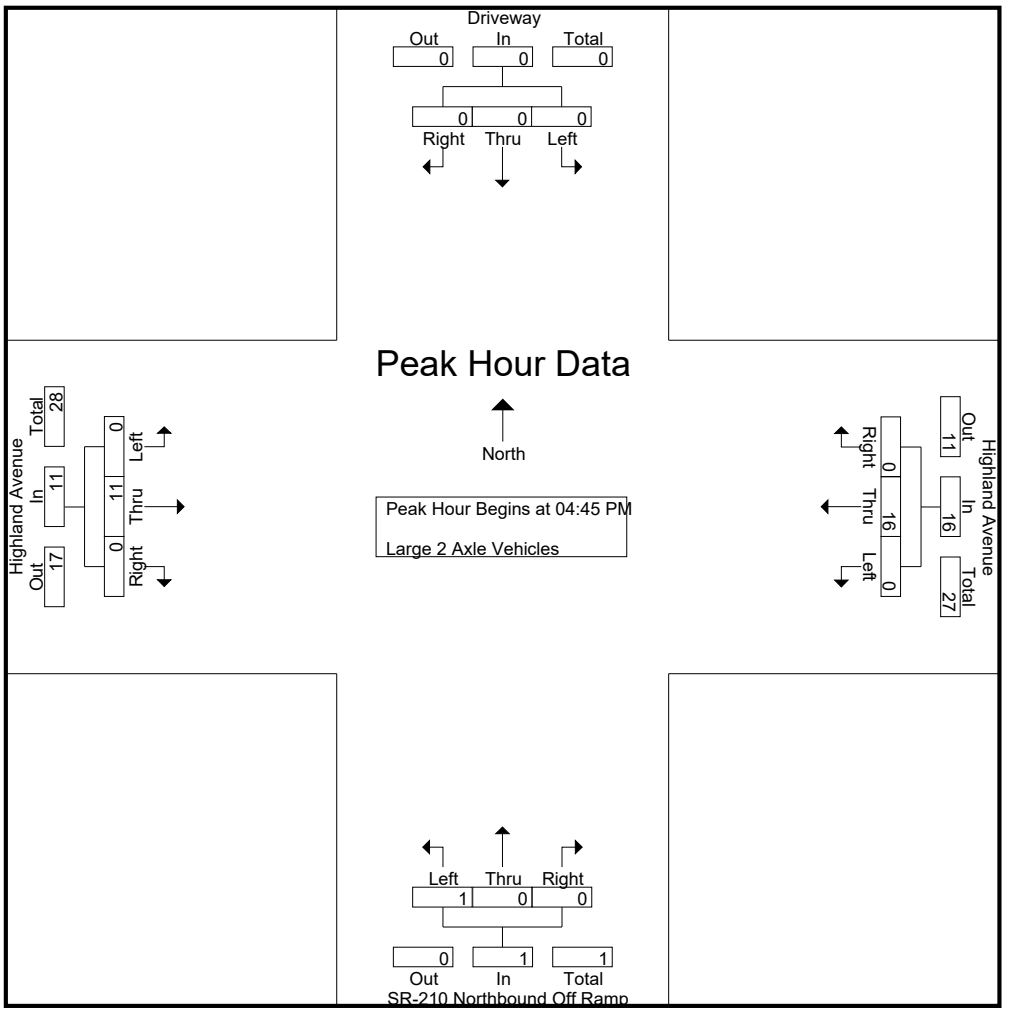

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	0	0	0	0	0	4	0	4	0	0	0	0	0	2	0	2
+15 mins.	0	0	0	0	0	**6**	0	**6**	0	0	0	0	0	**4**	0	**4**
+30 mins.	0	0	0	0	0	4	0	4	**1**	0	0	**1**	0	2	0	2
+45 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	3	0	3
Total Volume	0	0	0	0	0	16	0	16	1	0	0	1	0	11	0	11
% App. Total	0	0	0		0	100	0		100	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.667	.000	.667	.250	.000	.000	.250	.000	.688	.000	.688

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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIPM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- 3 Axle Vehicles

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	2	0	2	4
04:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	3	0	3	0	0	1	1	0	2	0	2	6
05:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
Grand Total	0	0	0	0	0	5	0	5	0	0	1	1	0	4	0	4	10
Apprch %	0	0	0		0	100	0		0	0	100		0	100	0		
Total %	0	0	0	0	0	50	0	50	0	0	10	10	0	40	0	40	

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	**1**	0	**1**	**2**
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500	.500

Counts Unlimited
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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIPM
Site Code : 05716653
Start Date : 12/7/2016
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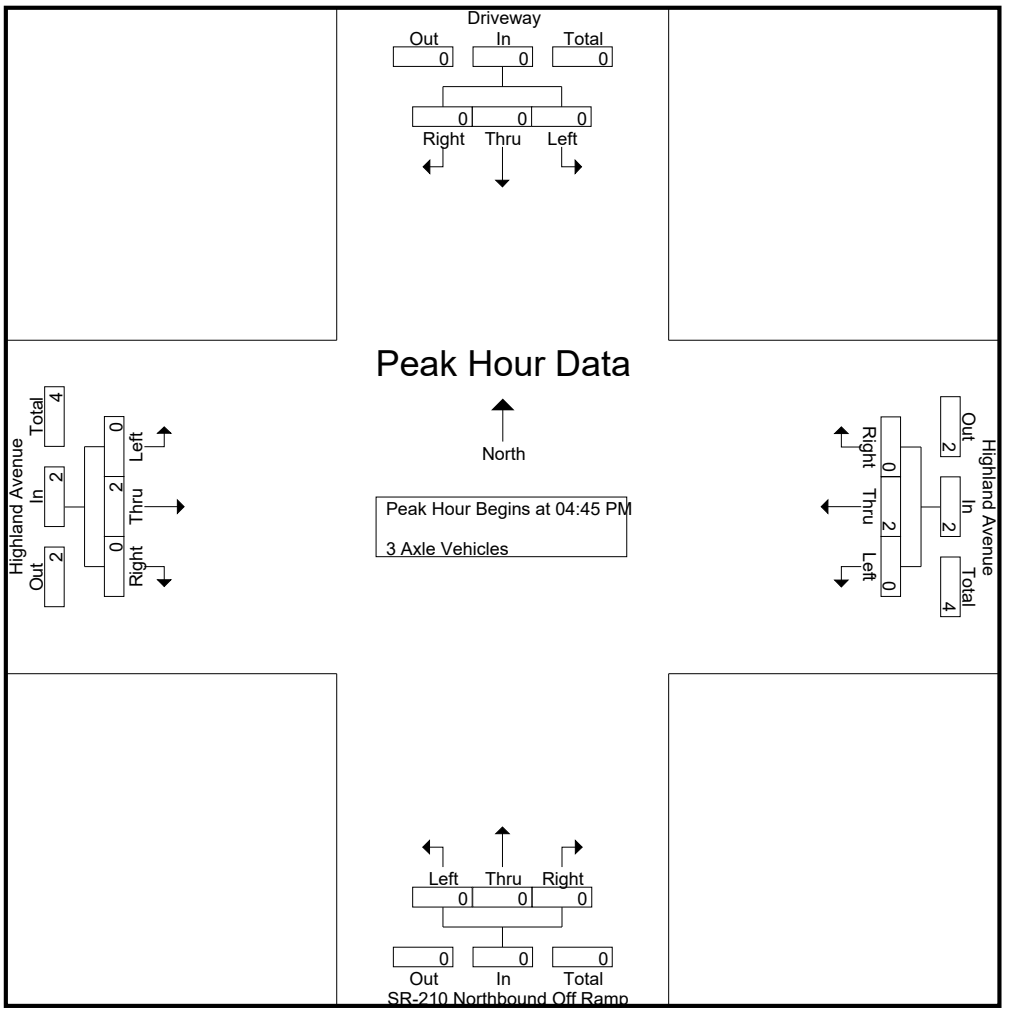

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	**1**	0	**1**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.000	.500	.000	.500

Counts Unlimited
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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIPM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- 4+ Axle Trucks

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
04:15 PM	0	0	0	0	0	2	0	2	1	0	1	2	0	0	0	0	4
04:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
04:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	0	0	0	0	4	0	4	2	0	2	4	0	0	0	0	8
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	2	0	2	0	0	0	0	1	0	0	1	3
Grand Total	0	0	0	0	0	6	0	6	2	0	2	4	1	0	0	1	11
Apprch %	0	0	0		0	100	0		50	0	50		100	0	0		
Total %	0	0	0	0	0	54.5	0	54.5	18.2	0	18.2	36.4	9.1	0	0	9.1	

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	**1**
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	1	0	1	1	0	0	1	1	0	0	1	3
% App. Total	0	0	0		0	100	0		100	0	0		100	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.000	.250	.250	.000	.000	.250	.750

Counts Unlimited
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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHIPM
Site Code : 05716653
Start Date : 12/7/2016
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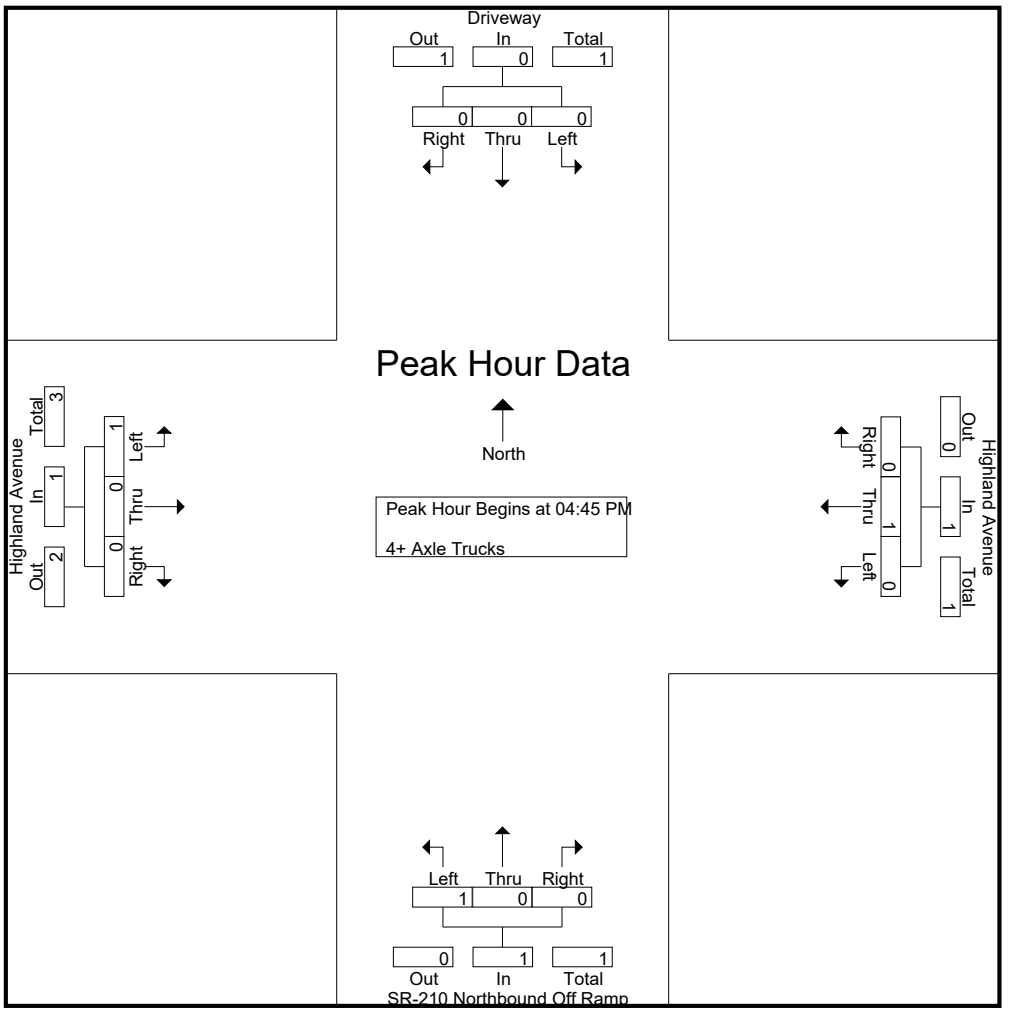

Peak Hour Analysis From 04:45 PM to 05:30 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:45 PM				04:45 PM				04:45 PM				04:45 PM			
+0 mins.	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	1	0	0	1	1	0	0	1
% App. Total	0	0	0		0	100	0		100	0	0		100	0	0	
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.000	.250	.250	.000	.000	.250

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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

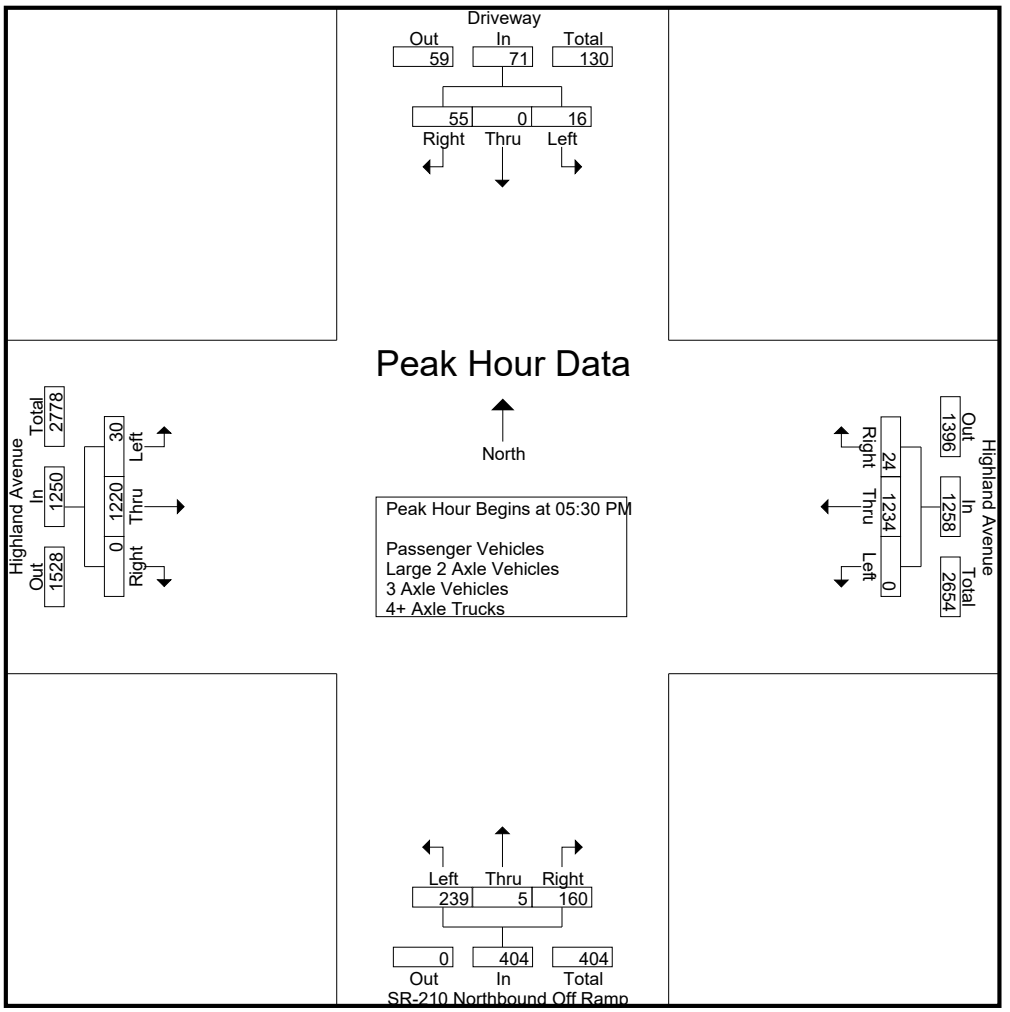
	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	1	0	9	10	0	297	8	305	63	2	33	98	12	308	0	320	733
05:15 PM	3	0	15	18	0	317	0	317	63	3	34	100	6	258	0	264	699
05:30 PM	5	0	16	21	0	314	6	320	54	2	39	95	19	315	0	334	770
05:45 PM	5	0	11	16	0	297	2	299	57	0	38	95	4	308	0	312	722
Total	14	0	51	65	0	1225	16	1241	237	7	144	388	41	1189	0	1230	2924
06:00 PM	4	0	14	18	0	293	9	302	71	1	34	106	5	284	0	289	715
06:15 PM	2	0	14	16	0	330	7	337	57	2	49	108	2	313	0	315	776
06:30 PM	1	0	14	15	0	308	8	316	45	1	48	94	1	276	0	277	702
06:45 PM	4	0	5	9	0	301	5	306	67	5	34	106	4	291	0	295	716
Total	11	0	47	58	0	1232	29	1261	240	9	165	414	12	1164	0	1176	2909
Grand Total	25	0	98	123	0	2457	45	2502	477	16	309	802	53	2353	0	2406	5833
Apprch %	20.3	0	79.7		0	98.2	1.8		59.5	2	38.5		2.2	97.8	0		
Total %	0.4	0	1.7	2.1	0	42.1	0.8	42.9	8.2	0.3	5.3	13.7	0.9	40.3	0	41.2	
Passenger Vehicles	25	0	95	120	0	2430	45	2475	475	16	308	799	53	2336	0	2389	5783
% Passenger Vehicles	100	0	96.9	97.6	0	98.9	100	98.9	99.6	100	99.7	99.6	100	99.3	0	99.3	99.1
Large 2 Axle Vehicles	0	0	3	3	0	20	0	20	2	0	1	3	0	11	0	11	37
% Large 2 Axle Vehicles	0	0	3.1	2.4	0	0.8	0	0.8	0.4	0	0.3	0.4	0	0.5	0	0.5	0.6
3 Axle Vehicles	0	0	0	0	0	7	0	7	0	0	0	0	0	5	0	5	12
% 3 Axle Vehicles	0	0	0	0	0	0.3	0	0.3	0	0	0	0	0	0.2	0	0.2	0.2
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:30 PM																	
05:30 PM	**5**	0	**16**	**21**	0	314	6	320	54	**2**	39	95	**19**	**315**	0	**334**	770
05:45 PM	5	0	11	16	0	297	2	299	57	0	38	95	4	308	0	312	722
06:00 PM	4	0	14	18	0	293	**9**	302	**71**	1	34	106	5	284	0	289	715
06:15 PM	2	0	14	16	0	**330**	7	**337**	57	2	**49**	**108**	2	313	0	315	**776**
Total Volume	16	0	55	71	0	1234	24	1258	239	5	160	404	30	1220	0	1250	2983
% App. Total	22.5	0	77.5		0	98.1	1.9		59.2	1.2	39.6		2.4	97.6	0		
PHF	.800	.000	.859	.845	.000	.935	.667	.933	.842	.625	.816	.935	.395	.968	.000	.936	.961

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 2



Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:15 PM				06:00 PM				06:00 PM				05:30 PM			
+0 mins.	3	0	15	18	0	293	**9**	302	**71**	1	34	106	**19**	**315**	0	**334**
+15 mins.	**5**	0	**16**	**21**	0	**330**	7	**337**	57	2	**49**	**108**	4	308	0	312
+30 mins.	5	0	11	16	0	308	8	316	45	1	48	94	5	284	0	289
+45 mins.	4	0	14	18	0	301	5	306	67	**5**	34	106	2	313	0	315
Total Volume	17	0	56	73	0	1232	29	1261	240	9	165	414	30	1220	0	1250
% App. Total	23.3	0	76.7		0	97.7	2.3		58	2.2	39.9		2.4	97.6	0	
PHF	.850	.000	.875	.869	.000	.933	.806	.935	.845	.450	.842	.958	.395	.968	.000	.936

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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- Passenger Vehicles

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	1	0	9	10	0	294	8	302	63	2	33	98	12	307	0	319	729
05:15 PM	3	0	15	18	0	314	0	314	63	3	34	100	6	256	0	262	694
05:30 PM	5	0	16	21	0	311	6	317	54	2	39	95	19	313	0	332	765
05:45 PM	5	0	8	13	0	294	2	296	57	0	38	95	4	305	0	309	713
Total	14	0	48	62	0	1213	16	1229	237	7	144	388	41	1181	0	1222	2901
06:00 PM	4	0	14	18	0	287	9	296	70	1	34	105	5	281	0	286	705
06:15 PM	2	0	14	16	0	327	7	334	56	2	48	106	2	310	0	312	768
06:30 PM	1	0	14	15	0	304	8	312	45	1	48	94	1	273	0	274	695
06:45 PM	4	0	5	9	0	299	5	304	67	5	34	106	4	291	0	295	714
Total	11	0	47	58	0	1217	29	1246	238	9	164	411	12	1155	0	1167	2882
Grand Total	25	0	95	120	0	2430	45	2475	475	16	308	799	53	2336	0	2389	5783
Apprch %	20.8	0	79.2		0	98.2	1.8		59.4	2	38.5		2.2	97.8	0		
Total %	0.4	0	1.6	2.1	0	42	0.8	42.8	8.2	0.3	5.3	13.8	0.9	40.4	0	41.3	

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:30 PM																	
05:30 PM	**5**	0	**16**	**21**	0	311	6	317	54	**2**	39	95	**19**	**313**	0	**332**	765
05:45 PM	5	0	8	13	0	294	2	296	57	0	38	95	4	305	0	309	713
06:00 PM	4	0	14	18	0	287	**9**	296	**70**	1	34	105	5	281	0	286	705
06:15 PM	2	0	14	16	0	**327**	7	**334**	56	2	**48**	**106**	2	310	0	312	**768**
Total Volume	16	0	52	68	0	1219	24	1243	237	5	159	401	30	1209	0	1239	2951
% App. Total	23.5	0	76.5		0	98.1	1.9		59.1	1.2	39.7		2.4	97.6	0		
PHF	.800	.000	.813	.810	.000	.932	.667	.930	.846	.625	.828	.946	.395	.966	.000	.933	.961

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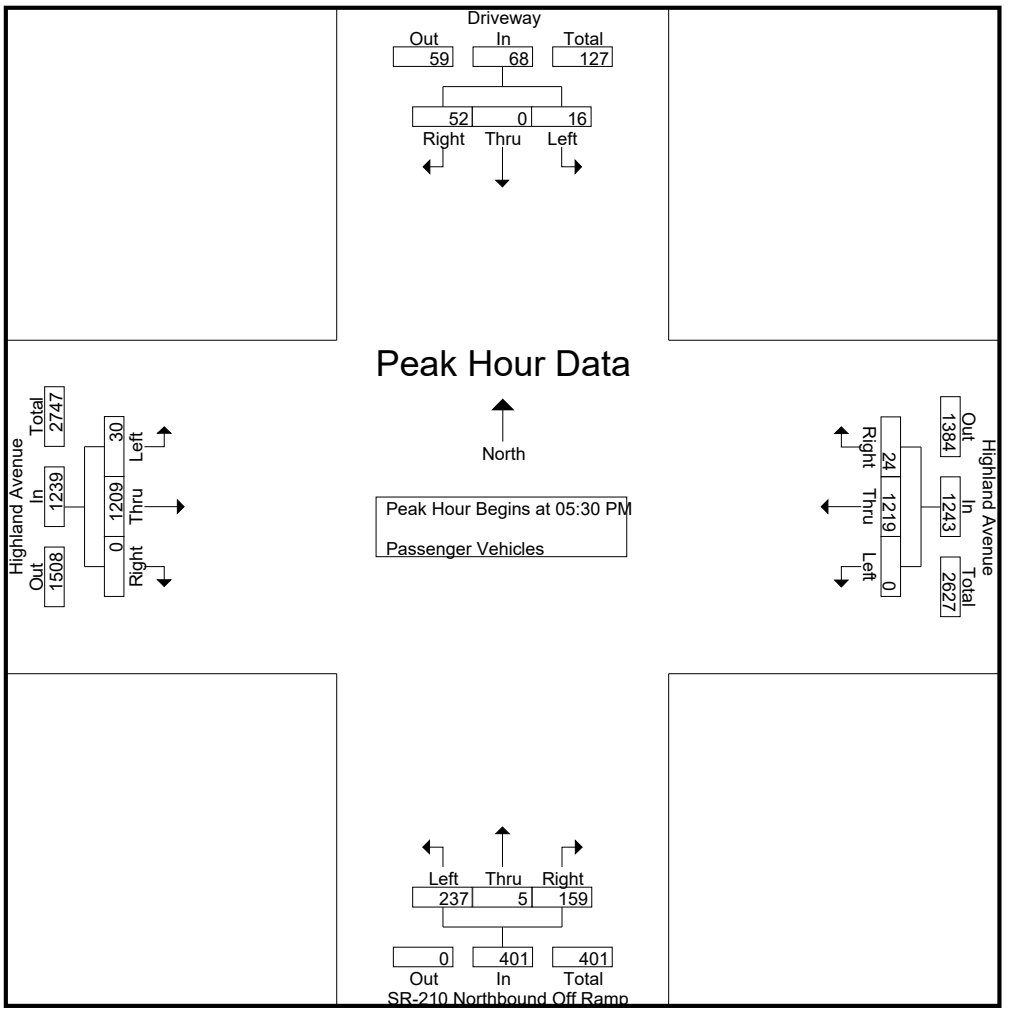
City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 2



Peak Hour Analysis From 05:30 PM to 06:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:30 PM				05:30 PM				05:30 PM				05:30 PM			
+0 mins.	**5**	0	**16**	**21**	0	311	6	317	54	**2**	39	95	**19**	**313**	0	**332**
+15 mins.	5	0	8	13	0	294	2	296	57	0	38	95	4	305	0	309
+30 mins.	4	0	14	18	0	287	**9**	296	**70**	1	34	105	5	281	0	286
+45 mins.	2	0	14	16	0	**327**	7	**334**	56	2	**48**	**106**	2	310	0	312
Total Volume	16	0	52	68	0	1219	24	1243	237	5	159	401	30	1209	0	1239
% App. Total	23.5	0	76.5		0	98.1	1.9		59.1	1.2	39.7		2.4	97.6	0	
PHF	.800	.000	.813	.810	.000	.932	.667	.930	.846	.625	.828	.946	.395	.966	.000	.933

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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
05:15 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
05:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
05:45 PM	0	0	3	3	0	3	0	3	0	0	0	0	0	3	0	3	9
Total	0	0	3	3	0	10	0	10	0	0	0	0	0	8	0	8	21
06:00 PM	0	0	0	0	0	4	0	4	1	0	0	1	0	1	0	1	6
06:15 PM	0	0	0	0	0	2	0	2	1	0	1	2	0	1	0	1	5
06:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
06:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
Total	0	0	0	0	0	10	0	10	2	0	1	3	0	3	0	3	16
Grand Total	0	0	3	3	0	20	0	20	2	0	1	3	0	11	0	11	37
Apprch %	0	0	100		0	100	0		66.7	0	33.3		0	100	0		
Total %	0	0	8.1	8.1	0	54.1	0	54.1	5.4	0	2.7	8.1	0	29.7	0	29.7	

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:30 PM																	
05:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
05:45 PM	0	0	**3**	**3**	0	3	0	3	0	0	0	0	0	**3**	0	**3**	**9**
06:00 PM	0	0	0	0	0	**4**	0	**4**	**1**	0	0	1	0	1	0	1	6
06:15 PM	0	0	0	0	0	2	0	2	1	0	**1**	**2**	0	1	0	1	5
Total Volume	0	0	3	3	0	12	0	12	2	0	1	3	0	7	0	7	25
% App. Total	0	0	100		0	100	0		66.7	0	33.3		0	100	0		
PHF	.000	.000	.250	.250	.000	.750	.000	.750	.500	.000	.250	.375	.000	.583	.000	.583	.694

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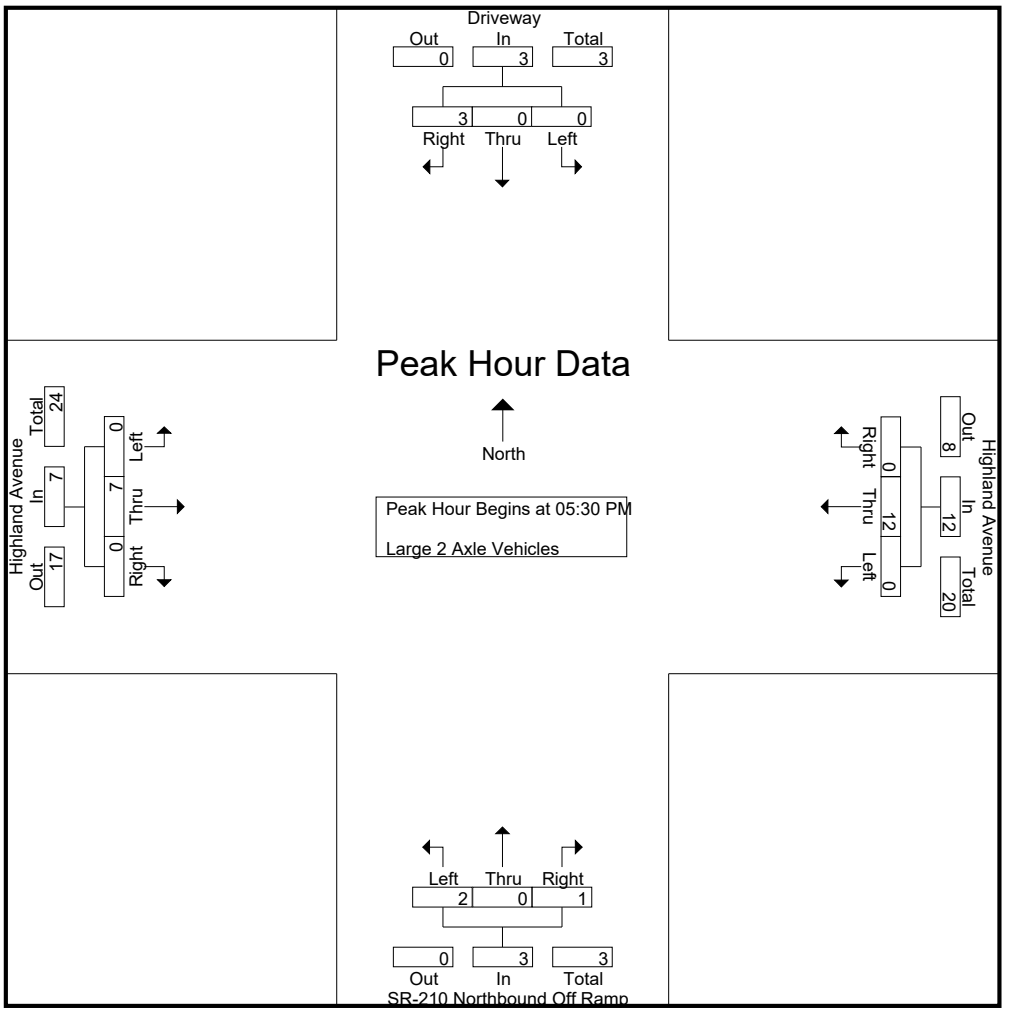
City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 2



Peak Hour Analysis From 05:30 PM to 06:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:30 PM				05:30 PM				05:30 PM				05:30 PM			
+0 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2
+15 mins.	0	0	**3**	**3**	0	3	0	3	0	0	0	0	0	**3**	0	**3**
+30 mins.	0	0	0	0	0	**4**	0	**4**	**1**	0	0	1	0	1	0	1
+45 mins.	0	0	0	0	0	2	0	2	1	0	**1**	**2**	0	1	0	1
Total Volume	0	0	3	3	0	12	0	12	2	0	1	3	0	7	0	7
% App. Total	0	0	100		0	100	0		66.7	0	33.3		0	100	0	
PHF	.000	.000	.250	.250	.000	.750	.000	.750	.500	.000	.250	.375	.000	.583	.000	.583

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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- 3 Axle Vehicles

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
06:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
06:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
06:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	5	0	5	0	0	0	0	0	5	0	5	10
Grand Total	0	0	0	0	0	7	0	7	0	0	0	0	0	5	0	5	12
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	58.3	0	58.3	0	0	0	0	0	41.7	0	41.7	

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:30 PM																	
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	**2**	0	**2**	**4**
06:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Total Volume	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3	6
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.375	.000	.375	.000	.000	.000	.000	.000	.375	.000	.375	.375

Counts Unlimited
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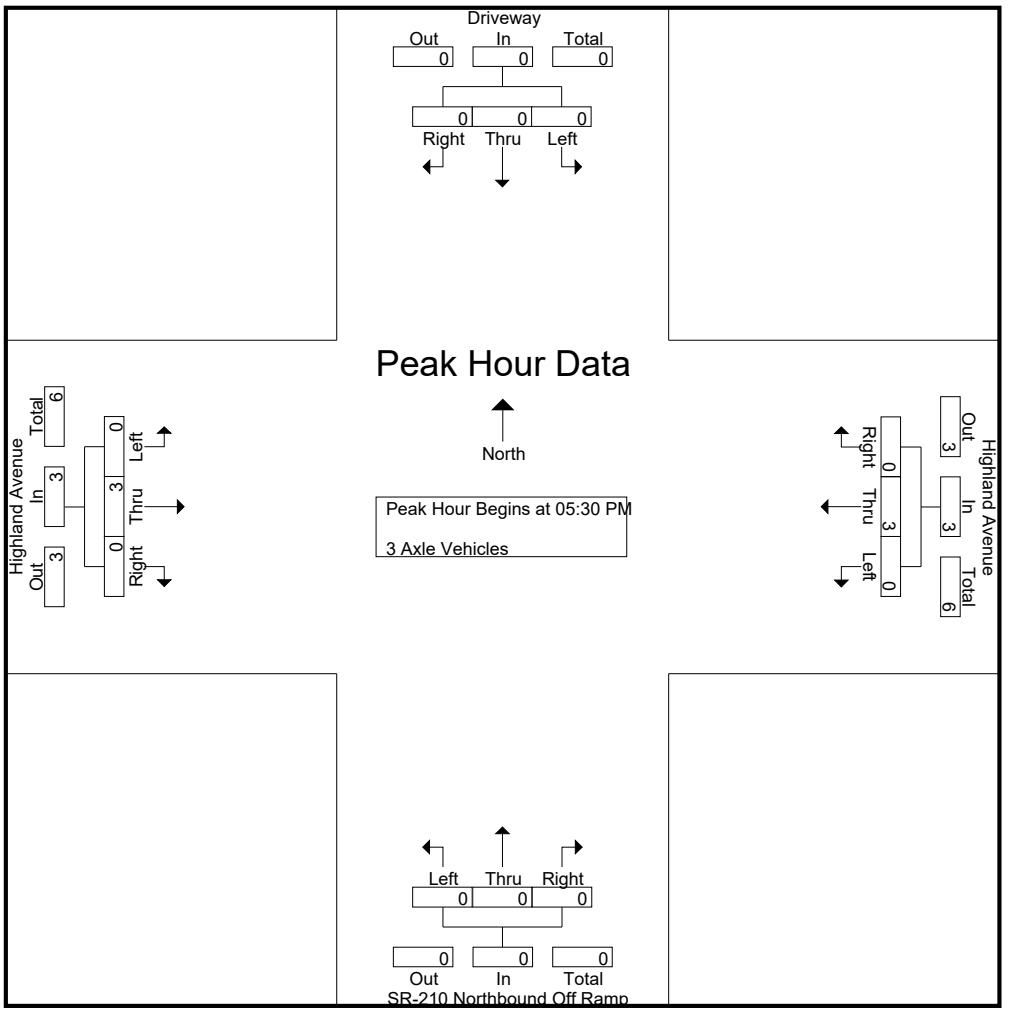
City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 2



Peak Hour Analysis From 05:30 PM to 06:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:30 PM				05:30 PM				05:30 PM				05:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	**2**	0	**2**
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.375	.000	.375	.000	.000	.000	.000	.000	.375	.000	.375

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City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- 4+ Axle Trucks

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Apprch %	0	0	0		0	0	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	100	

	Driveway Southbound				Highland Avenue Westbound				SR-210 Northbound Off Ramp Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:30 PM																	
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	**1**
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250

Counts Unlimited
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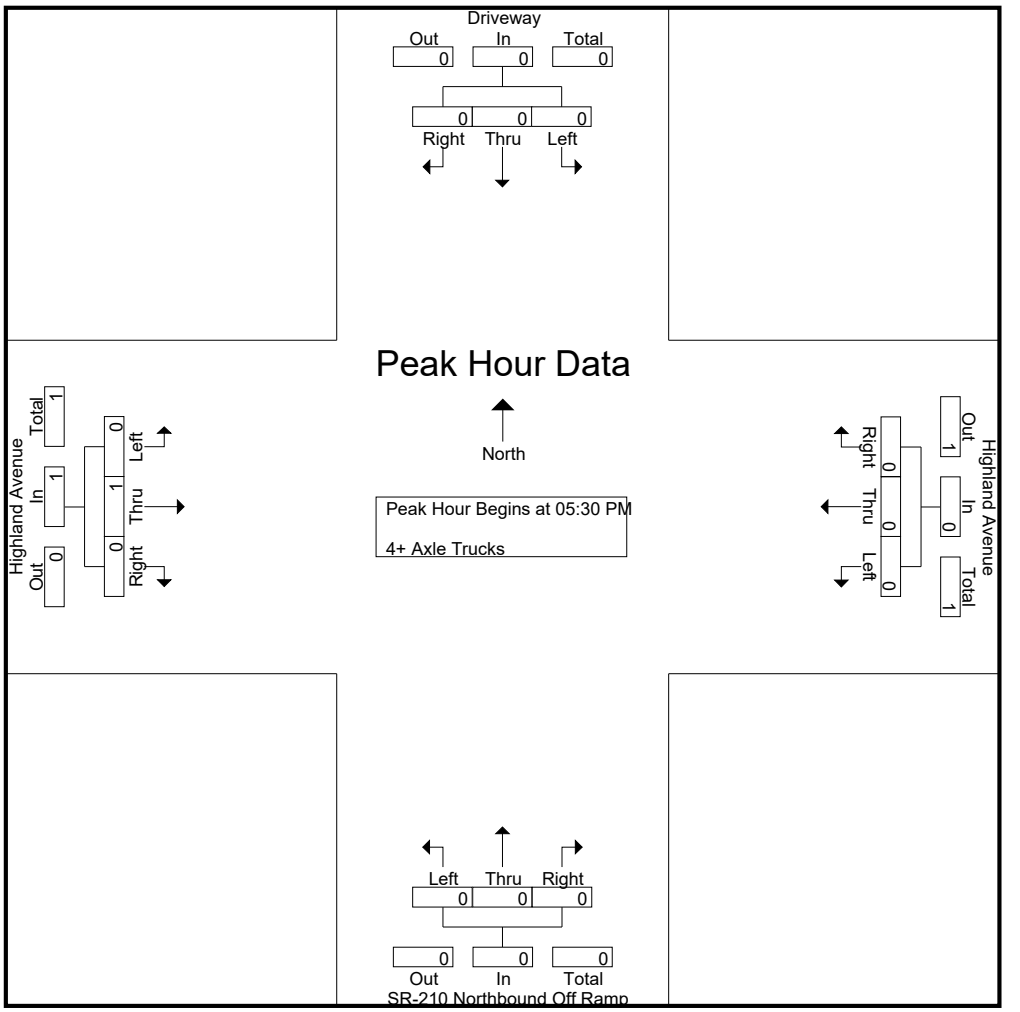
City of San Bernardino
N/S: SR-210 Northbound Off Ramp
E/W: Highland Avenue
Weather: Clear

File Name : SBC210NHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 2



Peak Hour Analysis From 05:30 PM to 06:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:30 PM				05:30 PM				05:30 PM				05:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250

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(951) 268-6268

City of Highland
N/S: Victoria Avenue
E/W: Highland Avenue
Weather: Clear

File Name : HLDVIHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	18	44	62	124	10	71	15	96	48	48	6	102	75	87	19	181	503
07:15 AM	20	65	70	155	8	83	16	107	57	102	9	168	80	63	28	171	601
07:30 AM	25	91	63	179	12	69	19	100	61	81	11	153	97	107	32	236	668
07:45 AM	27	32	43	102	6	73	15	94	54	39	11	104	99	133	27	259	559
Total	90	232	238	560	36	296	65	397	220	270	37	527	351	390	106	847	2331
08:00 AM	22	16	48	86	12	93	24	129	53	18	10	81	83	105	24	212	508
08:15 AM	23	26	39	88	8	82	20	110	56	24	11	91	91	112	27	230	519
08:30 AM	29	14	39	82	11	79	21	111	57	32	14	103	89	101	31	221	517
08:45 AM	33	25	52	110	9	85	19	113	36	26	13	75	76	111	24	211	509
Total	107	81	178	366	40	339	84	463	202	100	48	350	339	429	106	874	2053
Grand Total	197	313	416	926	76	635	149	860	422	370	85	877	690	819	212	1721	4384
Apprch %	21.3	33.8	44.9		8.8	73.8	17.3		48.1	42.2	9.7		40.1	47.6	12.3		
Total %	4.5	7.1	9.5	21.1	1.7	14.5	3.4	19.6	9.6	8.4	1.9	20	15.7	18.7	4.8	39.3	
Passenger Vehicles	172	307	394	873	71	597	142	810	403	350	83	836	668	784	202	1654	4173
% Passenger Vehicles	87.3	98.1	94.7	94.3	93.4	94	95.3	94.2	95.5	94.6	97.6	95.3	96.8	95.7	95.3	96.1	95.2
Large 2 Axle Vehicles	25	6	17	48	5	37	7	49	14	17	2	33	17	32	10	59	189
% Large 2 Axle Vehicles	12.7	1.9	4.1	5.2	6.6	5.8	4.7	5.7	3.3	4.6	2.4	3.8	2.5	3.9	4.7	3.4	4.3
3 Axle Vehicles	0	0	1	1	0	1	0	1	1	0	0	1	4	1	0	5	8
% 3 Axle Vehicles	0	0	0.2	0.1	0	0.2	0	0.1	0.2	0	0	0.1	0.6	0.1	0	0.3	0.2
4+ Axle Trucks	0	0	4	4	0	0	0	0	4	3	0	7	1	2	0	3	14
% 4+ Axle Trucks	0	0	1	0.4	0	0	0	0	0.9	0.8	0	0.8	0.1	0.2	0	0.2	0.3

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	20	65	**70**	155	8	83	16	107	57	**102**	9	**168**	80	63	28	171	601
07:30 AM	25	**91**	63	**179**	**12**	69	19	100	**61**	81	**11**	153	97	107	**32**	236	**668**
07:45 AM	**27**	32	43	102	6	73	15	94	54	39	11	104	**99**	**133**	27	**259**	559
08:00 AM	22	16	48	86	12	**93**	**24**	**129**	53	18	10	81	83	105	24	212	508
Total Volume	94	204	224	522	38	318	74	430	225	240	41	506	359	408	111	878	2336
% App. Total	18	39.1	42.9		8.8	74	17.2		44.5	47.4	8.1		40.9	46.5	12.6		
PHF	.870	.560	.800	.729	.792	.855	.771	.833	.922	.588	.932	.753	.907	.767	.867	.847	.874

Counts Unlimited
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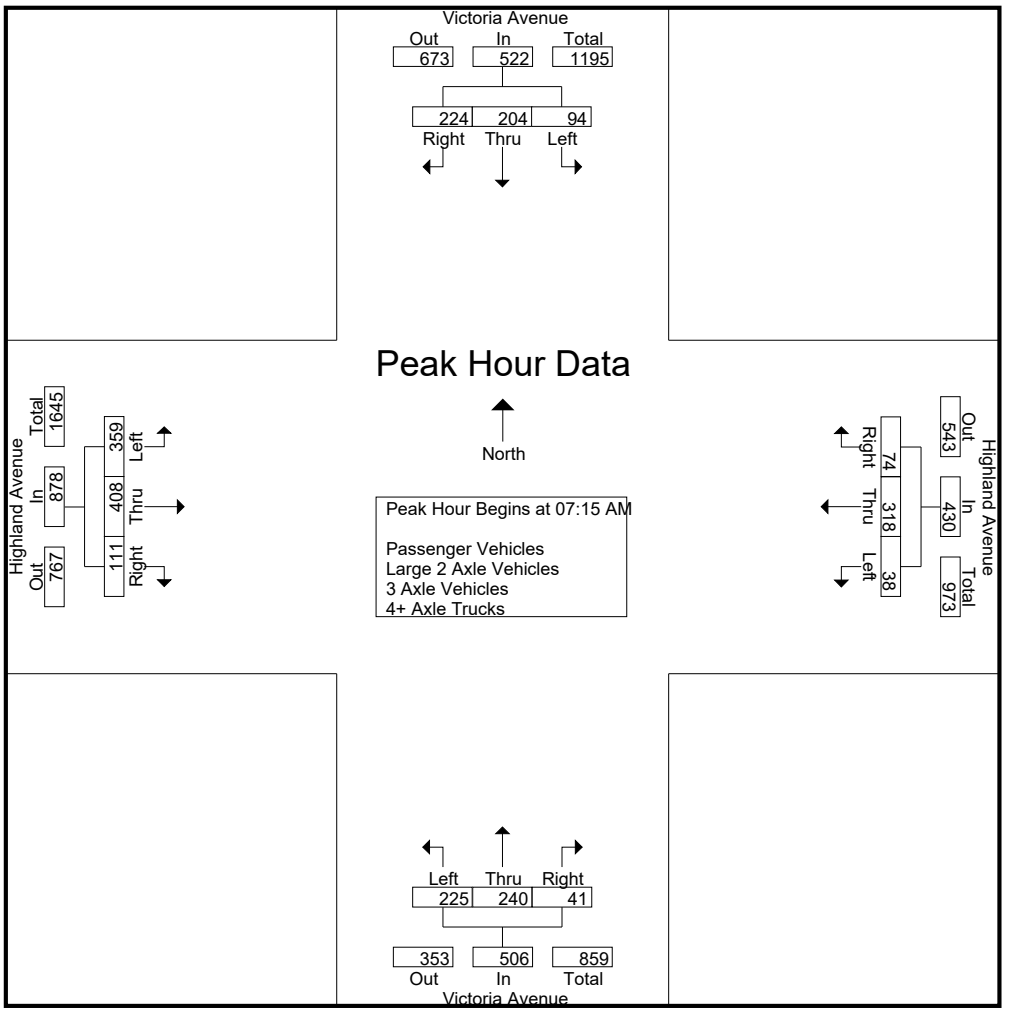
City of Highland
N/S: Victoria Avenue
E/W: Highland Avenue
Weather: Clear

File Name : HLDVIHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				08:00 AM				07:00 AM				07:30 AM			
+0 mins.	18	44	62	124	**12**	**93**	**24**	**129**	48	48	6	102	97	107	**32**	236
+15 mins.	20	65	**70**	155	8	82	20	110	57	**102**	9	**168**	**99**	**133**	27	**259**
+30 mins.	25	**91**	63	**179**	11	79	21	111	**61**	81	**11**	153	83	105	24	212
+45 mins.	**27**	32	43	102	9	85	19	113	54	39	11	104	91	112	27	230
Total Volume	90	232	238	560	40	339	84	463	220	270	37	527	370	457	110	937
% App. Total	16.1	41.4	42.5		8.6	73.2	18.1		41.7	51.2	7		39.5	48.8	11.7	
PHF	.833	.637	.850	.782	.833	.911	.875	.897	.902	.662	.841	.784	.934	.859	.859	.904

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City of Highland
N/S: Victoria Avenue
E/W: Highland Avenue
Weather: Clear

File Name : HLDVIHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	15	44	59	118	9	69	15	93	48	46	6	100	69	84	19	172	483
07:15 AM	17	64	67	148	7	81	15	103	55	98	8	161	75	61	24	160	572
07:30 AM	21	87	62	170	10	63	18	91	59	79	10	148	93	104	32	229	638
07:45 AM	22	31	40	93	5	71	15	91	49	32	11	92	98	127	26	251	527
Total	75	226	228	529	31	284	63	378	211	255	35	501	335	376	101	812	2220
08:00 AM	20	16	45	81	12	86	19	117	50	16	10	76	82	102	23	207	481
08:15 AM	20	26	38	84	8	70	20	98	54	22	11	87	89	102	26	217	486
08:30 AM	27	14	36	77	11	76	21	108	52	32	14	98	88	95	30	213	496
08:45 AM	30	25	47	102	9	81	19	109	36	25	13	74	74	109	22	205	490
Total	97	81	166	344	40	313	79	432	192	95	48	335	333	408	101	842	1953
Grand Total	172	307	394	873	71	597	142	810	403	350	83	836	668	784	202	1654	4173
Apprch %	19.7	35.2	45.1		8.8	73.7	17.5		48.2	41.9	9.9		40.4	47.4	12.2		
Total %	4.1	7.4	9.4	20.9	1.7	14.3	3.4	19.4	9.7	8.4	2	20	16	18.8	4.8	39.6	

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	17	64	**67**	148	7	81	15	103	55	**98**	8	**161**	75	61	24	160	572
07:30 AM	21	**87**	62	**170**	10	63	18	91	**59**	79	10	148	93	104	**32**	229	**638**
07:45 AM	**22**	31	40	93	5	71	15	91	49	32	**11**	92	**98**	**127**	26	**251**	527
08:00 AM	20	16	45	81	**12**	**86**	**19**	**117**	50	16	10	76	82	102	23	207	481
Total Volume	80	198	214	492	34	301	67	402	213	225	39	477	348	394	105	847	2218
% App. Total	16.3	40.2	43.5		8.5	74.9	16.7		44.7	47.2	8.2		41.1	46.5	12.4		
PHF	.909	.569	.799	.724	.708	.875	.882	.859	.903	.574	.886	.741	.888	.776	.820	.844	.869

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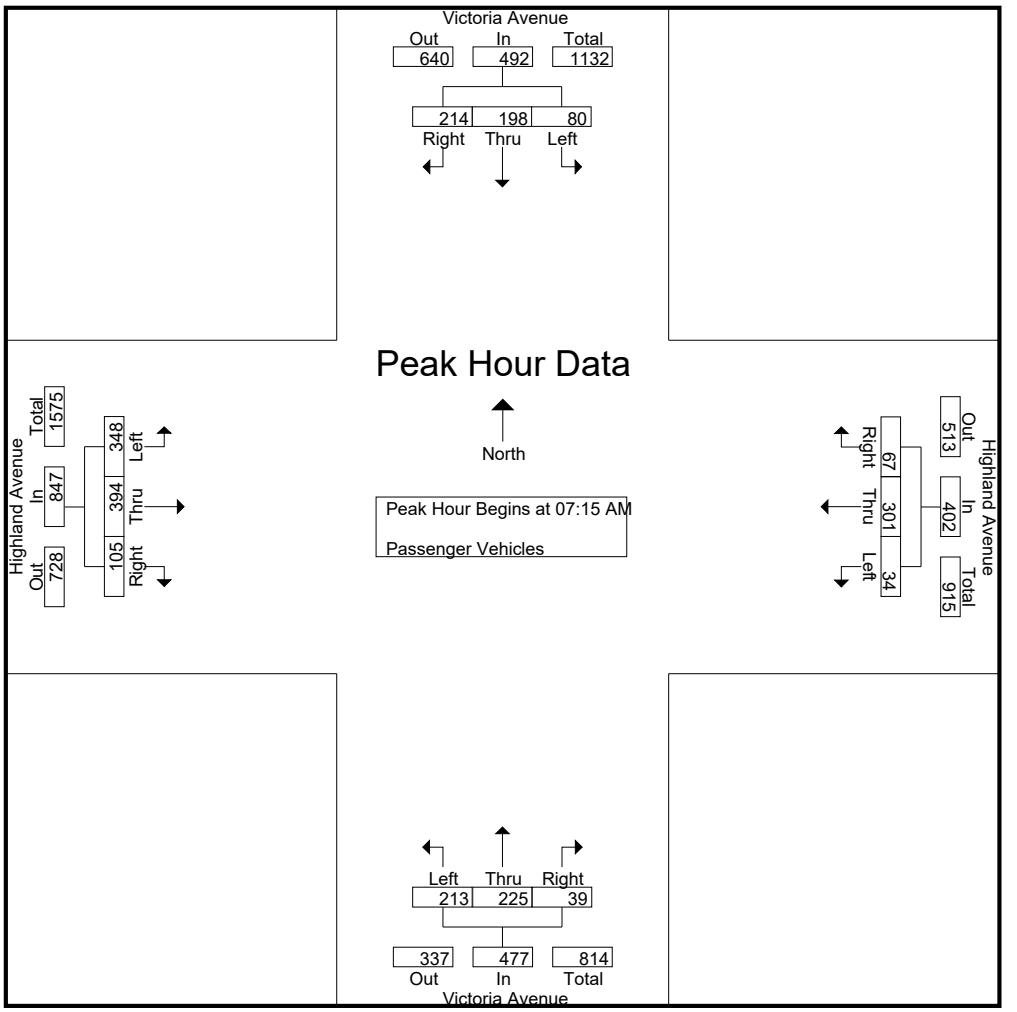
City of Highland
N/S: Victoria Avenue
E/W: Highland Avenue
Weather: Clear

File Name : HLDVIHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	17	64	**67**	148	7	81	15	103	55	**98**	8	**161**	75	61	24	160
+15 mins.	21	**87**	62	**170**	10	63	18	91	**59**	79	10	148	93	104	**32**	229
+30 mins.	**22**	31	40	93	5	71	15	91	49	32	**11**	92	**98**	**127**	26	**251**
+45 mins.	20	16	45	81	**12**	**86**	**19**	**117**	50	16	10	76	82	102	23	207
Total Volume	80	198	214	492	34	301	67	402	213	225	39	477	348	394	105	847
% App. Total	16.3	40.2	43.5		8.5	74.9	16.7		44.7	47.2	8.2		41.1	46.5	12.4	
PHF	.909	.569	.799	.724	.708	.875	.882	.859	.903	.574	.886	.741	.888	.776	.820	.844

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City of Highland
N/S: Victoria Avenue
E/W: Highland Avenue
Weather: Clear

File Name : HLDVIHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	0	3	6	1	2	0	3	0	0	0	0	5	3	0	8	17
07:15 AM	3	1	3	7	1	2	1	4	2	4	1	7	4	2	4	10	28
07:30 AM	4	4	1	9	2	5	1	8	1	2	1	4	4	2	0	6	27
07:45 AM	5	1	2	8	1	2	0	3	3	7	0	10	0	5	1	6	27
Total	15	6	9	30	5	11	2	18	6	13	2	21	13	12	5	30	99
08:00 AM	2	0	3	5	0	7	5	12	2	2	0	4	1	3	1	5	26
08:15 AM	3	0	1	4	0	12	0	12	1	1	0	2	2	10	1	13	31
08:30 AM	2	0	1	3	0	3	0	3	5	0	0	5	0	5	1	6	17
08:45 AM	3	0	3	6	0	4	0	4	0	1	0	1	1	2	2	5	16
Total	10	0	8	18	0	26	5	31	8	4	0	12	4	20	5	29	90
Grand Total	25	6	17	48	5	37	7	49	14	17	2	33	17	32	10	59	189
Apprch %	52.1	12.5	35.4		10.2	75.5	14.3		42.4	51.5	6.1		28.8	54.2	16.9		
Total %	13.2	3.2	9	25.4	2.6	19.6	3.7	25.9	7.4	9	1.1	17.5	9	16.9	5.3	31.2	

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	3	1	**3**	7	1	2	1	4	2	4	**1**	7	**4**	2	**4**	**10**	**28**
07:30 AM	4	**4**	1	**9**	**2**	5	1	8	1	2	1	4	4	2	0	6	27
07:45 AM	**5**	1	2	8	1	2	0	3	**3**	**7**	0	**10**	0	**5**	1	6	27
08:00 AM	2	0	3	5	0	**7**	**5**	**12**	2	2	0	4	1	3	1	5	26
Total Volume	14	6	9	29	4	16	7	27	8	15	2	25	9	12	6	27	108
% App. Total	48.3	20.7	31		14.8	59.3	25.9		32	60	8		33.3	44.4	22.2		
PHF	.700	.375	.750	.806	.500	.571	.350	.563	.667	.536	.500	.625	.563	.600	.375	.675	.964

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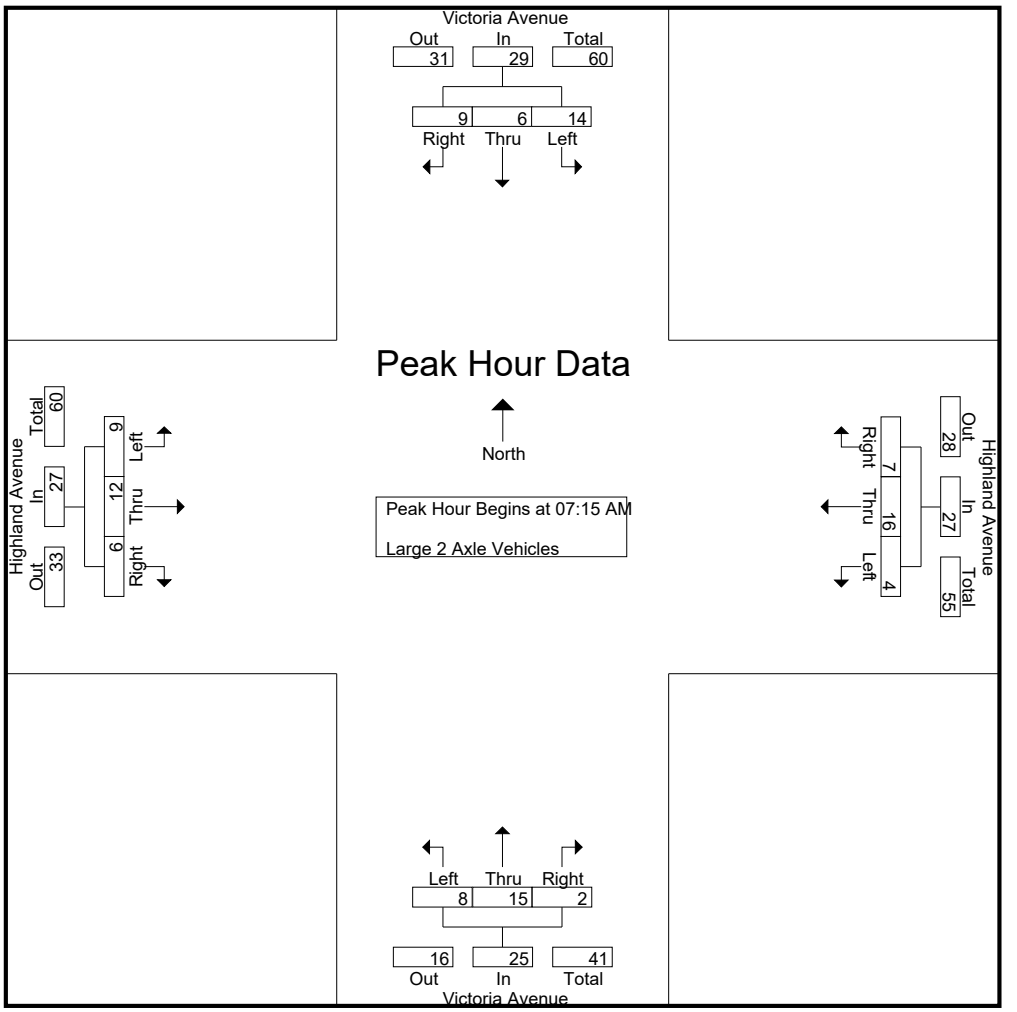
City of Highland
N/S: Victoria Avenue
E/W: Highland Avenue
Weather: Clear

File Name : HLDVIHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	3	1	**3**	7	1	2	1	4	2	4	**1**	7	**4**	2	**4**	**10**
+15 mins.	4	**4**	1	**9**	**2**	5	1	8	1	2	1	4	4	2	0	6
+30 mins.	**5**	1	2	8	1	2	0	3	**3**	**7**	0	**10**	0	**5**	1	6
+45 mins.	2	0	3	5	0	**7**	**5**	**12**	2	2	0	4	1	3	1	5
Total Volume	14	6	9	29	4	16	7	27	8	15	2	25	9	12	6	27
% App. Total	48.3	20.7	31		14.8	59.3	25.9		32	60	8		33.3	44.4	22.2	
PHF	.700	.375	.750	.806	.500	.571	.350	.563	.667	.536	.500	.625	.563	.600	.375	.675

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City of Highland
N/S: Victoria Avenue
E/W: Highland Avenue
Weather: Clear

File Name : HLDVIHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2
Total	0	0	0	0	0	1	0	1	0	0	0	0	3	1	0	4	5
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:30 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	1	1	0	0	0	0	1	0	0	1	1	0	0	1	3
Grand Total	0	0	1	1	0	1	0	1	1	0	0	1	4	1	0	5	8
Apprch %	0	0	100		0	100	0		100	0	0		80	20	0		
Total %	0	0	12.5	12.5	0	12.5	0	12.5	12.5	0	0	12.5	50	12.5	0	62.5	

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	1	1
07:30 AM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	1
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	0	**2**	**2**
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	2	1	0	3	4
% App. Total	0	0	0		0	100	0		0	0	0		66.7	33.3	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.500	.250	.000	.375	.500

Counts Unlimited
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City of Highland
N/S: Victoria Avenue
E/W: Highland Avenue
Weather: Clear

File Name : HLDVIHIAM
Site Code : 05716653
Start Date : 12/7/2016
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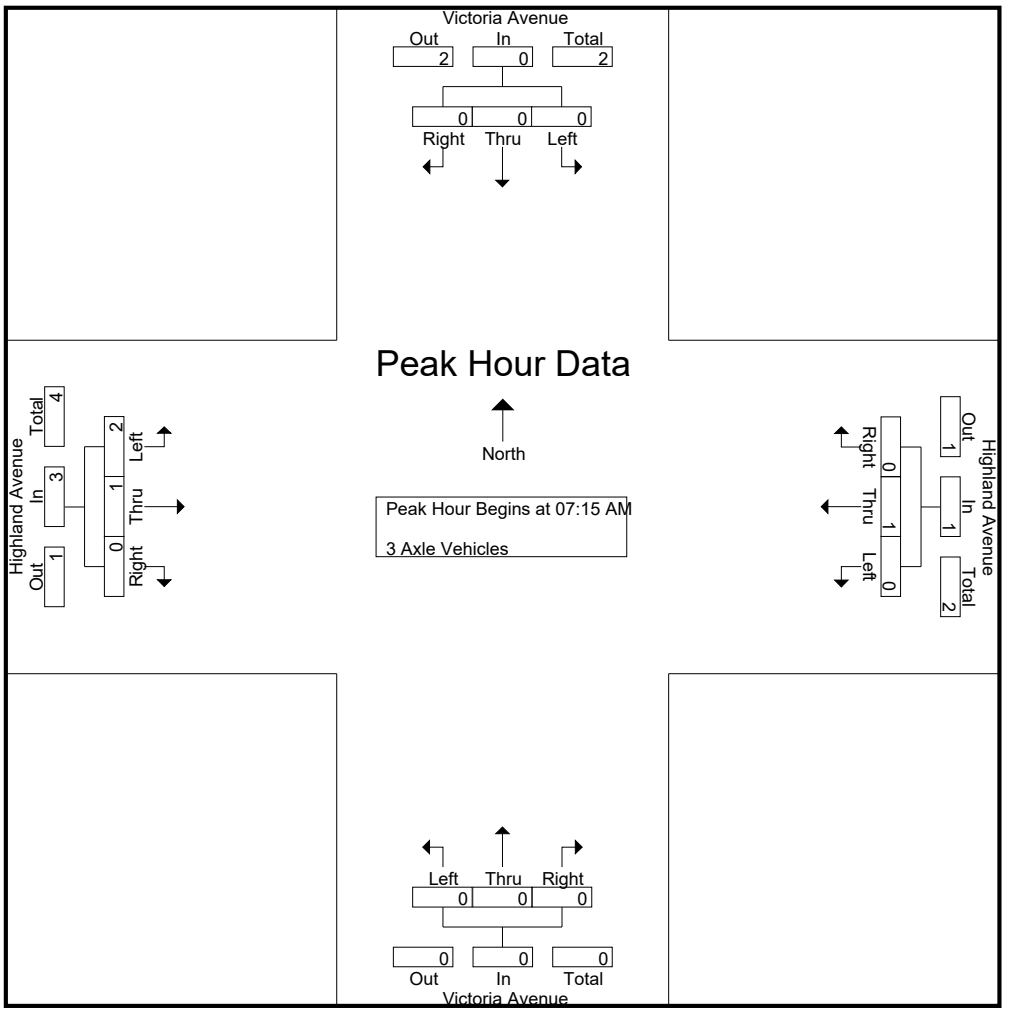

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	1
+15 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	**1**	0	**2**
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	2	1	0	3
% App. Total	0	0	0		0	100	0		0	0	0		66.7	33.3	0	
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.500	.250	.000	.375

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City of Highland
N/S: Victoria Avenue
E/W: Highland Avenue
Weather: Clear

File Name : HLDVIHIAM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	2
07:45 AM	0	0	1	1	0	0	0	0	2	0	0	2	0	0	0	0	3
Total	0	0	1	1	0	0	0	0	3	2	0	5	0	1	0	1	7
08:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:30 AM	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	2	3
08:45 AM	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	3	3	0	0	0	0	1	1	0	2	1	1	0	2	7
Grand Total	0	0	4	4	0	0	0	0	4	3	0	7	1	2	0	3	14
Apprch %	0	0	100		0	0	0		57.1	42.9	0		33.3	66.7	0		
Total %	0	0	28.6	28.6	0	0	0	0	28.6	21.4	0	50	7.1	14.3	0	21.4	

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	**1**	0	**1**	2
07:45 AM	0	0	**1**	**1**	0	0	0	0	**2**	0	0	**2**	0	0	0	0	**3**
08:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Total Volume	0	0	1	1	0	0	0	0	4	0	0	4	0	1	0	1	6
% App. Total	0	0	100		0	0	0		100	0	0		0	100	0		
PHF	.000	.000	.250	.250	.000	.000	.000	.000	.500	.000	.000	.500	.000	.250	.000	.250	.500

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City of Highland
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File Name : HLDVIHIAM
Site Code : 05716653
Start Date : 12/7/2016
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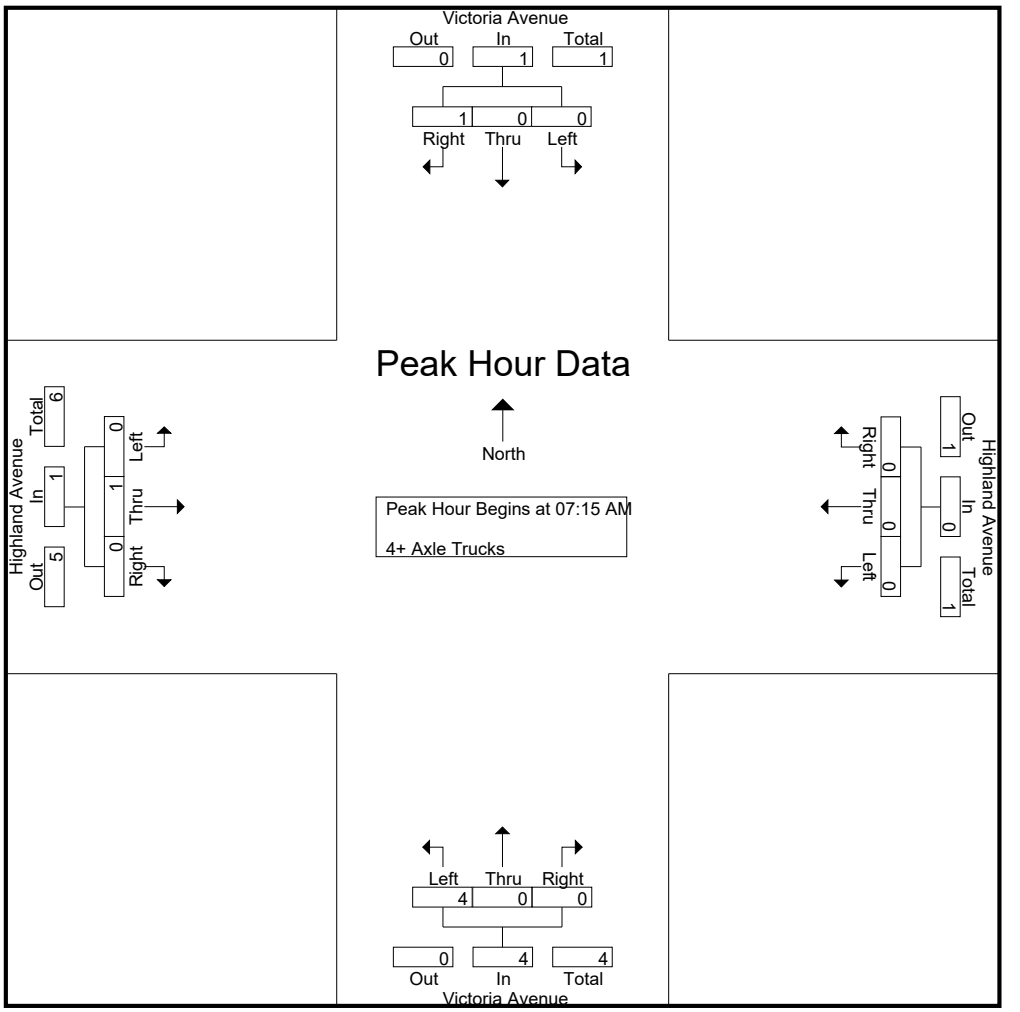

Peak Hour Analysis From 07:15 AM to 08:00 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:15 AM				07:15 AM				07:15 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	**1**	0	**1**
+30 mins.	0	0	**1**	**1**	0	0	0	0	**2**	0	0	**2**	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
Total Volume	0	0	1	1	0	0	0	0	4	0	0	4	0	1	0	1
% App. Total	0	0	100		0	0	0		100	0	0		0	100	0	
PHF	.000	.000	.250	.250	.000	.000	.000	.000	.500	.000	.000	.500	.000	.250	.000	.250

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File Name : HLDVIHIPM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	32	36	140	208	17	131	22	170	48	46	14	108	112	129	34	275	761
04:15 PM	47	41	135	223	22	128	40	190	44	45	16	105	107	121	43	271	789
04:30 PM	42	29	121	192	35	178	34	247	56	45	14	115	98	134	34	266	820
04:45 PM	37	39	146	222	14	159	36	209	42	44	18	104	82	124	36	242	777
Total	158	145	542	845	88	596	132	816	190	180	62	432	399	508	147	1054	3147
05:00 PM	49	31	122	202	18	150	41	209	62	51	18	131	96	153	30	279	821
05:15 PM	51	34	102	187	24	135	40	199	60	51	18	129	110	134	46	290	805
05:30 PM	36	20	119	175	17	158	38	213	57	33	14	104	111	121	45	277	769
05:45 PM	30	18	107	155	11	130	33	174	46	40	11	97	111	142	37	290	716
Total	166	103	450	719	70	573	152	795	225	175	61	461	428	550	158	1136	3111
Grand Total	324	248	992	1564	158	1169	284	1611	415	355	123	893	827	1058	305	2190	6258
Apprch %	20.7	15.9	63.4		9.8	72.6	17.6		46.5	39.8	13.8		37.8	48.3	13.9		
Total %	5.2	4	15.9	25	2.5	18.7	4.5	25.7	6.6	5.7	2	14.3	13.2	16.9	4.9	35	
Passenger Vehicles	305	243	974	1522	157	1149	283	1589	406	348	122	876	813	1040	302	2155	6142
% Passenger Vehicles	94.1	98	98.2	97.3	99.4	98.3	99.6	98.6	97.8	98	99.2	98.1	98.3	98.3	99	98.4	98.1
Large 2 Axle Vehicles	19	4	12	35	1	19	1	21	4	6	1	11	12	15	2	29	96
% Large 2 Axle Vehicles	5.9	1.6	1.2	2.2	0.6	1.6	0.4	1.3	1	1.7	0.8	1.2	1.5	1.4	0.7	1.3	1.5
3 Axle Vehicles	0	0	6	6	0	0	0	0	0	1	0	1	2	2	0	4	11
% 3 Axle Vehicles	0	0	0.6	0.4	0	0	0	0	0	0.3	0	0.1	0.2	0.2	0	0.2	0.2
4+ Axle Trucks	0	1	0	1	0	1	0	1	5	0	0	5	0	1	1	2	9
% 4+ Axle Trucks	0	0.4	0	0.1	0	0.1	0	0.1	1.2	0	0	0.6	0	0.1	0.3	0.1	0.1

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	42	29	121	192	**35**	**178**	34	**247**	56	45	14	115	98	134	34	266	820
04:45 PM	37	**39**	**146**	**222**	14	159	36	209	42	44	**18**	104	82	124	36	242	777
05:00 PM	49	31	122	202	18	150	**41**	209	**62**	**51**	18	**131**	96	**153**	30	279	**821**
05:15 PM	**51**	34	102	187	24	135	40	199	60	51	18	129	**110**	134	**46**	**290**	805
Total Volume	179	133	491	803	91	622	151	864	220	191	68	479	386	545	146	1077	3223
% App. Total	22.3	16.6	61.1		10.5	72	17.5		45.9	39.9	14.2		35.8	50.6	13.6		
PHF	.877	.853	.841	.904	.650	.874	.921	.874	.887	.936	.944	.914	.877	.891	.793	.928	.981

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Site Code : 05716653
Start Date : 12/7/2016
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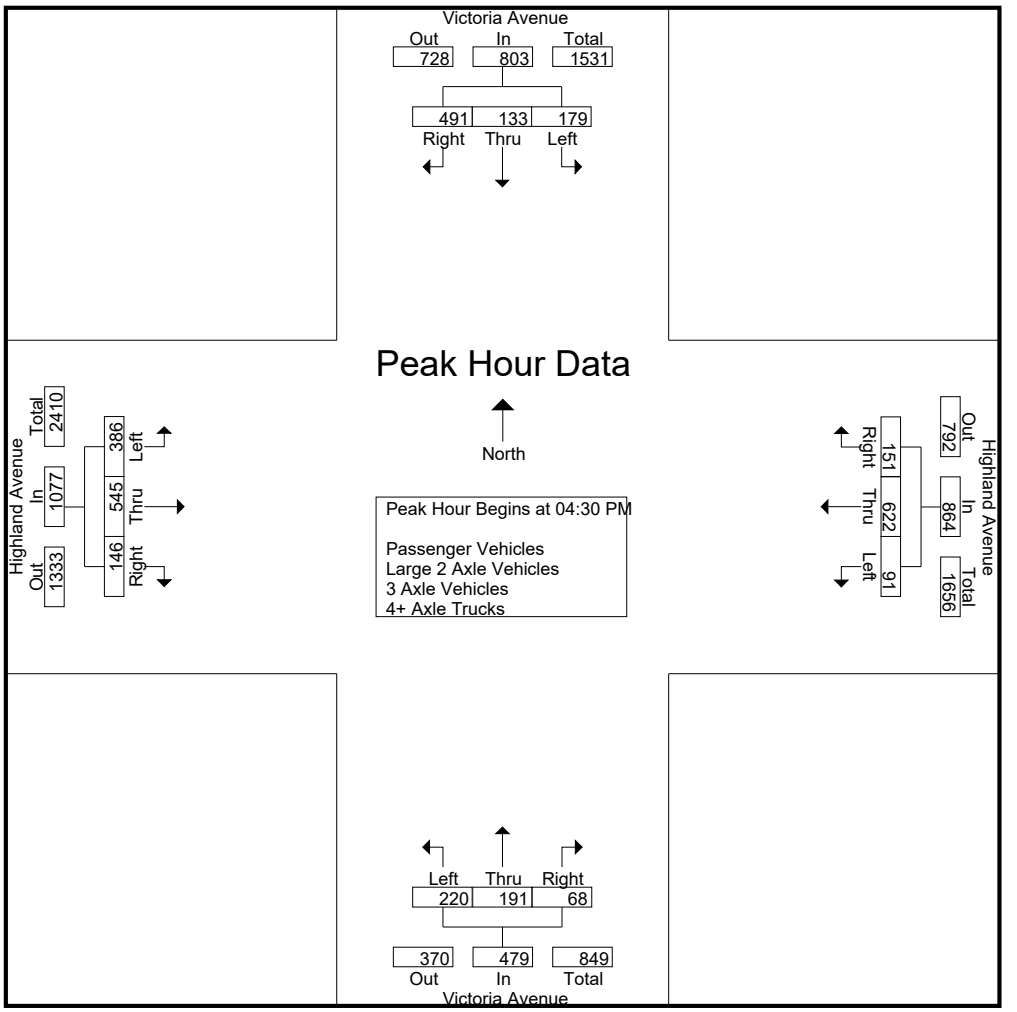

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				04:30 PM				05:00 PM			
+0 mins.	32	36	140	208	**35**	**178**	34	**247**	56	45	14	115	96	**153**	30	279
+15 mins.	**47**	**41**	135	**223**	14	159	36	209	42	44	**18**	104	110	134	**46**	**290**
+30 mins.	42	29	121	192	18	150	**41**	209	**62**	**51**	18	**131**	**111**	121	45	277
+45 mins.	37	39	**146**	222	24	135	40	199	60	51	18	129	111	142	37	290
Total Volume	158	145	542	845	91	622	151	864	220	191	68	479	428	550	158	1136
% App. Total	18.7	17.2	64.1		10.5	72	17.5		45.9	39.9	14.2		37.7	48.4	13.9	
PHF	.840	.884	.928	.947	.650	.874	.921	.874	.887	.936	.944	.914	.964	.899	.859	.979

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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	30	35	138	203	17	128	22	167	48	42	13	103	106	123	33	262	735
04:15 PM	44	37	132	213	21	125	40	186	41	45	16	102	104	116	43	263	764
04:30 PM	40	29	119	188	35	172	34	241	54	44	14	112	97	132	34	263	804
04:45 PM	35	39	145	219	14	157	36	207	41	43	18	102	81	124	36	241	769
Total	149	140	534	823	87	582	132	801	184	174	61	419	388	495	146	1029	3072
05:00 PM	45	31	117	193	18	148	41	207	62	50	18	130	94	152	30	276	806
05:15 PM	48	34	101	183	24	133	40	197	59	51	18	128	110	134	46	290	798
05:30 PM	34	20	117	171	17	157	37	211	56	33	14	103	111	118	45	274	759
05:45 PM	29	18	105	152	11	129	33	173	45	40	11	96	110	141	35	286	707
Total	156	103	440	699	70	567	151	788	222	174	61	457	425	545	156	1126	3070
Grand Total	305	243	974	1522	157	1149	283	1589	406	348	122	876	813	1040	302	2155	6142
Apprch %	20	16	64		9.9	72.3	17.8		46.3	39.7	13.9		37.7	48.3	14		
Total %	5	4	15.9	24.8	2.6	18.7	4.6	25.9	6.6	5.7	2	14.3	13.2	16.9	4.9	35.1	

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	40	29	119	188	**35**	**172**	34	**241**	54	44	14	112	97	132	34	263	804
04:45 PM	35	**39**	**145**	**219**	14	157	36	207	41	43	**18**	102	81	124	36	241	769
05:00 PM	45	31	117	193	18	148	**41**	207	**62**	50	18	**130**	94	**152**	30	276	**806**
05:15 PM	**48**	34	101	183	24	133	40	197	59	**51**	18	128	**110**	134	**46**	**290**	798
Total Volume	168	133	482	783	91	610	151	852	216	188	68	472	382	542	146	1070	3177
% App. Total	21.5	17	61.6		10.7	71.6	17.7		45.8	39.8	14.4		35.7	50.7	13.6		
PHF	.875	.853	.831	.894	.650	.887	.921	.884	.871	.922	.944	.908	.868	.891	.793	.922	.985

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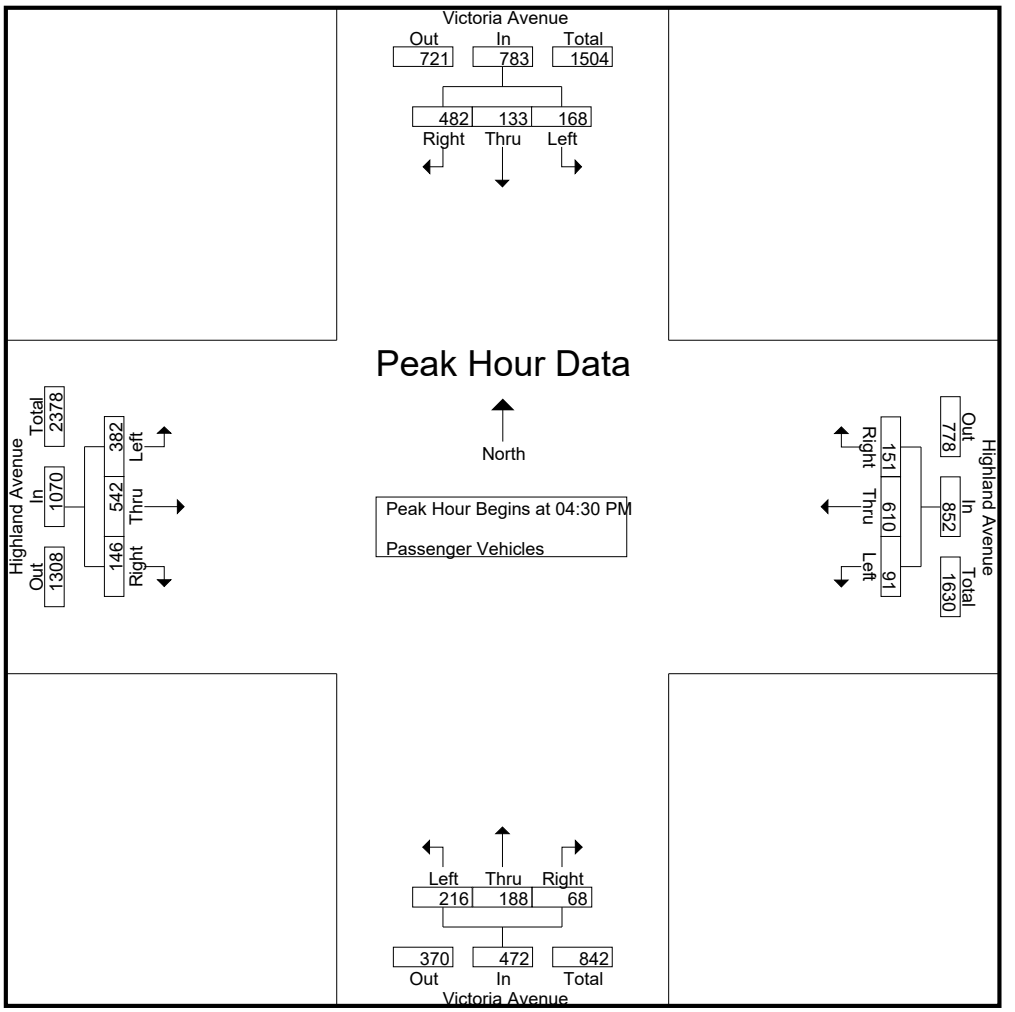

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	40	29	119	188	**35**	**172**	34	**241**	54	44	14	112	97	132	34	263
+15 mins.	35	**39**	**145**	**219**	14	157	36	207	41	43	**18**	102	81	124	36	241
+30 mins.	45	31	117	193	18	148	**41**	207	**62**	50	18	**130**	94	**152**	30	276
+45 mins.	**48**	34	101	183	24	133	40	197	59	**51**	18	128	**110**	134	**46**	**290**
Total Volume	168	133	482	783	91	610	151	852	216	188	68	472	382	542	146	1070
% App. Total	21.5	17	61.6		10.7	71.6	17.7		45.8	39.8	14.4		35.7	50.7	13.6	
PHF	.875	.853	.831	.894	.650	.887	.921	.884	.871	.922	.944	.908	.868	.891	.793	.922

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Weather: Clear

File Name : HLDVIHIPM
Site Code : 05716653
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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	2	1	1	4	0	2	0	2	0	4	1	5	5	6	0	11	22
04:15 PM	3	3	2	8	1	3	0	4	2	0	0	2	3	2	0	5	19
04:30 PM	2	0	1	3	0	6	0	6	0	1	0	1	1	2	0	3	13
04:45 PM	2	0	1	3	0	2	0	2	1	0	0	1	1	0	0	1	7
Total	9	4	5	18	1	13	0	14	3	5	1	9	10	10	0	20	61
05:00 PM	4	0	4	8	0	2	0	2	0	1	0	1	1	1	0	2	13
05:15 PM	3	0	1	4	0	2	0	2	1	0	0	1	0	0	0	0	7
05:30 PM	2	0	1	3	0	1	1	2	0	0	0	0	0	3	0	3	8
05:45 PM	1	0	1	2	0	1	0	1	0	0	0	0	1	1	2	4	7
Total	10	0	7	17	0	6	1	7	1	1	0	2	2	5	2	9	35
Grand Total	19	4	12	35	1	19	1	21	4	6	1	11	12	15	2	29	96
Apprch %	54.3	11.4	34.3		4.8	90.5	4.8		36.4	54.5	9.1		41.4	51.7	6.9		
Total %	19.8	4.2	12.5	36.5	1	19.8	1	21.9	4.2	6.2	1	11.5	12.5	15.6	2.1	30.2	

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	2	0	1	3	0	**6**	0	**6**	0	**1**	0	**1**	**1**	**2**	0	**3**	**13**
04:45 PM	2	0	1	3	0	2	0	2	**1**	0	0	1	1	0	0	1	7
05:00 PM	**4**	0	**4**	**8**	0	2	0	2	0	1	0	1	1	1	0	2	13
05:15 PM	3	0	1	4	0	2	0	2	1	0	0	1	0	0	0	0	7
Total Volume	11	0	7	18	0	12	0	12	2	2	0	4	3	3	0	6	40
% App. Total	61.1	0	38.9		0	100	0		50	50	0		50	50	0		
PHF	.688	.000	.438	.563	.000	.500	.000	.500	.500	.500	.000	1.00	.750	.375	.000	.500	.769

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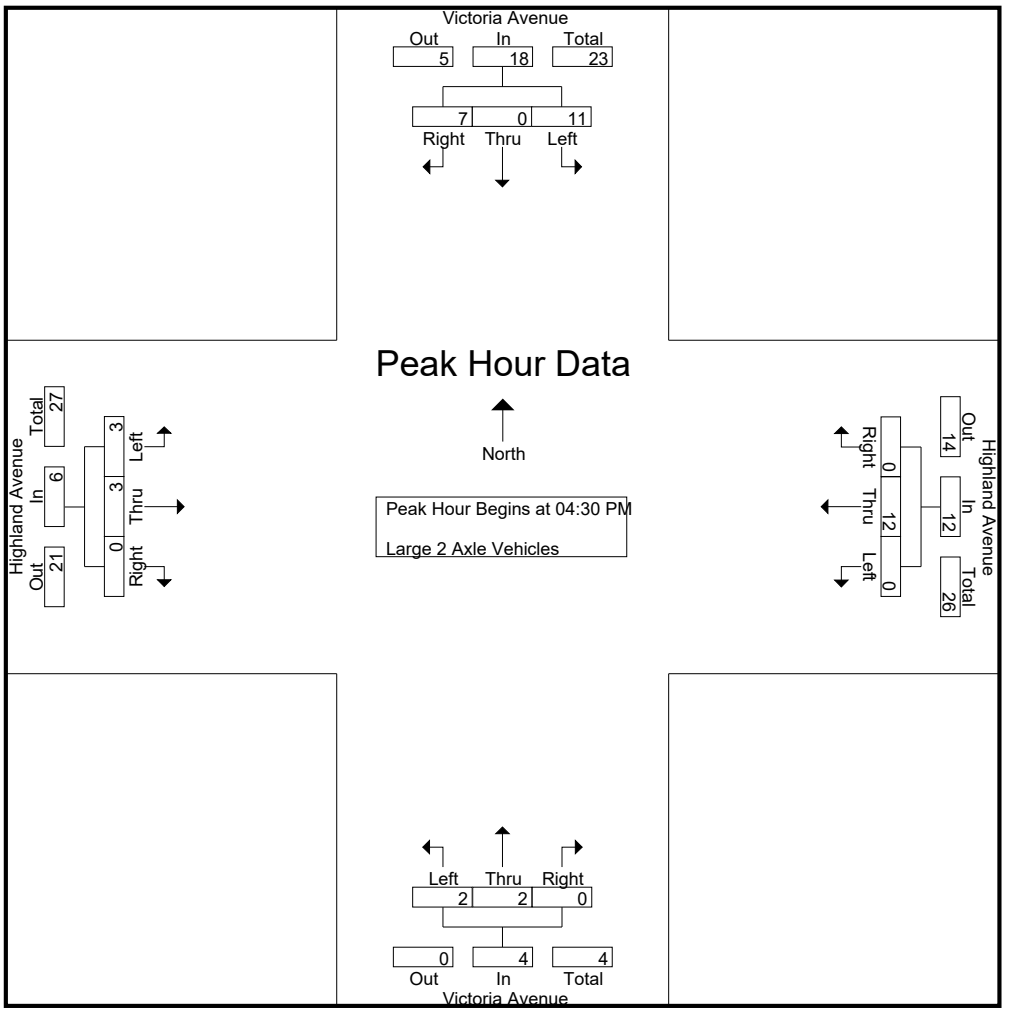

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	2	0	1	3	0	**6**	0	**6**	0	**1**	0	**1**	**1**	**2**	0	**3**
+15 mins.	2	0	1	3	0	2	0	2	**1**	0	0	1	1	0	0	1
+30 mins.	**4**	0	**4**	**8**	0	2	0	2	0	1	0	1	1	1	0	2
+45 mins.	3	0	1	4	0	2	0	2	1	0	0	1	0	0	0	0
Total Volume	11	0	7	18	0	12	0	12	2	2	0	4	3	3	0	6
% App. Total	61.1	0	38.9		0	100	0		50	50	0		50	50	0	
PHF	.688	.000	.438	.563	.000	.500	.000	.500	.500	.500	.000	1.000	.750	.375	.000	.500

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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	2
04:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0	2	3
04:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	3	3	0	0	0	0	0	1	0	1	1	2	0	3	7
05:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	3	3	0	0	0	0	0	0	0	0	1	0	0	1	4
Grand Total	0	0	6	6	0	0	0	0	0	1	0	1	2	2	0	4	11
Apprch %	0	0	100		0	0	0		0	100	0		50	50	0		
Total %	0	0	54.5	54.5	0	0	0	0	0	9.1	0	9.1	18.2	18.2	0	36.4	

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	1
05:00 PM	0	0	1	1	0	0	0	0	0	0	0	0	**1**	0	0	**1**	**2**
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	2	2	0	0	0	0	0	1	0	1	1	0	0	1	4
% App. Total	0	0	100		0	0	0		0	100	0		100	0	0		
PHF	.000	.000	.500	.500	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.000	.250	.500

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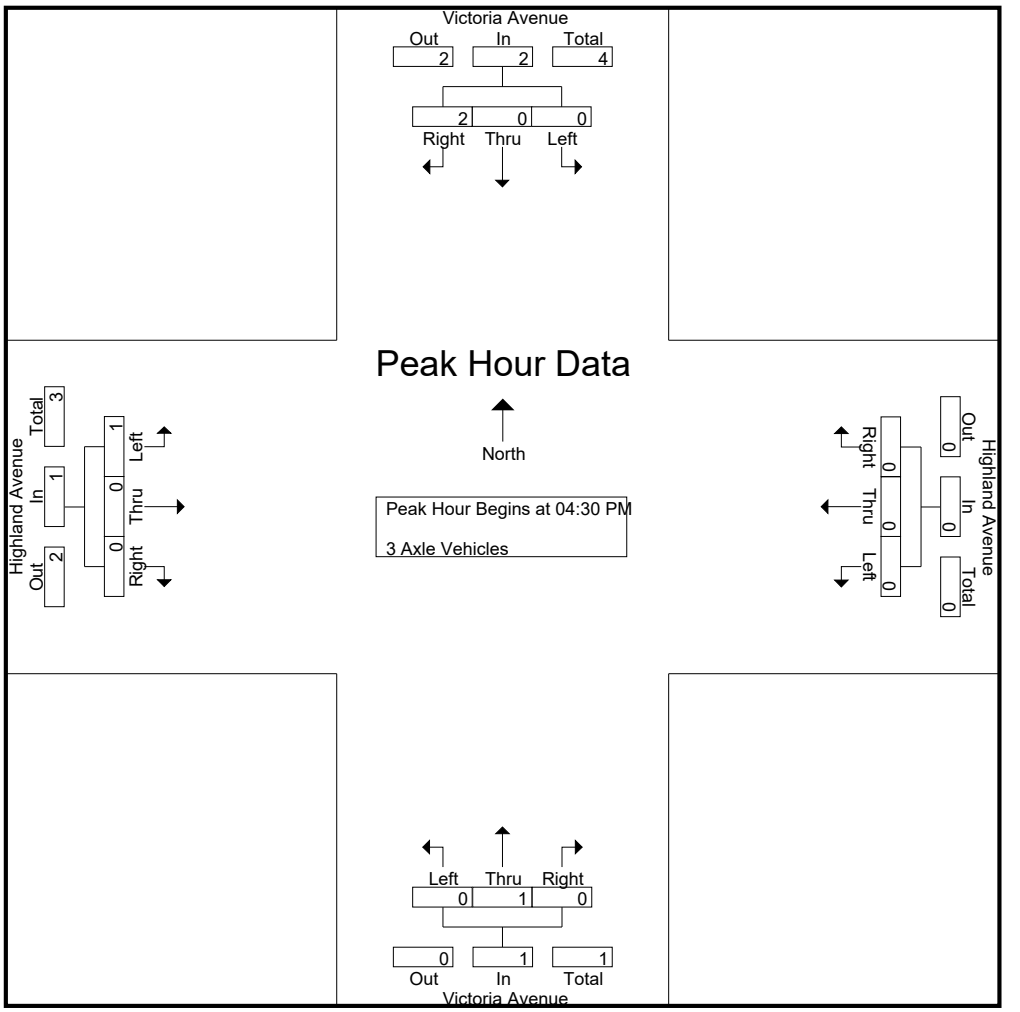

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+30 mins.	0	0	1	1	0	0	0	0	0	0	0	0	**1**	0	0	**1**
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	2	2	0	0	0	0	0	1	0	1	1	0	0	1
% App. Total	0	0	100		0	0	0		0	100	0		100	0	0	
PHF	.000	.000	.500	.500	.000	.000	.000	.000	.000	.250	.000	.250	.250	.000	.000	.250

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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	2
04:15 PM	0	1	0	1	0	0	0	0	1	0	0	1	0	1	0	1	3
04:30 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	1	0	1	3	0	0	3	0	1	1	2	7
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
Grand Total	0	1	0	1	0	1	0	1	5	0	0	5	0	1	1	2	9
Apprch %	0	100	0		0	100	0		100	0	0		0	50	50		
Total %	0	11.1	0	11.1	0	11.1	0	11.1	55.6	0	0	55.6	0	11.1	11.1	22.2	

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	**2**	0	0	**2**	0	0	0	0	**2**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
% App. Total	0	0	0		0	0	0		100	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000	.250

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File Name : HLDVIHIPM
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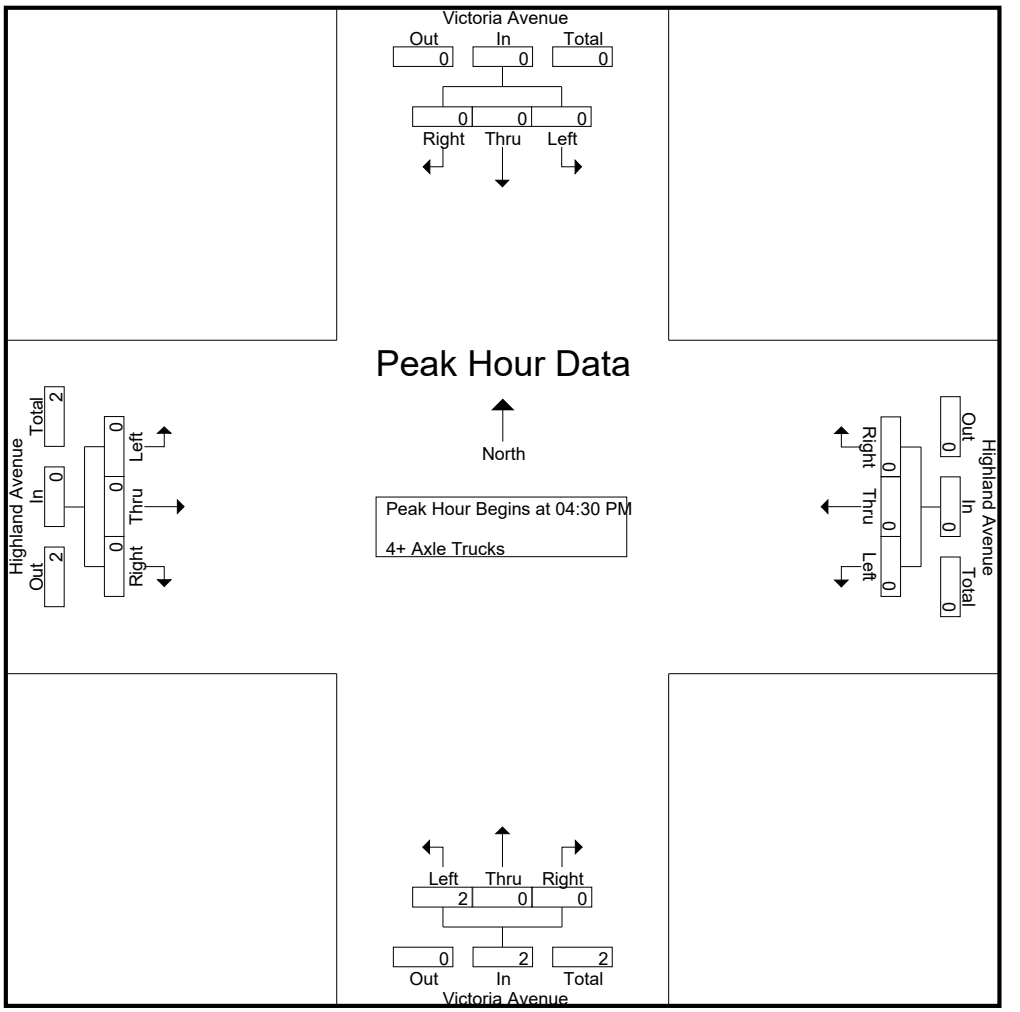

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	**2**	0	0	**2**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0
% App. Total	0	0	0		0	0	0		100	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.000	.000	.000

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File Name : HLDVIHISAT
Site Code : 05716653
Start Date : 12/10/2016
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	25	24	116	165	10	125	32	167	50	20	16	86	131	111	38	280	698
05:15 PM	24	26	145	195	21	129	46	196	55	29	8	92	132	125	33	290	773
05:30 PM	27	24	149	200	12	112	40	164	53	29	10	92	174	138	37	349	805
05:45 PM	29	25	126	180	18	108	37	163	66	44	15	125	153	138	33	324	792
Total	105	99	536	740	61	474	155	690	224	122	49	395	590	512	141	1243	3068
06:00 PM	30	24	132	186	14	119	30	163	55	32	13	100	142	140	16	298	747
06:15 PM	34	28	143	205	12	103	34	149	49	19	16	84	180	118	29	327	765
06:30 PM	33	19	145	197	14	112	29	155	45	37	10	92	164	101	39	304	748
06:45 PM	25	14	146	185	16	87	26	129	43	31	15	89	176	92	26	294	697
Total	122	85	566	773	56	421	119	596	192	119	54	365	662	451	110	1223	2957
Grand Total	227	184	1102	1513	117	895	274	1286	416	241	103	760	1252	963	251	2466	6025
Apprch %	15	12.2	72.8		9.1	69.6	21.3		54.7	31.7	13.6		50.8	39.1	10.2		
Total %	3.8	3.1	18.3	25.1	1.9	14.9	4.5	21.3	6.9	4	1.7	12.6	20.8	16	4.2	40.9	
Passenger Vehicles	208	184	1088	1480	116	887	272	1275	414	239	103	756	1245	956	250	2451	5962
% Passenger Vehicles	91.6	100	98.7	97.8	99.1	99.1	99.3	99.1	99.5	99.2	100	99.5	99.4	99.3	99.6	99.4	99
Large 2 Axle Vehicles	19	0	10	29	1	8	2	11	1	2	0	3	2	6	0	8	51
% Large 2 Axle Vehicles	8.4	0	0.9	1.9	0.9	0.9	0.7	0.9	0.2	0.8	0	0.4	0.2	0.6	0	0.3	0.8
3 Axle Vehicles	0	0	4	4	0	0	0	0	1	0	0	1	5	1	0	6	11
% 3 Axle Vehicles	0	0	0.4	0.3	0	0	0	0	0.2	0	0	0.1	0.4	0.1	0	0.2	0.2
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	0	0

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	24	**26**	145	195	**21**	**129**	**46**	**196**	55	29	8	92	132	125	33	290	773
05:30 PM	27	24	**149**	**200**	12	112	40	164	53	29	10	92	**174**	138	**37**	**349**	**805**
05:45 PM	29	25	126	180	18	108	37	163	**66**	**44**	**15**	**125**	153	138	33	324	792
06:00 PM	**30**	24	132	186	14	119	30	163	55	32	13	100	142	**140**	16	298	747
Total Volume	110	99	552	761	65	468	153	686	229	134	46	409	601	541	119	1261	3117
% App. Total	14.5	13	72.5		9.5	68.2	22.3		56	32.8	11.2		47.7	42.9	9.4		
PHF	.917	.952	.926	.951	.774	.907	.832	.875	.867	.761	.767	.818	.864	.966	.804	.903	.968

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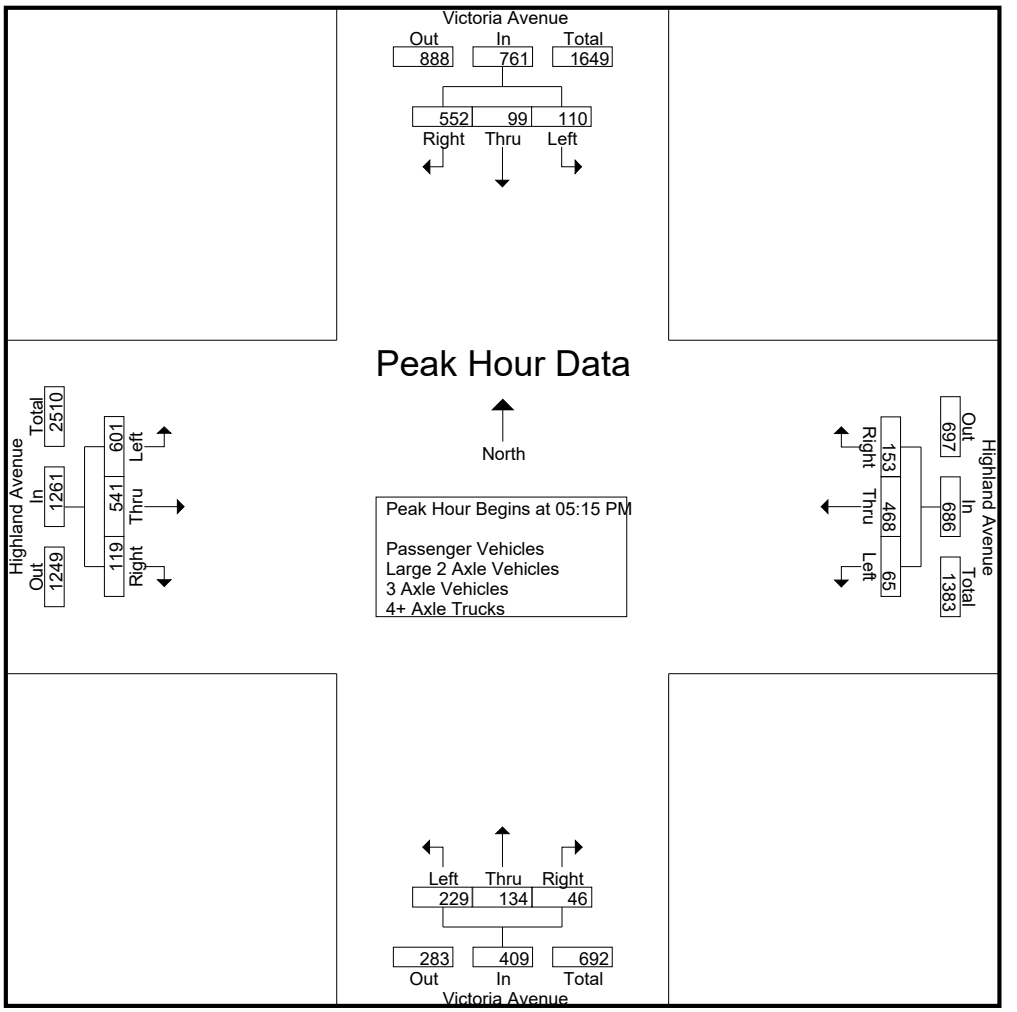

Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	06:00 PM				05:00 PM				05:15 PM				05:30 PM			
+0 mins.	30	24	132	186	10	125	32	167	55	29	8	92	174	138	**37**	**349**
+15 mins.	**34**	**28**	143	**205**	**21**	**129**	**46**	**196**	53	29	10	92	153	138	33	324
+30 mins.	33	19	145	197	12	112	40	164	**66**	**44**	**15**	**125**	142	**140**	16	298
+45 mins.	25	14	**146**	185	18	108	37	163	55	32	13	100	**180**	118	29	327
Total Volume	122	85	566	773	61	474	155	690	229	134	46	409	649	534	115	1298
% App. Total	15.8	11	73.2		8.8	68.7	22.5		56	32.8	11.2		50	41.1	8.9	
PHF	.897	.759	.969	.943	.726	.919	.842	.880	.867	.761	.767	.818	.901	.954	.777	.930

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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	23	24	115	162	9	123	32	164	50	20	16	86	131	110	38	279	691
05:15 PM	21	26	143	190	21	128	46	195	55	28	8	91	131	124	33	288	764
05:30 PM	24	24	148	196	12	111	39	162	53	29	10	92	174	137	37	348	798
05:45 PM	27	25	125	177	18	108	37	163	64	44	15	123	152	137	33	322	785
Total	95	99	531	725	60	470	154	684	222	121	49	392	588	508	141	1237	3038
06:00 PM	28	24	130	182	14	117	30	161	55	31	13	99	140	138	16	294	736
06:15 PM	30	28	141	199	12	103	34	149	49	19	16	84	179	117	28	324	756
06:30 PM	32	19	142	193	14	111	28	153	45	37	10	92	162	101	39	302	740
06:45 PM	23	14	144	181	16	86	26	128	43	31	15	89	176	92	26	294	692
Total	113	85	557	755	56	417	118	591	192	118	54	364	657	448	109	1214	2924
Grand Total	208	184	1088	1480	116	887	272	1275	414	239	103	756	1245	956	250	2451	5962
Apprch %	14.1	12.4	73.5		9.1	69.6	21.3		54.8	31.6	13.6		50.8	39	10.2		
Total %	3.5	3.1	18.2	24.8	1.9	14.9	4.6	21.4	6.9	4	1.7	12.7	20.9	16	4.2	41.1	

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:15 PM to 06:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	21	**26**	143	190	**21**	**128**	**46**	**195**	55	28	8	91	131	124	33	288	764
05:30 PM	24	24	**148**	**196**	12	111	39	162	53	29	10	92	**174**	137	**37**	**348**	**798**
05:45 PM	27	25	125	177	18	108	37	163	**64**	**44**	**15**	**123**	152	137	33	322	785
06:00 PM	**28**	24	130	182	14	117	30	161	55	31	13	99	140	**138**	16	294	736
Total Volume	100	99	546	745	65	464	152	681	227	132	46	405	597	536	119	1252	3083
% App. Total	13.4	13.3	73.3		9.5	68.1	22.3		56	32.6	11.4		47.7	42.8	9.5		
PHF	.893	.952	.922	.950	.774	.906	.826	.873	.887	.750	.767	.823	.858	.971	.804	.899	.966

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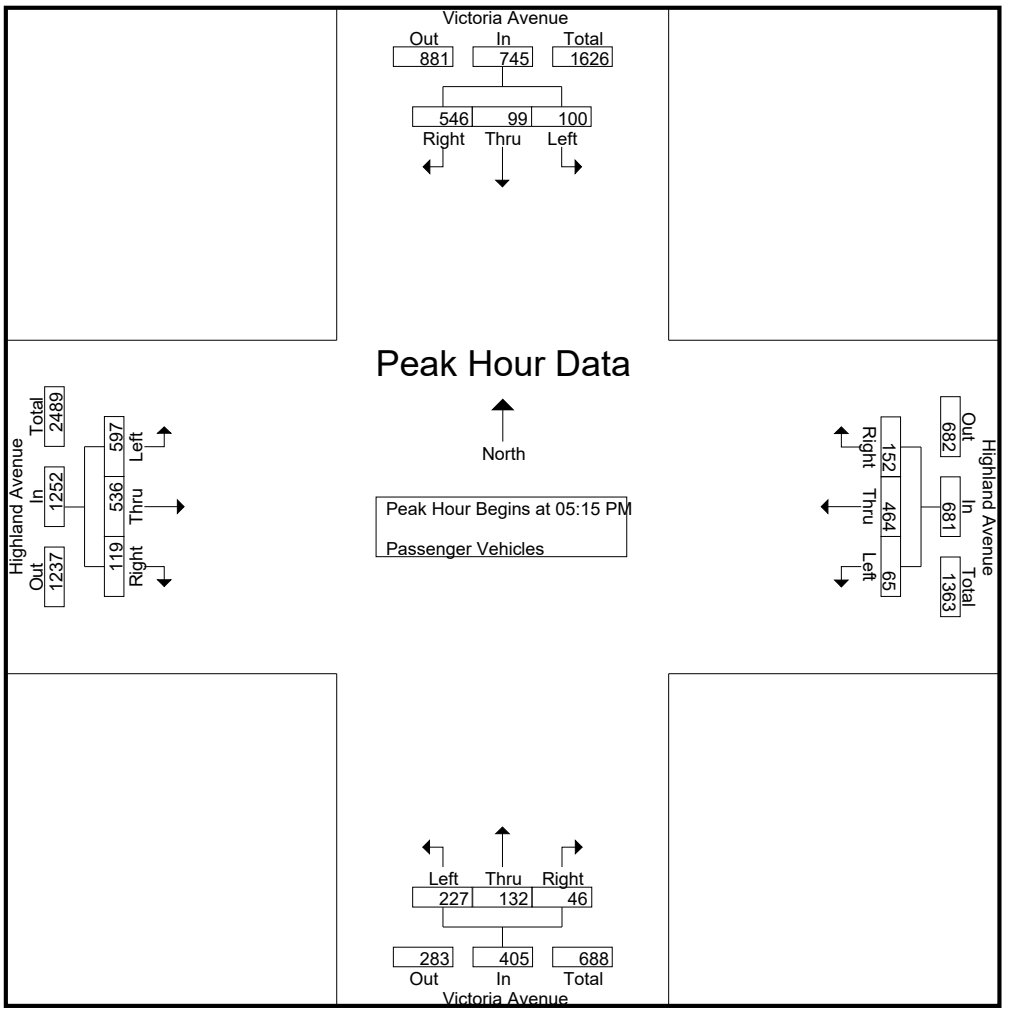

Peak Hour Analysis From 05:15 PM to 06:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:15 PM				05:15 PM				05:15 PM				05:15 PM			
+0 mins.	21	**26**	143	190	**21**	**128**	**46**	**195**	55	28	8	91	131	124	33	288
+15 mins.	24	24	**148**	**196**	12	111	39	162	53	29	10	92	**174**	137	**37**	**348**
+30 mins.	27	25	125	177	18	108	37	163	**64**	**44**	**15**	**123**	152	137	33	322
+45 mins.	**28**	24	130	182	14	117	30	161	55	31	13	99	140	**138**	16	294
Total Volume	100	99	546	745	65	464	152	681	227	132	46	405	597	536	119	1252
% App. Total	13.4	13.3	73.3		9.5	68.1	22.3		56	32.6	11.4		47.7	42.8	9.5	
PHF	.893	.952	.922	.950	.774	.906	.826	.873	.887	.750	.767	.823	.858	.971	.804	.899

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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	2	0	1	3	1	2	0	3	0	0	0	0	0	1	0	1	7
05:15 PM	3	0	2	5	0	1	0	1	0	1	0	1	1	1	0	2	9
05:30 PM	3	0	1	4	0	1	1	2	0	0	0	0	0	1	0	1	7
05:45 PM	2	0	1	3	0	0	0	0	1	0	0	1	1	1	0	2	6
Total	10	0	5	15	1	4	1	6	1	1	0	2	2	4	0	6	29
06:00 PM	2	0	2	4	0	2	0	2	0	1	0	1	0	1	0	1	8
06:15 PM	4	0	1	5	0	0	0	0	0	0	0	0	0	1	0	1	6
06:30 PM	1	0	0	1	0	1	1	2	0	0	0	0	0	0	0	0	3
06:45 PM	2	0	2	4	0	1	0	1	0	0	0	0	0	0	0	0	5
Total	9	0	5	14	0	4	1	5	0	1	0	1	0	2	0	2	22
Grand Total	19	0	10	29	1	8	2	11	1	2	0	3	2	6	0	8	51
Apprch %	65.5	0	34.5		9.1	72.7	18.2		33.3	66.7	0		25	75	0		
Total %	37.3	0	19.6	56.9	2	15.7	3.9	21.6	2	3.9	0	5.9	3.9	11.8	0	15.7	

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:15 PM to 06:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	**3**	0	**2**	**5**	0	1	0	1	0	**1**	0	**1**	**1**	**1**	0	**2**	**9**
05:30 PM	3	0	1	4	0	1	**1**	**2**	0	0	0	0	0	1	0	1	7
05:45 PM	2	0	1	3	0	0	0	0	**1**	0	0	1	1	1	0	2	6
06:00 PM	2	0	2	4	0	**2**	0	2	0	1	0	1	0	1	0	1	8
Total Volume	10	0	6	16	0	4	1	5	1	2	0	3	2	4	0	6	30
% App. Total	62.5	0	37.5		0	80	20		33.3	66.7	0		33.3	66.7	0		
PHF	.833	.000	.750	.800	.000	.500	.250	.625	.250	.500	.000	.750	.500	1.00	.000	.750	.833

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City of Highland
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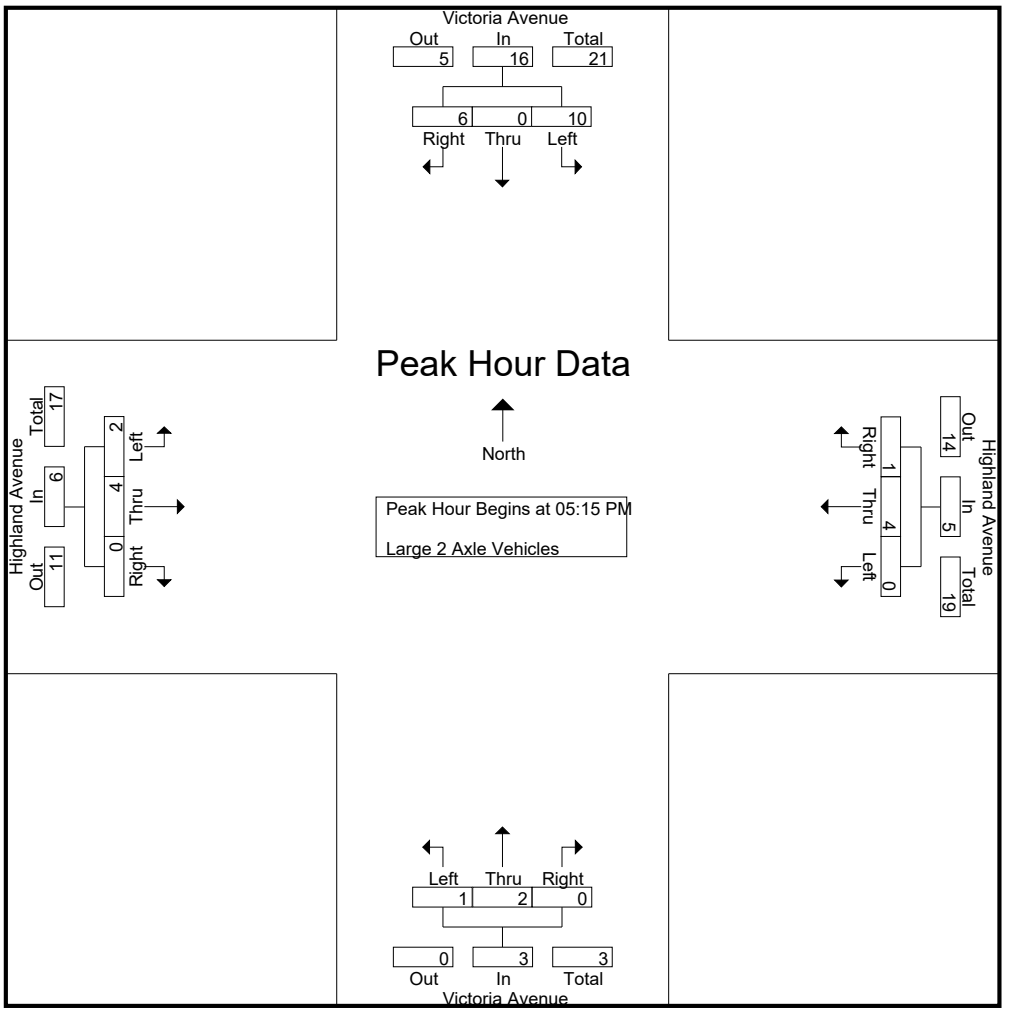

Peak Hour Analysis From 05:15 PM to 06:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:15 PM				05:15 PM				05:15 PM				05:15 PM			
+0 mins.	**3**	0	**2**	**5**	0	1	0	1	0	**1**	0	**1**	**1**	**1**	0	**2**
+15 mins.	3	0	1	4	0	1	**1**	**2**	0	0	0	0	0	1	0	1
+30 mins.	2	0	1	3	0	0	0	0	**1**	0	0	1	1	1	0	2
+45 mins.	2	0	2	4	0	**2**	0	2	0	1	0	1	0	1	0	1
Total Volume	10	0	6	16	0	4	1	5	1	2	0	3	2	4	0	6
% App. Total	62.5	0	37.5		0	80	20		33.3	66.7	0		33.3	66.7	0	
PHF	.833	.000	.750	.800	.000	.500	.250	.625	.250	.500	.000	.750	.500	1.000	.000	.750

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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	3
06:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	1	2
06:30 PM	0	0	3	3	0	0	0	0	0	0	0	0	2	0	0	2	5
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	4	4	0	0	0	0	0	0	0	0	5	1	0	6	10
Grand Total	0	0	4	4	0	0	0	0	1	0	0	1	5	1	0	6	11
Apprch %	0	0	100		0	0	0		100	0	0		83.3	16.7	0		
Total %	0	0	36.4	36.4	0	0	0	0	9.1	0	0	9.1	45.5	9.1	0	54.5	

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:15 PM to 06:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	1
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	**2**	**1**	0	**3**	**3**
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	2	1	0	3	4
% App. Total	0	0	0		0	0	0		100	0	0		66.7	33.3	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250	.250	.000	.250	.333

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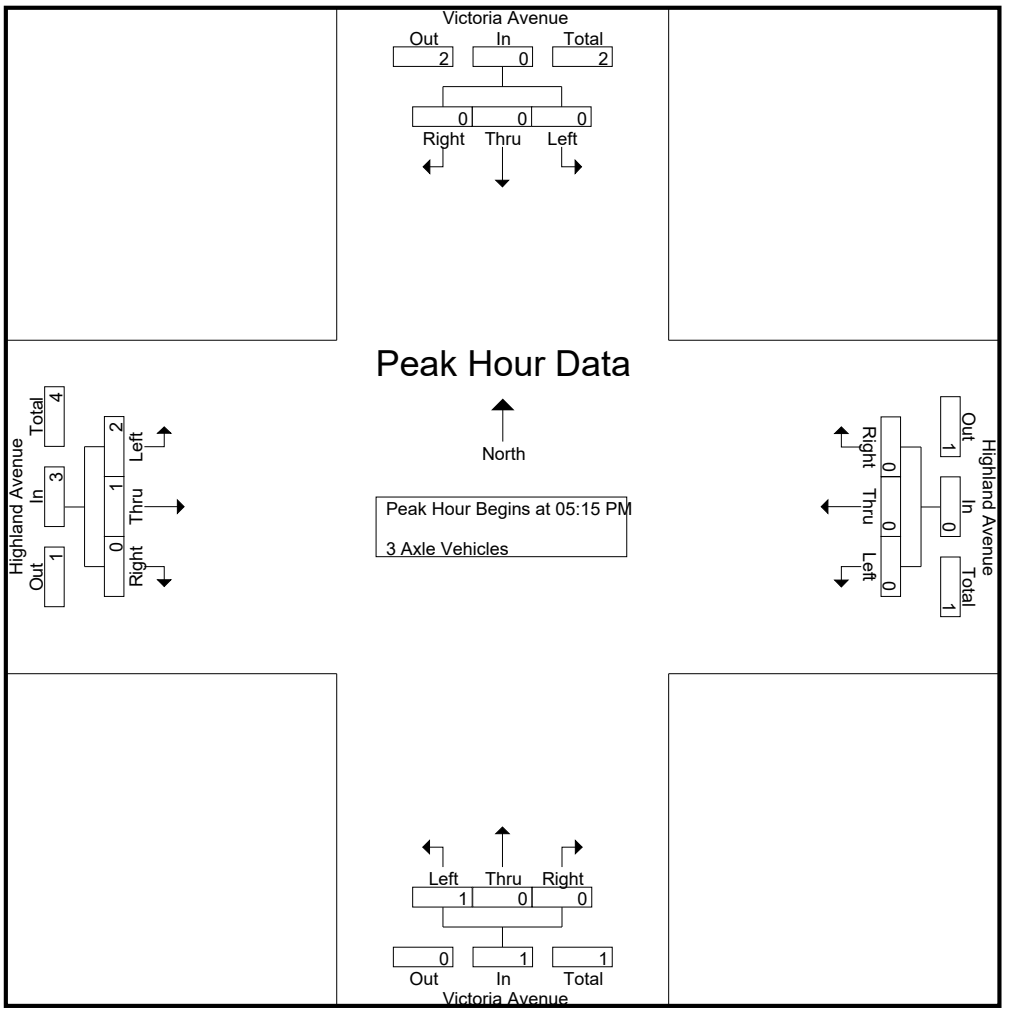

Peak Hour Analysis From 05:15 PM to 06:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:15 PM				05:15 PM				05:15 PM				05:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**2**	**1**	0	**3**
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	2	1	0	3
% App. Total	0	0	0		0	0	0		100	0	0		66.7	33.3	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250	.250	.000	.250

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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Apprch %	0	0	0		0	0	0		0	0	0		0	0	100		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	

	Victoria Avenue Southbound				Highland Avenue Westbound				Victoria Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:15 PM to 06:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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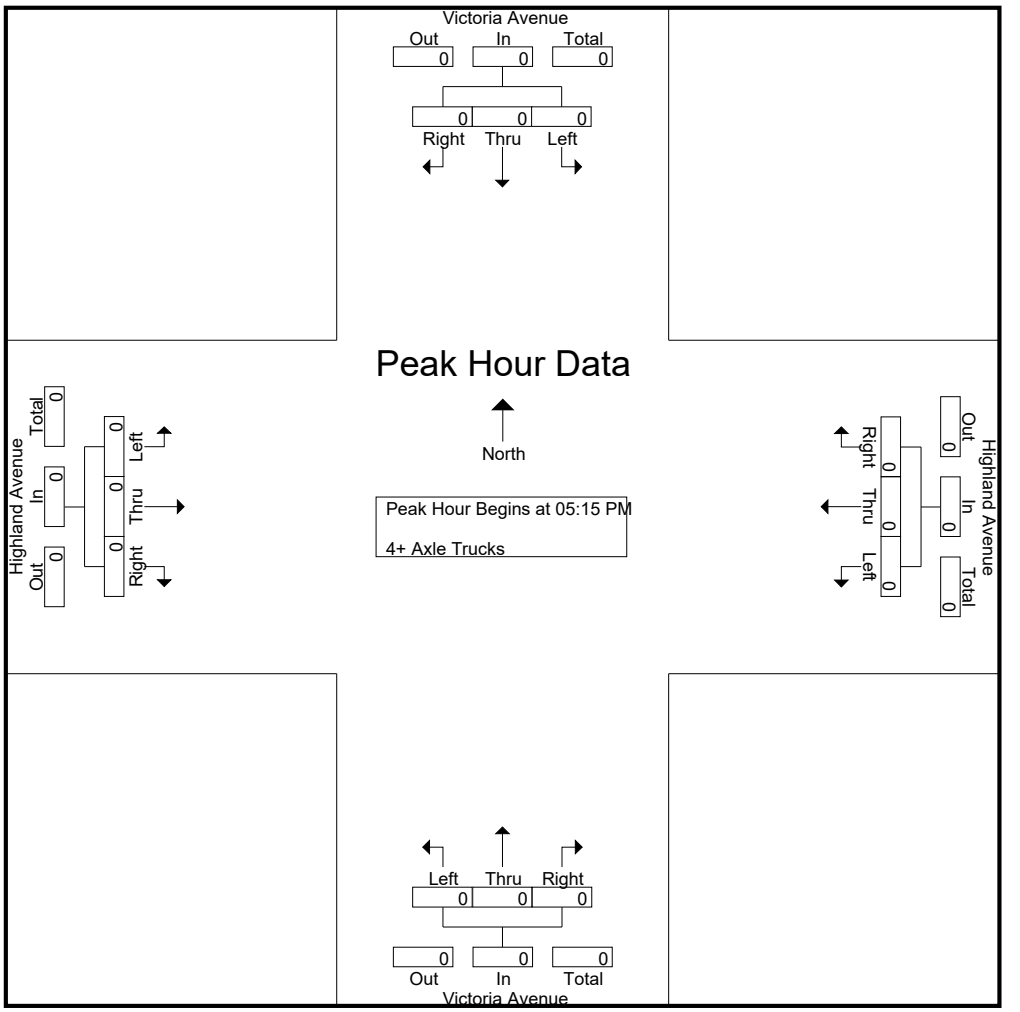

Peak Hour Analysis From 05:15 PM to 06:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:15 PM				05:15 PM				05:15 PM				05:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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File Name : SBCPAHIAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	6	14	10	30	4	65	2	71	22	4	6	32	5	66	17	88	221
07:15 AM	9	13	23	45	11	77	4	92	27	6	6	39	5	59	22	86	262
07:30 AM	8	25	14	47	4	78	9	91	34	24	8	66	16	82	25	123	327
07:45 AM	8	16	21	45	17	94	5	116	30	11	12	53	13	70	31	114	328
Total	31	68	68	167	36	314	20	370	113	45	32	190	39	277	95	411	1138
08:00 AM	9	26	21	56	7	117	7	131	33	19	15	67	20	49	19	88	342
08:15 AM	8	27	26	61	4	54	13	71	32	35	8	75	25	58	19	102	309
08:30 AM	13	44	45	102	18	54	15	87	20	32	16	68	53	56	26	135	392
08:45 AM	17	32	35	84	12	61	14	87	16	28	29	73	21	70	23	114	358
Total	47	129	127	303	41	286	49	376	101	114	68	283	119	233	87	439	1401
Grand Total	78	197	195	470	77	600	69	746	214	159	100	473	158	510	182	850	2539
Apprch %	16.6	41.9	41.5		10.3	80.4	9.2		45.2	33.6	21.1		18.6	60	21.4		
Total %	3.1	7.8	7.7	18.5	3	23.6	2.7	29.4	8.4	6.3	3.9	18.6	6.2	20.1	7.2	33.5	
Passenger Vehicles	78	196	191	465	72	576	68	716	208	156	98	462	150	492	176	818	2461
% Passenger Vehicles	100	99.5	97.9	98.9	93.5	96	98.6	96	97.2	98.1	98	97.7	94.9	96.5	96.7	96.2	96.9
Large 2 Axle Vehicles	0	1	4	5	5	22	1	28	6	3	2	11	8	17	6	31	75
% Large 2 Axle Vehicles	0	0.5	2.1	1.1	6.5	3.7	1.4	3.8	2.8	1.9	2	2.3	5.1	3.3	3.3	3.6	3
3 Axle Vehicles	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
% 3 Axle Vehicles	0	0	0	0	0	0.3	0	0.3	0	0	0	0	0	0.2	0	0.1	0.1
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	9	26	21	56	7	**117**	7	**131**	**33**	19	15	67	20	49	19	88	342
08:15 AM	8	27	26	61	4	54	13	71	32	**35**	8	**75**	25	58	19	102	309
08:30 AM	13	**44**	**45**	**102**	**18**	54	**15**	87	20	32	16	68	**53**	56	**26**	**135**	**392**
08:45 AM	**17**	32	35	84	12	61	14	87	16	28	**29**	73	21	**70**	23	114	358
Total Volume	47	129	127	303	41	286	49	376	101	114	68	283	119	233	87	439	1401
% App. Total	15.5	42.6	41.9		10.9	76.1	13		35.7	40.3	24		27.1	53.1	19.8		
PHF	.691	.733	.706	.743	.569	.611	.817	.718	.765	.814	.586	.943	.561	.832	.837	.813	.893

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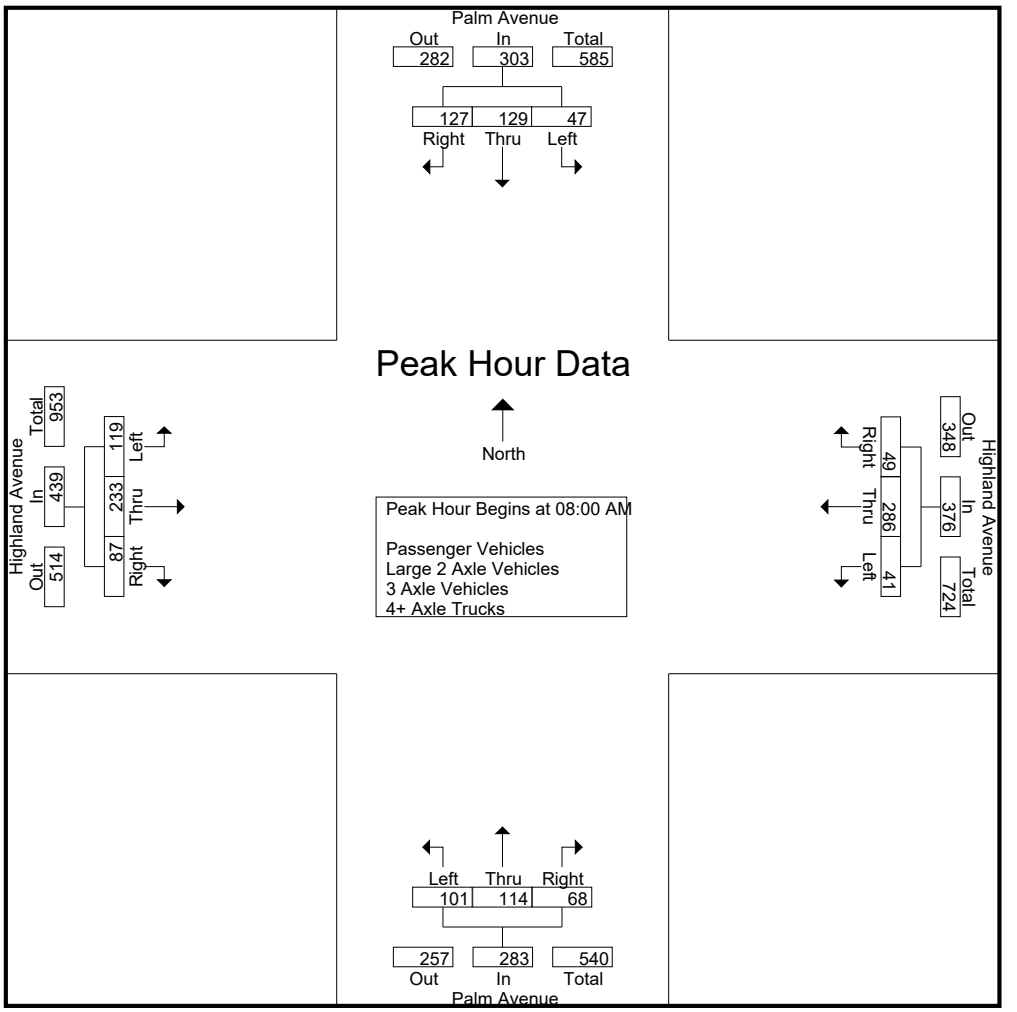

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:15 AM				08:00 AM				07:45 AM			
+0 mins.	9	26	21	56	11	77	4	92	**33**	19	15	67	13	**70**	**31**	114
+15 mins.	8	27	26	61	4	78	**9**	91	32	**35**	8	**75**	20	49	19	88
+30 mins.	13	**44**	**45**	**102**	**17**	94	5	116	20	32	16	68	25	58	19	102
+45 mins.	**17**	32	35	84	7	**117**	7	**131**	16	28	**29**	73	**53**	56	26	**135**
Total Volume	47	129	127	303	39	366	25	430	101	114	68	283	111	233	95	439
% App. Total	15.5	42.6	41.9		9.1	85.1	5.8		35.7	40.3	24		25.3	53.1	21.6	
PHF	.691	.733	.706	.743	.574	.782	.694	.821	.765	.814	.586	.943	.524	.832	.766	.813

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Groups Printed- Passenger Vehicles

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	6	14	10	30	4	60	2	66	22	4	5	31	4	65	17	86	213
07:15 AM	9	13	22	44	11	76	4	91	24	6	5	35	5	57	22	84	254
07:30 AM	8	25	14	47	4	76	9	89	34	24	8	66	15	78	24	117	319
07:45 AM	8	16	21	45	17	91	5	113	30	11	12	53	13	69	31	113	324
Total	31	68	67	166	36	303	20	359	110	45	30	185	37	269	94	400	1110
08:00 AM	9	26	21	56	7	113	7	127	31	19	15	65	20	43	18	81	329
08:15 AM	8	27	25	60	4	52	12	68	31	33	8	72	22	55	16	93	293
08:30 AM	13	43	44	100	14	51	15	80	20	31	16	67	50	55	25	130	377
08:45 AM	17	32	34	83	11	57	14	82	16	28	29	73	21	70	23	114	352
Total	47	128	124	299	36	273	48	357	98	111	68	277	113	223	82	418	1351
Grand Total	78	196	191	465	72	576	68	716	208	156	98	462	150	492	176	818	2461
Apprch %	16.8	42.2	41.1		10.1	80.4	9.5		45	33.8	21.2		18.3	60.1	21.5		
Total %	3.2	8	7.8	18.9	2.9	23.4	2.8	29.1	8.5	6.3	4	18.8	6.1	20	7.2	33.2	

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	9	26	21	56	7	**113**	7	**127**	**31**	19	15	65	20	43	18	81	329
08:15 AM	8	27	25	60	4	52	12	68	31	**33**	8	72	22	55	16	93	293
08:30 AM	13	**43**	**44**	**100**	**14**	51	**15**	80	20	31	16	67	**50**	55	**25**	**130**	**377**
08:45 AM	**17**	32	34	83	11	57	14	82	16	28	**29**	**73**	21	**70**	23	114	352
Total Volume	47	128	124	299	36	273	48	357	98	111	68	277	113	223	82	418	1351
% App. Total	15.7	42.8	41.5		10.1	76.5	13.4		35.4	40.1	24.5		27	53.3	19.6		
PHF	.691	.744	.705	.748	.643	.604	.800	.703	.790	.841	.586	.949	.565	.796	.820	.804	.896

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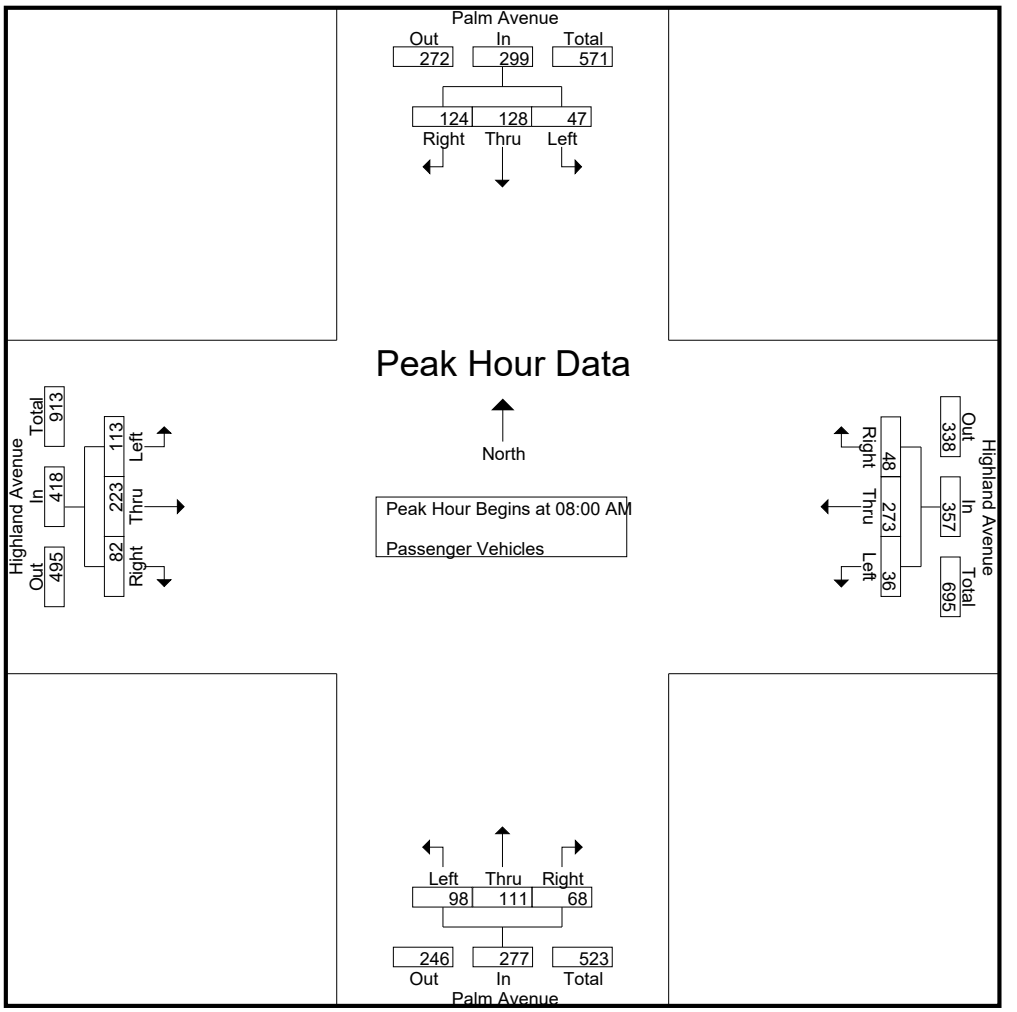

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	9	26	21	56	7	**113**	7	**127**	**31**	19	15	65	20	43	18	81
+15 mins.	8	27	25	60	4	52	12	68	31	**33**	8	72	22	55	16	93
+30 mins.	13	**43**	**44**	**100**	**14**	51	**15**	80	20	31	16	67	**50**	55	**25**	**130**
+45 mins.	**17**	32	34	83	11	57	14	82	16	28	**29**	**73**	21	**70**	23	114
Total Volume	47	128	124	299	36	273	48	357	98	111	68	277	113	223	82	418
% App. Total	15.7	42.8	41.5		10.1	76.5	13.4		35.4	40.1	24.5		27	53.3	19.6	
PHF	.691	.744	.705	.748	.643	.604	.800	.703	.790	.841	.586	.949	.565	.796	.820	.804

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City of San Bernardino
N/S: Palm Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCPAHIAM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- Large 2 Axle Vehicles

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	3	0	3	0	0	1	1	1	1	0	2	6
07:15 AM	0	0	1	1	0	1	0	1	3	0	1	4	0	2	0	2	8
07:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	1	4	1	6	8
07:45 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1	4
Total	0	0	1	1	0	9	0	9	3	0	2	5	2	8	1	11	26
08:00 AM	0	0	0	0	0	4	0	4	2	0	0	2	0	5	1	6	12
08:15 AM	0	0	1	1	0	2	1	3	1	2	0	3	3	3	3	9	16
08:30 AM	0	1	1	2	4	3	0	7	0	1	0	1	3	1	1	5	15
08:45 AM	0	0	1	1	1	4	0	5	0	0	0	0	0	0	0	0	6
Total	0	1	3	4	5	13	1	19	3	3	0	6	6	9	5	20	49
Grand Total	0	1	4	5	5	22	1	28	6	3	2	11	8	17	6	31	75
Apprch %	0	20	80		17.9	78.6	3.6		54.5	27.3	18.2		25.8	54.8	19.4		
Total %	0	1.3	5.3	6.7	6.7	29.3	1.3	37.3	8	4	2.7	14.7	10.7	22.7	8	41.3	

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	**4**	0	4	**2**	0	0	2	0	**5**	1	6	12
08:15 AM	0	0	**1**	1	0	2	**1**	3	1	**2**	0	**3**	**3**	3	**3**	**9**	**16**
08:30 AM	0	**1**	1	**2**	**4**	3	0	**7**	0	1	0	1	3	1	1	5	15
08:45 AM	0	0	1	1	1	4	0	5	0	0	0	0	0	0	0	0	6
Total Volume	0	1	3	4	5	13	1	19	3	3	0	6	6	9	5	20	49
% App. Total	0	25	75		26.3	68.4	5.3		50	50	0		30	45	25		
PHF	.000	.250	.750	.500	.313	.813	.250	.679	.375	.375	.000	.500	.500	.450	.417	.556	.766

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E/W: Highland Avenue
Weather: Clear

File Name : SBCPAHIAM
Site Code : 05716653
Start Date : 12/7/2016
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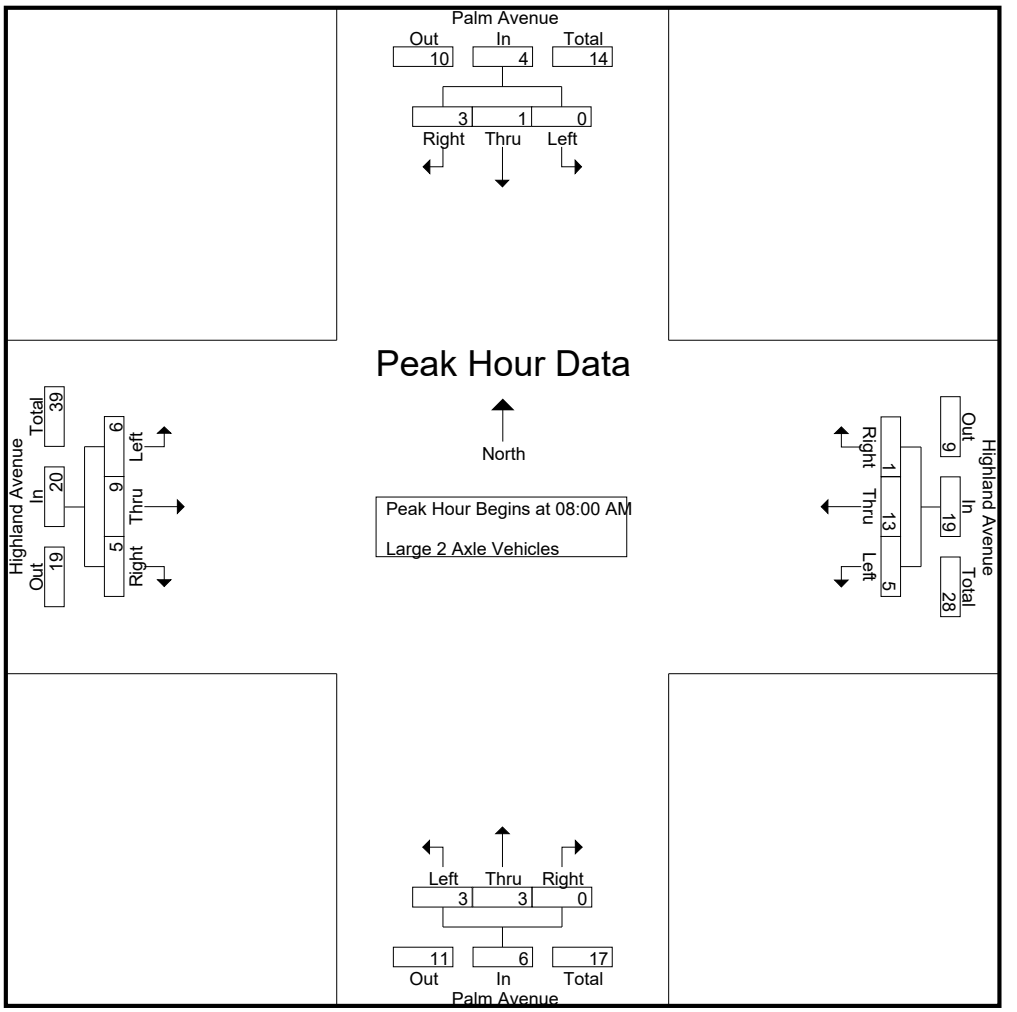

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	**4**	0	4	**2**	0	0	2	0	**5**	1	6
+15 mins.	0	0	**1**	1	0	2	**1**	3	1	**2**	0	**3**	**3**	3	**3**	**9**
+30 mins.	0	**1**	1	**2**	**4**	3	0	**7**	0	1	0	1	3	1	1	5
+45 mins.	0	0	1	1	1	4	0	5	0	0	0	0	0	0	0	0
Total Volume	0	1	3	4	5	13	1	19	3	3	0	6	6	9	5	20
% App. Total	0	25	75		26.3	68.4	5.3		50	50	0		30	45	25	
PHF	.000	.250	.750	.500	.313	.813	.250	.679	.375	.375	.000	.500	.500	.450	.417	.556

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Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- 3 Axle Vehicles

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Grand Total	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	66.7	0	66.7	0	0	0	0	0	33.3	0	33.3	

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	**1**
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.250

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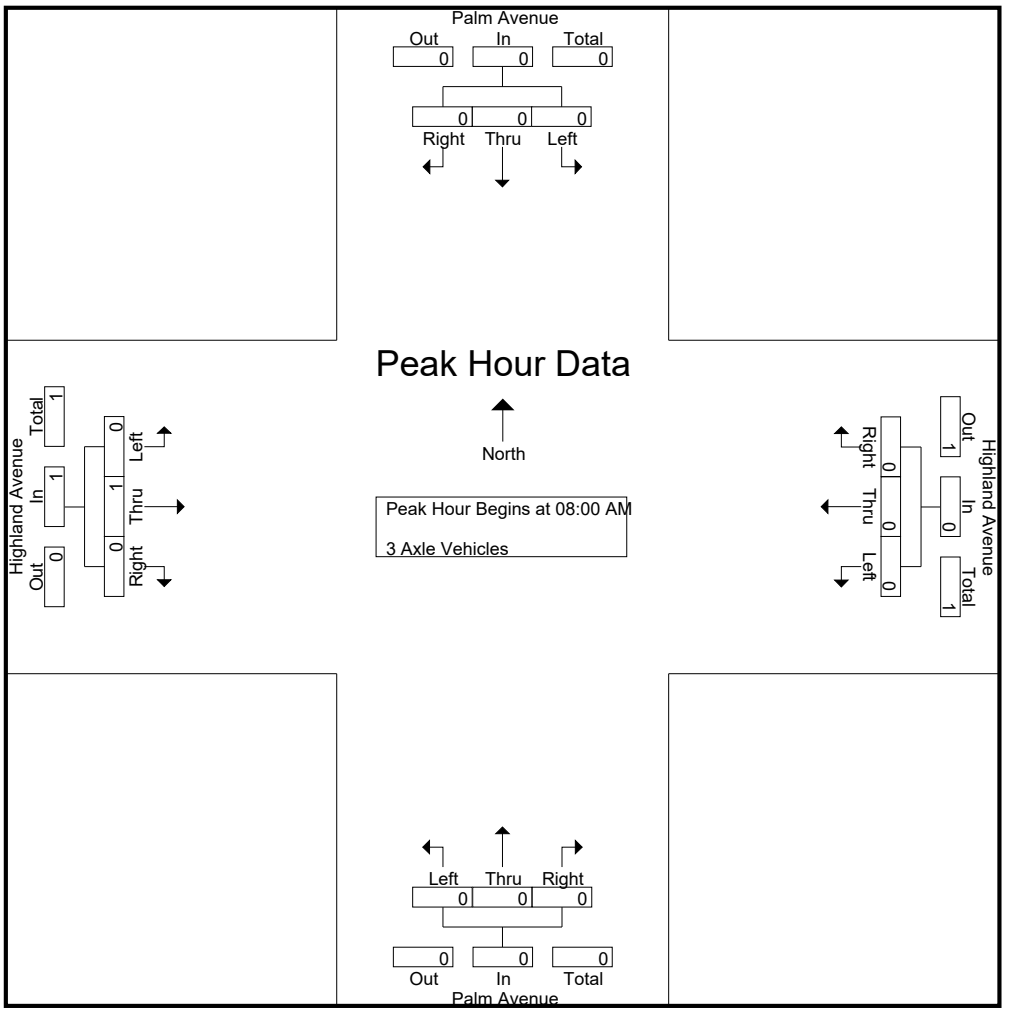

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250

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Groups Printed- 4+ Axle Trucks

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
N/S: Palm Avenue
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Weather: Clear

File Name : SBCPAHIAM
Site Code : 05716653
Start Date : 12/7/2016
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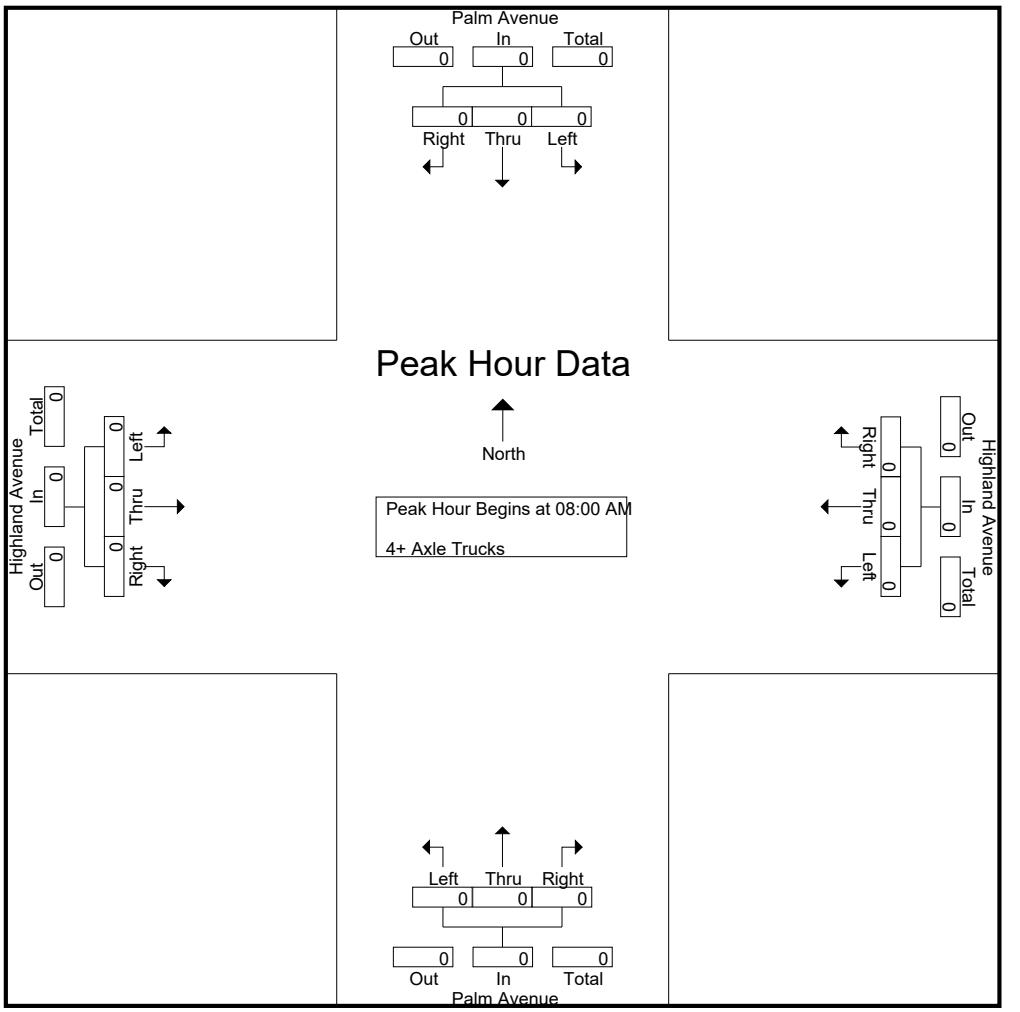

Peak Hour Analysis From 08:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				08:00 AM				08:00 AM				08:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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File Name : SBCPAHIPM
Site Code : 05716653
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	12	11	12	35	26	96	9	131	33	21	25	79	9	120	22	151	396
04:15 PM	9	20	10	39	21	110	6	137	46	23	37	106	15	131	40	186	468
04:30 PM	9	14	17	40	24	105	10	139	44	21	31	96	19	165	38	222	497
04:45 PM	14	17	16	47	24	103	6	133	45	17	44	106	14	162	40	216	502
Total	44	62	55	161	95	414	31	540	168	82	137	387	57	578	140	775	1863
05:00 PM	7	11	9	27	34	121	12	167	42	21	44	107	16	136	35	187	488
05:15 PM	10	8	16	34	26	122	9	157	43	15	41	99	13	165	42	220	510
05:30 PM	13	8	13	34	28	114	13	155	46	23	32	101	16	145	34	195	485
05:45 PM	15	11	6	32	30	97	7	134	58	26	47	131	16	107	41	164	461
Total	45	38	44	127	118	454	41	613	189	85	164	438	61	553	152	766	1944
Grand Total	89	100	99	288	213	868	72	1153	357	167	301	825	118	1131	292	1541	3807
Apprch %	30.9	34.7	34.4		18.5	75.3	6.2		43.3	20.2	36.5		7.7	73.4	18.9		
Total %	2.3	2.6	2.6	7.6	5.6	22.8	1.9	30.3	9.4	4.4	7.9	21.7	3.1	29.7	7.7	40.5	
Passenger Vehicles	87	99	99	285	211	854	72	1137	354	165	299	818	117	1112	287	1516	3756
% Passenger Vehicles	97.8	99	100	99	99.1	98.4	100	98.6	99.2	98.8	99.3	99.2	99.2	98.3	98.3	98.4	98.7
Large 2 Axle Vehicles	2	1	0	3	2	14	0	16	1	2	2	5	1	18	5	24	48
% Large 2 Axle Vehicles	2.2	1	0	1	0.9	1.6	0	1.4	0.3	1.2	0.7	0.6	0.8	1.6	1.7	1.6	1.3
3 Axle Vehicles	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0.3	0	0	0.1	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	2
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0.3	0	0	0.1	0	0.1	0	0.1	0.1

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	9	14	**17**	40	24	105	10	139	44	**21**	31	96	**19**	**165**	38	**222**	497
04:45 PM	**14**	**17**	16	**47**	24	103	6	133	**45**	17	**44**	106	14	162	40	216	502
05:00 PM	7	11	9	27	**34**	121	**12**	**167**	42	21	44	**107**	16	136	35	187	488
05:15 PM	10	8	16	34	26	**122**	9	157	43	15	41	99	13	165	**42**	220	**510**
Total Volume	40	50	58	148	108	451	37	596	174	74	160	408	62	628	155	845	1997
% App. Total	27	33.8	39.2		18.1	75.7	6.2		42.6	18.1	39.2		7.3	74.3	18.3		
PHF	.714	.735	.853	.787	.794	.924	.771	.892	.967	.881	.909	.953	.816	.952	.923	.952	.979

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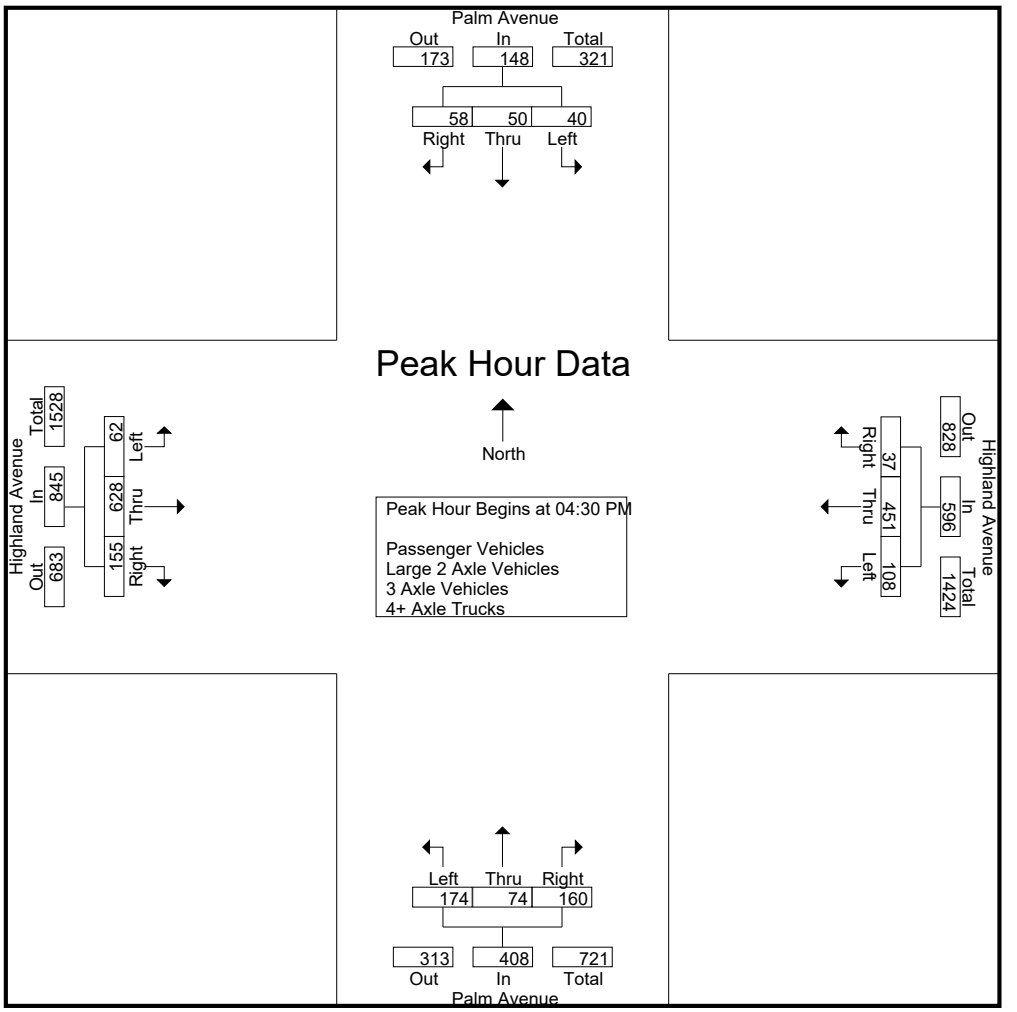

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				05:00 PM				05:00 PM				04:30 PM			
+0 mins.	12	11	12	35	**34**	121	12	**167**	42	21	44	107	**19**	**165**	38	**222**
+15 mins.	9	**20**	10	39	26	**122**	9	157	43	15	41	99	14	162	40	216
+30 mins.	9	14	**17**	40	28	114	**13**	155	46	23	32	101	16	136	35	187
+45 mins.	**14**	17	16	**47**	30	97	7	134	**58**	**26**	**47**	**131**	13	165	**42**	220
Total Volume	44	62	55	161	118	454	41	613	189	85	164	438	62	628	155	845
% App. Total	27.3	38.5	34.2		19.2	74.1	6.7		43.2	19.4	37.4		7.3	74.3	18.3	
PHF	.786	.775	.809	.856	.868	.930	.788	.918	.815	.817	.872	.836	.816	.952	.923	.952

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File Name : SBCPAHIPM
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Groups Printed- Passenger Vehicles

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	12	11	12	35	25	95	9	129	33	21	25	79	9	118	19	146	389
04:15 PM	9	20	10	39	21	109	6	136	43	23	37	103	15	126	40	181	459
04:30 PM	8	14	17	39	24	101	10	135	44	20	30	94	18	164	36	218	486
04:45 PM	14	17	16	47	24	101	6	131	45	16	44	105	14	159	40	213	496
Total	43	62	55	160	94	406	31	531	165	80	136	381	56	567	135	758	1830
05:00 PM	7	11	9	27	34	119	12	165	42	21	44	107	16	135	35	186	485
05:15 PM	10	7	16	33	26	121	9	156	43	15	40	98	13	163	42	218	505
05:30 PM	13	8	13	34	28	112	13	153	46	23	32	101	16	141	34	191	479
05:45 PM	14	11	6	31	29	96	7	132	58	26	47	131	16	106	41	163	457
Total	44	37	44	125	117	448	41	606	189	85	163	437	61	545	152	758	1926
Grand Total	87	99	99	285	211	854	72	1137	354	165	299	818	117	1112	287	1516	3756
Apprch %	30.5	34.7	34.7		18.6	75.1	6.3		43.3	20.2	36.6		7.7	73.4	18.9		
Total %	2.3	2.6	2.6	7.6	5.6	22.7	1.9	30.3	9.4	4.4	8	21.8	3.1	29.6	7.6	40.4	

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	8	14	**17**	39	24	101	10	135	44	20	30	94	**18**	**164**	36	**218**	486
04:45 PM	**14**	**17**	16	**47**	24	101	6	131	**45**	16	**44**	105	14	159	40	213	496
05:00 PM	7	11	9	27	**34**	119	**12**	**165**	42	**21**	44	**107**	16	135	35	186	485
05:15 PM	10	7	16	33	26	**121**	9	156	43	15	40	98	13	163	**42**	218	**505**
Total Volume	39	49	58	146	108	442	37	587	174	72	158	404	61	621	153	835	1972
% App. Total	26.7	33.6	39.7		18.4	75.3	6.3		43.1	17.8	39.1		7.3	74.4	18.3		
PHF	.696	.721	.853	.777	.794	.913	.771	.889	.967	.857	.898	.944	.847	.947	.911	.958	.976

Counts Unlimited
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City of San Bernardino
N/S: Palm Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCPAHIPM
Site Code : 05716653
Start Date : 12/7/2016
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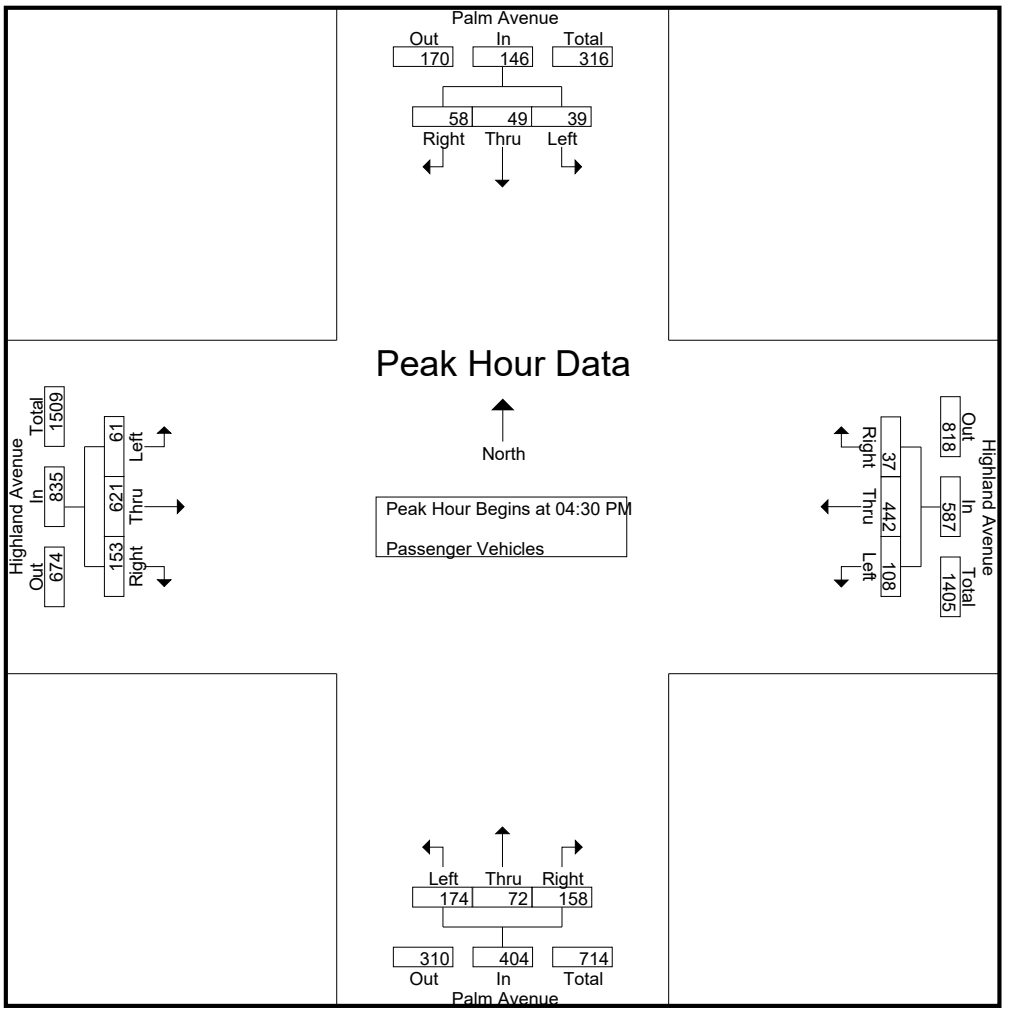

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	8	14	**17**	39	24	101	10	135	44	20	30	94	**18**	**164**	36	**218**
+15 mins.	**14**	**17**	16	**47**	24	101	6	131	**45**	16	**44**	105	14	159	40	213
+30 mins.	7	11	9	27	**34**	119	**12**	**165**	42	**21**	44	**107**	16	135	35	186
+45 mins.	10	7	16	33	26	**121**	9	156	43	15	40	98	13	163	**42**	218
Total Volume	39	49	58	146	108	442	37	587	174	72	158	404	61	621	153	835
% App. Total	26.7	33.6	39.7		18.4	75.3	6.3		43.1	17.8	39.1		7.3	74.4	18.3	
PHF	.696	.721	.853	.777	.794	.913	.771	.889	.967	.857	.898	.944	.847	.947	.911	.958

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Groups Printed- Large 2 Axle Vehicles

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	2	3	5	7
04:15 PM	0	0	0	0	0	1	0	1	1	0	0	1	0	4	0	4	6
04:30 PM	1	0	0	1	0	4	0	4	0	1	1	2	1	1	2	4	11
04:45 PM	0	0	0	0	0	2	0	2	0	1	0	1	0	3	0	3	6
Total	1	0	0	1	1	8	0	9	1	2	1	4	1	10	5	16	30
05:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
05:15 PM	0	1	0	1	0	1	0	1	0	0	1	1	0	2	0	2	5
05:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	4	0	4	6
05:45 PM	1	0	0	1	1	1	0	2	0	0	0	0	0	1	0	1	4
Total	1	1	0	2	1	6	0	7	0	0	1	1	0	8	0	8	18
Grand Total	2	1	0	3	2	14	0	16	1	2	2	5	1	18	5	24	48
Apprch %	66.7	33.3	0		12.5	87.5	0		20	40	40		4.2	75	20.8		
Total %	4.2	2.1	0	6.2	4.2	29.2	0	33.3	2.1	4.2	4.2	10.4	2.1	37.5	10.4	50	

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**1**	0	0	**1**	0	**4**	0	**4**	0	**1**	**1**	**2**	**1**	1	**2**	**4**	**11**
04:45 PM	0	0	0	0	0	2	0	2	0	1	0	1	0	**3**	0	3	6
05:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
05:15 PM	0	**1**	0	1	0	1	0	1	0	0	1	1	0	2	0	2	5
Total Volume	1	1	0	2	0	9	0	9	0	2	2	4	1	7	2	10	25
% App. Total	50	50	0		0	100	0		0	50	50		10	70	20		
PHF	.250	.250	.000	.500	.000	.563	.000	.563	.000	.500	.500	.500	.250	.583	.250	.625	.568

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City of San Bernardino
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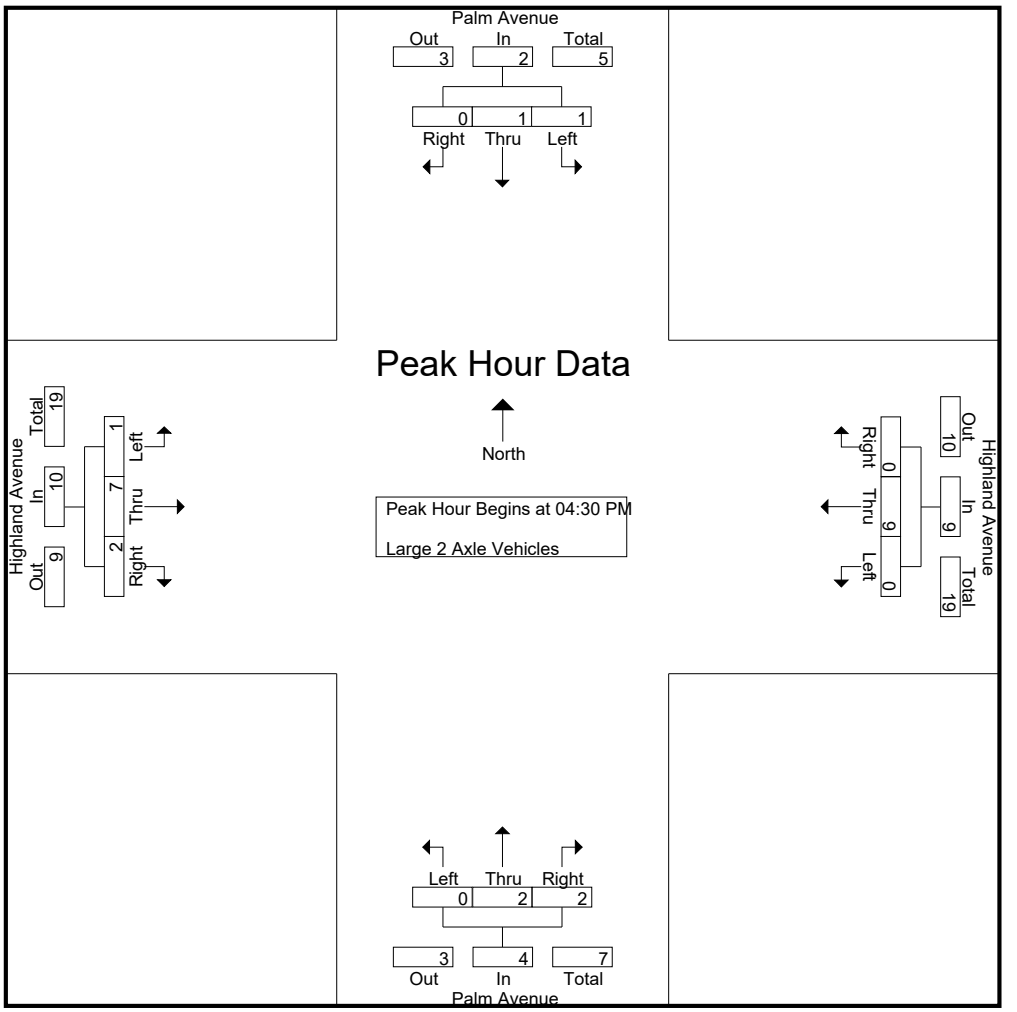
Weather: Clear

File Name : SBCPAHIPM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	**1**	0	0	**1**	0	**4**	0	**4**	0	**1**	**1**	**2**	**1**	1	**2**	**4**
+15 mins.	0	0	0	0	0	2	0	2	0	1	0	1	0	**3**	0	3
+30 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1
+45 mins.	0	**1**	0	1	0	1	0	1	0	0	1	1	0	2	0	2
Total Volume	1	1	0	2	0	9	0	9	0	2	2	4	1	7	2	10
% App. Total	50	50	0		0	100	0		0	50	50		10	70	20	
PHF	.250	.250	.000	.500	.000	.563	.000	.563	.000	.500	.500	.500	.250	.583	.250	.625

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Weather: Clear

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Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- 3 Axle Vehicles

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Apprch %	0	0	0		0	0	0		100	0	0		0	0	0		
Total %	0	0	0	0	0	0	0	0	100	0	0	100	0	0	0	0	

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
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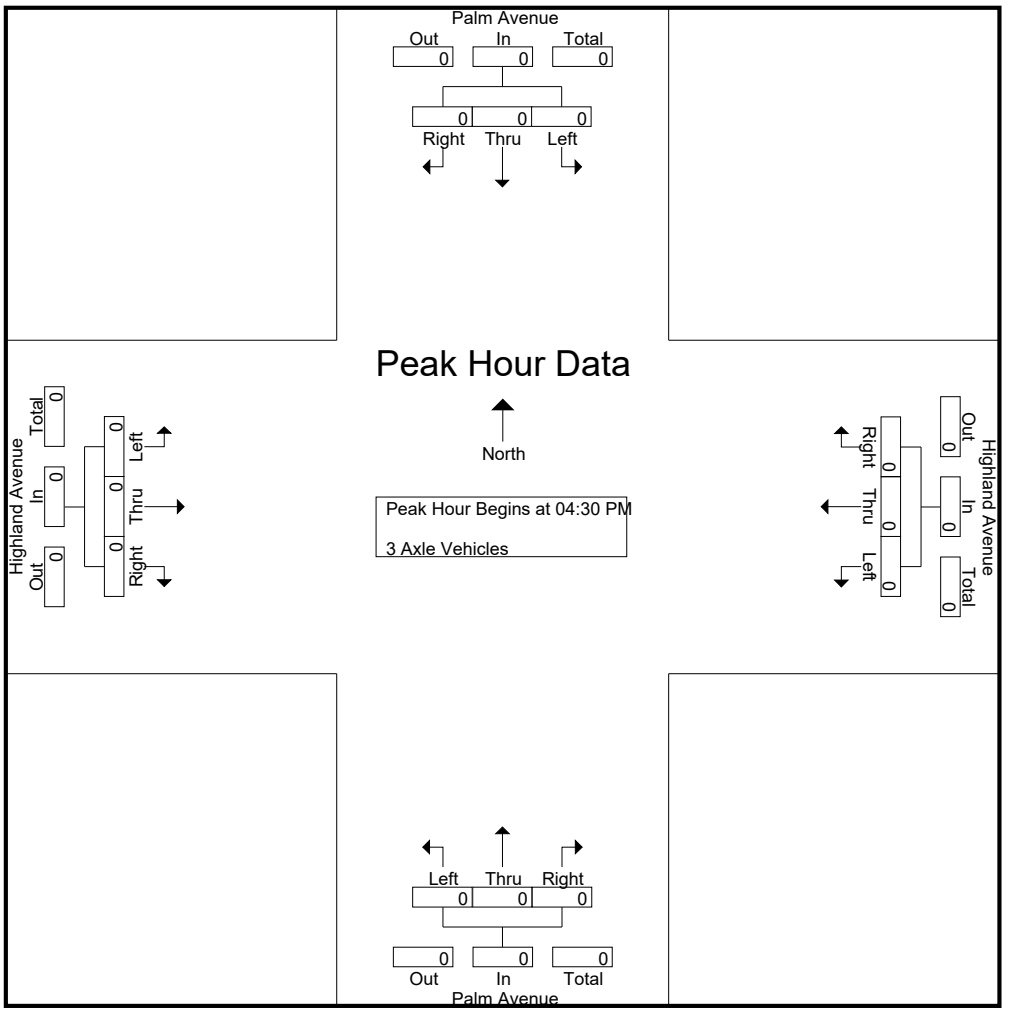
Weather: Clear

File Name : SBCPAHIPM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
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Weather: Clear

File Name : SBCPAHIPM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- 4+ Axle Trucks

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	2
Apprch %	0	0	0		0	0	0		100	0	0		0	100	0		
Total %	0	0	0	0	0	0	0	0	50	0	0	50	0	50	0	50	

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
N/S: Palm Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCPAHIPM
Site Code : 05716653
Start Date : 12/7/2016
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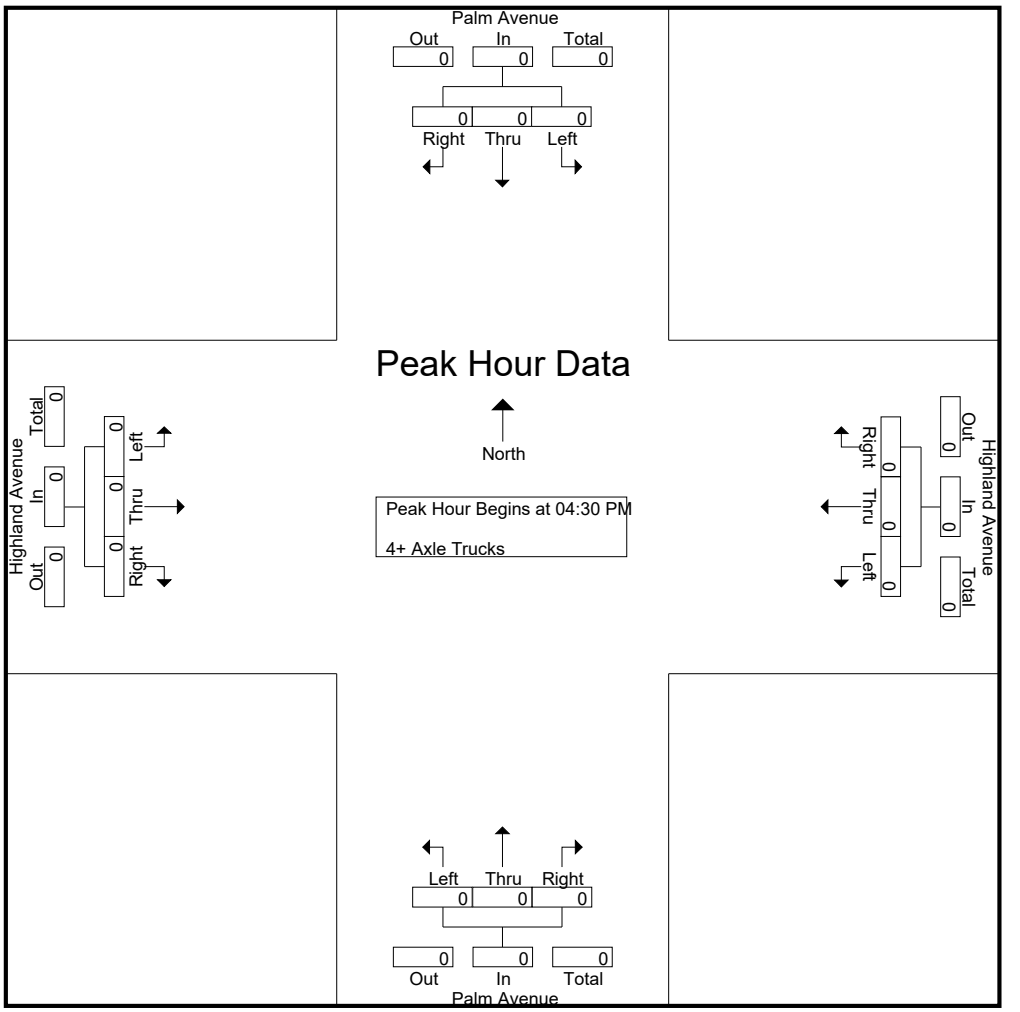

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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Weather: Clear

File Name : SBCPAHISAT
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	10	10	12	32	30	135	8	173	36	8	34	78	8	94	27	129	412
05:15 PM	3	9	4	16	35	133	8	176	42	13	27	82	10	95	31	136	410
05:30 PM	3	11	10	24	33	113	13	159	38	9	22	69	9	103	25	137	389
05:45 PM	9	16	7	32	18	115	7	140	39	16	26	81	8	106	25	139	392
Total	25	46	33	104	116	496	36	648	155	46	109	310	35	398	108	541	1603
06:00 PM	12	15	11	38	25	104	7	136	40	19	33	92	8	123	32	163	429
06:15 PM	5	6	4	15	15	101	9	125	37	6	24	67	1	93	28	122	329
06:30 PM	3	8	5	16	19	110	5	134	31	8	19	58	7	88	21	116	324
06:45 PM	7	11	4	22	27	92	5	124	30	14	25	69	6	84	19	109	324
Total	27	40	24	91	86	407	26	519	138	47	101	286	22	388	100	510	1406
Grand Total	52	86	57	195	202	903	62	1167	293	93	210	596	57	786	208	1051	3009
Apprch %	26.7	44.1	29.2		17.3	77.4	5.3		49.2	15.6	35.2		5.4	74.8	19.8		
Total %	1.7	2.9	1.9	6.5	6.7	30	2.1	38.8	9.7	3.1	7	19.8	1.9	26.1	6.9	34.9	
Passenger Vehicles	52	86	57	195	202	903	62	1167	293	92	210	595	57	786	208	1051	3008
% Passenger Vehicles	100	100	100	100	100	100	100	100	100	98.9	100	99.8	100	100	100	100	100
Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Large 2 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	1.1	0	0.2	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	3	9	4	16	**35**	**133**	8	**176**	**42**	13	27	82	**10**	95	31	136	410
05:30 PM	3	11	10	24	33	113	**13**	159	38	9	22	69	9	103	25	137	389
05:45 PM	9	**16**	7	32	18	115	7	140	39	16	26	81	8	106	25	139	392
06:00 PM	**12**	15	**11**	**38**	25	104	7	136	40	**19**	**33**	**92**	8	**123**	**32**	**163**	**429**
Total Volume	27	51	32	110	111	465	35	611	159	57	108	324	35	427	113	575	1620
% App. Total	24.5	46.4	29.1		18.2	76.1	5.7		49.1	17.6	33.3		6.1	74.3	19.7		
PHF	.563	.797	.727	.724	.793	.874	.673	.868	.946	.750	.818	.880	.875	.868	.883	.882	.944

Counts Unlimited
PO Box 1178
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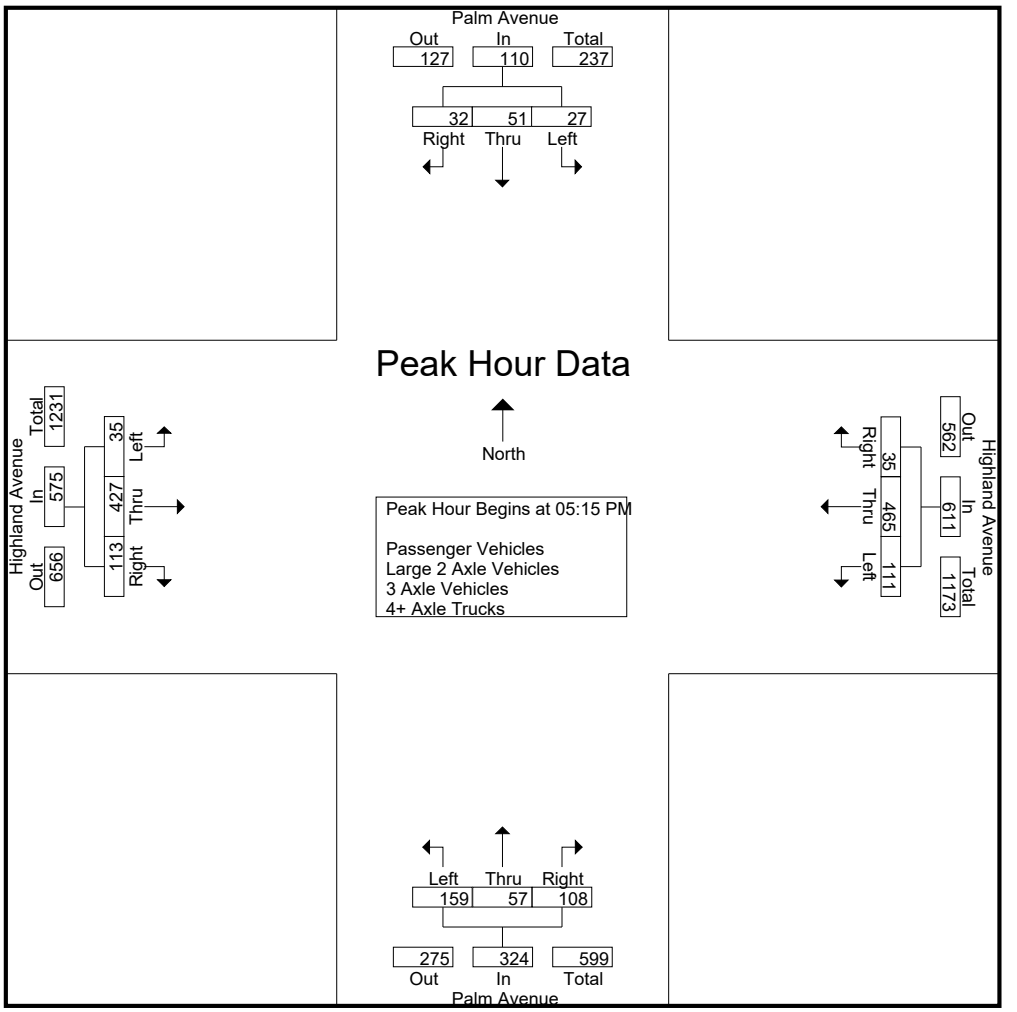
(951) 268-6268

City of San Bernardino
N/S: Palm Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCPAHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 2



Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:15 PM				05:00 PM				05:15 PM				05:15 PM			
+0 mins.	3	9	4	16	30	**135**	8	173	**42**	13	27	82	**10**	95	31	136
+15 mins.	3	11	10	24	**35**	133	8	**176**	38	9	22	69	9	103	25	137
+30 mins.	9	**16**	7	32	33	113	**13**	159	39	16	26	81	8	106	25	139
+45 mins.	**12**	15	**11**	**38**	18	115	7	140	40	**19**	**33**	**92**	8	**123**	**32**	**163**
Total Volume	27	51	32	110	116	496	36	648	159	57	108	324	35	427	113	575
% App. Total	24.5	46.4	29.1		17.9	76.5	5.6		49.1	17.6	33.3		6.1	74.3	19.7	
PHF	.563	.797	.727	.724	.829	.919	.692	.920	.946	.750	.818	.880	.875	.868	.883	.882

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City of San Bernardino
N/S: Palm Avenue
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Weather: Clear

File Name : SBCPAHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- Passenger Vehicles

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	10	10	12	32	30	135	8	173	36	7	34	77	8	94	27	129	411
05:15 PM	3	9	4	16	35	133	8	176	42	13	27	82	10	95	31	136	410
05:30 PM	3	11	10	24	33	113	13	159	38	9	22	69	9	103	25	137	389
05:45 PM	9	16	7	32	18	115	7	140	39	16	26	81	8	106	25	139	392
Total	25	46	33	104	116	496	36	648	155	45	109	309	35	398	108	541	1602
06:00 PM	12	15	11	38	25	104	7	136	40	19	33	92	8	123	32	163	429
06:15 PM	5	6	4	15	15	101	9	125	37	6	24	67	1	93	28	122	329
06:30 PM	3	8	5	16	19	110	5	134	31	8	19	58	7	88	21	116	324
06:45 PM	7	11	4	22	27	92	5	124	30	14	25	69	6	84	19	109	324
Total	27	40	24	91	86	407	26	519	138	47	101	286	22	388	100	510	1406
Grand Total	52	86	57	195	202	903	62	1167	293	92	210	595	57	786	208	1051	3008
Apprch %	26.7	44.1	29.2		17.3	77.4	5.3		49.2	15.5	35.3		5.4	74.8	19.8		
Total %	1.7	2.9	1.9	6.5	6.7	30	2.1	38.8	9.7	3.1	7	19.8	1.9	26.1	6.9	34.9	

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:15 PM to 06:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	3	9	4	16	**35**	**133**	8	**176**	**42**	13	27	82	**10**	95	31	136	410
05:30 PM	3	11	10	24	33	113	**13**	159	38	9	22	69	9	103	25	137	389
05:45 PM	9	**16**	7	32	18	115	7	140	39	16	26	81	8	106	25	139	392
06:00 PM	**12**	15	**11**	**38**	25	104	7	136	40	**19**	**33**	**92**	8	**123**	**32**	**163**	**429**
Total Volume	27	51	32	110	111	465	35	611	159	57	108	324	35	427	113	575	1620
% App. Total	24.5	46.4	29.1		18.2	76.1	5.7		49.1	17.6	33.3		6.1	74.3	19.7		
PHF	.563	.797	.727	.724	.793	.874	.673	.868	.946	.750	.818	.880	.875	.868	.883	.882	.944

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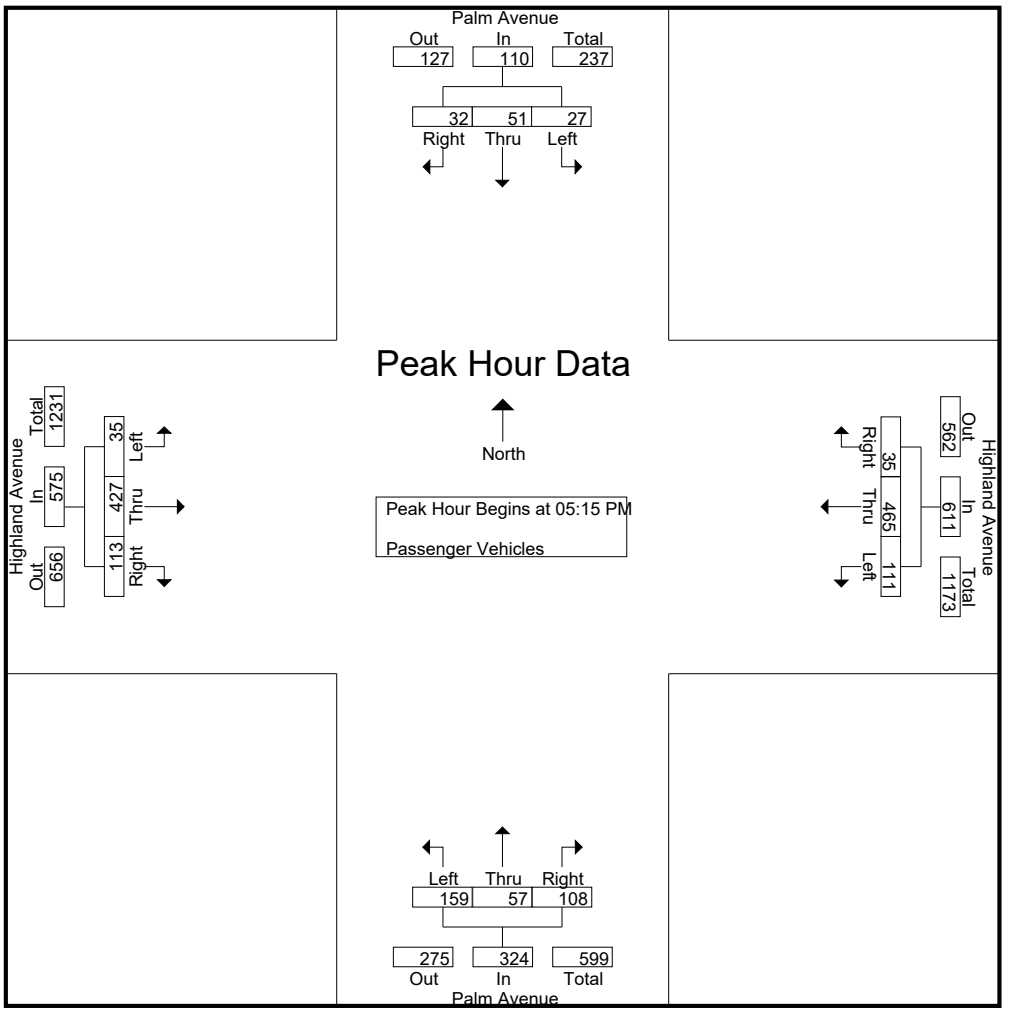
City of San Bernardino
N/S: Palm Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCPAHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 2



Peak Hour Analysis From 05:15 PM to 06:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:15 PM				05:15 PM				05:15 PM				05:15 PM			
+0 mins.	3	9	4	16	**35**	**133**	8	**176**	**42**	13	27	82	**10**	95	31	136
+15 mins.	3	11	10	24	33	113	**13**	159	38	9	22	69	9	103	25	137
+30 mins.	9	**16**	7	32	18	115	7	140	39	16	26	81	8	106	25	139
+45 mins.	**12**	15	**11**	**38**	25	104	7	136	40	**19**	**33**	**92**	8	**123**	**32**	**163**
Total Volume	27	51	32	110	111	465	35	611	159	57	108	324	35	427	113	575
% App. Total	24.5	46.4	29.1		18.2	76.1	5.7		49.1	17.6	33.3		6.1	74.3	19.7	
PHF	.563	.797	.727	.724	.793	.874	.673	.868	.946	.750	.818	.880	.875	.868	.883	.882

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City of San Bernardino
N/S: Palm Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCPAHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:15 PM to 06:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
PO Box 1178
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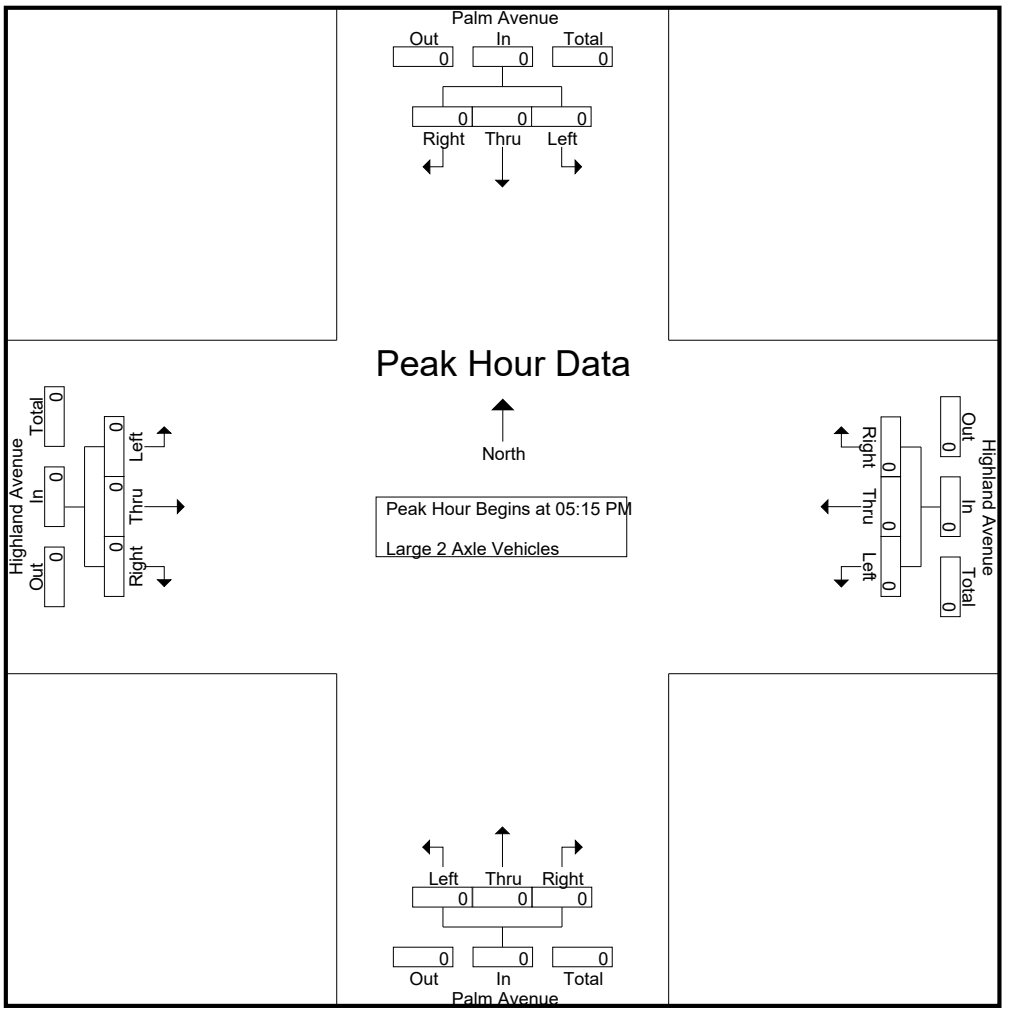
City of San Bernardino
N/S: Palm Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCPAHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 2



Peak Hour Analysis From 05:15 PM to 06:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:15 PM				05:15 PM				05:15 PM				05:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
N/S: Palm Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCPAHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- 3 Axle Vehicles

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Apprch %	0	0	0		0	0	0		0	100	0		0	0	0		
Total %	0	0	0	0	0	0	0	0	0	100	0	100	0	0	0	0	

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:15 PM to 06:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
PO Box 1178
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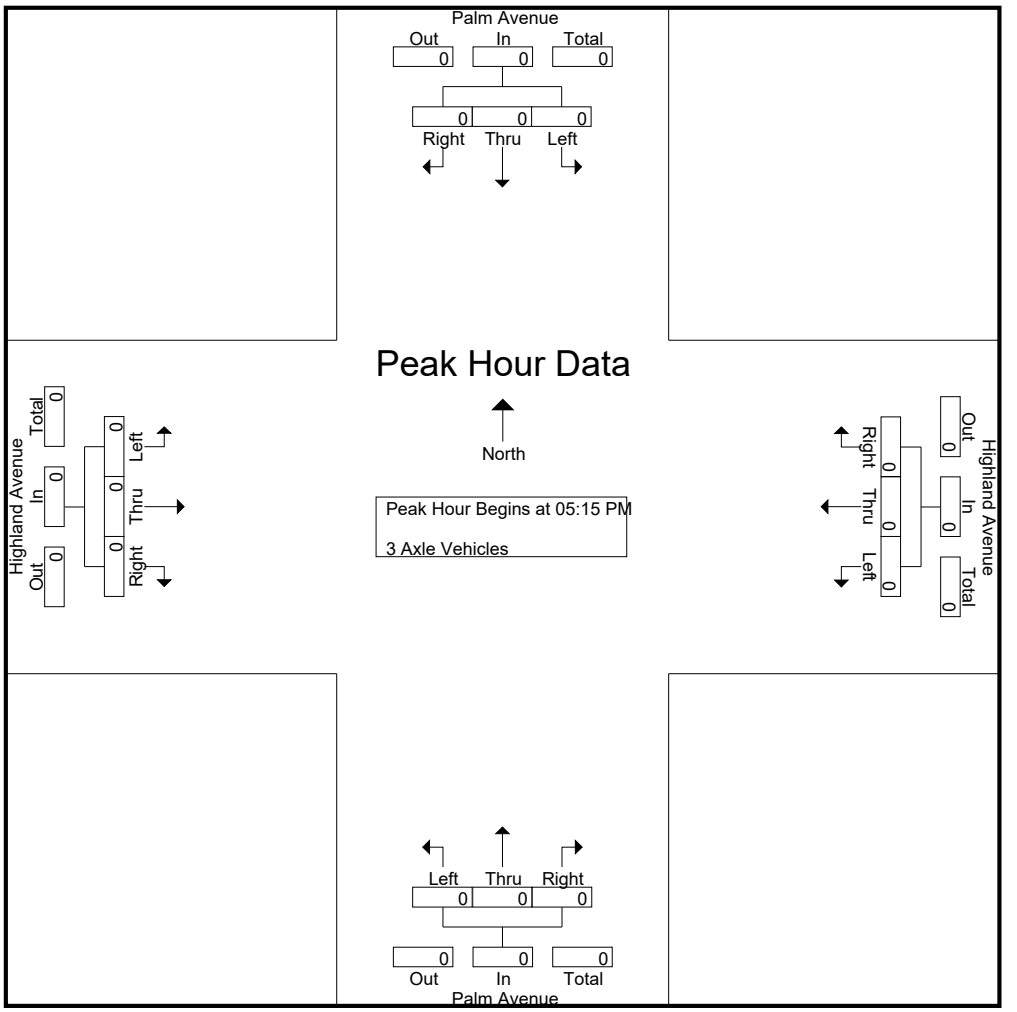
City of San Bernardino
N/S: Palm Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCPAHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 2



Peak Hour Analysis From 05:15 PM to 06:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:15 PM				05:15 PM				05:15 PM				05:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of San Bernardino
N/S: Palm Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCPAHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- 4+ Axle Trucks

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Palm Avenue Southbound				Highland Avenue Westbound				Palm Avenue Northbound				Highland Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:15 PM to 06:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:15 PM																	
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
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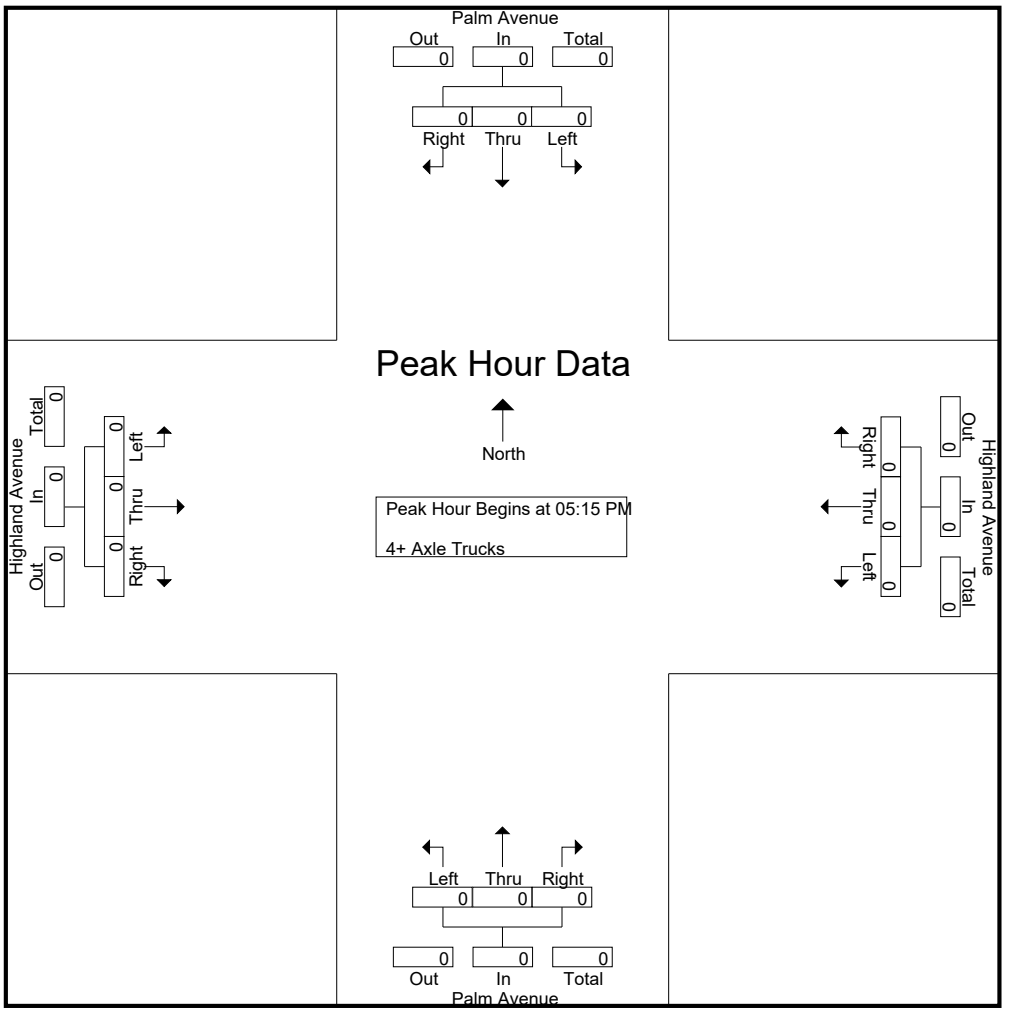
City of San Bernardino
N/S: Palm Avenue
E/W: Highland Avenue
Weather: Clear

File Name : SBCPAHISAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 2



Peak Hour Analysis From 05:15 PM to 06:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:15 PM				05:15 PM				05:15 PM				05:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
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City of Highland
N/S: Victoria Avenue
E/W: Pacific Street
Weather: Clear

File Name : HLDVIPAAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

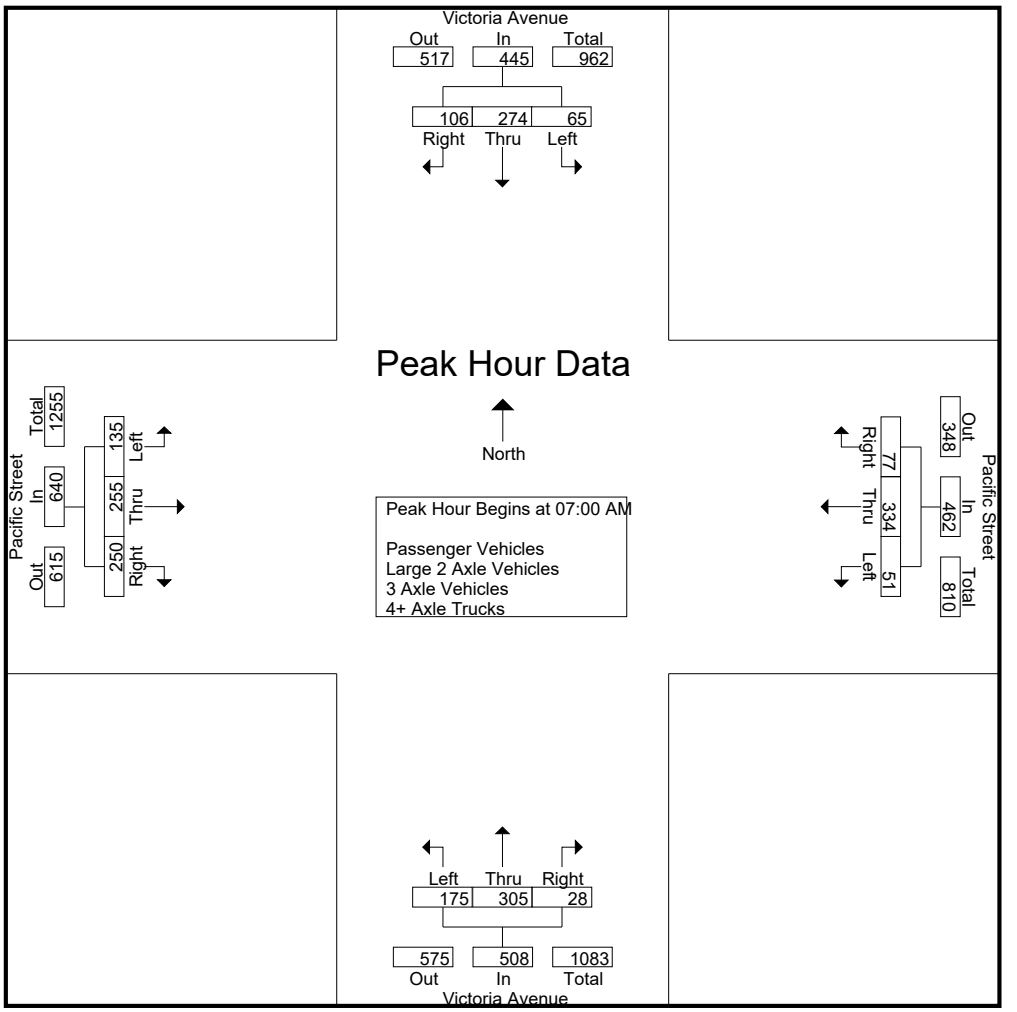
	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	8	58	26	92	9	77	15	101	55	61	5	121	27	31	41	99	413
07:15 AM	19	67	47	133	11	142	21	174	58	100	9	167	54	93	97	244	718
07:30 AM	20	87	20	127	14	66	18	98	41	74	4	119	40	70	74	184	528
07:45 AM	18	62	13	93	17	49	23	89	21	70	10	101	14	61	38	113	396
Total	65	274	106	445	51	334	77	462	175	305	28	508	135	255	250	640	2055
08:00 AM	10	47	10	67	6	43	11	60	28	51	5	84	5	49	22	76	287
08:15 AM	17	50	7	74	13	50	18	81	18	57	5	80	8	44	30	82	317
08:30 AM	23	54	4	81	11	47	27	85	34	64	13	111	15	38	37	90	367
08:45 AM	17	49	7	73	6	53	18	77	31	49	12	92	8	51	34	93	335
Total	67	200	28	295	36	193	74	303	111	221	35	367	36	182	123	341	1306
Grand Total	132	474	134	740	87	527	151	765	286	526	63	875	171	437	373	981	3361
Apprch %	17.8	64.1	18.1		11.4	68.9	19.7		32.7	60.1	7.2		17.4	44.5	38		
Total %	3.9	14.1	4	22	2.6	15.7	4.5	22.8	8.5	15.7	1.9	26	5.1	13	11.1	29.2	
Passenger Vehicles	126	461	133	720	81	521	141	743	279	503	60	842	168	430	362	960	3265
% Passenger Vehicles	95.5	97.3	99.3	97.3	93.1	98.9	93.4	97.1	97.6	95.6	95.2	96.2	98.2	98.4	97.1	97.9	97.1
Large 2 Axle Vehicles	6	11	1	18	6	5	8	19	7	20	3	30	3	7	11	21	88
% Large 2 Axle Vehicles	4.5	2.3	0.7	2.4	6.9	0.9	5.3	2.5	2.4	3.8	4.8	3.4	1.8	1.6	2.9	2.1	2.6
3 Axle Vehicles	0	1	0	1	0	1	1	2	0	0	0	0	0	0	0	0	3
% 3 Axle Vehicles	0	0.2	0	0.1	0	0.2	0.7	0.3	0	0	0	0	0	0	0	0	0.1
4+ Axle Trucks	0	1	0	1	0	0	1	1	0	3	0	3	0	0	0	0	5
% 4+ Axle Trucks	0	0.2	0	0.1	0	0	0.7	0.1	0	0.6	0	0.3	0	0	0	0	0.1

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	8	58	26	92	9	77	15	101	55	61	5	121	27	31	41	99	413
07:15 AM	19	67	**47**	**133**	11	**142**	21	**174**	**58**	**100**	9	**167**	**54**	**93**	**97**	**244**	**718**
07:30 AM	**20**	**87**	20	127	14	66	18	98	41	74	4	119	40	70	74	184	528
07:45 AM	18	62	13	93	**17**	49	**23**	89	21	70	**10**	101	14	61	38	113	396
Total Volume	65	274	106	445	51	334	77	462	175	305	28	508	135	255	250	640	2055
% App. Total	14.6	61.6	23.8		11	72.3	16.7		34.4	60	5.5		21.1	39.8	39.1		
PHF	.813	.787	.564	.836	.750	.588	.837	.664	.754	.763	.700	.760	.625	.685	.644	.656	.716

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Highland
N/S: Victoria Avenue
E/W: Pacific Street
Weather: Clear

File Name : HLDVIPAAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	8	58	26	92	9	77	15	101	55	61	5	121	27	31	41	99
+15 mins.	19	67	**47**	**133**	11	**142**	21	**174**	**58**	**100**	9	**167**	**54**	**93**	**97**	**244**
+30 mins.	**20**	**87**	20	127	14	66	18	98	41	74	4	119	40	70	74	184
+45 mins.	18	62	13	93	**17**	49	**23**	89	21	70	**10**	101	14	61	38	113
Total Volume	65	274	106	445	51	334	77	462	175	305	28	508	135	255	250	640
% App. Total	14.6	61.6	23.8		11	72.3	16.7		34.4	60	5.5		21.1	39.8	39.1	
PHF	.813	.787	.564	.836	.750	.588	.837	.664	.754	.763	.700	.760	.625	.685	.644	.656

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City of Highland
N/S: Victoria Avenue
E/W: Pacific Street
Weather: Clear

File Name : HLDVIPAAM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	7	57	26	90	9	77	15	101	55	58	5	118	27	31	40	98	407
07:15 AM	16	65	47	128	10	141	20	171	58	96	7	161	53	92	94	239	699
07:30 AM	19	85	20	124	11	63	17	91	40	72	4	116	40	70	72	182	513
07:45 AM	18	60	12	90	16	49	19	84	20	65	9	94	12	59	38	109	377
Total	60	267	105	432	46	330	71	447	173	291	25	489	132	252	244	628	1996
08:00 AM	10	45	10	65	6	42	11	59	27	46	5	78	5	47	22	74	276
08:15 AM	17	48	7	72	13	50	17	80	18	54	5	77	8	42	27	77	306
08:30 AM	23	54	4	81	10	47	24	81	32	63	13	108	15	38	35	88	358
08:45 AM	16	47	7	70	6	52	18	76	29	49	12	90	8	51	34	93	329
Total	66	194	28	288	35	191	70	296	106	212	35	353	36	178	118	332	1269
Grand Total	126	461	133	720	81	521	141	743	279	503	60	842	168	430	362	960	3265
Apprch %	17.5	64	18.5		10.9	70.1	19		33.1	59.7	7.1		17.5	44.8	37.7		
Total %	3.9	14.1	4.1	22.1	2.5	16	4.3	22.8	8.5	15.4	1.8	25.8	5.1	13.2	11.1	29.4	

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	7	57	26	90	9	77	15	101	55	58	5	118	27	31	40	98	407
07:15 AM	16	65	**47**	**128**	10	**141**	**20**	**171**	**58**	**96**	7	**161**	**53**	**92**	**94**	**239**	**699**
07:30 AM	**19**	**85**	20	124	11	63	17	91	40	72	4	116	40	70	72	182	513
07:45 AM	18	60	12	90	**16**	49	19	84	20	65	**9**	94	12	59	38	109	377
Total Volume	60	267	105	432	46	330	71	447	173	291	25	489	132	252	244	628	1996
% App. Total	13.9	61.8	24.3		10.3	73.8	15.9		35.4	59.5	5.1		21	40.1	38.9		
PHF	.789	.785	.559	.844	.719	.585	.888	.654	.746	.758	.694	.759	.623	.685	.649	.657	.714

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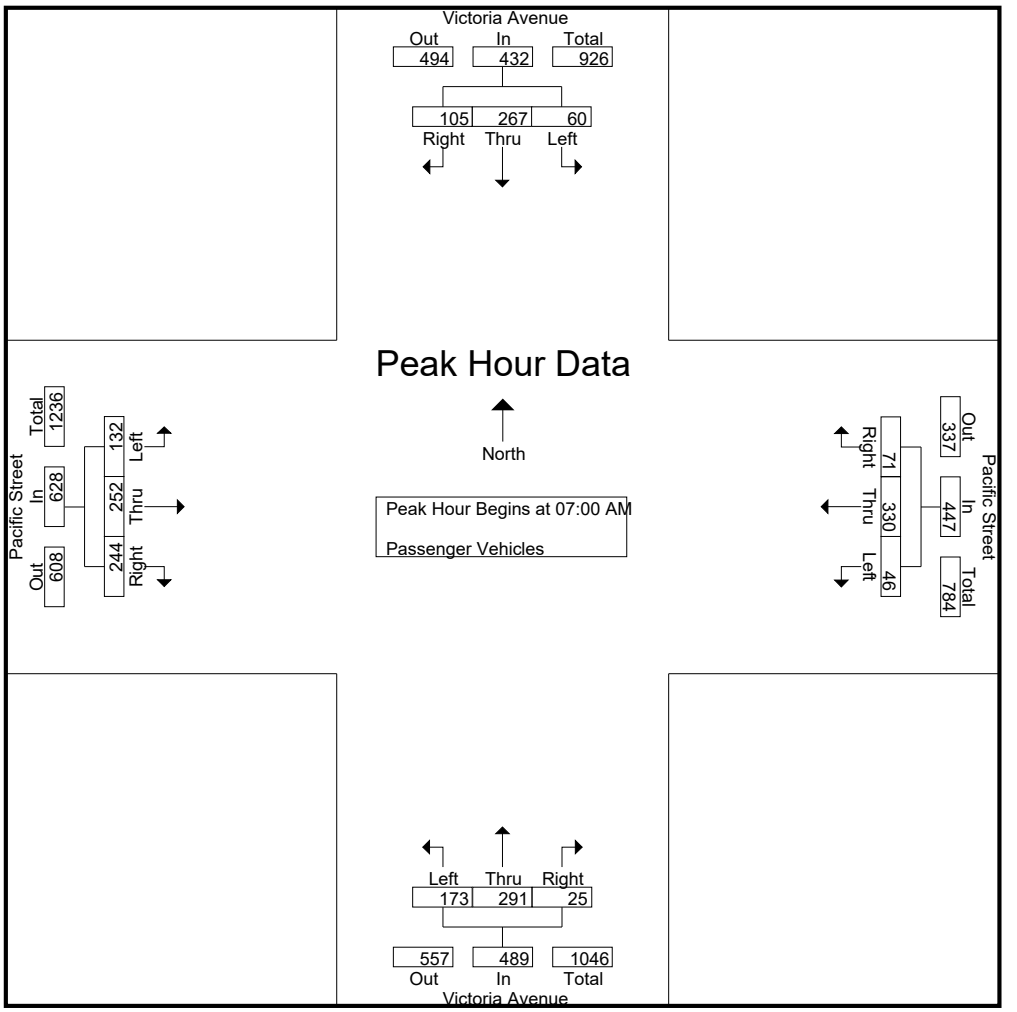
City of Highland
N/S: Victoria Avenue
E/W: Pacific Street
Weather: Clear

File Name : HLDVIPAAM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	7	57	26	90	9	77	15	101	55	58	5	118	27	31	40	98
+15 mins.	16	65	**47**	**128**	10	**141**	**20**	**171**	**58**	**96**	7	**161**	**53**	**92**	**94**	**239**
+30 mins.	**19**	**85**	20	124	11	63	17	91	40	72	4	116	40	70	72	182
+45 mins.	18	60	12	90	**16**	49	19	84	20	65	**9**	94	12	59	38	109
Total Volume	60	267	105	432	46	330	71	447	173	291	25	489	132	252	244	628
% App. Total	13.9	61.8	24.3		10.3	73.8	15.9		35.4	59.5	5.1		21	40.1	38.9	
PHF	.789	.785	.559	.844	.719	.585	.888	.654	.746	.758	.694	.759	.623	.685	.649	.657

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City of Highland
N/S: Victoria Avenue
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Weather: Clear

File Name : HLDVIPAAM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	1	1	0	2	0	0	0	0	0	2	0	2	0	0	1	1	5
07:15 AM	3	2	0	5	1	1	1	3	0	4	2	6	1	1	3	5	19
07:30 AM	1	2	0	3	3	3	1	7	1	2	0	3	0	0	2	2	15
07:45 AM	0	2	1	3	1	0	3	4	1	4	1	6	2	2	0	4	17
Total	5	7	1	13	5	4	5	14	2	12	3	17	3	3	6	12	56
08:00 AM	0	2	0	2	0	1	0	1	1	5	0	6	0	2	0	2	11
08:15 AM	0	1	0	1	0	0	0	0	0	2	0	2	0	2	3	5	8
08:30 AM	0	0	0	0	1	0	3	4	2	1	0	3	0	0	2	2	9
08:45 AM	1	1	0	2	0	0	0	0	2	0	0	2	0	0	0	0	4
Total	1	4	0	5	1	1	3	5	5	8	0	13	0	4	5	9	32
Grand Total	6	11	1	18	6	5	8	19	7	20	3	30	3	7	11	21	88
Apprch %	33.3	61.1	5.6		31.6	26.3	42.1		23.3	66.7	10		14.3	33.3	52.4		
Total %	6.8	12.5	1.1	20.5	6.8	5.7	9.1	21.6	8	22.7	3.4	34.1	3.4	8	12.5	23.9	

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	1	1	0	2	0	0	0	0	0	2	0	2	0	0	1	1	5
07:15 AM	**3**	**2**	0	**5**	1	1	1	3	0	**4**	**2**	**6**	1	1	**3**	**5**	**19**
07:30 AM	1	2	0	3	**3**	**3**	1	**7**	**1**	2	0	3	0	0	2	2	15
07:45 AM	0	2	**1**	3	1	0	**3**	4	1	4	1	6	**2**	**2**	0	4	17
Total Volume	5	7	1	13	5	4	5	14	2	12	3	17	3	3	6	12	56
% App. Total	38.5	53.8	7.7		35.7	28.6	35.7		11.8	70.6	17.6		25	25	50		
PHF	.417	.875	.250	.650	.417	.333	.417	.500	.500	.750	.375	.708	.375	.375	.500	.600	.737

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City of Highland
N/S: Victoria Avenue
E/W: Pacific Street
Weather: Clear

File Name : HLDVIPAAM
Site Code : 05716653
Start Date : 12/7/2016
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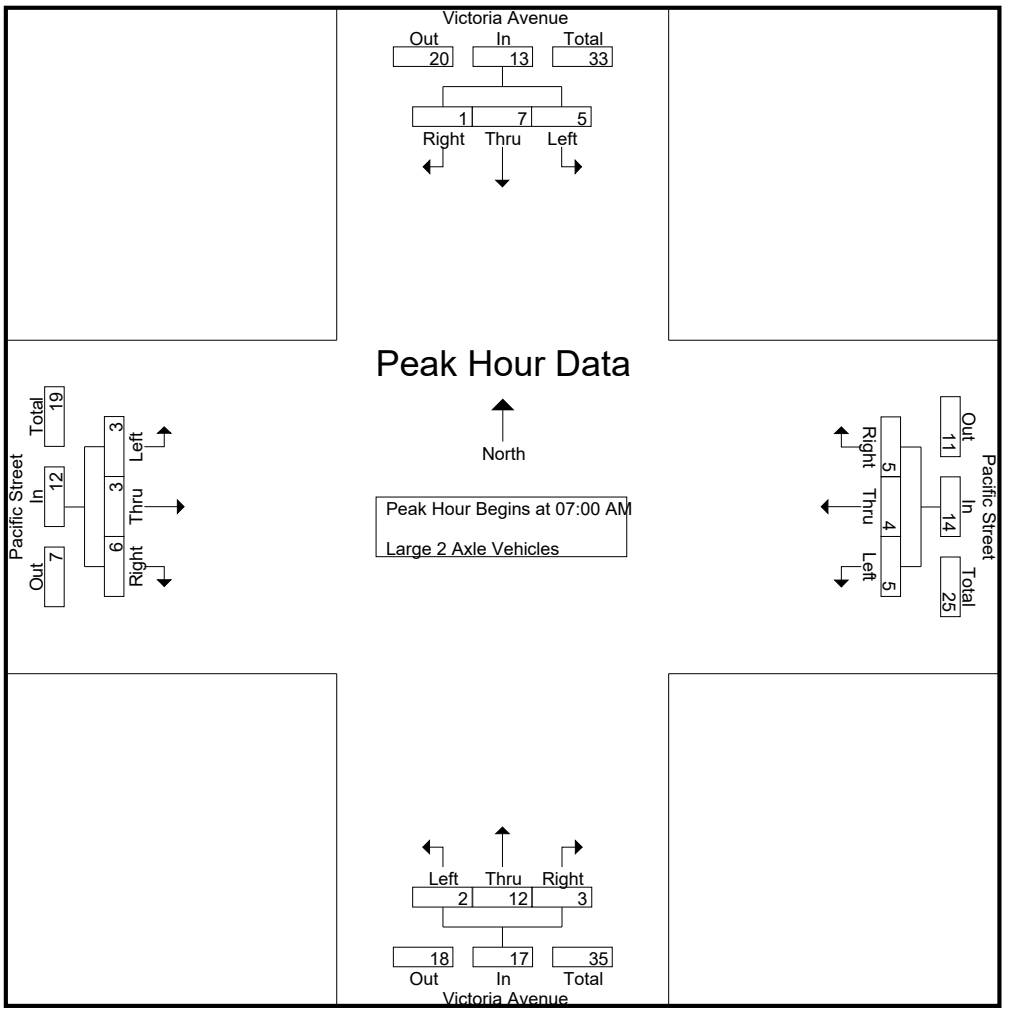

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	1	1	0	2	0	0	0	0	0	2	0	2	0	0	1	1
+15 mins.	**3**	**2**	0	**5**	1	1	1	3	0	**4**	**2**	**6**	1	1	**3**	**5**
+30 mins.	1	2	0	3	**3**	**3**	1	**7**	**1**	2	0	3	0	0	2	2
+45 mins.	0	2	**1**	3	1	0	**3**	4	1	4	1	6	**2**	**2**	0	4
Total Volume	5	7	1	13	5	4	5	14	2	12	3	17	3	3	6	12
% App. Total	38.5	53.8	7.7		35.7	28.6	35.7		11.8	70.6	17.6		25	25	50	
PHF	.417	.875	.250	.650	.417	.333	.417	.500	.500	.750	.375	.708	.375	.375	.500	.600

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City of Highland
N/S: Victoria Avenue
E/W: Pacific Street
Weather: Clear

File Name : HLDVIPAAM
Site Code : 05716653
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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
Total	0	1	0	1	0	1	1	2	0	0	0	0	0	0	0	0	3
Grand Total	0	1	0	1	0	1	1	2	0	0	0	0	0	0	0	0	3
Apprch %	0	100	0		0	50	50		0	0	0		0	0	0		
Total %	0	33.3	0	33.3	0	33.3	33.3	66.7	0	0	0	0	0	0	0	0	

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
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City of Highland
N/S: Victoria Avenue
E/W: Pacific Street
Weather: Clear

File Name : HLDVIPAAM
Site Code : 05716653
Start Date : 12/7/2016
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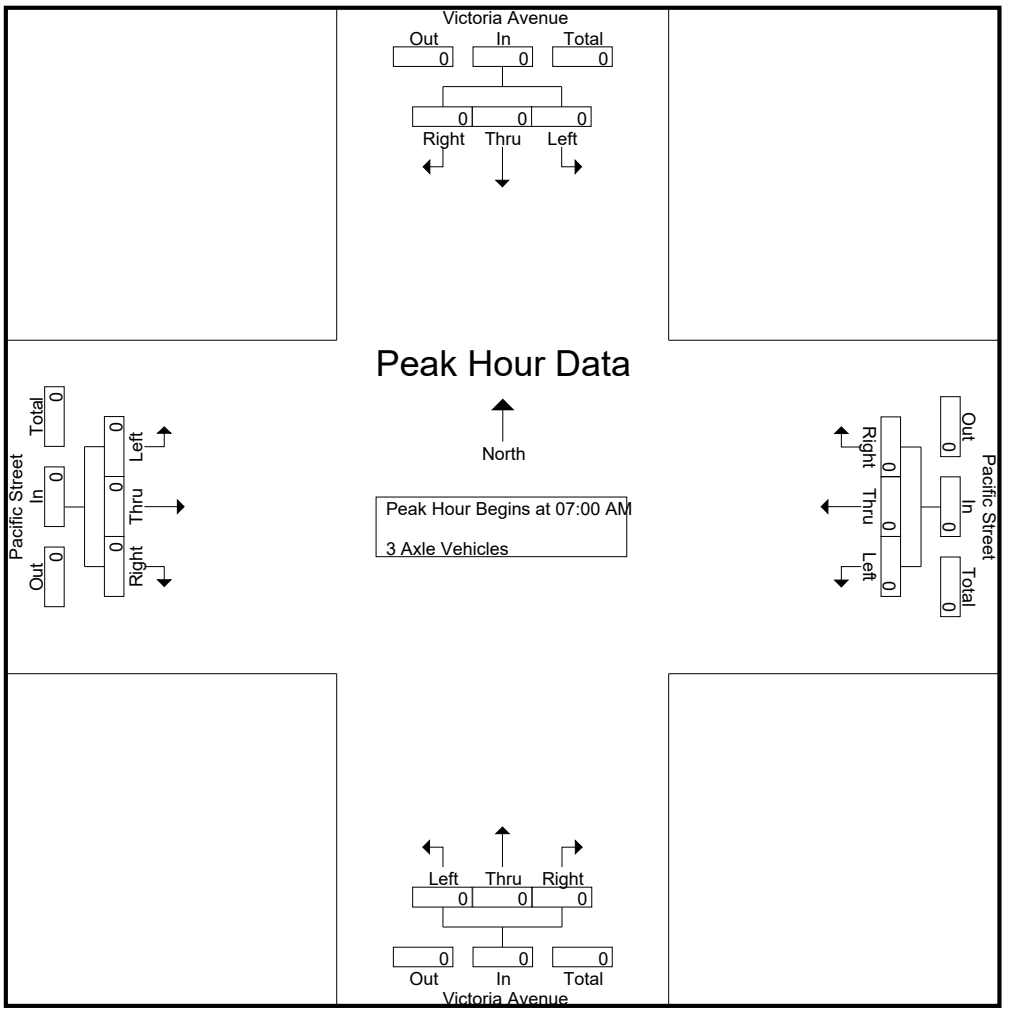

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Highland
N/S: Victoria Avenue
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Weather: Clear

File Name : HLDVIPAAM
Site Code : 05716653
Start Date : 12/7/2016
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Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	1	1	0	1	0	1	0	0	0	0	2
Total	0	0	0	0	0	0	1	1	0	2	0	2	0	0	0	0	3
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
Grand Total	0	1	0	1	0	0	1	1	0	3	0	3	0	0	0	0	5
Apprch %	0	100	0		0	0	100		0	100	0		0	0	0		
Total %	0	20	0	20	0	0	20	20	0	60	0	60	0	0	0	0	

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	1
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	**1**	**1**	0	1	0	1	0	0	0	0	**2**
Total Volume	0	0	0	0	0	0	1	1	0	2	0	2	0	0	0	0	3
% App. Total	0	0	0		0	0	100		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.000	.500	.000	.500	.000	.000	.000	.000	.375

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City of Highland
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File Name : HLDVIPAAM
Site Code : 05716653
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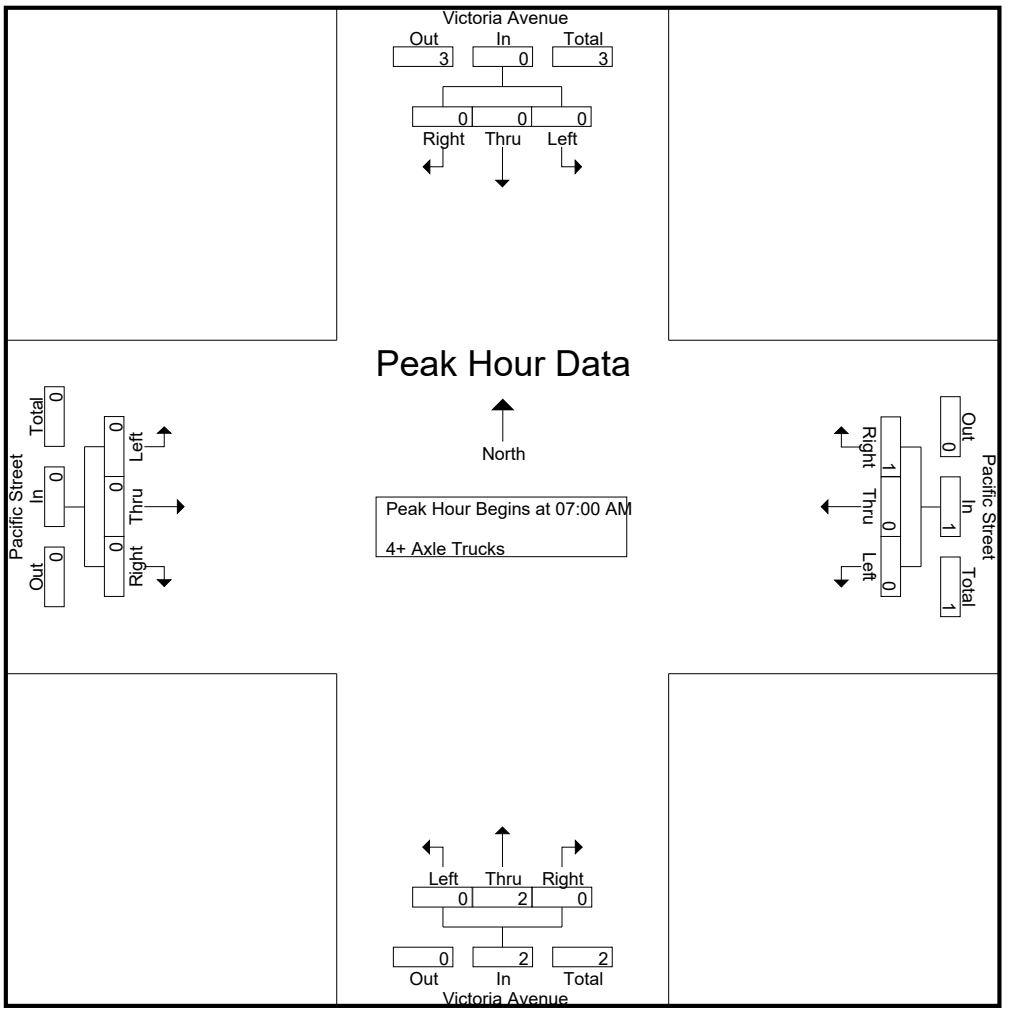

Peak Hour Analysis From 07:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:00 AM				07:00 AM				07:00 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	**1**	**1**	0	1	0	1	0	0	0	0
Total Volume	0	0	0	0	0	0	1	1	0	2	0	2	0	0	0	0
% App. Total	0	0	0		0	0	100		0	100	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.250	.250	.000	.500	.000	.500	.000	.000	.000	.000

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File Name : HLDVIPAPM
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	16	67	14	97	10	58	14	82	35	95	8	138	11	56	63	130	447
04:15 PM	14	73	18	105	11	50	10	71	37	94	17	148	15	73	43	131	455
04:30 PM	12	86	16	114	10	43	20	73	39	84	10	133	20	67	56	143	463
04:45 PM	18	67	23	108	14	65	10	89	41	75	9	125	17	84	43	144	466
Total	60	293	71	424	45	216	54	315	152	348	44	544	63	280	205	548	1831
05:00 PM	16	65	22	103	11	55	18	84	50	92	14	156	27	87	49	163	506
05:15 PM	17	79	21	117	8	51	12	71	32	101	15	148	16	87	54	157	493
05:30 PM	10	75	10	95	12	38	17	67	29	75	17	121	10	72	46	128	411
05:45 PM	9	56	13	78	12	53	13	78	33	74	20	127	14	49	42	105	388
Total	52	275	66	393	43	197	60	300	144	342	66	552	67	295	191	553	1798
Grand Total	112	568	137	817	88	413	114	615	296	690	110	1096	130	575	396	1101	3629
Apprch %	13.7	69.5	16.8		14.3	67.2	18.5		27	63	10		11.8	52.2	36		
Total %	3.1	15.7	3.8	22.5	2.4	11.4	3.1	16.9	8.2	19	3	30.2	3.6	15.8	10.9	30.3	
Passenger Vehicles	110	561	136	807	80	412	112	604	293	679	106	1078	128	573	391	1092	3581
% Passenger Vehicles	98.2	98.8	99.3	98.8	90.9	99.8	98.2	98.2	99	98.4	96.4	98.4	98.5	99.7	98.7	99.2	98.7
Large 2 Axle Vehicles	2	7	1	10	6	1	1	8	2	7	3	12	2	2	4	8	38
% Large 2 Axle Vehicles	1.8	1.2	0.7	1.2	6.8	0.2	0.9	1.3	0.7	1	2.7	1.1	1.5	0.3	1	0.7	1
3 Axle Vehicles	0	0	0	0	2	0	0	2	1	1	0	2	0	0	0	0	4
% 3 Axle Vehicles	0	0	0	0	2.3	0	0	0.3	0.3	0.1	0	0.2	0	0	0	0	0.1
4+ Axle Trucks	0	0	0	0	0	0	1	1	0	3	1	4	0	0	1	1	6
% 4+ Axle Trucks	0	0	0	0	0	0	0.9	0.2	0	0.4	0.9	0.4	0	0	0.3	0.1	0.2

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	12	**86**	16	114	10	43	**20**	73	39	84	10	133	20	67	**56**	143	463
04:45 PM	**18**	67	**23**	108	**14**	**65**	10	**89**	41	75	9	125	17	84	43	144	466
05:00 PM	16	65	22	103	11	55	18	84	**50**	92	14	**156**	**27**	**87**	49	**163**	**506**
05:15 PM	17	79	21	**117**	8	51	12	71	32	**101**	**15**	148	16	87	54	157	493
Total Volume	63	297	82	442	43	214	60	317	162	352	48	562	80	325	202	607	1928
% App. Total	14.3	67.2	18.6		13.6	67.5	18.9		28.8	62.6	8.5		13.2	53.5	33.3		
PHF	.875	.863	.891	.944	.768	.823	.750	.890	.810	.871	.800	.901	.741	.934	.902	.931	.953

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Site Code : 05716653
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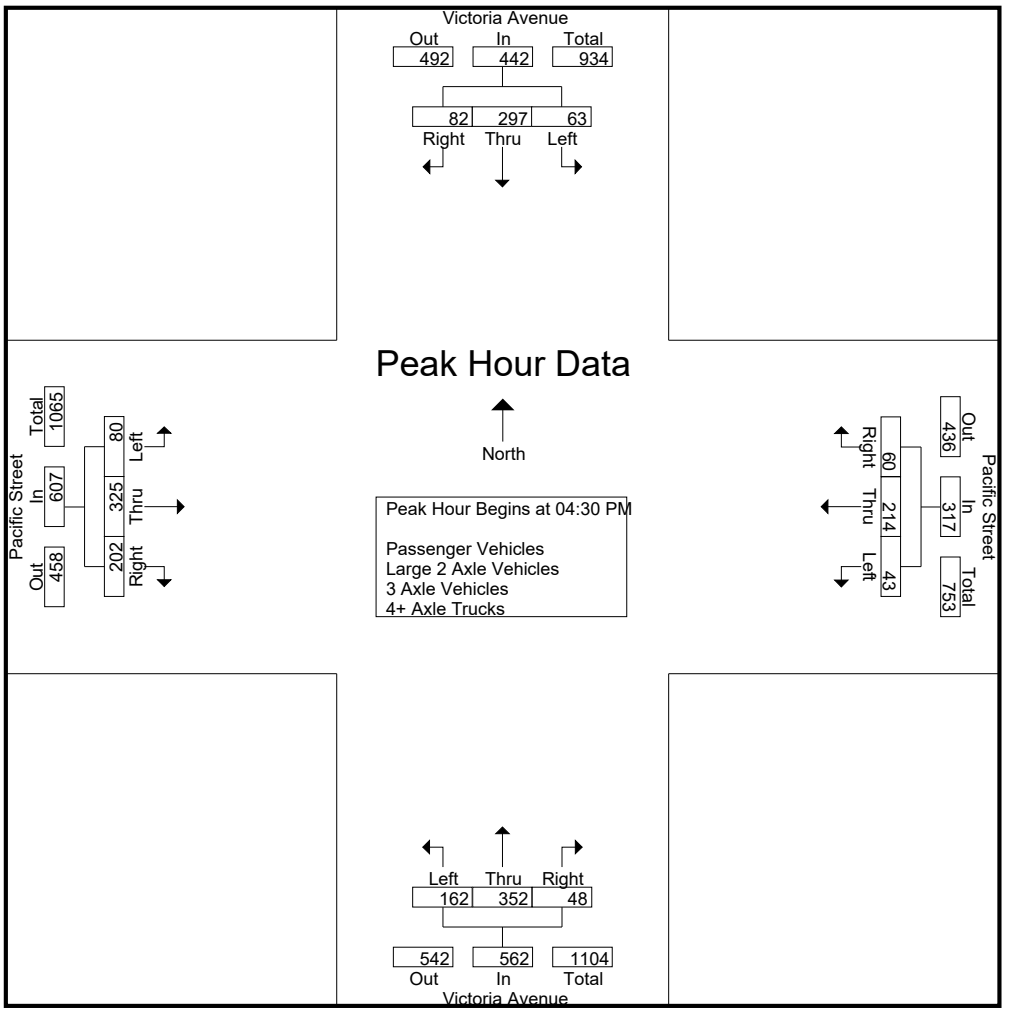

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:15 PM				04:15 PM				04:30 PM			
+0 mins.	12	**86**	16	114	11	50	10	71	37	**94**	**17**	148	20	67	**56**	143
+15 mins.	**18**	67	**23**	108	10	43	**20**	73	39	84	10	133	17	84	43	144
+30 mins.	16	65	22	103	**14**	**65**	10	**89**	41	75	9	125	**27**	**87**	49	**163**
+45 mins.	17	79	21	**117**	11	55	18	84	**50**	92	14	**156**	16	87	54	157
Total Volume	63	297	82	442	46	213	58	317	167	345	50	562	80	325	202	607
% App. Total	14.3	67.2	18.6		14.5	67.2	18.3		29.7	61.4	8.9		13.2	53.5	33.3	
PHF	.875	.863	.891	.944	.821	.819	.725	.890	.835	.918	.735	.901	.741	.934	.902	.931

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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	16	66	14	96	10	57	14	81	33	91	8	132	11	55	61	127	436
04:15 PM	14	69	17	100	7	50	9	66	37	92	17	146	14	72	43	129	441
04:30 PM	12	85	16	113	9	43	19	71	39	83	10	132	20	67	55	142	458
04:45 PM	17	67	23	107	12	65	10	87	41	74	7	122	17	84	43	144	460
Total	59	287	70	416	38	215	52	305	150	340	42	532	62	278	202	542	1795
05:00 PM	16	65	22	103	10	55	18	83	50	91	14	155	27	87	49	163	504
05:15 PM	17	78	21	116	8	51	12	71	32	100	15	147	15	87	54	156	490
05:30 PM	10	75	10	95	12	38	17	67	28	74	17	119	10	72	45	127	408
05:45 PM	8	56	13	77	12	53	13	78	33	74	18	125	14	49	41	104	384
Total	51	274	66	391	42	197	60	299	143	339	64	546	66	295	189	550	1786
Grand Total	110	561	136	807	80	412	112	604	293	679	106	1078	128	573	391	1092	3581
Apprch %	13.6	69.5	16.9		13.2	68.2	18.5		27.2	63	9.8		11.7	52.5	35.8		
Total %	3.1	15.7	3.8	22.5	2.2	11.5	3.1	16.9	8.2	19	3	30.1	3.6	16	10.9	30.5	

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	12	**85**	16	113	9	43	**19**	71	39	83	10	132	20	67	**55**	142	458
04:45 PM	**17**	67	**23**	107	**12**	**65**	10	**87**	41	74	7	122	17	84	43	144	460
05:00 PM	16	65	22	103	10	55	18	83	**50**	91	14	**155**	**27**	**87**	49	**163**	**504**
05:15 PM	17	78	21	**116**	8	51	12	71	32	**100**	**15**	147	15	87	54	156	490
Total Volume	62	295	82	439	39	214	59	312	162	348	46	556	79	325	201	605	1912
% App. Total	14.1	67.2	18.7		12.5	68.6	18.9		29.1	62.6	8.3		13.1	53.7	33.2		
PHF	.912	.868	.891	.946	.813	.823	.776	.897	.810	.870	.767	.897	.731	.934	.914	.928	.948

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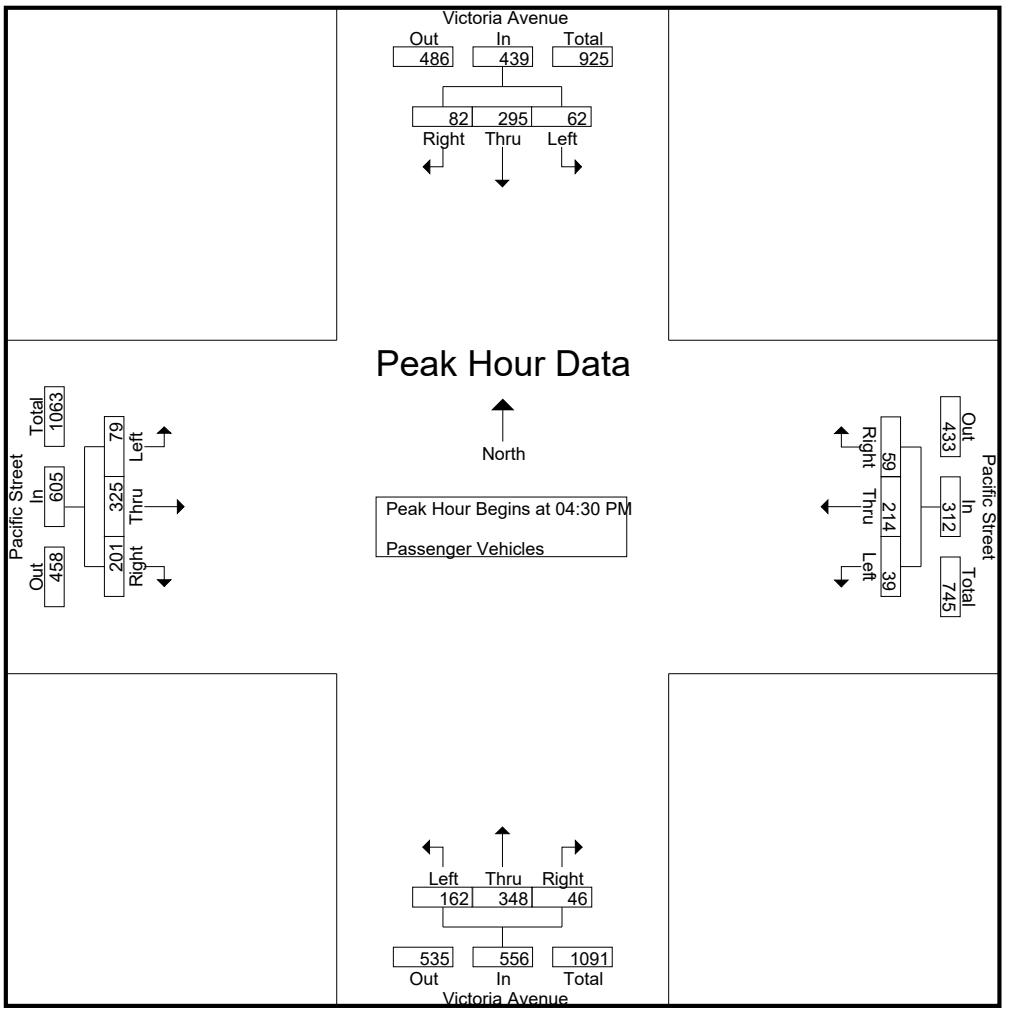

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	12	**85**	16	113	9	43	**19**	71	39	83	10	132	20	67	**55**	142
+15 mins.	**17**	67	**23**	107	**12**	**65**	10	**87**	41	74	7	122	17	84	43	144
+30 mins.	16	65	22	103	10	55	18	83	**50**	91	14	**155**	**27**	**87**	49	**163**
+45 mins.	17	78	21	**116**	8	51	12	71	32	**100**	**15**	147	15	87	54	156
Total Volume	62	295	82	439	39	214	59	312	162	348	46	556	79	325	201	605
% App. Total	14.1	67.2	18.7		12.5	68.6	18.9		29.1	62.6	8.3		13.1	53.7	33.2	
PHF	.912	.868	.891	.946	.813	.823	.776	.897	.810	.870	.767	.897	.731	.934	.914	.928

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Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	0	1	0	1	0	1	1	4	0	5	0	1	2	3	10
04:15 PM	0	4	1	5	4	0	0	4	0	0	0	0	1	1	0	2	11
04:30 PM	0	1	0	1	1	0	1	2	0	1	0	1	0	0	0	0	4
04:45 PM	1	0	0	1	0	0	0	0	0	0	2	2	0	0	0	0	3
Total	1	6	1	8	5	1	1	7	1	5	2	8	1	2	2	5	28
05:00 PM	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	2
05:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	1	0	0	1	3
05:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	1	2
05:45 PM	1	0	0	1	0	0	0	0	0	0	1	1	0	0	1	1	3
Total	1	1	0	2	1	0	0	1	1	2	1	4	1	0	2	3	10
Grand Total	2	7	1	10	6	1	1	8	2	7	3	12	2	2	4	8	38
Apprch %	20	70	10		75	12.5	12.5		16.7	58.3	25		25	25	50		
Total %	5.3	18.4	2.6	26.3	15.8	2.6	2.6	21.1	5.3	18.4	7.9	31.6	5.3	5.3	10.5	21.1	

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	**1**	0	**1**	**1**	0	**1**	**2**	0	**1**	0	1	0	0	0	0	**4**
04:45 PM	**1**	0	0	1	0	0	0	0	0	0	**2**	**2**	0	0	0	0	3
05:00 PM	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0	2
05:15 PM	0	1	0	1	0	0	0	0	0	1	0	1	**1**	0	0	**1**	3
Total Volume	1	2	0	3	2	0	1	3	0	3	2	5	1	0	0	1	12
% App. Total	33.3	66.7	0		66.7	0	33.3		0	60	40		100	0	0		
PHF	.250	.500	.000	.750	.500	.000	.250	.375	.000	.750	.250	.625	.250	.000	.000	.250	.750

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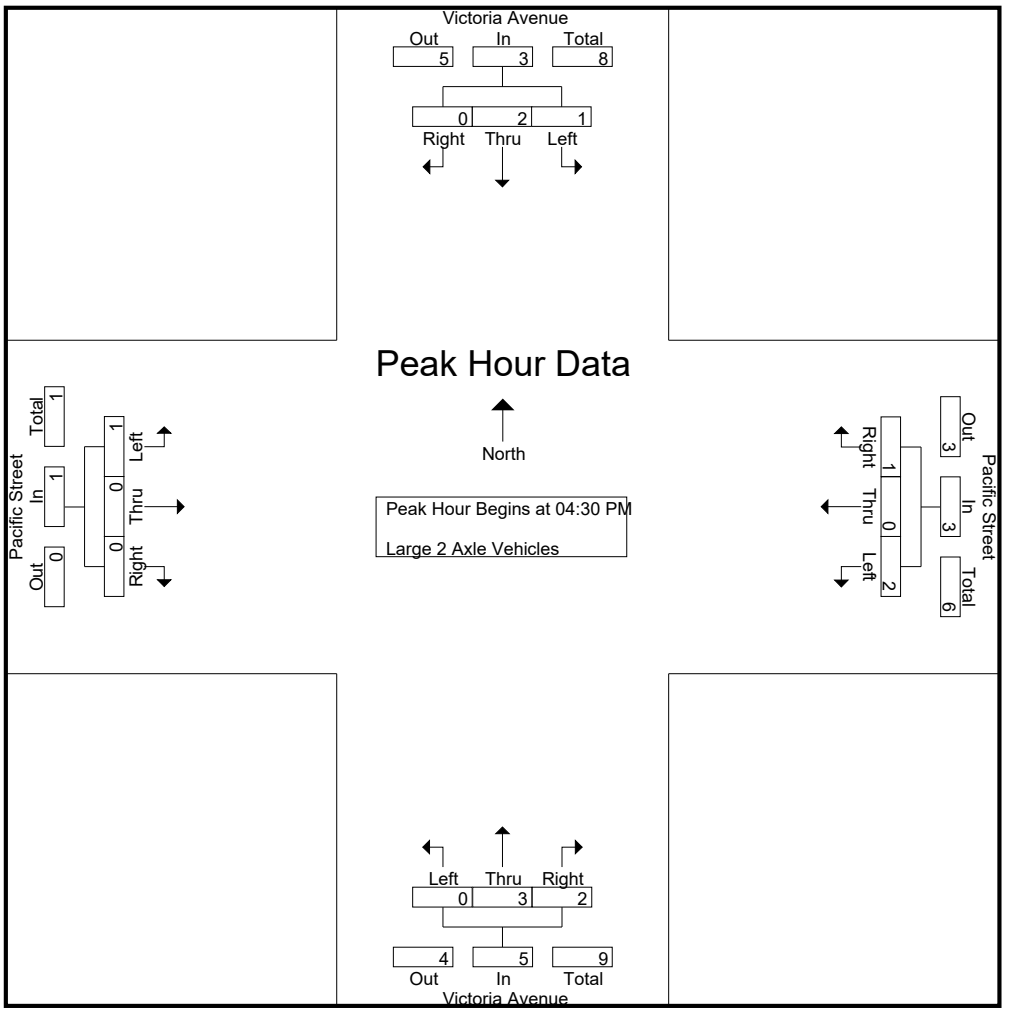

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	**1**	0	**1**	**1**	0	**1**	**2**	0	**1**	0	1	0	0	0	0
+15 mins.	**1**	0	0	1	0	0	0	0	0	0	**2**	**2**	0	0	0	0
+30 mins.	0	0	0	0	1	0	0	1	0	1	0	1	0	0	0	0
+45 mins.	0	1	0	1	0	0	0	0	0	1	0	1	**1**	0	0	**1**
Total Volume	1	2	0	3	2	0	1	3	0	3	2	5	1	0	0	1
% App. Total	33.3	66.7	0		66.7	0	33.3		0	60	40		100	0	0	
PHF	.250	.500	.000	.750	.500	.000	.250	.375	.000	.750	.250	.625	.250	.000	.000	.250

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Groups Printed- 3 Axle Vehicles

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	2	0	0	2	0	1	0	1	0	0	0	0	3
Total	0	0	0	0	2	0	0	2	1	1	0	2	0	0	0	0	4
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	2	0	0	2	1	1	0	2	0	0	0	0	4
Apprch %	0	0	0		100	0	0		50	50	0		0	0	0		
Total %	0	0	0	0	50	0	0	50	25	25	0	50	0	0	0	0	

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	**2**	0	0	**2**	0	**1**	0	**1**	0	0	0	0	**3**
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	2	0	0	2	0	1	0	1	0	0	0	0	3
% App. Total	0	0	0		100	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.000	.250	.000	.250	.000	.000	.000	.000	.250

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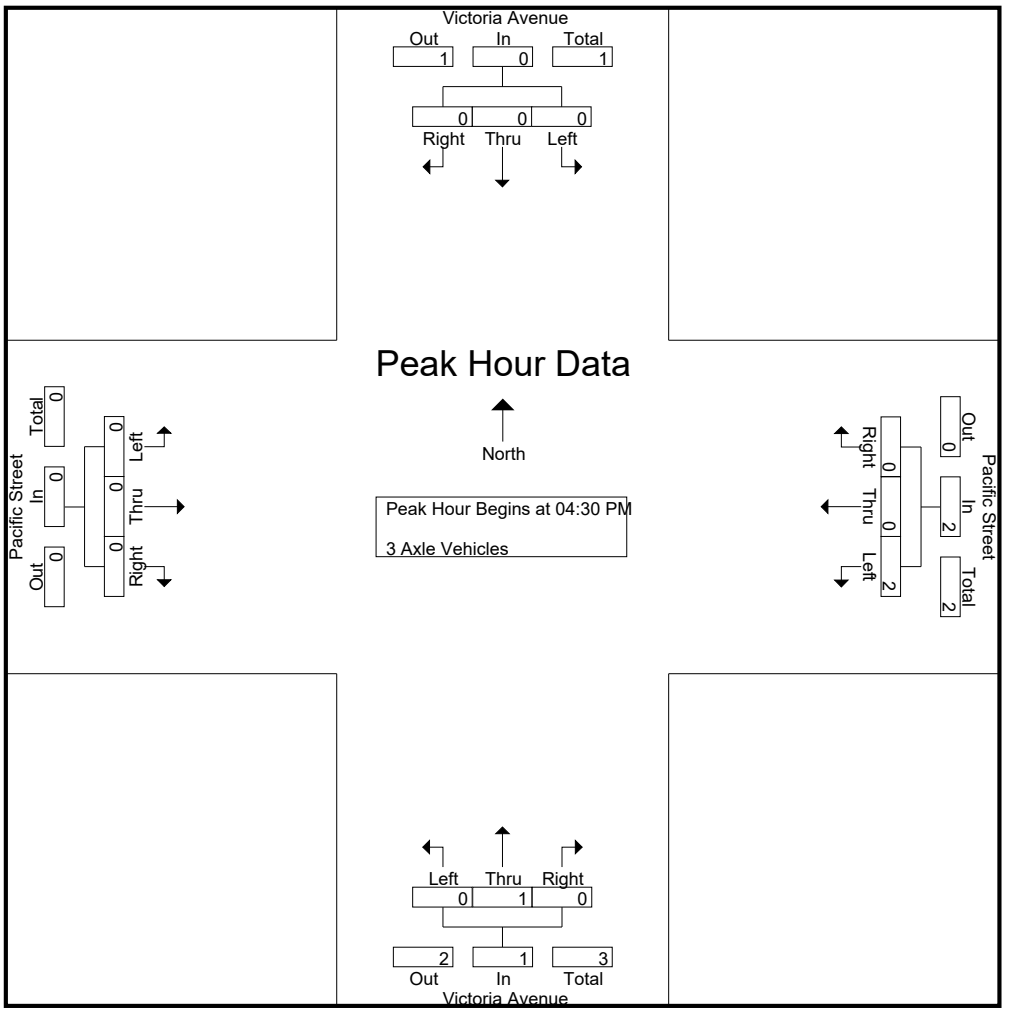

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	**2**	0	0	**2**	0	**1**	0	**1**	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	2	0	0	2	0	1	0	1	0	0	0	0
% App. Total	0	0	0		100	0	0		0	100	0		0	0	0	
PHF	.000	.000	.000	.000	.250	.000	.000	.250	.000	.250	.000	.250	.000	.000	.000	.000

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City of Highland
N/S: Victoria Avenue
E/W: Pacific Street
Weather: Clear

File Name : HLDVIPAPM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 1

Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	1	1	0	2	0	2	0	0	0	0	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	1	0	2	0	2	0	0	1	1	4
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	2
Grand Total	0	0	0	0	0	0	1	1	0	3	1	4	0	0	1	1	6
Apprch %	0	0	0		0	0	100		0	75	25		0	0	100		
Total %	0	0	0	0	0	0	16.7	16.7	0	50	16.7	66.7	0	0	16.7	16.7	

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**1**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
% App. Total	0	0	0		0	0	0		0	0	0		0	0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250	.250

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City of Highland
N/S: Victoria Avenue
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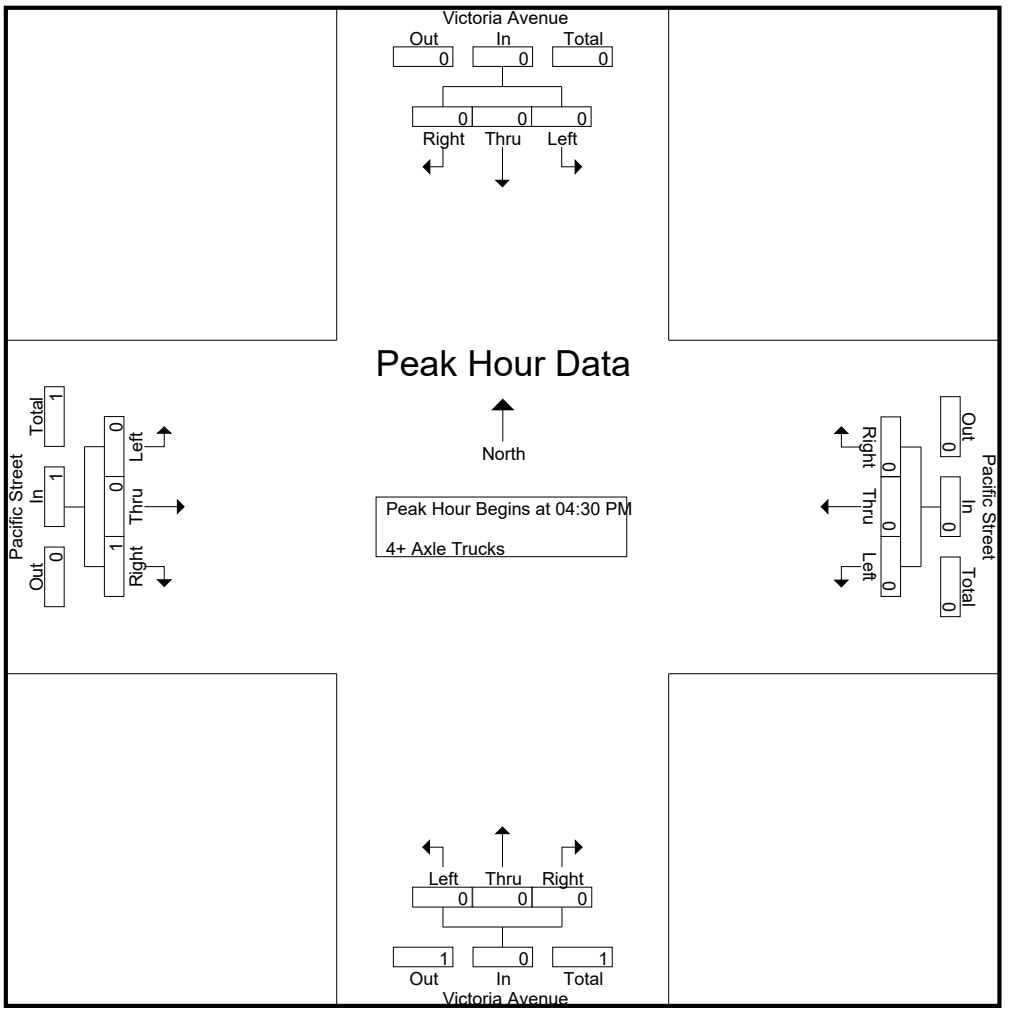
Weather: Clear

File Name : HLDVIPAPM
Site Code : 05716653
Start Date : 12/7/2016
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
% App. Total	0	0	0		0	0	0		0	0	0		0	0	100	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.250

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N/S: Victoria Avenue
E/W: Pacific Street
Weather: Clear

File Name : HLDVIPASAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	4	74	14	92	9	44	10	63	29	60	7	96	15	59	44	118	369
05:15 PM	10	54	19	83	15	41	5	61	35	75	12	122	20	42	36	98	364
05:30 PM	8	66	21	95	13	58	16	87	27	61	11	99	21	84	47	152	433
05:45 PM	10	58	19	87	6	28	7	41	23	79	9	111	10	47	36	93	332
Total	32	252	73	357	43	171	38	252	114	275	39	428	66	232	163	461	1498
06:00 PM	6	49	16	71	6	33	13	52	27	68	7	102	19	35	31	85	310
06:15 PM	9	48	21	78	10	41	19	70	27	43	14	84	21	42	32	95	327
06:30 PM	7	45	21	73	6	29	11	46	23	59	7	89	18	35	32	85	293
06:45 PM	2	50	13	65	7	31	4	42	17	68	5	90	21	40	27	88	285
Total	24	192	71	287	29	134	47	210	94	238	33	365	79	152	122	353	1215
Grand Total	56	444	144	644	72	305	85	462	208	513	72	793	145	384	285	814	2713
Apprch %	8.7	68.9	22.4		15.6	66	18.4		26.2	64.7	9.1		17.8	47.2	35		
Total %	2.1	16.4	5.3	23.7	2.7	11.2	3.1	17	7.7	18.9	2.7	29.2	5.3	14.2	10.5	30	
Passenger Vehicles	56	441	144	641	71	303	84	458	208	507	72	787	145	382	285	812	2698
% Passenger Vehicles	100	99.3	100	99.5	98.6	99.3	98.8	99.1	100	98.8	100	99.2	100	99.5	100	99.8	99.4
Large 2 Axle Vehicles	0	3	0	3	1	2	1	4	0	5	0	5	0	2	0	2	14
% Large 2 Axle Vehicles	0	0.7	0	0.5	1.4	0.7	1.2	0.9	0	1	0	0.6	0	0.5	0	0.2	0.5
3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% 3 Axle Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4+ Axle Trucks	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% 4+ Axle Trucks	0	0	0	0	0	0	0	0	0	0.2	0	0.1	0	0	0	0	0

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	4	**74**	14	92	9	44	10	63	29	60	7	96	15	59	44	118	369
05:15 PM	**10**	54	19	83	**15**	41	5	61	**35**	75	**12**	**122**	20	42	36	98	364
05:30 PM	8	66	**21**	**95**	13	**58**	**16**	**87**	27	61	11	99	**21**	**84**	**47**	**152**	**433**
05:45 PM	10	58	19	87	6	28	7	41	23	**79**	9	111	10	47	36	93	332
Total Volume	32	252	73	357	43	171	38	252	114	275	39	428	66	232	163	461	1498
% App. Total	9	70.6	20.4		17.1	67.9	15.1		26.6	64.3	9.1		14.3	50.3	35.4		
PHF	.800	.851	.869	.939	.717	.737	.594	.724	.814	.870	.813	.877	.786	.690	.867	.758	.865

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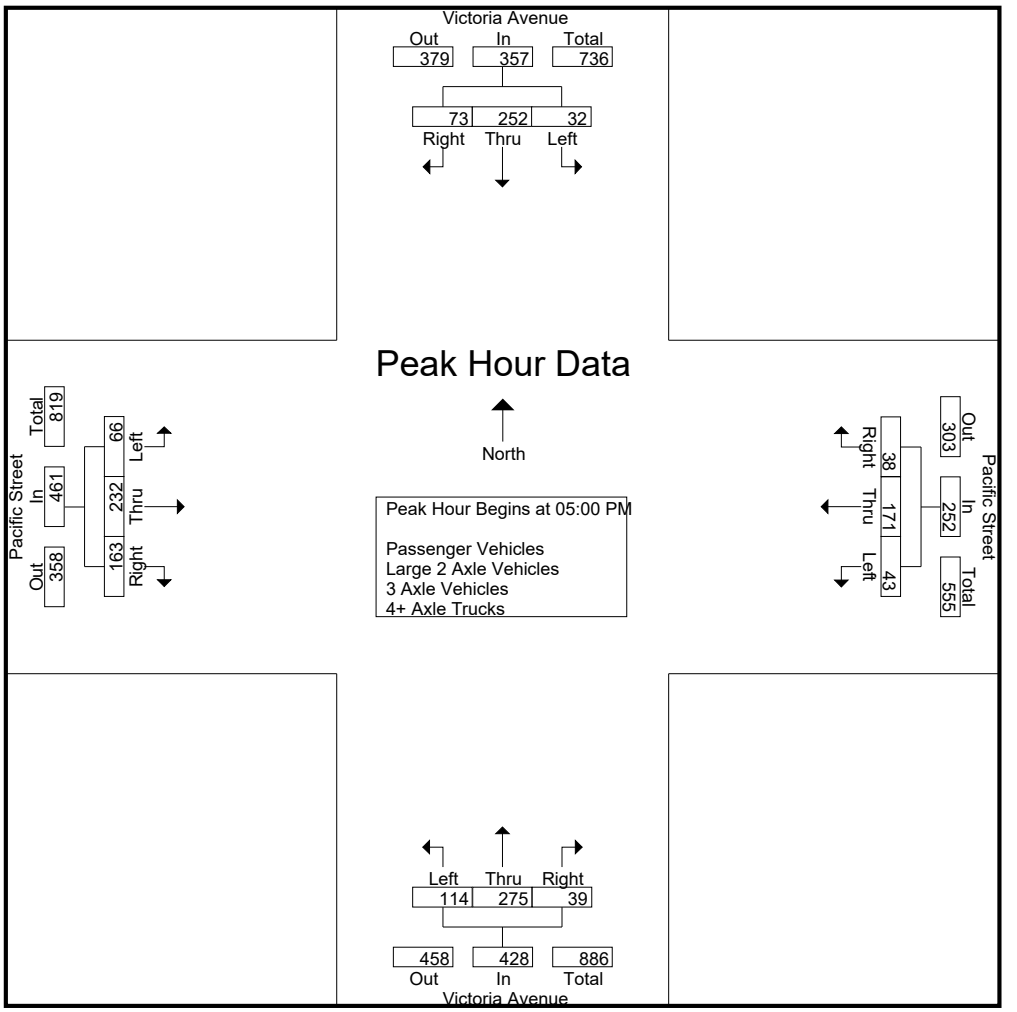
Weather: Clear

File Name : HLDVIPASAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 2



Peak Hour Analysis From 05:00 PM to 06:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:15 PM				05:00 PM			
+0 mins.	4	**74**	14	92	9	44	10	63	**35**	75	**12**	**122**	15	59	44	118
+15 mins.	**10**	54	19	83	**15**	41	5	61	27	61	11	99	20	42	36	98
+30 mins.	8	66	**21**	**95**	13	**58**	**16**	**87**	23	**79**	9	111	**21**	**84**	**47**	**152**
+45 mins.	10	58	19	87	6	28	7	41	27	68	7	102	10	47	36	93
Total Volume	32	252	73	357	43	171	38	252	112	283	39	434	66	232	163	461
% App. Total	9	70.6	20.4		17.1	67.9	15.1		25.8	65.2	9		14.3	50.3	35.4	
PHF	.800	.851	.869	.939	.717	.737	.594	.724	.800	.896	.813	.889	.786	.690	.867	.758

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Site Code : 05716653
Start Date : 12/10/2016
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Groups Printed- Passenger Vehicles

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	4	72	14	90	9	44	10	63	29	59	7	95	15	59	44	118	366
05:15 PM	10	54	19	83	15	41	5	61	35	74	12	121	20	42	36	98	363
05:30 PM	8	66	21	95	13	58	16	87	27	61	11	99	21	84	47	152	433
05:45 PM	10	58	19	87	6	27	7	40	23	77	9	109	10	46	36	92	328
Total	32	250	73	355	43	170	38	251	114	271	39	424	66	231	163	460	1490
06:00 PM	6	49	16	71	5	33	12	50	27	66	7	100	19	35	31	85	306
06:15 PM	9	48	21	78	10	41	19	70	27	43	14	84	21	41	32	94	326
06:30 PM	7	45	21	73	6	29	11	46	23	59	7	89	18	35	32	85	293
06:45 PM	2	49	13	64	7	30	4	41	17	68	5	90	21	40	27	88	283
Total	24	191	71	286	28	133	46	207	94	236	33	363	79	151	122	352	1208
Grand Total	56	441	144	641	71	303	84	458	208	507	72	787	145	382	285	812	2698
Apprch %	8.7	68.8	22.5		15.5	66.2	18.3		26.4	64.4	9.1		17.9	47	35.1		
Total %	2.1	16.3	5.3	23.8	2.6	11.2	3.1	17	7.7	18.8	2.7	29.2	5.4	14.2	10.6	30.1	

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	4	**72**	14	90	9	44	10	63	29	59	7	95	15	59	44	118	366
05:15 PM	**10**	54	19	83	**15**	41	5	61	**35**	74	**12**	**121**	20	42	36	98	363
05:30 PM	8	66	**21**	**95**	13	**58**	**16**	**87**	27	61	11	99	**21**	**84**	**47**	**152**	**433**
05:45 PM	10	58	19	87	6	27	7	40	23	**77**	9	109	10	46	36	92	328
Total Volume	32	250	73	355	43	170	38	251	114	271	39	424	66	231	163	460	1490
% App. Total	9	70.4	20.6		17.1	67.7	15.1		26.9	63.9	9.2		14.3	50.2	35.4		
PHF	.800	.868	.869	.934	.717	.733	.594	.721	.814	.880	.813	.876	.786	.688	.867	.757	.860

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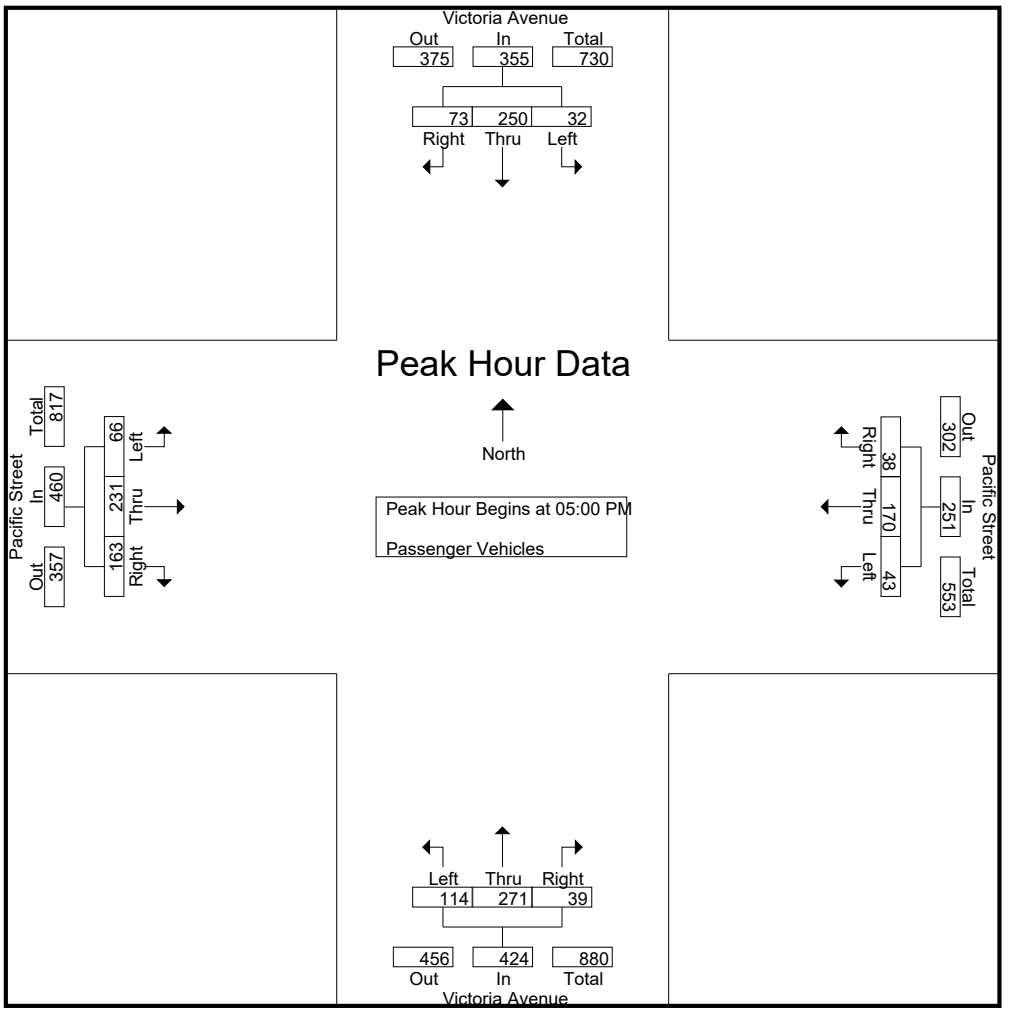

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	4	**72**	14	90	9	44	10	63	29	59	7	95	15	59	44	118
+15 mins.	**10**	54	19	83	**15**	41	5	61	**35**	74	**12**	**121**	20	42	36	98
+30 mins.	8	66	**21**	**95**	13	**58**	**16**	**87**	27	61	11	99	**21**	**84**	**47**	**152**
+45 mins.	10	58	19	87	6	27	7	40	23	**77**	9	109	10	46	36	92
Total Volume	32	250	73	355	43	170	38	251	114	271	39	424	66	231	163	460
% App. Total	9	70.4	20.6		17.1	67.7	15.1		26.9	63.9	9.2		14.3	50.2	35.4	
PHF	.800	.868	.869	.934	.717	.733	.594	.721	.814	.880	.813	.876	.786	.688	.867	.757

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N/S: Victoria Avenue
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File Name : HLDVIPASAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	1	0	1	0	1	0	1	0	1	0	1	3
Total	0	2	0	2	0	1	0	1	0	3	0	3	0	1	0	1	7
06:00 PM	0	0	0	0	1	0	1	2	0	2	0	2	0	0	0	0	4
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	2
Total	0	1	0	1	1	1	1	3	0	2	0	2	0	1	0	1	7
Grand Total	0	3	0	3	1	2	1	4	0	5	0	5	0	2	0	2	14
Apprch %	0	100	0		25	50	25		0	100	0		0	100	0		
Total %	0	21.4	0	21.4	7.1	14.3	7.1	28.6	0	35.7	0	35.7	0	14.3	0	14.3	

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	**2**	0	**2**	0	0	0	0	0	**1**	0	**1**	0	0	0	0	**3**
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	**1**	0	**1**	0	1	0	1	0	**1**	0	**1**	3
Total Volume	0	2	0	2	0	1	0	1	0	3	0	3	0	1	0	1	7
% App. Total	0	100	0		0	100	0		0	100	0		0	100	0		
PHF	.000	.250	.000	.250	.000	.250	.000	.250	.000	.750	.000	.750	.000	.250	.000	.250	.583

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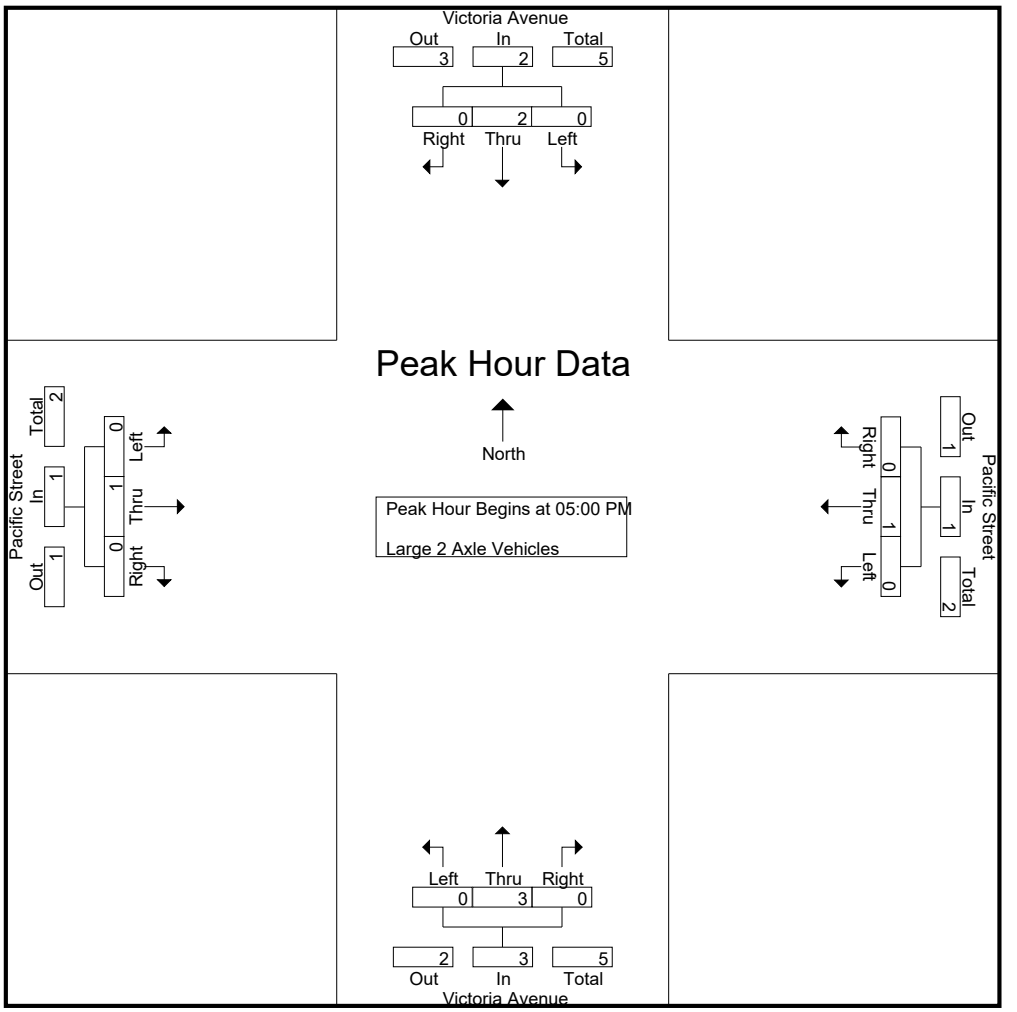

Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	**2**	0	**2**	0	0	0	0	0	**1**	0	**1**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	**1**	0	**1**	0	1	0	1	0	**1**	0	**1**
Total Volume	0	2	0	2	0	1	0	1	0	3	0	3	0	1	0	1
% App. Total	0	100	0		0	100	0		0	100	0		0	100	0	
PHF	.000	.250	.000	.250	.000	.250	.000	.250	.000	.750	.000	.750	.000	.250	.000	.250

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File Name : HLDVIPASAT
Site Code : 05716653
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Page No : 1

Groups Printed- 3 Axle Vehicles

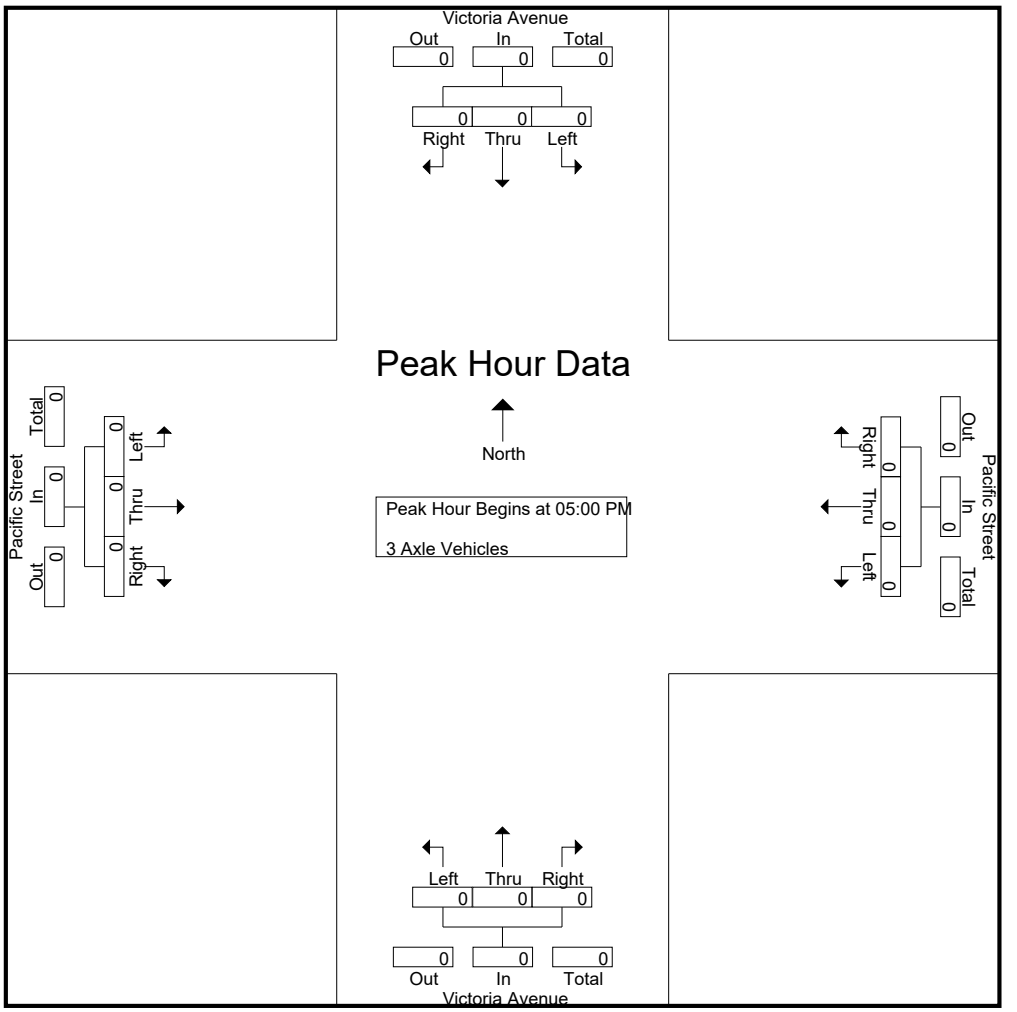
	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0		0	0	0		0	0	0		0	0	0		
Total %																	

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Counts Unlimited
PO Box 1178
Corona, CA 92878
(951) 268-6268

City of Highland
N/S: Victoria Avenue
E/W: Pacific Street
Weather: Clear

File Name : HLDVIPASAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0		0	0	0		0	0	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

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City of Highland
N/S: Victoria Avenue
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Weather: Clear

File Name : HLDVIPASAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 1

Groups Printed- 4+ Axle Trucks

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Apprch %	0	0	0		0	0	0		0	100	0		0	0	0		
Total %	0	0	0	0	0	0	0	0	0	100	0	100	0	0	0	0	

	Victoria Avenue Southbound				Pacific Street Westbound				Victoria Avenue Northbound				Pacific Street Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	**1**
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.250

Counts Unlimited
PO Box 1178
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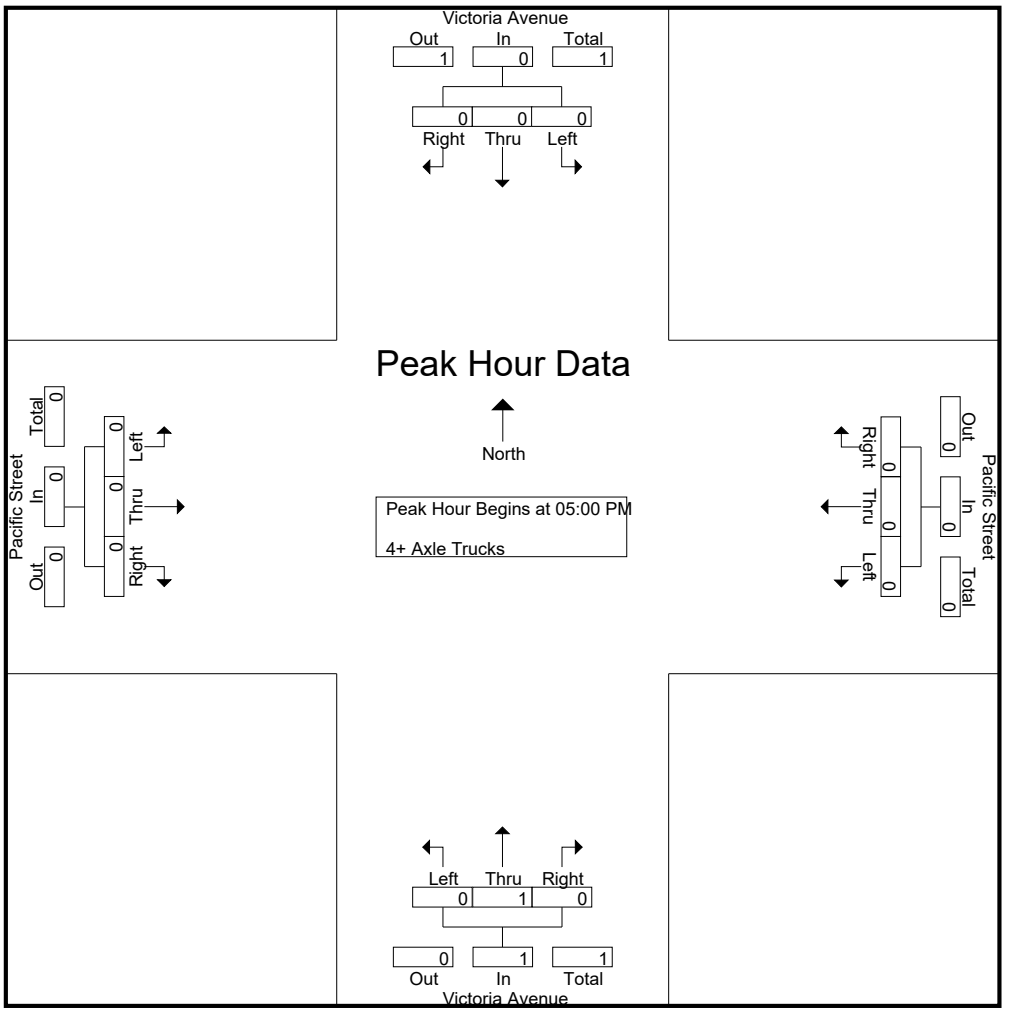
City of Highland
N/S: Victoria Avenue
E/W: Pacific Street
Weather: Clear

File Name : HLDVIPASAT
Site Code : 05716653
Start Date : 12/10/2016
Page No : 2



Peak Hour Analysis From 05:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				05:00 PM				05:00 PM				05:00 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	0	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

APPENDIX A-II

ROADWAY SEGMENT COUNTS

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Highland
Victoria Avenue
B/ Lynwood Drive - Mirada Road
24 Hour Directional Classification Count

HLD001
Site Code: 16653011519

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	1	270	47	1	16	0	0	0	0	0	0	0	0	335
01:00	0	166	31	0	14	0	0	0	0	0	0	0	0	211
02:00	0	160	36	0	12	1	0	0	0	0	0	0	0	209
03:00	0	123	30	0	13	0	0	0	0	0	0	0	0	166
04:00	0	131	44	1	14	0	0	2	0	0	0	0	0	192
05:00	0	172	52	0	35	1	0	0	1	0	0	0	0	261
06:00	0	162	37	3	25	**2**	0	2	1	0	0	0	0	232
07:00	1	314	77	6	30	2	0	**3**	**3**	0	0	0	0	436
08:00	2	372	113	5	39	0	0	3	1	0	0	0	0	535
09:00	**4**	425	109	**8**	28	0	0	0	0	0	0	0	0	574
10:00	1	496	125	8	**51**	2	0	2	2	0	0	0	0	687
11:00	0	**581**	**146**	7	43	0	0	2	0	0	0	0	0	**779**
12 PM	1	566	152	**10**	44	1	0	2	0	0	0	0	0	776
13:00	3	597	129	3	44	**5**	0	2	**2**	0	0	0	0	785
14:00	2	529	135	2	**56**	1	0	4	0	**1**	0	0	0	730
15:00	1	622	**157**	2	48	0	**1**	**5**	0	0	0	0	0	**836**
16:00	**5**	573	128	3	39	0	0	1	0	0	0	0	0	749
17:00	0	**630**	136	3	41	0	0	1	0	0	0	0	0	811
18:00	3	551	148	1	45	0	0	0	0	0	0	0	0	748
19:00	0	490	113	8	38	0	0	2	0	0	0	0	0	651
20:00	0	494	133	2	29	0	0	4	0	0	0	0	0	662
21:00	3	492	112	2	34	1	0	0	1	0	0	0	0	645
22:00	0	377	93	0	27	2	0	1	2	0	0	0	0	502
23:00	0	331	50	0	18	0	0	0	0	0	0	0	0	399
Total	27	9624	2333	75	783	18	1	36	13	1	0	0	0	12911
Percent	0.2%	74.5%	18.1%	0.6%	6.1%	0.1%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	11:00	09:00	10:00	06:00		07:00	07:00					11:00
Vol.	4	581	146	8	51	2		3	3					779
PM Peak	16:00	17:00	15:00	12:00	14:00	13:00	15:00	15:00	13:00	14:00				15:00
Vol.	5	630	157	10	56	5	1	5	2	1				836
Grand Total	27	9624	2333	75	783	18	1	36	13	1	0	0	0	12911
Percent	0.2%	74.5%	18.1%	0.6%	6.1%	0.1%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Highland
Victoria Avenue
B/ Lynwood Drive - Mirada Road
24 Hour Directional Classification Count

HLD001
Site Code: 16653011519

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	0	**461**	**100**	1	22	0	0	1	0	0	0	0	0	**585**
01:00	1	460	74	0	16	0	0	0	0	0	0	0	0	551
02:00	1	392	63	0	17	0	0	0	0	0	0	0	0	473
03:00	0	280	52	2	12	0	0	0	0	0	0	0	0	346
04:00	**2**	244	55	2	14	2	0	0	0	0	0	0	0	319
05:00	2	197	48	4	24	0	0	0	0	0	0	0	0	275
06:00	2	213	58	7	20	1	0	0	0	0	0	0	0	301
07:00	0	272	71	5	**37**	0	0	0	**3**	0	0	0	0	388
08:00	0	260	74	8	22	0	0	**2**	1	0	0	0	0	367
09:00	1	226	63	9	25	1	0	0	1	0	0	0	0	326
10:00	2	272	77	9	32	**3**	0	0	1	0	0	0	0	396
11:00	0	341	87	**10**	35	0	0	1	0	0	0	0	0	474
12 PM	1	410	102	8	44	1	0	1	0	0	0	0	0	567
13:00	1	493	114	**13**	33	1	0	2	**1**	0	0	0	0	658
14:00	**3**	570	141	7	**53**	**2**	0	**4**	1	0	0	**1**	0	782
15:00	2	**604**	**154**	13	37	0	0	2	0	0	0	0	0	**812**
16:00	1	577	147	10	33	2	0	2	0	0	0	0	0	772
17:00	0	572	125	6	33	0	0	0	0	0	0	0	0	736
18:00	2	523	128	13	34	0	0	0	0	0	0	0	0	700
19:00	0	441	85	5	32	0	0	0	0	0	0	0	0	563
20:00	0	494	91	3	27	0	0	0	0	0	0	0	0	615
21:00	1	478	89	4	23	0	0	0	0	0	0	0	0	595
22:00	0	480	85	6	28	0	0	0	0	0	0	0	0	599
23:00	1	420	69	6	25	0	0	0	0	0	0	0	0	521
Total	23	9680	2152	151	678	13	0	15	8	0	0	1	0	12721
Percent	0.2%	76.1%	16.9%	1.2%	5.3%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	04:00	00:00	00:00	11:00	07:00	10:00		08:00	07:00					00:00
Vol.	2	461	100	10	37	3		2	3					585
PM Peak	14:00	15:00	15:00	13:00	14:00	14:00		14:00	13:00			14:00		15:00
Vol.	3	604	154	13	53	2		4	1			1		812
Grand Total	23	9680	2152	151	678	13	0	15	8	0	0	1	0	12721
Percent	0.2%	76.1%	16.9%	1.2%	5.3%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Victoria Avenue
B/ Lynwood Drive - Mirada Road
24 Hour Directional Classification Count

HLD001
Site Code: 16653011519

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	1	731	147	2	38	0	0	1	0	0	0	0	0	920
01:00	1	626	105	0	30	0	0	0	0	0	0	0	0	762
02:00	1	552	99	0	29	1	0	0	0	0	0	0	0	682
03:00	0	403	82	2	25	0	0	0	0	0	0	0	0	512
04:00	2	375	99	3	28	2	0	2	0	0	0	0	0	511
05:00	2	369	100	4	59	1	0	0	1	0	0	0	0	536
06:00	2	375	95	10	45	3	0	2	1	0	0	0	0	533
07:00	1	586	148	11	67	2	0	3	**6**	0	0	0	0	824
08:00	2	632	187	13	61	0	0	**5**	2	0	0	0	0	902
09:00	**5**	651	172	**17**	53	1	0	0	1	0	0	0	0	900
10:00	3	768	202	17	**83**	**5**	0	2	3	0	0	0	0	1083
11:00	0	**922**	**233**	17	78	0	0	3	0	0	0	0	0	**1253**
12 PM	2	976	254	**18**	88	2	0	3	0	0	0	0	0	1343
13:00	4	1090	243	16	77	**6**	0	4	**3**	0	0	0	0	1443
14:00	5	1099	276	9	**109**	3	0	**8**	1	**1**	0	**1**	0	1512
15:00	3	**1226**	**311**	15	85	0	**1**	7	0	0	0	0	0	**1648**
16:00	**6**	1150	275	13	72	2	0	3	0	0	0	0	0	1521
17:00	0	1202	261	9	74	0	0	1	0	0	0	0	0	1547
18:00	5	1074	276	14	79	0	0	0	0	0	0	0	0	1448
19:00	0	931	198	13	70	0	0	2	0	0	0	0	0	1214
20:00	0	988	224	5	56	0	0	4	0	0	0	0	0	1277
21:00	4	970	201	6	57	1	0	0	1	0	0	0	0	1240
22:00	0	857	178	6	55	2	0	1	2	0	0	0	0	1101
23:00	1	751	119	6	43	0	0	0	0	0	0	0	0	920
Total	50	19304	4485	226	1461	31	1	51	21	1	0	1	0	25632
Percent	0.2%	75.3%	17.5%	0.9%	5.7%	0.1%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	11:00	09:00	10:00	10:00		08:00	07:00					11:00
Vol.	5	922	233	17	83	5		5	6					1253
PM Peak	16:00	15:00	15:00	12:00	14:00	13:00	15:00	14:00	13:00	14:00		14:00		15:00
Vol.	6	1226	311	18	109	6	1	8	3	1		1		1648
Grand Total	50	19304	4485	226	1461	31	1	51	21	1	0	1	0	25632
Percent	0.2%	75.3%	17.5%	0.9%	5.7%	0.1%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Victoria Avenue
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24 Hour Directional Classification Count

HLD001
Site Code: 16653011519

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	2	426	95	1	25	0	0	**3**	0	0	0	0	0	552
01:00	1	308	58	0	18	0	0	0	0	0	0	0	0	385
02:00	1	259	55	2	15	1	0	1	**2**	0	0	0	0	336
03:00	0	212	43	0	13	1	0	0	0	0	0	0	0	269
04:00	1	182	44	0	16	1	0	1	0	0	0	0	0	245
05:00	0	226	52	1	21	0	0	2	0	0	0	0	0	302
06:00	0	200	41	0	22	1	0	1	1	**1**	0	0	0	267
07:00	0	236	50	1	17	0	0	2	0	0	0	0	0	306
08:00	1	295	70	5	28	1	0	1	0	0	0	0	0	401
09:00	2	423	92	**7**	24	0	0	3	1	0	0	0	0	552
10:00	0	503	**120**	7	31	**2**	0	1	0	0	0	0	0	664
11:00	**3**	**571**	110	5	**37**	0	0	1	0	0	**2**	0	**2**	**731**
12 PM	4	584	146	4	40	1	0	1	0	0	**1**	0	0	781
13:00	0	632	121	**7**	37	1	0	1	**1**	0	0	0	0	800
14:00	3	718	161	6	44	1	0	2	0	0	0	0	0	935
15:00	0	702	159	2	**49**	0	0	1	0	0	0	0	0	913
16:00	0	665	151	1	45	0	0	0	0	0	0	0	0	862
17:00	0	720	175	2	38	0	0	2	0	0	0	0	0	937
18:00	1	751	162	3	42	**4**	**1**	0	0	**1**	0	0	0	965
19:00	1	835	209	6	45	0	0	2	0	0	0	0	0	1098
20:00	3	**960**	214	1	48	0	0	**4**	0	0	0	0	0	**1230**
21:00	0	839	207	3	40	0	0	4	0	0	0	0	0	1093
22:00	2	792	**215**	4	38	1	0	2	0	0	0	0	0	1054
23:00	**7**	684	170	0	33	0	0	1	0	0	0	0	0	895
Total	32	12723	2920	68	766	15	1	36	5	2	3	0	2	16573
Percent	0.2%	76.8%	17.6%	0.4%	4.6%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	10:00	09:00	11:00	10:00		00:00	02:00	06:00	11:00		11:00	11:00
Vol.	3	571	120	7	37	2		3	2	1	2		2	731
PM Peak	23:00	20:00	22:00	13:00	15:00	18:00	18:00	20:00	13:00	18:00	12:00			20:00
Vol.	7	960	215	7	49	4	1	4	1	1	1			1230
Grand Total	32	12723	2920	68	766	15	1	36	5	2	3	0	2	16573
Percent	0.2%	76.8%	17.6%	0.4%	4.6%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

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City of Highland
Victoria Avenue
B/ Lynwood Drive - Mirada Road
24 Hour Directional Classification Count

HLD001
Site Code: 16653011519

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	0	**707**	**131**	3	**32**	1	0	0	0	0	0	0	0	**874**
01:00	0	705	112	0	27	**4**	0	0	0	0	0	0	0	848
02:00	0	671	119	1	20	1	0	0	0	0	0	0	0	812
03:00	0	574	94	4	17	1	0	0	0	0	0	0	0	690
04:00	**3**	443	75	0	17	2	0	0	0	0	0	0	0	540
05:00	0	311	53	0	12	0	0	0	0	0	0	0	0	376
06:00	1	323	68	3	16	0	0	0	0	0	0	0	0	411
07:00	1	264	61	2	16	0	0	1	**1**	0	0	0	0	346
08:00	1	306	61	4	15	1	0	1	0	0	0	0	0	389
09:00	1	259	67	2	24	3	0	0	1	0	0	0	0	357
10:00	0	305	65	**8**	21	0	0	**2**	0	0	0	0	0	401
11:00	1	309	81	6	25	1	0	0	0	0	0	0	0	423
12 PM	0	427	89	2	**30**	0	0	0	0	0	0	0	0	548
13:00	0	490	88	**10**	28	**3**	0	1	0	0	0	0	0	620
14:00	**1**	564	114	10	22	0	0	0	0	0	0	0	0	711
15:00	0	552	122	9	28	0	0	0	0	0	0	0	0	711
16:00	1	620	97	5	24	1	0	0	0	0	0	0	0	748
17:00	0	617	100	5	28	0	0	0	0	0	0	0	0	750
18:00	0	678	109	6	29	0	0	0	0	0	0	0	0	822
19:00	0	596	87	7	26	0	0	0	0	0	0	0	0	716
20:00	1	616	108	4	23	0	0	0	0	0	0	0	0	752
21:00	0	648	118	1	22	1	0	0	0	0	0	0	0	790
22:00	1	770	**157**	4	28	0	0	**2**	0	0	0	0	0	962
23:00	0	**827**	143	4	22	0	0	1	0	0	0	0	0	**997**
Total	12	12582	2319	100	552	19	0	8	2	0	0	0	0	15594
Percent	0.1%	80.7%	14.9%	0.6%	3.5%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	04:00	00:00	00:00	10:00	00:00	01:00		10:00	07:00					00:00
Vol.	3	707	131	8	32	4		2	1					874
PM Peak	14:00	23:00	22:00	13:00	12:00	13:00		22:00						23:00
Vol.	1	827	157	10	30	3		2						997
Grand Total	12	12582	2319	100	552	19	0	8	2	0	0	0	0	15594
Percent	0.1%	80.7%	14.9%	0.6%	3.5%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Victoria Avenue
B/ Lynwood Drive - Mirada Road
24 Hour Directional Classification Count

HLD001
Site Code: 16653011519

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	2	**1133**	**226**	4	57	1	0	**3**	0	0	0	0	0	**1426**
01:00	1	1013	170	0	45	**4**	0	0	0	0	0	0	0	1233
02:00	1	930	174	3	35	2	0	1	**2**	0	0	0	0	1148
03:00	0	786	137	4	30	2	0	0	0	0	0	0	0	959
04:00	**4**	625	119	0	33	3	0	1	0	0	0	0	0	785
05:00	0	537	105	1	33	0	0	2	0	0	0	0	0	678
06:00	1	523	109	3	38	1	0	1	1	**1**	0	0	0	678
07:00	1	500	111	3	33	0	0	3	1	0	0	0	0	652
08:00	2	601	131	9	43	2	0	2	0	0	0	0	0	790
09:00	3	682	159	9	48	3	0	3	2	0	0	0	0	909
10:00	0	808	185	**15**	52	2	0	3	0	0	0	0	0	1065
11:00	4	880	191	11	**62**	1	0	1	0	0	**2**	0	**2**	1154
12 PM	4	1011	235	6	70	1	0	1	0	0	**1**	0	0	1329
13:00	0	1122	209	**17**	65	**4**	0	2	**1**	0	0	0	0	1420
14:00	4	1282	275	16	66	1	0	2	0	0	0	0	0	1646
15:00	0	1254	281	11	**77**	0	0	1	0	0	0	0	0	1624
16:00	1	1285	248	6	69	1	0	0	0	0	0	0	0	1610
17:00	0	1337	275	7	66	0	0	2	0	0	0	0	0	1687
18:00	1	1429	271	9	71	4	**1**	0	0	**1**	0	0	0	1787
19:00	1	1431	296	13	71	0	0	2	0	0	0	0	0	1814
20:00	4	**1576**	322	5	71	0	0	**4**	0	0	0	0	0	1982
21:00	0	1487	325	4	62	1	0	4	0	0	0	0	0	1883
22:00	3	1562	**372**	8	66	1	0	4	0	0	0	0	0	**2016**
23:00	**7**	1511	313	4	55	0	0	2	0	0	0	0	0	1892
Total	44	25305	5239	168	1318	34	1	44	7	2	3	0	2	32167
Percent	0.1%	78.7%	16.3%	0.5%	4.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	04:00	00:00	00:00	10:00	11:00	01:00		00:00	02:00	06:00	11:00		11:00	00:00
Vol.	4	1133	226	15	62	4		3	2	1	2		2	1426
PM Peak	23:00	20:00	22:00	13:00	15:00	13:00	18:00	20:00	13:00	18:00	12:00			22:00
Vol.	7	1576	372	17	77	4	1	4	1	1	1			2016
Grand Total	44	25305	5239	168	1318	34	1	44	7	2	3	0	2	32167
Percent	0.1%	78.7%	16.3%	0.5%	4.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Victoria Avenue
B/ Date Street - Highland Avenue
24 Hour Directional Classification Count

HLD002
Site Code: 057-16653

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	0	257	37	0	13	0	0	0	0	0	0	0	0	307
01:00	0	160	22	0	11	0	0	0	0	0	0	0	0	193
02:00	0	153	28	0	8	1	0	0	0	0	0	0	0	190
03:00	1	122	17	0	10	0	0	0	0	0	0	0	0	150
04:00	0	122	38	1	11	0	0	2	0	0	0	0	0	174
05:00	1	173	46	0	19	1	0	0	1	0	0	0	0	241
06:00	2	203	44	2	19	**5**	0	1	1	0	0	0	0	277
07:00	0	535	113	8	**38**	2	0	**6**	**3**	0	0	0	0	705
08:00	0	414	88	**11**	28	1	0	0	1	0	0	0	0	543
09:00	2	460	86	8	25	0	0	1	0	0	0	0	0	582
10:00	**4**	480	102	8	33	3	0	1	1	0	0	0	0	632
11:00	2	**554**	**116**	9	34	2	0	0	1	0	0	0	0	**718**
12 PM	2	549	**124**	**10**	39	2	0	2	0	0	0	0	0	728
13:00	0	631	96	9	31	1	0	**3**	**1**	0	0	0	0	772
14:00	**3**	**639**	112	5	**40**	0	0	1	1	0	0	0	0	**801**
15:00	0	595	121	4	29	0	0	1	0	0	0	0	0	750
16:00	0	542	99	8	26	0	0	1	0	0	0	0	0	676
17:00	1	610	92	4	19	0	0	0	0	0	0	0	0	726
18:00	0	551	117	0	23	1	0	0	0	0	0	0	0	692
19:00	0	498	81	6	24	0	0	0	0	0	0	0	0	609
20:00	0	510	93	2	17	0	0	0	0	0	0	0	0	622
21:00	0	495	71	2	17	0	0	0	1	0	0	0	0	586
22:00	1	392	69	1	17	**3**	0	0	1	0	0	0	0	484
23:00	0	324	28	1	17	0	0	0	0	0	0	0	0	370
Total	19	9969	1840	99	548	22	0	19	12	0	0	0	0	12528
Percent	0.2%	79.6%	14.7%	0.8%	4.4%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	11:00	08:00	07:00	06:00		07:00	07:00					11:00
Vol.	4	554	116	11	38	5		6	3					718
PM Peak	14:00	14:00	12:00	12:00	14:00	22:00		13:00	13:00					14:00
Vol.	3	639	124	10	40	3		3	1					801
Grand Total	19	9969	1840	99	548	22	0	19	12	0	0	0	0	12528
Percent	0.2%	79.6%	14.7%	0.8%	4.4%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Victoria Avenue
B/ Date Street - Highland Avenue
24 Hour Directional Classification Count

HLD002
Site Code: 057-16653

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	0	**431**	106	1	21	0	0	0	0	0	0	0	0	**559**
01:00	0	416	92	0	13	0	0	0	0	0	0	0	0	521
02:00	0	368	71	0	15	0	0	0	0	0	0	0	0	454
03:00	0	281	46	1	12	0	0	0	0	0	0	0	0	340
04:00	0	238	64	1	12	1	0	0	0	0	0	0	0	316
05:00	0	190	49	4	21	0	0	**1**	0	0	0	0	0	265
06:00	**1**	237	73	6	20	1	0	0	1	0	0	0	0	339
07:00	0	388	**121**	4	**30**	0	0	0	**2**	0	0	0	0	545
08:00	1	256	61	5	17	1	0	0	2	0	0	0	0	343
09:00	0	247	65	**11**	20	**2**	0	1	1	0	0	0	0	347
10:00	1	261	88	8	28	1	0	1	1	0	0	0	0	389
11:00	0	335	100	10	30	0	0	0	1	0	0	0	0	476
12 PM	0	412	77	6	37	1	0	1	1	0	0	0	0	535
13:00	**3**	494	111	**15**	36	1	0	1	1	0	0	0	0	662
14:00	2	**663**	**160**	9	**42**	0	0	**3**	**2**	0	0	0	0	**881**
15:00	0	610	141	8	37	0	0	2	0	0	0	0	0	798
16:00	0	589	152	8	30	**2**	0	1	0	0	0	0	0	782
17:00	0	532	113	5	28	0	0	0	0	0	0	0	0	678
18:00	0	535	106	9	23	0	0	0	0	0	0	0	0	673
19:00	0	397	90	4	26	0	0	0	0	0	0	0	0	517
20:00	0	426	91	3	18	0	0	0	0	0	0	0	0	538
21:00	1	448	97	2	24	0	0	0	0	0	0	0	0	572
22:00	0	439	89	5	22	0	0	0	0	0	0	0	0	555
23:00	1	375	76	6	20	0	0	0	0	0	0	0	0	478
Total	10	9568	2239	131	582	10	0	11	12	0	0	0	0	12563
Percent	0.1%	76.2%	17.8%	1.0%	4.6%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	06:00	00:00	07:00	09:00	07:00	09:00		05:00	07:00					00:00
Vol.	1	431	121	11	30	2		1	2					559
PM Peak	13:00	14:00	14:00	13:00	14:00	16:00		14:00	14:00					14:00
Vol.	3	663	160	15	42	2		3	2					881
Grand Total	10	9568	2239	131	582	10	0	11	12	0	0	0	0	12563
Percent	0.1%	76.2%	17.8%	1.0%	4.6%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Victoria Avenue
B/ Date Street - Highland Avenue
24 Hour Directional Classification Count

HLD002
Site Code: 057-16653

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	0	688	143	1	34	0	0	0	0	0	0	0	0	866
01:00	0	576	114	0	24	0	0	0	0	0	0	0	0	714
02:00	0	521	99	0	23	1	0	0	0	0	0	0	0	644
03:00	1	403	63	1	22	0	0	0	0	0	0	0	0	490
04:00	0	360	102	2	23	1	0	2	0	0	0	0	0	490
05:00	1	363	95	4	40	1	0	1	1	0	0	0	0	506
06:00	3	440	117	8	39	**6**	0	1	2	0	0	0	0	616
07:00	0	**923**	**234**	12	**68**	2	0	**6**	**5**	0	0	0	0	**1250**
08:00	1	670	149	16	45	2	0	0	3	0	0	0	0	886
09:00	2	707	151	**19**	45	2	0	2	1	0	0	0	0	929
10:00	**5**	741	190	16	61	4	0	2	2	0	0	0	0	1021
11:00	2	889	216	19	64	2	0	0	2	0	0	0	0	1194
12 PM	2	961	201	16	76	**3**	0	3	1	0	0	0	0	1263
13:00	3	1125	207	**24**	67	2	0	**4**	2	0	0	0	0	1434
14:00	**5**	**1302**	**272**	14	**82**	0	0	4	**3**	0	0	0	0	**1682**
15:00	0	1205	262	12	66	0	0	3	0	0	0	0	0	1548
16:00	0	1131	251	16	56	2	0	2	0	0	0	0	0	1458
17:00	1	1142	205	9	47	0	0	0	0	0	0	0	0	1404
18:00	0	1086	223	9	46	1	0	0	0	0	0	0	0	1365
19:00	0	895	171	10	50	0	0	0	0	0	0	0	0	1126
20:00	0	936	184	5	35	0	0	0	0	0	0	0	0	1160
21:00	1	943	168	4	41	0	0	0	1	0	0	0	0	1158
22:00	1	831	158	6	39	3	0	0	1	0	0	0	0	1039
23:00	1	699	104	7	37	0	0	0	0	0	0	0	0	848
Total	29	19537	4079	230	1130	32	0	30	24	0	0	0	0	25091
Percent	0.1%	77.9%	16.3%	0.9%	4.5%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	07:00	07:00	09:00	07:00	06:00		07:00	07:00					07:00
Vol.	5	923	234	19	68	6		6	5					1250
PM Peak	14:00	14:00	14:00	13:00	14:00	12:00		13:00	14:00					14:00
Vol.	5	1302	272	24	82	3		4	3					1682
Grand Total	29	19537	4079	230	1130	32	0	30	24	0	0	0	0	25091
Percent	0.1%	77.9%	16.3%	0.9%	4.5%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	

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24 Hour Directional Classification Count

HLD002
Site Code: 057-16653

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	0	403	54	0	17	0	0	0	0	0	0	0	0	474
01:00	0	297	32	0	14	0	0	0	0	0	0	0	0	343
02:00	**2**	250	35	1	12	**2**	0	0	0	0	0	0	0	302
03:00	1	184	30	0	9	0	0	0	0	0	0	0	0	224
04:00	0	167	33	0	13	1	0	0	0	0	0	0	0	214
05:00	0	212	27	0	11	0	0	1	0	0	0	0	0	251
06:00	0	189	36	0	12	1	0	0	**1**	0	0	0	0	239
07:00	0	228	38	0	10	0	0	**2**	0	0	0	0	0	278
08:00	1	280	67	5	13	1	0	0	0	0	0	0	0	367
09:00	0	421	51	5	14	0	0	1	1	0	0	0	0	493
10:00	1	509	87	**7**	15	1	0	0	0	0	0	0	0	620
11:00	0	**573**	**92**	5	**22**	1	0	1	0	0	0	0	0	**694**
12 PM	1	584	100	2	15	2	0	0	0	0	0	0	0	704
13:00	2	631	92	**5**	23	0	0	0	0	0	0	0	0	753
14:00	1	699	114	2	24	0	0	0	**1**	0	0	0	0	841
15:00	1	722	113	2	**31**	0	0	0	0	0	0	0	0	869
16:00	0	676	92	1	24	0	0	0	0	0	0	0	0	793
17:00	2	718	128	2	25	0	0	0	0	0	0	0	0	875
18:00	0	736	114	2	21	**4**	0	**1**	0	0	0	0	0	878
19:00	0	832	121	5	22	0	0	0	0	0	0	0	0	980
20:00	**3**	**941**	**142**	1	24	0	0	0	0	0	0	0	0	**1111**
21:00	1	861	131	2	21	0	0	1	0	0	0	0	0	1017
22:00	2	785	137	1	21	0	0	0	0	0	0	0	0	946
23:00	2	658	100	0	17	0	0	0	0	0	0	0	0	777
Total	20	12556	1966	48	430	13	0	7	3	0	0	0	0	15043
Percent	0.1%	83.5%	13.1%	0.3%	2.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	02:00	11:00	11:00	10:00	11:00	02:00		07:00	06:00					11:00
Vol.	2	573	92	7	22	2		2	1					694
PM Peak	20:00	20:00	20:00	13:00	15:00	18:00		18:00	14:00					20:00
Vol.	3	941	142	5	31	4		1	1					1111
Grand Total	20	12556	1966	48	430	13	0	7	3	0	0	0	0	15043
Percent	0.1%	83.5%	13.1%	0.3%	2.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

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City of Highland
Victoria Avenue
B/ Date Street - Highland Avenue
24 Hour Directional Classification Count

HLD002
Site Code: 057-16653

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	0	636	**141**	3	22	1	0	1	0	0	0	0	0	**804**
01:00	0	**648**	127	0	20	2	0	0	0	0	0	0	0	797
02:00	0	601	137	1	20	0	0	0	0	0	0	0	0	759
03:00	0	556	86	2	12	1	0	0	0	0	0	0	0	657
04:00	0	413	85	0	16	0	0	0	0	0	0	0	0	514
05:00	0	276	56	0	13	0	0	0	**1**	0	0	0	0	346
06:00	0	315	78	0	14	0	0	0	0	0	0	0	0	407
07:00	**1**	260	67	4	22	0	0	1	1	0	0	0	0	356
08:00	1	296	78	2	17	1	0	0	0	0	0	0	0	395
09:00	0	261	73	2	19	**3**	0	0	1	0	0	0	0	359
10:00	0	306	79	**6**	19	0	0	**2**	0	0	0	0	0	412
11:00	1	314	95	4	**26**	1	0	0	0	0	0	0	0	441
12 PM	2	412	105	2	19	0	0	0	0	0	0	0	0	540
13:00	0	452	93	8	24	**2**	0	1	0	0	0	0	0	580
14:00	0	530	105	**9**	**25**	0	0	**2**	0	0	0	0	0	671
15:00	0	544	123	7	22	0	0	0	0	0	0	0	0	696
16:00	1	588	113	5	22	0	0	0	0	0	0	0	0	729
17:00	0	583	125	4	21	0	0	0	0	0	0	0	0	733
18:00	2	620	113	6	23	0	0	2	0	0	0	0	0	766
19:00	0	552	88	5	23	0	0	0	0	0	0	0	0	668
20:00	2	543	106	3	21	0	0	0	0	0	0	0	0	675
21:00	0	607	113	1	21	1	0	1	0	0	0	0	0	744
22:00	**3**	730	**158**	3	21	0	0	0	0	0	0	0	0	915
23:00	1	**761**	151	4	17	0	0	0	0	0	0	0	0	**934**
Total	14	11804	2495	81	479	12	0	10	3	0	0	0	0	14898
Percent	0.1%	79.2%	16.7%	0.5%	3.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	01:00	00:00	10:00	11:00	09:00		10:00	05:00					00:00
Vol.	1	648	141	6	26	3		2	1					804
PM Peak	22:00	23:00	22:00	14:00	14:00	13:00		14:00						23:00
Vol.	3	761	158	9	25	2		2						934
Grand Total	14	11804	2495	81	479	12	0	10	3	0	0	0	0	14898
Percent	0.1%	79.2%	16.7%	0.5%	3.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Victoria Avenue
B/ Date Street - Highland Avenue
24 Hour Directional Classification Count

HLD002
Site Code: 057-16653

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	0	**1039**	**195**	3	39	1	0	1	0	0	0	0	0	**1278**
01:00	0	945	159	0	34	2	0	0	0	0	0	0	0	1140
02:00	**2**	851	172	2	32	2	0	0	0	0	0	0	0	1061
03:00	1	740	116	2	21	1	0	0	0	0	0	0	0	881
04:00	0	580	118	0	29	1	0	0	0	0	0	0	0	728
05:00	0	488	83	0	24	0	0	1	1	0	0	0	0	597
06:00	0	504	114	0	26	1	0	0	1	0	0	0	0	646
07:00	1	488	105	4	32	0	0	**3**	1	0	0	0	0	634
08:00	2	576	145	7	30	2	0	0	0	0	0	0	0	762
09:00	0	682	124	7	33	**3**	0	1	**2**	0	0	0	0	852
10:00	1	815	166	**13**	34	1	0	2	0	0	0	0	0	1032
11:00	1	887	187	9	**48**	2	0	1	0	0	0	0	0	1135
12 PM	3	996	205	4	34	2	0	0	0	0	0	0	0	1244
13:00	2	1083	185	**13**	47	2	0	1	0	0	0	0	0	1333
14:00	1	1229	219	11	49	0	0	2	**1**	0	0	0	0	1512
15:00	1	1266	236	9	**53**	0	0	0	0	0	0	0	0	1565
16:00	1	1264	205	6	46	0	0	0	0	0	0	0	0	1522
17:00	2	1301	253	6	46	0	0	0	0	0	0	0	0	1608
18:00	2	1356	227	8	44	**4**	0	**3**	0	0	0	0	0	1644
19:00	0	1384	209	10	45	0	0	0	0	0	0	0	0	1648
20:00	**5**	1484	248	4	45	0	0	0	0	0	0	0	0	1786
21:00	1	1468	244	3	42	1	0	2	0	0	0	0	0	1761
22:00	5	**1515**	**295**	4	42	0	0	0	0	0	0	0	0	**1861**
23:00	3	1419	251	4	34	0	0	0	0	0	0	0	0	1711
Total	34	24360	4461	129	909	25	0	17	6	0	0	0	0	29941
Percent	0.1%	81.4%	14.9%	0.4%	3.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	02:00	00:00	00:00	10:00	11:00	09:00		07:00	09:00					00:00
Vol.	2	1039	195	13	48	3		3	2					1278
PM Peak	20:00	22:00	22:00	13:00	15:00	18:00		18:00	14:00					22:00
Vol.	5	1515	295	13	53	4		3	1					1861
Grand Total	34	24360	4461	129	909	25	0	17	6	0	0	0	0	29941
Percent	0.1%	81.4%	14.9%	0.4%	3.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Victoria Avenue
B/ Highland Avenue - Pacific Street
24 Hour Directional Classification Count

HLD003
Site Code: 057-16653

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	1	44	11	0	0	0	0	0	0	0	0	0	0	56
01:00	0	30	6	0	1	1	0	0	0	0	0	0	0	38
02:00	0	30	11	0	0	1	0	0	0	0	0	0	0	42
03:00	0	51	10	0	4	0	0	0	0	0	0	0	0	65
04:00	0	74	16	0	1	0	0	0	0	0	0	0	0	91
05:00	0	89	26	1	6	0	0	0	0	0	0	0	0	122
06:00	1	139	38	0	8	0	0	0	0	0	0	0	0	186
07:00	**2**	**372**	**92**	**13**	**19**	**2**	0	**3**	**2**	0	0	0	0	**505**
08:00	1	237	74	1	12	1	0	1	1	0	0	0	0	328
09:00	1	231	47	2	13	2	0	1	0	0	0	0	0	297
10:00	2	188	62	1	9	1	0	0	0	0	0	0	0	263
11:00	0	253	63	1	10	1	0	2	0	0	0	0	0	330
12 PM	2	273	74	1	11	0	0	**3**	**2**	0	0	0	0	366
13:00	1	267	56	**9**	7	0	0	0	0	0	0	0	0	340
14:00	1	**357**	**89**	1	15	**1**	0	1	0	**1**	0	0	0	**466**
15:00	1	309	86	2	17	0	0	0	0	0	0	0	0	415
16:00	2	352	86	2	**18**	1	0	2	2	0	0	0	0	465
17:00	**3**	355	80	1	9	0	0	2	1	0	0	0	0	451
18:00	1	288	70	2	10	0	0	1	0	0	0	0	0	372
19:00	2	204	44	0	6	0	0	0	0	0	0	0	0	256
20:00	0	171	40	0	4	1	0	1	0	0	0	0	0	217
21:00	0	162	23	0	4	0	0	0	1	0	0	0	0	190
22:00	0	106	23	0	4	0	0	0	0	0	0	0	0	133
23:00	0	76	14	0	2	0	0	0	0	0	0	0	0	92
Total	21	4658	1141	37	190	12	0	17	9	1	0	0	0	6086
Percent	0.3%	76.5%	18.7%	0.6%	3.1%	0.2%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	07:00	07:00	07:00	07:00		07:00	07:00					07:00
Vol.	2	372	92	13	19	2		3	2					505
PM Peak	17:00	14:00	14:00	13:00	16:00	14:00		12:00	12:00	14:00				14:00
Vol.	3	357	89	9	18	1		3	2	1				466
Grand Total	21	4658	1141	37	190	12	0	17	9	1	0	0	0	6086
Percent	0.3%	76.5%	18.7%	0.6%	3.1%	0.2%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	

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Victoria Avenue
B/ Highland Avenue - Pacific Street
24 Hour Directional Classification Count

HLD003
Site Code: 057-16653

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	0	78	7	0	1	0	0	0	0	0	0	0	0	86
01:00	1	48	8	0	0	0	0	0	0	0	0	0	0	57
02:00	0	45	7	0	1	0	0	0	0	0	0	0	0	53
03:00	0	36	8	0	1	0	0	0	0	0	0	0	0	45
04:00	0	45	3	0	0	0	0	0	0	0	0	0	0	48
05:00	0	60	13	0	4	0	0	0	0	0	0	0	0	77
06:00	0	107	20	1	6	0	0	0	0	0	0	0	0	134
07:00	**2**	**316**	**67**	**5**	**18**	0	0	**3**	0	0	**1**	0	0	**412**
08:00	1	221	43	2	7	**1**	0	1	0	0	0	0	0	276
09:00	0	186	41	4	9	0	0	0	0	0	0	0	0	240
10:00	0	180	36	2	8	0	0	1	0	0	0	0	0	227
11:00	0	205	42	0	7	1	0	1	0	0	0	0	0	256
12 PM	0	227	48	**2**	9	**1**	0	0	**2**	0	0	0	0	289
13:00	0	247	43	0	5	0	0	0	0	0	0	0	0	295
14:00	0	360	60	2	16	1	0	**3**	0	0	0	0	0	442
15:00	0	**368**	68	1	7	0	0	2	1	0	0	0	0	**447**
16:00	1	337	62	2	**17**	0	0	2	0	0	0	0	0	421
17:00	2	328	**73**	2	9	0	0	0	0	0	0	0	0	414
18:00	1	276	53	1	5	1	0	1	0	0	0	0	0	338
19:00	**4**	203	37	0	3	1	0	0	0	0	0	0	0	248
20:00	0	222	39	0	4	0	0	1	0	0	0	0	0	266
21:00	0	160	31	0	3	1	0	0	0	0	0	0	0	195
22:00	0	143	28	0	2	0	0	0	0	0	0	0	0	173
23:00	1	132	8	0	2	0	0	0	0	0	0	0	0	143
Total	13	4530	845	24	144	7	0	15	3	0	1	0	0	5582
Percent	0.2%	81.2%	15.1%	0.4%	2.6%	0.1%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	07:00	07:00	07:00	08:00		07:00			07:00			07:00
Vol.	2	316	67	5	18	1		3			1			412
PM Peak	19:00	15:00	17:00	12:00	16:00	12:00		14:00	12:00					15:00
Vol.	4	368	73	2	17	1		3	2					447
Grand Total	13	4530	845	24	144	7	0	15	3	0	1	0	0	5582
Percent	0.2%	81.2%	15.1%	0.4%	2.6%	0.1%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	

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B/ Highland Avenue - Pacific Street
24 Hour Directional Classification Count

HLD003
Site Code: 057-16653

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	1	122	18	0	1	0	0	0	0	0	0	0	0	142
01:00	1	78	14	0	1	1	0	0	0	0	0	0	0	95
02:00	0	75	18	0	1	1	0	0	0	0	0	0	0	95
03:00	0	87	18	0	5	0	0	0	0	0	0	0	0	110
04:00	0	119	19	0	1	0	0	0	0	0	0	0	0	139
05:00	0	149	39	1	10	0	0	0	0	0	0	0	0	199
06:00	1	246	58	1	14	0	0	0	0	0	0	0	0	320
07:00	**4**	**688**	**159**	**18**	**37**	**2**	0	**6**	**2**	0	**1**	0	0	**917**
08:00	2	458	117	3	19	2	0	2	1	0	0	0	0	604
09:00	1	417	88	6	22	2	0	1	0	0	0	0	0	537
10:00	2	368	98	3	17	1	0	1	0	0	0	0	0	490
11:00	0	458	105	1	17	2	0	3	0	0	0	0	0	586
12 PM	2	500	122	3	20	1	0	3	**4**	0	0	0	0	655
13:00	1	514	99	**9**	12	0	0	0	0	0	0	0	0	635
14:00	1	**717**	149	3	31	**2**	0	**4**	0	**1**	0	0	0	**908**
15:00	1	677	**154**	3	24	0	0	2	1	0	0	0	0	862
16:00	3	689	148	4	**35**	1	0	4	2	0	0	0	0	886
17:00	5	683	153	3	18	0	0	2	1	0	0	0	0	865
18:00	2	564	123	3	15	1	0	2	0	0	0	0	0	710
19:00	**6**	407	81	0	9	1	0	0	0	0	0	0	0	504
20:00	0	393	79	0	8	1	0	2	0	0	0	0	0	483
21:00	0	322	54	0	7	1	0	0	1	0	0	0	0	385
22:00	0	249	51	0	6	0	0	0	0	0	0	0	0	306
23:00	1	208	22	0	4	0	0	0	0	0	0	0	0	235
Total	34	9188	1986	61	334	19	0	32	12	1	1	0	0	11668
Percent	0.3%	78.7%	17.0%	0.5%	2.9%	0.2%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	07:00	07:00	07:00	07:00	07:00		07:00	07:00		07:00			07:00
Vol.	4	688	159	18	37	2		6	2		1			917
PM Peak	19:00	14:00	15:00	13:00	16:00	14:00		14:00	12:00	14:00				14:00
Vol.	6	717	154	9	35	2		4	4	1				908
Grand Total	34	9188	1986	61	334	19	0	32	12	1	1	0	0	11668
Percent	0.3%	78.7%	17.0%	0.5%	2.9%	0.2%	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%	0.0%	

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HLD003
Site Code: 057-16653

Northbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	0	65	9	0	2	0	0	0	0	0	0	0	0	76
01:00	0	70	10	0	0	0	0	0	0	0	0	0	0	80
02:00	0	41	6	0	1	0	0	0	0	0	0	0	0	48
03:00	0	50	6	0	0	0	0	0	0	0	0	0	0	56
04:00	0	63	7	0	2	**1**	0	0	0	0	0	0	0	73
05:00	0	67	16	0	5	0	0	0	0	0	0	0	0	88
06:00	0	86	23	0	2	0	0	0	0	0	0	0	0	111
07:00	**2**	110	32	0	7	0	0	**1**	0	0	0	0	0	152
08:00	0	140	44	**1**	8	0	0	1	0	0	0	0	0	194
09:00	0	215	55	1	12	0	0	0	0	0	0	0	0	283
10:00	0	254	**72**	0	12	0	0	1	0	0	0	0	0	339
11:00	1	**276**	54	0	**14**	0	0	1	0	**1**	0	0	0	**347**
12 PM	2	300	77	**3**	9	1	0	**3**	0	0	0	0	0	395
13:00	2	276	69	1	8	**2**	0	0	0	0	0	0	0	358
14:00	0	**317**	70	2	6	0	0	1	0	0	0	0	0	**396**
15:00	3	269	70	0	**10**	2	0	1	0	0	0	0	0	355
16:00	1	297	**81**	1	8	1	**1**	2	0	0	0	0	0	392
17:00	**4**	287	73	1	5	1	0	0	0	0	0	0	0	371
18:00	0	274	66	0	7	0	0	2	0	**1**	0	0	0	350
19:00	1	204	56	0	7	1	0	1	0	1	0	0	0	271
20:00	1	202	35	0	8	1	0	0	0	0	0	0	0	247
21:00	1	174	43	1	10	0	0	0	0	0	0	0	0	229
22:00	0	148	27	0	2	0	0	0	0	0	0	0	0	177
23:00	3	142	26	0	4	0	0	1	0	0	0	0	0	176
Total	21	4327	1027	11	149	10	1	15	0	3	0	0	0	5564
Percent	0.4%	77.8%	18.5%	0.2%	2.7%	0.2%	0.0%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	
AM Peak	07:00	11:00	10:00	08:00	11:00	04:00		07:00		11:00				11:00
Vol.	2	276	72	1	14	1		1		1				347
PM Peak	17:00	14:00	16:00	12:00	15:00	13:00	16:00	12:00		18:00				14:00
Vol.	4	317	81	3	10	2	1	3		1				396
Grand Total	21	4327	1027	11	149	10	1	15	0	3	0	0	0	5564
Percent	0.4%	77.8%	18.5%	0.2%	2.7%	0.2%	0.0%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

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Phone: (951) 268-6268
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City of Highland
Victoria Avenue
B/ Highland Avenue - Pacific Street
24 Hour Directional Classification Count

HLD003
Site Code: 057-16653

Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	1	115	13	0	1	0	0	0	0	0	0	0	0	130
01:00	1	88	6	0	0	0	0	0	0	0	0	0	0	95
02:00	0	66	12	**1**	0	0	0	0	0	0	0	0	0	79
03:00	0	61	10	0	1	0	0	0	0	0	0	0	0	72
04:00	0	62	3	0	1	0	0	0	0	0	0	0	0	66
05:00	0	40	10	1	0	0	0	1	0	0	0	0	0	52
06:00	0	63	13	0	1	0	0	0	0	0	0	0	0	77
07:00	0	92	16	0	3	0	0	0	0	0	0	0	0	111
08:00	0	142	31	1	7	1	0	0	**1**	0	0	0	0	183
09:00	**2**	158	49	0	**9**	**2**	0	0	0	0	0	0	0	220
10:00	0	201	43	0	7	0	0	**3**	0	0	0	0	0	254
11:00	0	**240**	**52**	1	2	0	0	1	0	0	0	0	0	**296**
12 PM	2	251	45	0	4	**2**	0	0	0	0	0	0	0	304
13:00	0	266	**64**	0	6	0	0	0	0	0	0	0	0	336
14:00	2	**294**	61	**2**	4	0	0	1	0	0	0	0	0	**364**
15:00	3	285	54	1	**10**	1	0	2	0	0	0	0	0	356
16:00	2	283	52	1	3	1	0	**3**	0	0	**1**	0	0	346
17:00	0	288	64	0	6	0	0	0	0	0	0	0	0	358
18:00	3	254	41	0	2	0	0	1	0	0	0	0	0	301
19:00	0	216	50	0	2	0	0	0	0	0	0	0	0	268
20:00	1	199	30	0	2	0	0	0	0	0	0	0	0	232
21:00	**4**	179	21	0	2	0	0	0	**1**	0	0	0	0	207
22:00	1	190	35	0	1	0	0	0	0	0	0	0	0	227
23:00	1	160	19	0	1	0	0	0	0	0	0	0	0	181
Total	23	4193	794	8	75	7	0	12	2	0	1	0	0	5115
Percent	0.4%	82.0%	15.5%	0.2%	1.5%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	11:00	02:00	09:00	09:00		10:00	08:00					11:00
Vol.	2	240	52	1	9	2		3	1					296
PM Peak	21:00	14:00	13:00	14:00	15:00	12:00		16:00	21:00		16:00			14:00
Vol.	4	294	64	2	10	2		3	1		1			364
Grand Total	23	4193	794	8	75	7	0	12	2	0	1	0	0	5115
Percent	0.4%	82.0%	15.5%	0.2%	1.5%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Victoria Avenue
B/ Highland Avenue - Pacific Street
24 Hour Directional Classification Count

HLD003
Site Code: 057-16653

Northbound, Southbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	1	180	22	0	3	0	0	0	0	0	0	0	0	206
01:00	1	158	16	0	0	0	0	0	0	0	0	0	0	175
02:00	0	107	18	1	1	0	0	0	0	0	0	0	0	127
03:00	0	111	16	0	1	0	0	0	0	0	0	0	0	128
04:00	0	125	10	0	3	1	0	0	0	0	0	0	0	139
05:00	0	107	26	1	5	0	0	1	0	0	0	0	0	140
06:00	0	149	36	0	3	0	0	0	0	0	0	0	0	188
07:00	**2**	202	48	0	10	0	0	1	0	0	0	0	0	263
08:00	0	282	75	**2**	15	1	0	1	**1**	0	0	0	0	377
09:00	2	373	104	1	**21**	**2**	0	0	0	0	0	0	0	503
10:00	0	455	**115**	0	19	0	0	**4**	0	0	0	0	0	593
11:00	1	**516**	106	1	16	0	0	2	0	**1**	0	0	0	**643**
12 PM	4	551	122	3	13	**3**	0	3	0	0	0	0	0	699
13:00	2	542	133	1	14	2	0	0	0	0	0	0	0	694
14:00	2	**611**	131	**4**	10	0	0	2	0	0	0	0	0	**760**
15:00	**6**	554	124	1	**20**	3	0	3	0	0	0	0	0	711
16:00	3	580	133	2	11	2	**1**	**5**	0	0	**1**	0	0	738
17:00	4	575	**137**	1	11	1	0	0	0	0	0	0	0	729
18:00	3	528	107	0	9	0	0	3	0	**1**	0	0	0	651
19:00	1	420	106	0	9	1	0	1	0	1	0	0	0	539
20:00	2	401	65	0	10	1	0	0	0	0	0	0	0	479
21:00	5	353	64	1	12	0	0	0	**1**	0	0	0	0	436
22:00	1	338	62	0	3	0	0	0	0	0	0	0	0	404
23:00	4	302	45	0	5	0	0	1	0	0	0	0	0	357
Total	44	8520	1821	19	224	17	1	27	2	3	1	0	0	10679
Percent	0.4%	79.8%	17.1%	0.2%	2.1%	0.2%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	11:00	10:00	08:00	09:00	09:00		10:00	08:00	11:00				11:00
Vol.	2	516	115	2	21	2		4	1	1				643
PM Peak	15:00	14:00	17:00	14:00	15:00	12:00	16:00	16:00	21:00	18:00	16:00			14:00
Vol.	6	611	137	4	20	3	1	5	1	1	1			760
Grand Total	44	8520	1821	19	224	17	1	27	2	3	1	0	0	10679
Percent	0.4%	79.8%	17.1%	0.2%	2.1%	0.2%	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Highland Avenue
B/ Sterling Avenue - SR-210 Southbound Off Ramp
24 Hour Directional Classification Count

HLD004
Site Code: 057-16653

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	0	56	16	0	6	0	0	0	**1**	0	0	0	0	79
01:00	0	38	11	0	3	0	0	0	0	0	0	0	0	52
02:00	0	42	10	0	0	0	0	0	0	0	0	0	0	52
03:00	0	32	6	0	4	0	0	0	0	0	0	0	0	42
04:00	0	40	16	0	1	0	0	0	0	0	0	0	0	57
05:00	**2**	47	13	1	2	**2**	0	1	0	0	0	0	0	68
06:00	0	87	24	2	6	2	0	0	0	0	0	0	0	121
07:00	1	212	76	9	14	2	0	1	0	0	0	0	0	315
08:00	1	239	70	**13**	25	0	0	0	1	0	0	0	0	349
09:00	1	293	72	6	15	2	0	0	1	0	0	0	0	390
10:00	1	363	98	6	22	1	0	**2**	0	0	0	0	0	493
11:00	0	**389**	**126**	6	**27**	2	0	0	0	0	0	0	0	**550**
12 PM	0	492	115	**8**	26	**1**	0	1	0	0	0	0	0	643
13:00	1	460	103	8	30	0	0	1	0	0	0	0	0	603
14:00	1	543	140	6	**33**	0	0	**4**	0	0	0	0	0	727
15:00	**4**	541	**149**	6	19	0	0	1	**3**	0	0	0	0	723
16:00	0	**589**	113	6	28	0	0	1	0	0	0	0	0	**737**
17:00	0	564	94	5	18	1	0	0	0	0	0	0	0	682
18:00	1	404	106	6	17	1	0	1	0	0	0	0	0	536
19:00	1	361	78	4	15	0	0	0	0	0	0	0	0	459
20:00	0	309	58	2	12	0	0	0	0	0	0	0	0	381
21:00	0	222	41	3	8	0	0	0	0	0	0	0	0	274
22:00	0	142	29	2	2	0	0	1	0	0	0	0	0	176
23:00	0	101	14	0	2	0	0	0	0	0	0	0	0	117
Total	14	6566	1578	99	335	14	0	14	6	0	0	0	0	8626
Percent	0.2%	76.1%	18.3%	1.1%	3.9%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	11:00	11:00	08:00	11:00	05:00		10:00	00:00					11:00
Vol.	2	389	126	13	27	2		2	1					550
PM Peak	15:00	16:00	15:00	12:00	14:00	12:00		14:00	15:00					16:00
Vol.	4	589	149	8	33	1		4	3					737
Grand Total	14	6566	1578	99	335	14	0	14	6	0	0	0	0	8626
Percent	0.2%	76.1%	18.3%	1.1%	3.9%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Highland Avenue
B/ Sterling Avenue - SR-210 Southbound Off Ramp
24 Hour Directional Classification Count

HLD004
Site Code: 057-16653

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	0	92	13	0	0	0	0	0	0	0	0	0	0	105
01:00	0	62	5	0	0	0	0	1	0	0	0	0	0	68
02:00	1	54	9	1	0	0	0	0	0	0	0	0	0	65
03:00	**4**	51	9	0	0	0	0	0	0	0	0	0	0	64
04:00	0	65	12	3	0	1	0	0	1	0	0	0	0	82
05:00	0	93	8	5	4	0	0	0	1	0	0	0	0	111
06:00	1	132	26	7	6	0	0	0	1	0	0	0	0	173
07:00	2	300	69	9	10	**2**	0	1	0	0	0	0	0	393
08:00	2	381	66	**12**	**17**	0	0	2	**3**	0	0	0	0	483
09:00	1	406	70	9	12	0	0	0	0	0	0	0	0	498
10:00	3	375	**84**	9	13	1	0	0	0	0	0	0	0	485
11:00	3	**459**	82	9	14	1	0	**4**	0	0	0	0	0	**572**
12 PM	1	512	90	7	18	0	0	**1**	**1**	0	0	0	0	630
13:00	0	520	87	12	15	1	0	1	1	0	0	0	0	637
14:00	**4**	**589**	**119**	9	**19**	**4**	0	1	0	0	0	0	0	**745**
15:00	3	546	93	8	7	2	0	0	1	0	0	0	0	660
16:00	2	551	101	**15**	13	2	0	1	1	0	0	0	0	686
17:00	1	500	98	7	3	0	0	0	0	0	0	0	0	609
18:00	0	452	68	9	4	0	0	0	0	0	0	0	0	533
19:00	3	402	78	5	6	1	0	1	0	0	0	0	0	496
20:00	0	338	47	4	1	0	0	0	0	0	0	0	0	390
21:00	2	228	31	5	6	0	0	0	0	0	0	0	0	272
22:00	0	136	24	3	1	0	0	0	0	0	0	0	0	164
23:00	0	162	23	0	1	0	0	0	0	0	0	0	0	186
Total	33	7406	1312	148	170	15	0	13	10	0	0	0	0	9107
Percent	0.4%	81.3%	14.4%	1.6%	1.9%	0.2%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	03:00	11:00	10:00	08:00	08:00	07:00		11:00	08:00					11:00
Vol.	4	459	84	12	17	2		4	3					572
PM Peak	14:00	14:00	14:00	16:00	14:00	14:00		12:00	12:00					14:00
Vol.	4	589	119	15	19	4		1	1					745
Grand Total	33	7406	1312	148	170	15	0	13	10	0	0	0	0	9107
Percent	0.4%	81.3%	14.4%	1.6%	1.9%	0.2%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Highland Avenue
B/ Sterling Avenue - SR-210 Southbound Off Ramp
24 Hour Directional Classification Count

HLD004
Site Code: 057-16653

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	0	148	29	0	6	0	0	0	1	0	0	0	0	184
01:00	0	100	16	0	3	0	0	1	0	0	0	0	0	120
02:00	1	96	19	1	0	0	0	0	0	0	0	0	0	117
03:00	**4**	83	15	0	4	0	0	0	0	0	0	0	0	106
04:00	0	105	28	3	1	1	0	0	1	0	0	0	0	139
05:00	2	140	21	6	6	2	0	1	1	0	0	0	0	179
06:00	1	219	50	9	12	2	0	0	1	0	0	0	0	294
07:00	3	512	145	18	24	**4**	0	2	0	0	0	0	0	708
08:00	3	620	136	**25**	**42**	0	0	2	**4**	0	0	0	0	832
09:00	2	699	142	15	27	2	0	0	1	0	0	0	0	888
10:00	4	738	182	15	35	2	0	2	0	0	0	0	0	978
11:00	3	**848**	**208**	15	41	3	0	**4**	0	0	0	0	0	**1122**
12 PM	1	1004	205	15	44	1	0	2	1	0	0	0	0	1273
13:00	1	980	190	20	45	1	0	2	1	0	0	0	0	1240
14:00	5	1132	**259**	15	**52**	**4**	0	**5**	0	0	0	0	0	**1472**
15:00	**7**	1087	242	14	26	2	0	1	**4**	0	0	0	0	1383
16:00	2	**1140**	214	**21**	41	2	0	2	1	0	0	0	0	1423
17:00	1	1064	192	12	21	1	0	0	0	0	0	0	0	1291
18:00	1	856	174	15	21	1	0	1	0	0	0	0	0	1069
19:00	4	763	156	9	21	1	0	1	0	0	0	0	0	955
20:00	0	647	105	6	13	0	0	0	0	0	0	0	0	771
21:00	2	450	72	8	14	0	0	0	0	0	0	0	0	546
22:00	0	278	53	5	3	0	0	1	0	0	0	0	0	340
23:00	0	263	37	0	3	0	0	0	0	0	0	0	0	303
Total	47	13972	2890	247	505	29	0	27	16	0	0	0	0	17733
Percent	0.3%	78.8%	16.3%	1.4%	2.8%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	03:00	11:00	11:00	08:00	08:00	07:00		11:00	08:00					11:00
Vol.	4	848	208	25	42	4		4	4					1122
PM Peak	15:00	16:00	14:00	16:00	14:00	14:00		14:00	15:00					14:00
Vol.	7	1140	259	21	52	4		5	4					1472
Grand Total	47	13972	2890	247	505	29	0	27	16	0	0	0	0	17733
Percent	0.3%	78.8%	16.3%	1.4%	2.8%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Highland Avenue
B/ Sterling Avenue - SR-210 Southbound Off Ramp
24 Hour Directional Classification Count

HLD004
Site Code: 057-16653

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	0	102	22	0	7	0	0	0	0	0	0	0	0	131
01:00	1	70	13	0	3	0	0	0	0	0	0	0	0	87
02:00	1	55	11	0	3	0	0	0	0	0	0	0	0	70
03:00	0	49	8	0	0	0	0	0	0	0	0	0	0	57
04:00	1	46	8	0	1	0	0	0	0	0	0	0	0	56
05:00	2	66	14	0	5	**3**	0	0	**1**	0	0	0	0	91
06:00	0	61	14	1	4	0	0	0	1	0	0	0	0	81
07:00	0	117	43	1	4	1	0	0	0	0	0	0	0	166
08:00	0	215	48	4	11	0	0	**1**	1	0	0	0	0	280
09:00	0	306	106	4	16	0	0	1	1	0	0	0	0	434
10:00	1	406	103	**6**	12	0	0	0	0	0	0	0	0	528
11:00	**7**	**491**	**132**	4	**27**	0	0	1	0	0	0	0	0	**662**
12 PM	**3**	**561**	125	4	**26**	0	0	0	0	0	0	0	0	719
13:00	2	548	**140**	**6**	26	0	0	0	0	0	0	0	0	**722**
14:00	0	527	111	5	22	0	0	1	0	0	0	0	0	666
15:00	0	476	129	5	14	0	0	1	0	0	0	0	0	625
16:00	2	519	125	3	16	0	0	**2**	0	0	0	0	0	667
17:00	0	480	110	4	7	0	0	0	**1**	0	0	0	0	602
18:00	1	410	95	3	9	0	0	0	0	0	0	0	0	518
19:00	0	385	85	4	15	0	0	0	0	0	0	0	0	489
20:00	1	292	52	2	13	0	0	0	0	0	0	0	0	360
21:00	1	286	51	0	7	0	0	1	0	0	0	0	0	346
22:00	0	227	35	0	12	0	0	0	0	0	0	0	0	274
23:00	2	128	29	0	6	0	0	0	0	0	0	0	0	165
Total	25	6823	1609	56	266	4	0	8	5	0	0	0	0	8796
Percent	0.3%	77.6%	18.3%	0.6%	3.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00	10:00	11:00	05:00		08:00	05:00					11:00
Vol.	7	491	132	6	27	3		1	1					662
PM Peak	12:00	12:00	13:00	13:00	12:00			16:00	17:00					13:00
Vol.	3	561	140	6	26			2	1					722
Grand Total	25	6823	1609	56	266	4	0	8	5	0	0	0	0	8796
Percent	0.3%	77.6%	18.3%	0.6%	3.0%	0.0%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
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City of Highland
Highland Avenue
B/ Sterling Avenue - SR-210 Southbound Off Ramp
24 Hour Directional Classification Count

HLD004
Site Code: 057-16653

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	0	140	19	0	1	0	0	0	0	0	0	0	0	160
01:00	0	99	16	0	1	0	0	0	0	0	0	0	0	116
02:00	0	85	6	0	1	0	0	0	0	0	0	0	0	92
03:00	0	66	8	0	0	0	0	0	1	0	0	0	0	75
04:00	0	65	14	0	0	0	0	0	0	0	0	0	0	79
05:00	0	64	9	0	3	0	0	0	0	0	0	0	0	76
06:00	1	98	30	1	0	**3**	0	1	**3**	0	0	0	0	137
07:00	0	177	24	4	3	0	0	0	0	0	0	0	0	208
08:00	**3**	314	49	**6**	5	0	0	1	0	0	0	0	0	378
09:00	0	400	71	5	7	2	0	1	0	0	0	0	0	486
10:00	3	451	95	5	**13**	0	0	**2**	0	0	0	0	0	569
11:00	3	**493**	**100**	4	12	1	0	1	2	**1**	0	0	0	**617**
12 PM	1	545	**120**	5	**18**	0	0	**2**	0	0	0	0	0	691
13:00	1	**615**	106	5	11	0	0	1	1	**1**	0	0	0	**741**
14:00	0	557	98	**9**	8	0	0	0	0	0	0	0	0	672
15:00	**4**	577	108	6	11	**1**	0	0	**2**	0	0	0	0	709
16:00	1	550	103	6	5	1	0	1	0	0	0	0	0	667
17:00	2	526	85	5	1	0	0	0	0	0	0	0	0	619
18:00	1	489	88	4	9	0	0	0	0	0	0	0	0	591
19:00	0	446	60	3	6	1	0	0	0	0	0	0	0	516
20:00	0	330	46	2	4	0	0	1	0	0	0	0	0	383
21:00	1	289	35	0	5	0	0	0	1	0	0	0	0	331
22:00	3	254	30	0	4	0	0	0	0	0	0	0	0	291
23:00	2	185	25	0	1	0	0	1	0	0	0	0	0	214
Total	26	7815	1345	70	129	9	0	12	10	2	0	0	0	9418
Percent	0.3%	83.0%	14.3%	0.7%	1.4%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	11:00	11:00	08:00	10:00	06:00		10:00	06:00	11:00				11:00
Vol.	3	493	100	6	13	3		2	3	1				617
PM Peak	15:00	13:00	12:00	14:00	12:00	15:00		12:00	15:00	13:00				13:00
Vol.	4	615	120	9	18	1		2	2	1				741
Grand Total	26	7815	1345	70	129	9	0	12	10	2	0	0	0	9418
Percent	0.3%	83.0%	14.3%	0.7%	1.4%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Highland Avenue
B/ Sterling Avenue - SR-210 Southbound Off Ramp
24 Hour Directional Classification Count

HLD004
Site Code: 057-16653

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	0	242	41	0	8	0	0	0	0	0	0	0	0	291
01:00	1	169	29	0	4	0	0	0	0	0	0	0	0	203
02:00	1	140	17	0	4	0	0	0	0	0	0	0	0	162
03:00	0	115	16	0	0	0	0	0	1	0	0	0	0	132
04:00	1	111	22	0	1	0	0	0	0	0	0	0	0	135
05:00	2	130	23	0	8	**3**	0	0	1	0	0	0	0	167
06:00	1	159	44	2	4	3	0	1	**4**	0	0	0	0	218
07:00	0	294	67	5	7	1	0	0	0	0	0	0	0	374
08:00	3	529	97	10	16	0	0	**2**	1	0	0	0	0	658
09:00	0	706	177	9	23	2	0	2	1	0	0	0	0	920
10:00	4	857	198	**11**	25	0	0	2	0	0	0	0	0	1097
11:00	**10**	**984**	**232**	8	**39**	1	0	2	2	**1**	0	0	0	**1279**
12 PM	**4**	1106	245	9	**44**	0	0	2	0	0	0	0	0	1410
13:00	3	**1163**	**246**	11	37	0	0	1	1	**1**	0	0	0	**1463**
14:00	0	1084	209	**14**	30	0	0	1	0	0	0	0	0	1338
15:00	4	1053	237	11	25	**1**	0	1	**2**	0	0	0	0	1334
16:00	3	1069	228	9	21	1	0	**3**	0	0	0	0	0	1334
17:00	2	1006	195	9	8	0	0	0	1	0	0	0	0	1221
18:00	2	899	183	7	18	0	0	0	0	0	0	0	0	1109
19:00	0	831	145	7	21	1	0	0	0	0	0	0	0	1005
20:00	1	622	98	4	17	0	0	1	0	0	0	0	0	743
21:00	2	575	86	0	12	0	0	1	1	0	0	0	0	677
22:00	3	481	65	0	16	0	0	0	0	0	0	0	0	565
23:00	4	313	54	0	7	0	0	1	0	0	0	0	0	379
Total	51	14638	2954	126	395	13	0	20	15	2	0	0	0	18214
Percent	0.3%	80.4%	16.2%	0.7%	2.2%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00	10:00	11:00	05:00		08:00	06:00	11:00				11:00
Vol.	10	984	232	11	39	3		2	4	1				1279
PM Peak	12:00	13:00	13:00	14:00	12:00	15:00		16:00	15:00	13:00				13:00
Vol.	4	1163	246	14	44	1		3	2	1				1463
Grand Total	51	14638	2954	126	395	13	0	20	15	2	0	0	0	18214
Percent	0.3%	80.4%	16.2%	0.7%	2.2%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Highland Avenue
B/ SR-210 Northbound Off Ramp - Victoria Avenue
24 Hour Directional Classification Count

HLD005
Site Code: 057-16653

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	2	350	36	0	6	0	0	0	0	0	0	0	0	394
01:00	0	224	42	0	5	0	0	0	1	0	0	0	0	272
02:00	0	240	35	0	0	0	0	0	0	0	0	0	0	275
03:00	1	156	36	0	3	0	0	0	1	0	0	0	0	197
04:00	0	210	50	1	6	0	0	1	0	0	0	0	0	268
05:00	2	295	65	2	15	3	0	2	**3**	0	0	0	0	387
06:00	2	504	107	5	32	**5**	0	1	1	**1**	0	0	0	658
07:00	**6**	680	150	11	43	5	0	**6**	1	0	**1**	0	0	903
08:00	4	747	148	10	37	2	0	4	2	0	0	0	0	954
09:00	4	761	156	**19**	40	0	0	3	1	0	0	0	0	984
10:00	5	812	**201**	14	36	2	0	3	3	1	0	0	0	1077
11:00	0	**884**	184	15	**48**	5	0	6	2	0	0	0	0	**1144**
12 PM	6	1036	203	**16**	**55**	**4**	**1**	**4**	0	0	0	0	0	**1325**
13:00	2	1001	190	9	47	1	0	2	0	0	0	0	0	1252
14:00	5	**1052**	**209**	7	43	2	0	2	**2**	0	0	0	0	1322
15:00	4	955	182	7	43	1	0	3	2	0	0	0	0	1197
16:00	**9**	924	181	11	39	4	0	1	1	0	0	0	0	1170
17:00	3	1035	195	9	38	0	0	0	0	0	0	0	0	1280
18:00	7	981	196	4	24	4	0	2	0	0	0	0	0	1218
19:00	4	852	156	12	30	2	0	1	0	0	0	0	0	1057
20:00	4	828	147	4	19	1	0	0	0	0	0	0	0	1003
21:00	3	728	142	5	19	1	0	2	0	0	0	0	0	900
22:00	4	633	116	3	8	3	0	2	0	0	0	0	0	769
23:00	0	455	60	0	7	1	0	0	0	0	0	0	0	523
Total	77	16343	3187	164	643	46	1	45	20	2	1	0	0	20529
Percent	0.4%	79.6%	15.5%	0.8%	3.1%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	11:00	10:00	09:00	11:00	06:00		07:00	05:00	06:00	07:00			11:00
Vol.	6	884	201	19	48	5		6	3	1	1			1144
PM Peak	16:00	14:00	14:00	12:00	12:00	12:00	12:00	12:00	14:00					12:00
Vol.	9	1052	209	16	55	4	1	4	2					1325
Grand Total	77	16343	3187	164	643	46	1	45	20	2	1	0	0	20529
Percent	0.4%	79.6%	15.5%	0.8%	3.1%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Highland Avenue
B/ SR-210 Northbound Off Ramp - Victoria Avenue
24 Hour Directional Classification Count

HLD005
Site Code: 057-16653

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	0	513	98	1	9	0	0	0	0	0	0	0	0	621
01:00	1	462	85	0	4	1	0	0	0	0	0	0	0	553
02:00	3	437	74	0	4	3	0	0	0	0	0	0	0	521
03:00	1	406	62	1	6	0	0	0	0	0	0	0	0	476
04:00	3	386	90	3	12	4	0	0	0	0	0	0	0	498
05:00	1	371	101	5	12	0	0	**3**	2	0	0	0	0	495
06:00	1	583	131	13	25	4	0	0	1	0	0	0	0	758
07:00	2	617	143	16	31	**5**	0	1	**5**	0	0	0	0	820
08:00	2	558	151	**20**	50	4	0	1	3	0	0	0	0	789
09:00	**5**	549	149	19	40	2	0	2	1	0	0	0	0	767
10:00	2	619	162	15	52	3	0	1	2	0	0	0	0	856
11:00	1	**707**	**215**	15	**55**	3	0	2	1	0	0	0	0	**999**
12 PM	3	862	197	15	70	**4**	0	3	**3**	0	0	0	0	1157
13:00	**6**	842	236	**22**	70	2	0	**4**	2	0	0	0	0	1184
14:00	4	1029	257	18	**72**	3	0	4	0	0	0	0	0	1387
15:00	5	965	247	18	58	3	0	3	0	0	0	0	0	1299
16:00	1	**1045**	**283**	15	59	3	0	2	2	0	**1**	0	0	**1411**
17:00	2	979	238	13	48	2	0	0	1	0	0	0	0	1283
18:00	3	922	225	14	43	0	0	0	0	0	0	0	0	1207
19:00	1	762	175	10	39	1	0	0	0	0	0	0	0	988
20:00	1	750	180	6	29	0	0	0	0	0	0	0	0	966
21:00	0	655	146	3	29	0	0	0	0	0	0	0	0	833
22:00	2	639	166	8	43	0	0	0	0	0	0	0	0	858
23:00	1	615	147	7	18	1	0	0	0	0	0	0	0	789
Total	51	16273	3958	257	878	48	0	26	23	0	1	0	0	21515
Percent	0.2%	75.6%	18.4%	1.2%	4.1%	0.2%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	11:00	08:00	11:00	07:00		05:00	07:00					11:00
Vol.	5	707	215	20	55	5		3	5					999
PM Peak	13:00	16:00	16:00	13:00	14:00	12:00		13:00	12:00		16:00			16:00
Vol.	6	1045	283	22	72	4		4	3		1			1411
Grand Total	51	16273	3958	257	878	48	0	26	23	0	1	0	0	21515
Percent	0.2%	75.6%	18.4%	1.2%	4.1%	0.2%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Highland Avenue
B/ SR-210 Northbound Off Ramp - Victoria Avenue
24 Hour Directional Classification Count

HLD005
Site Code: 057-16653

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	2	863	134	1	15	0	0	0	0	0	0	0	0	1015
01:00	1	686	127	0	9	1	0	0	1	0	0	0	0	825
02:00	3	677	109	0	4	3	0	0	0	0	0	0	0	796
03:00	2	562	98	1	9	0	0	0	1	0	0	0	0	673
04:00	3	596	140	4	18	4	0	1	0	0	0	0	0	766
05:00	3	666	166	7	27	3	0	5	5	0	0	0	0	882
06:00	3	1087	238	18	57	9	0	1	2	**1**	0	0	0	1416
07:00	8	1297	293	27	74	**10**	0	7	**6**	0	**1**	0	0	1723
08:00	6	1305	299	30	87	6	0	5	5	0	0	0	0	1743
09:00	**9**	1310	305	**38**	80	2	0	5	2	0	0	0	0	1751
10:00	7	1431	363	29	88	5	0	4	5	1	0	0	0	1933
11:00	1	**1591**	**399**	30	**103**	8	0	**8**	3	0	0	0	0	**2143**
12 PM	9	1898	400	**31**	**125**	**8**	**1**	**7**	**3**	0	0	0	0	2482
13:00	8	1843	426	31	117	3	0	6	2	0	0	0	0	2436
14:00	9	**2081**	**466**	25	115	5	0	6	2	0	0	0	0	**2709**
15:00	9	1920	429	25	101	4	0	6	2	0	0	0	0	2496
16:00	**10**	1969	464	26	98	7	0	3	3	0	**1**	0	0	2581
17:00	5	2014	433	22	86	2	0	0	1	0	0	0	0	2563
18:00	10	1903	421	18	67	4	0	2	0	0	0	0	0	2425
19:00	5	1614	331	22	69	3	0	1	0	0	0	0	0	2045
20:00	5	1578	327	10	48	1	0	0	0	0	0	0	0	1969
21:00	3	1383	288	8	48	1	0	2	0	0	0	0	0	1733
22:00	6	1272	282	11	51	3	0	2	0	0	0	0	0	1627
23:00	1	1070	207	7	25	2	0	0	0	0	0	0	0	1312
Total	128	32616	7145	421	1521	94	1	71	43	2	2	0	0	42044
Percent	0.3%	77.6%	17.0%	1.0%	3.6%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	11:00	09:00	11:00	07:00		11:00	07:00	06:00	07:00			11:00
Vol.	9	1591	399	38	103	10		8	6	1	1			2143
PM Peak	16:00	14:00	14:00	12:00	12:00	12:00	12:00	12:00	12:00		16:00			14:00
Vol.	10	2081	466	31	125	8	1	7	3		1			2709
Grand Total	128	32616	7145	421	1521	94	1	71	43	2	2	0	0	42044
Percent	0.3%	77.6%	17.0%	1.0%	3.6%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Highland Avenue
B/ SR-210 Northbound Off Ramp - Victoria Avenue
24 Hour Directional Classification Count

HLD005
Site Code: 057-16653

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	1	530	106	0	10	0	0	1	0	0	0	0	0	648
01:00	1	359	70	0	9	0	0	0	0	0	0	0	0	439
02:00	0	316	64	1	9	0	0	0	1	0	0	0	0	391
03:00	0	245	49	0	3	0	0	0	0	0	0	0	0	297
04:00	1	210	42	0	6	1	0	0	**3**	0	0	0	0	263
05:00	3	301	65	1	12	2	0	4	0	0	0	0	0	388
06:00	0	379	84	0	9	2	**1**	1	0	0	0	0	0	476
07:00	**4**	369	70	3	24	**3**	0	5	0	0	0	0	0	478
08:00	0	460	122	9	21	2	0	0	3	0	0	0	0	617
09:00	4	685	141	**11**	24	2	0	**6**	1	0	0	0	0	874
10:00	3	844	200	9	31	1	0	0	0	0	0	0	0	1088
11:00	4	**966**	**213**	8	**35**	1	0	4	1	0	0	0	0	**1232**
12 PM	5	961	207	6	40	3	0	1	1	0	0	0	0	1224
13:00	2	1026	193	**10**	48	0	0	0	**2**	0	**1**	0	0	1282
14:00	2	**1114**	247	8	41	**4**	0	3	0	0	0	0	0	**1419**
15:00	3	1015	232	6	43	1	0	3	0	0	0	**1**	0	1304
16:00	1	1065	221	6	**53**	1	0	0	0	0	0	0	0	1347
17:00	1	1050	235	4	31	1	0	4	0	0	0	0	0	1326
18:00	2	1020	230	4	35	3	0	**5**	1	0	0	0	0	1300
19:00	3	1036	**261**	7	41	0	0	4	0	0	0	0	0	1352
20:00	5	1035	222	5	29	1	0	5	0	0	0	0	0	1302
21:00	1	986	221	2	38	0	0	5	1	**1**	0	0	0	1255
22:00	3	990	210	1	27	0	0	1	0	0	0	0	0	1232
23:00	**7**	793	168	0	25	2	0	0	0	0	0	0	0	995
Total	56	17755	3873	101	644	30	1	52	14	1	1	1	0	22529
Percent	0.2%	78.8%	17.2%	0.4%	2.9%	0.1%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	11:00	11:00	09:00	11:00	07:00	06:00	09:00	04:00					11:00
Vol.	4	966	213	11	35	3	1	6	3					1232
PM Peak	23:00	14:00	19:00	13:00	16:00	14:00		18:00	13:00	21:00	13:00	15:00		14:00
Vol.	7	1114	261	10	53	4		5	2	1	1	1		1419
Grand Total	56	17755	3873	101	644	30	1	52	14	1	1	1	0	22529
Percent	0.2%	78.8%	17.2%	0.4%	2.9%	0.1%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc

PO Box 1178
Corona, CA 92878
Phone: 951-268-6268
email: counts@countsunlimited.com

City of Highland
Highland Avenue
B/ SR-210 Northbound Off Ramp - Victoria Avenue
24 Hour Directional Classification Count

HLD005
Site Code: 057-16653

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	2	723	169	2	32	1	0	0	0	0	0	0	0	929
01:00	1	690	144	0	23	3	0	1	0	0	0	0	0	862
02:00	0	648	141	0	24	0	0	0	**1**	0	0	0	0	814
03:00	0	596	109	3	13	0	0	0	0	0	0	0	0	721
04:00	0	478	121	0	12	1	0	0	0	0	0	0	0	612
05:00	**4**	379	88	0	12	**4**	0	0	0	0	0	0	0	487
06:00	2	458	99	0	19	2	0	2	0	0	0	0	0	582
07:00	4	439	90	6	24	1	0	0	1	0	0	0	0	565
08:00	4	506	115	6	31	2	0	3	0	0	0	0	0	667
09:00	1	578	135	6	30	4	0	0	1	0	0	0	0	755
10:00	3	708	158	**10**	33	0	0	0	0	0	0	0	0	912
11:00	0	**751**	**191**	10	**44**	1	0	**5**	1	0	0	0	0	**1003**
12 PM	2	780	188	8	43	0	0	3	0	0	0	0	0	1024
13:00	1	941	190	13	46	**2**	0	1	**2**	0	0	0	0	1196
14:00	0	933	195	**14**	**47**	0	0	1	0	0	0	0	0	1190
15:00	2	**1107**	**251**	9	38	2	0	**4**	1	0	0	0	0	**1414**
16:00	2	1008	220	9	39	2	0	0	0	0	0	0	0	1280
17:00	0	1036	213	8	36	0	0	0	0	0	0	0	0	1293
18:00	0	1046	188	13	36	0	0	0	0	0	0	0	0	1283
19:00	3	886	185	8	31	0	0	0	0	0	0	0	0	1113
20:00	2	831	158	5	22	0	0	1	0	0	0	0	0	1019
21:00	2	796	150	2	37	1	0	0	1	0	0	0	0	989
22:00	**7**	900	185	6	24	0	0	0	0	0	0	0	0	1122
23:00	1	1012	184	4	32	0	0	0	0	0	0	0	0	1233
Total	43	18230	3867	142	728	26	0	21	8	0	0	0	0	23065
Percent	0.2%	79.0%	16.8%	0.6%	3.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	05:00	11:00	11:00	10:00	11:00	05:00		11:00	02:00					11:00
Vol.	4	751	191	10	44	4		5	1					1003
PM Peak	22:00	15:00	15:00	14:00	14:00	13:00		15:00	13:00					15:00
Vol.	7	1107	251	14	47	2		4	2					1414
Grand Total	43	18230	3867	142	728	26	0	21	8	0	0	0	0	23065
Percent	0.2%	79.0%	16.8%	0.6%	3.2%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Highland Avenue
B/ SR-210 Northbound Off Ramp - Victoria Avenue
24 Hour Directional Classification Count

HLD005
Site Code: 057-16653

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	3	1253	275	2	42	1	0	1	0	0	0	0	0	1577
01:00	2	1049	214	0	32	3	0	1	0	0	0	0	0	1301
02:00	0	964	205	1	33	0	0	0	2	0	0	0	0	1205
03:00	0	841	158	3	16	0	0	0	0	0	0	0	0	1018
04:00	1	688	163	0	18	2	0	0	**3**	0	0	0	0	875
05:00	7	680	153	1	24	**6**	0	4	0	0	0	0	0	875
06:00	2	837	183	0	28	4	**1**	3	0	0	0	0	0	1058
07:00	**8**	808	160	9	48	4	0	5	1	0	0	0	0	1043
08:00	4	966	237	15	52	4	0	3	3	0	0	0	0	1284
09:00	5	1263	276	17	54	6	0	6	2	0	0	0	0	1629
10:00	6	1552	358	**19**	64	1	0	0	0	0	0	0	0	2000
11:00	4	**1717**	**404**	18	**79**	2	0	**9**	2	0	0	0	0	**2235**
12 PM	7	1741	395	14	83	3	0	4	1	0	0	0	0	2248
13:00	3	1967	383	**23**	**94**	2	0	1	**4**	0	**1**	0	0	2478
14:00	2	2047	442	22	88	**4**	0	4	0	0	0	0	0	2609
15:00	5	**2122**	**483**	15	81	3	0	**7**	1	0	0	**1**	0	**2718**
16:00	3	2073	441	15	92	3	0	0	0	0	0	0	0	2627
17:00	1	2086	448	12	67	1	0	4	0	0	0	0	0	2619
18:00	2	2066	418	17	71	3	0	5	1	0	0	0	0	2583
19:00	6	1922	446	15	72	0	0	4	0	0	0	0	0	2465
20:00	7	1866	380	10	51	1	0	6	0	0	0	0	0	2321
21:00	3	1782	371	4	75	1	0	5	2	**1**	0	0	0	2244
22:00	**10**	1890	395	7	51	0	0	1	0	0	0	0	0	2354
23:00	8	1805	352	4	57	2	0	0	0	0	0	0	0	2228
Total	99	35985	7740	243	1372	56	1	73	22	1	1	1	0	45594
Percent	0.2%	78.9%	17.0%	0.5%	3.0%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	11:00	11:00	10:00	11:00	05:00	06:00	11:00	04:00					11:00
Vol.	8	1717	404	19	79	6	1	9	3					2235
PM Peak	22:00	15:00	15:00	13:00	13:00	14:00		15:00	13:00	21:00	13:00	15:00		15:00
Vol.	10	2122	483	23	94	4		7	4	1	1	1		2718
Grand Total	99	35985	7740	243	1372	56	1	73	22	1	1	1	0	45594
Percent	0.2%	78.9%	17.0%	0.5%	3.0%	0.1%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Highland Avenue
B/ Victoria Avenue - Central Avenue
24 Hour Directional Classification Count

HLD006
Site Code: 057-16653

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	0	91	11	0	8	1	0	0	0	0	0	0	0	111
01:00	0	80	10	0	10	0	0	0	**1**	0	0	0	0	101
02:00	0	106	11	0	9	0	0	0	0	0	0	0	0	126
03:00	0	88	15	0	8	0	0	0	1	0	0	0	0	112
04:00	1	101	11	0	8	0	0	0	0	0	0	0	0	121
05:00	1	147	21	1	18	2	0	0	1	0	0	0	0	191
06:00	1	335	65	2	20	2	0	2	0	0	0	0	0	427
07:00	**3**	373	82	5	30	1	0	**3**	1	0	0	0	0	498
08:00	2	**441**	71	**9**	19	0	0	3	1	0	0	0	0	546
09:00	1	344	75	8	23	0	0	2	1	0	0	0	0	454
10:00	0	389	**97**	7	21	0	0	2	0	0	0	0	0	516
11:00	1	417	96	7	**31**	**3**	0	3	0	0	0	0	0	**558**
12 PM	0	561	91	**7**	**32**	2	**1**	0	0	0	0	0	0	694
13:00	1	513	94	6	29	0	0	0	0	0	0	0	0	643
14:00	0	599	100	3	20	0	0	0	0	0	0	0	0	722
15:00	**6**	531	101	5	27	0	0	**1**	**2**	0	0	0	0	673
16:00	4	537	**103**	5	25	**4**	0	0	0	0	0	0	0	678
17:00	0	**612**	95	4	20	0	0	0	0	0	0	0	0	**731**
18:00	2	553	90	4	23	1	0	0	0	0	0	0	0	673
19:00	1	385	60	4	18	2	0	0	0	0	0	0	0	470
20:00	2	333	50	1	15	0	0	0	0	0	0	0	0	401
21:00	0	293	51	2	21	0	0	0	0	0	0	0	0	367
22:00	1	263	36	1	14	0	0	0	0	0	0	0	0	315
23:00	0	116	12	0	14	0	0	0	0	0	0	0	0	142
Total	27	8208	1448	81	463	18	1	16	8	0	0	0	0	10270
Percent	0.3%	79.9%	14.1%	0.8%	4.5%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	10:00	08:00	11:00	11:00		07:00	01:00					11:00
Vol.	3	441	97	9	31	3		3	1					558
PM Peak	15:00	17:00	16:00	12:00	12:00	16:00	12:00	15:00	15:00					17:00
Vol.	6	612	103	7	32	4	1	1	2					731
Grand Total	27	8208	1448	81	463	18	1	16	8	0	0	0	0	10270
Percent	0.3%	79.9%	14.1%	0.8%	4.5%	0.2%	0.0%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Highland Avenue
B/ Victoria Avenue - Central Avenue
24 Hour Directional Classification Count

HLD006
Site Code: 057-16653

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	0	93	16	0	2	0	0	0	0	0	0	0	0	111
01:00	0	68	7	0	4	0	0	0	0	0	0	0	0	79
02:00	0	103	23	0	2	0	0	0	**1**	0	0	0	0	129
03:00	1	119	20	0	4	0	0	0	0	0	0	0	0	144
04:00	**2**	125	19	1	8	0	0	0	0	0	0	0	0	155
05:00	1	121	40	2	14	0	0	0	1	0	0	0	0	179
06:00	0	274	68	3	23	**1**	0	0	0	0	0	0	0	369
07:00	0	310	73	8	27	1	0	1	0	0	0	0	0	420
08:00	1	356	82	**15**	**31**	0	0	1	0	0	0	0	0	486
09:00	0	327	100	6	17	0	0	0	1	0	0	0	0	451
10:00	2	415	93	6	30	0	0	**2**	0	0	0	0	0	548
11:00	1	**466**	**114**	4	31	0	0	0	1	0	0	0	0	**617**
12 PM	0	530	127	8	35	2	0	1	**1**	0	0	0	0	704
13:00	4	447	118	5	**50**	1	0	0	0	0	0	0	0	625
14:00	1	584	126	7	30	1	0	1	0	0	0	0	0	750
15:00	1	599	**159**	**11**	42	0	0	**3**	0	0	0	0	0	815
16:00	1	**644**	151	5	39	0	0	1	1	0	0	0	0	**842**
17:00	0	618	132	5	33	0	0	0	0	0	0	0	0	788
18:00	5	514	113	4	26	0	0	0	0	0	0	0	0	662
19:00	1	371	83	3	23	**3**	0	0	0	0	0	0	0	484
20:00	0	375	60	2	19	0	0	0	0	0	0	0	0	456
21:00	1	263	53	2	12	0	0	0	0	0	0	0	0	331
22:00	**6**	272	60	2	14	0	0	0	0	0	0	0	0	354
23:00	3	246	51	1	8	0	0	0	0	0	0	0	0	309
Total	31	8240	1888	100	524	9	0	10	6	0	0	0	0	10808
Percent	0.3%	76.2%	17.5%	0.9%	4.8%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	04:00	11:00	11:00	08:00	08:00	06:00		10:00	02:00					11:00
Vol.	2	466	114	15	31	1		2	1					617
PM Peak	22:00	16:00	15:00	15:00	13:00	19:00		15:00	12:00					16:00
Vol.	6	644	159	11	50	3		3	1					842
Grand Total	31	8240	1888	100	524	9	0	10	6	0	0	0	0	10808
Percent	0.3%	76.2%	17.5%	0.9%	4.8%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	

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City of Highland
Highland Avenue
B/ Victoria Avenue - Central Avenue
24 Hour Directional Classification Count

HLD006
Site Code: 057-16653

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/07/16	0	184	27	0	10	1	0	0	0	0	0	0	0	222
01:00	0	148	17	0	14	0	0	0	1	0	0	0	0	180
02:00	0	209	34	0	11	0	0	0	1	0	0	0	0	255
03:00	1	207	35	0	12	0	0	0	1	0	0	0	0	256
04:00	**3**	226	30	1	16	0	0	0	0	0	0	0	0	276
05:00	2	268	61	3	32	2	0	0	**2**	0	0	0	0	370
06:00	1	609	133	5	43	**3**	0	2	0	0	0	0	0	796
07:00	3	683	155	13	57	2	0	**4**	1	0	0	0	0	918
08:00	3	797	153	**24**	50	0	0	4	1	0	0	0	0	1032
09:00	1	671	175	14	40	0	0	2	2	0	0	0	0	905
10:00	2	804	190	13	51	0	0	4	0	0	0	0	0	1064
11:00	2	**883**	**210**	11	**62**	3	0	3	1	0	0	0	0	**1175**
12 PM	0	1091	218	15	67	4	**1**	1	1	0	0	0	0	1398
13:00	5	960	212	11	**79**	1	0	0	0	0	0	0	0	1268
14:00	1	1183	226	10	50	1	0	1	0	0	0	0	0	1472
15:00	**7**	1130	**260**	**16**	69	0	0	**4**	**2**	0	0	0	0	1488
16:00	5	1181	254	10	64	4	0	1	1	0	0	0	0	**1520**
17:00	0	**1230**	227	9	53	0	0	0	0	0	0	0	0	1519
18:00	7	1067	203	8	49	1	0	0	0	0	0	0	0	1335
19:00	2	756	143	7	41	**5**	0	0	0	0	0	0	0	954
20:00	2	708	110	3	34	0	0	0	0	0	0	0	0	857
21:00	1	556	104	4	33	0	0	0	0	0	0	0	0	698
22:00	7	535	96	3	28	0	0	0	0	0	0	0	0	669
23:00	3	362	63	1	22	0	0	0	0	0	0	0	0	451
Total	58	16448	3336	181	987	27	1	26	14	0	0	0	0	21078
Percent	0.3%	78.0%	15.8%	0.9%	4.7%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	
AM Peak	04:00	11:00	11:00	08:00	11:00	06:00		07:00	05:00					11:00
Vol.	3	883	210	24	62	3		4	2					1175
PM Peak	15:00	17:00	15:00	15:00	13:00	19:00	12:00	15:00	15:00					16:00
Vol.	7	1230	260	16	79	5	1	4	2					1520
Grand Total	58	16448	3336	181	987	27	1	26	14	0	0	0	0	21078
Percent	0.3%	78.0%	15.8%	0.9%	4.7%	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	

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B/ Victoria Avenue - Central Avenue
24 Hour Directional Classification Count

HLD006
Site Code: 057-16653

Eastbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	0	142	16	0	16	0	0	0	0	0	0	0	0	174
01:00	0	108	7	0	11	0	0	0	0	0	0	0	0	126
02:00	0	145	14	0	8	0	0	0	0	0	0	0	0	167
03:00	0	104	9	0	9	0	0	0	0	0	0	0	0	122
04:00	2	86	7	0	12	0	0	0	**1**	0	0	0	0	108
05:00	3	153	22	0	10	1	0	0	0	0	0	0	0	189
06:00	1	238	31	**4**	9	1	0	1	0	0	0	0	0	285
07:00	2	189	34	1	13	1	0	**3**	0	0	0	0	0	243
08:00	0	239	38	3	9	0	0	0	0	0	0	0	0	289
09:00	**4**	365	61	3	14	**2**	0	0	0	0	0	0	0	449
10:00	4	457	72	3	**21**	0	0	0	0	0	0	0	0	557
11:00	2	**525**	**99**	3	19	0	0	0	1	0	0	0	0	**649**
12 PM	3	512	96	3	15	**2**	0	0	**1**	0	0	0	0	632
13:00	3	530	102	**4**	**22**	0	0	0	0	0	0	0	0	661
14:00	1	**627**	**105**	3	16	0	0	0	0	0	0	0	0	**752**
15:00	**4**	500	103	3	16	0	0	0	0	0	0	0	0	626
16:00	1	559	103	3	22	0	0	**1**	0	0	0	0	0	689
17:00	0	531	74	3	20	0	0	0	0	0	0	0	0	628
18:00	0	489	73	2	10	0	0	1	0	0	0	0	0	575
19:00	2	391	54	3	20	0	0	0	0	0	0	0	0	470
20:00	2	322	43	3	15	0	0	0	0	0	0	0	0	385
21:00	4	333	40	1	10	0	0	0	0	0	0	0	0	388
22:00	0	325	41	0	13	1	0	0	0	0	0	0	0	380
23:00	4	194	29	0	10	2	0	0	0	0	0	0	0	239
Total	42	8064	1273	45	340	10	0	6	3	0	0	0	0	9783
Percent	0.4%	82.4%	13.0%	0.5%	3.5%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	09:00	11:00	11:00	06:00	10:00	09:00		07:00	04:00					11:00
Vol.	4	525	99	4	21	2		3	1					649
PM Peak	15:00	14:00	14:00	13:00	13:00	12:00		16:00	12:00					14:00
Vol.	4	627	105	4	22	2		1	1					752
Grand Total	42	8064	1273	45	340	10	0	6	3	0	0	0	0	9783
Percent	0.4%	82.4%	13.0%	0.5%	3.5%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	

Counts Unlimited, Inc.

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

City of Highland
Highland Avenue
B/ Victoria Avenue - Central Avenue
24 Hour Directional Classification Count

HLD006
Site Code: 057-16653

Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	1	141	30	0	6	0	0	0	0	0	0	0	0	178
01:00	0	125	17	0	1	0	0	0	0	0	0	0	0	143
02:00	1	113	21	0	4	1	0	0	**1**	0	0	0	0	141
03:00	0	102	23	0	4	0	0	0	0	0	0	0	0	129
04:00	0	116	25	0	4	0	0	0	0	0	0	0	0	145
05:00	0	91	25	0	6	0	0	0	0	0	0	0	0	122
06:00	1	193	51	1	15	0	0	0	1	0	0	0	0	262
07:00	0	174	46	3	7	1	0	0	0	0	0	0	0	231
08:00	1	216	64	3	19	0	0	0	0	0	0	0	0	303
09:00	0	335	86	2	**30**	**3**	0	1	0	0	0	0	0	457
10:00	2	432	133	2	25	0	0	1	0	0	0	0	0	595
11:00	**3**	**444**	**144**	**4**	26	0	0	**2**	1	0	0	0	0	**624**
12 PM	0	469	125	2	31	0	0	2	0	0	0	0	0	629
13:00	3	535	141	2	**52**	0	0	0	**2**	0	0	0	0	735
14:00	1	**608**	133	4	43	0	0	2	0	0	0	0	0	791
15:00	5	587	**177**	4	36	0	0	2	0	0	0	0	0	**811**
16:00	1	535	133	**5**	34	0	0	**3**	0	0	0	0	0	711
17:00	1	541	141	2	37	0	0	1	0	0	0	0	0	723
18:00	4	517	95	4	19	0	0	0	0	0	0	0	0	639
19:00	2	389	89	1	28	0	0	0	0	0	0	0	0	509
20:00	6	394	69	1	20	0	0	0	0	0	0	0	0	490
21:00	2	281	80	0	11	**1**	0	0	0	0	0	0	0	375
22:00	**8**	308	64	0	11	0	0	0	0	0	0	0	0	391
23:00	2	255	51	1	16	0	0	0	0	0	0	0	0	325
Total	44	7901	1963	41	485	6	0	14	5	0	0	0	0	10459
Percent	0.4%	75.5%	18.8%	0.4%	4.6%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00	11:00	09:00	09:00		11:00	02:00					11:00
Vol.	3	444	144	4	30	3		2	1					624
PM Peak	22:00	14:00	15:00	16:00	13:00	21:00		16:00	13:00					15:00
Vol.	8	608	177	5	52	1		3	2					811
Grand Total	44	7901	1963	41	485	6	0	14	5	0	0	0	0	10459
Percent	0.4%	75.5%	18.8%	0.4%	4.6%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	

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24 Hour Directional Classification Count

HLD006
Site Code: 057-16653

Eastbound, Westbound

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
12/10/16	1	283	46	0	22	0	0	0	0	0	0	0	0	352
01:00	0	233	24	0	12	0	0	0	0	0	0	0	0	269
02:00	1	258	35	0	12	1	0	0	1	0	0	0	0	308
03:00	0	206	32	0	13	0	0	0	0	0	0	0	0	251
04:00	2	202	32	0	16	0	0	0	1	0	0	0	0	253
05:00	3	244	47	0	16	1	0	0	0	0	0	0	0	311
06:00	2	431	82	5	24	1	0	1	1	0	0	0	0	547
07:00	2	363	80	4	20	2	0	**3**	0	0	0	0	0	474
08:00	1	455	102	6	28	0	0	0	0	0	0	0	0	592
09:00	4	700	147	5	44	**5**	0	1	0	0	0	0	0	906
10:00	**6**	889	205	5	**46**	0	0	1	0	0	0	0	0	1152
11:00	5	**969**	**243**	**7**	45	0	0	2	**2**	0	0	0	0	**1273**
12 PM	3	981	221	5	46	**2**	0	2	1	0	0	0	0	1261
13:00	6	1065	243	6	**74**	0	0	0	**2**	0	0	0	0	1396
14:00	2	**1235**	238	7	59	0	0	2	0	0	0	0	0	**1543**
15:00	**9**	1087	**280**	7	52	0	0	2	0	0	0	0	0	1437
16:00	2	1094	236	**8**	56	0	0	**4**	0	0	0	0	0	1400
17:00	1	1072	215	5	57	0	0	1	0	0	0	0	0	1351
18:00	4	1006	168	6	29	0	0	1	0	0	0	0	0	1214
19:00	4	780	143	4	48	0	0	0	0	0	0	0	0	979
20:00	8	716	112	4	35	0	0	0	0	0	0	0	0	875
21:00	6	614	120	1	21	1	0	0	0	0	0	0	0	763
22:00	8	633	105	0	24	1	0	0	0	0	0	0	0	771
23:00	6	449	80	1	26	2	0	0	0	0	0	0	0	564
Total	86	15965	3236	86	825	16	0	20	8	0	0	0	0	20242
Percent	0.4%	78.9%	16.0%	0.4%	4.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	11:00	11:00	10:00	09:00		07:00	11:00					11:00
Vol.	6	969	243	7	46	5		3	2					1273
PM Peak	15:00	14:00	15:00	16:00	13:00	12:00		16:00	13:00					14:00
Vol.	9	1235	280	8	74	2		4	2					1543
Grand Total	86	15965	3236	86	825	16	0	20	8	0	0	0	0	20242
Percent	0.4%	78.9%	16.0%	0.4%	4.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	

APPENDIX B

YEAR 2040 WITHOUT PROJECT (GENERAL PLAN BUILDOUT) TRAFFIC VOLUMES

APPENDIX B-I

INTERSECTION VOLUMES

1. Victoria Avenue at Road A

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	56	NORTHBOUND	
	THRU	37	IN ...	110
	RIGHT	17	OUT ...	53
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	15	IN ...	19
	RIGHT	4	OUT ...	40
EAST BOUND	LEFT	2	EASTBOUND	
	THRU	9	IN ...	47
	RIGHT	36	OUT ...	73
WEST BOUND	LEFT	2	WESTBOUND	
	THRU	13	IN ...	16
	RIGHT	1	OUT ...	26

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	56	56
	THRU	37	37
	RIGHT	17	17
SOUTH BOUND	LEFT	0	0
	THRU	15	15
	RIGHT	4	4
EAST BOUND	LEFT	2	2
	THRU	9	9
	RIGHT	36	36
WEST BOUND	LEFT	2	2
	THRU	13	13
	RIGHT	1	1

2. Victoria Avenue at Road B

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	63
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	63	IN ...	63
	RIGHT	0	OUT ...	0
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	57
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	57	IN ...	57
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	63	63
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	57	57
	RIGHT	0	0

3. Victoria Avenue at Driveway C

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	19	NORTHBOUND	
	THRU	190	IN ...	210
	RIGHT	1	OUT ...	105
SOUTH BOUND	LEFT	9	SOUTHBOUND	
	THRU	96	IN ...	123
	RIGHT	18	OUT ...	212
EAST BOUND	LEFT	22	EASTBOUND	
	THRU	5	IN ...	36
	RIGHT	9	OUT ...	37
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	15

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	19	19
	THRU	190	190
	RIGHT	1	1
SOUTH BOUND	LEFT	9	9
	THRU	96	96
	RIGHT	18	18
EAST BOUND	LEFT	22	22
	THRU	5	5
	RIGHT	9	9
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

4. Victoria Avenue at Driveway D

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	361	IN ...	361
	RIGHT	0	OUT ...	178
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	104	IN ...	104
	RIGHT	0	OUT ...	361
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	74
	RIGHT	74	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	361	361
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	104	104
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	74	74
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

5. Victoria Avenue at Lynwood Drive

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	178	NORTHBOUND	
	THRU	359	IN ...	582
	RIGHT	0	OUT ...	408
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	177	IN ...	199
	RIGHT	0	OUT ...	487
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	292
	RIGHT	212	OUT ...	178
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	178	205
	THRU	359	487
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	177	204
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	212	243
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

6. Victoria Avenue at Mirada Road

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	385	IN ...	655
	RIGHT	230	OUT ...	582
SOUTH BOUND	LEFT	10	SOUTHBOUND	
	THRU	425	IN ...	454
	RIGHT	0	OUT ...	437
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	137	WESTBOUND	
	THRU	0	IN ...	141
	RIGHT	7	OUT ...	231

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	385	443
	RIGHT	230	266
SOUTH BOUND	LEFT	10	11
	THRU	425	489
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	137	160
	THRU	0	0
	RIGHT	7	8

7. Victoria Avenue at Date Street

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	639	IN ...	775
	RIGHT	96	OUT ...	579
SOUTH BOUND	LEFT	21	SOUTHBOUND	
	THRU	556	IN ...	597
	RIGHT	0	OUT ...	681
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	3	WESTBOUND	
	THRU	0	IN ...	5
	RIGHT	2	OUT ...	117

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	639	737
	RIGHT	96	111
SOUTH BOUND	LEFT	21	24
	THRU	556	642
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	3	3
	THRU	0	0
	RIGHT	2	2

8. Sterling Avenue at Highland Avenue

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	114	NORTHBOUND	
	THRU	375	IN ...	450
	RIGHT	34	OUT ...	590
SOUTH BOUND	LEFT	94	SOUTHBOUND	
	THRU	430	IN ...	547
	RIGHT	50	OUT ...	423
EAST BOUND	LEFT	28	EASTBOUND	
	THRU	190	IN ...	307
	RIGHT	86	OUT ...	325
WEST BOUND	LEFT	104	WESTBOUND	
	THRU	233	IN ...	330
	RIGHT	72	OUT ...	296

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	114	131
	THRU	375	441
	RIGHT	34	39
SOUTH BOUND	LEFT	94	109
	THRU	430	498
	RIGHT	50	62
EAST BOUND	LEFT	28	42
	THRU	190	265
	RIGHT	86	99
WEST BOUND	LEFT	104	119
	THRU	233	368
	RIGHT	72	86

9. SR-210 EB Off-Ramp at Highland Avenue

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
SOUTH BOUND	LEFT	824	SOUTHBOUND	
	THRU	0	IN ...	1099
	RIGHT	203	OUT ...	0
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	271	IN ...	245
	RIGHT	0	OUT ...	414
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	324	IN ...	238
	RIGHT	0	OUT ...	1169

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
SOUTH BOUND	LEFT	824	947
	THRU	0	0
	RIGHT	203	233
EAST BOUND	LEFT	0	0
	THRU	271	359
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	324	475
	RIGHT	0	0

10. Arden Avenue at Highland Avenue

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	289	NORTHBOUND	
	THRU	167	IN ...	586
	RIGHT	72	OUT ...	820
SOUTH BOUND	LEFT	42	SOUTHBOUND	
	THRU	353	IN ...	609
	RIGHT	327	OUT ...	234
EAST BOUND	LEFT	81	EASTBOUND	
	THRU	720	IN ...	1127
	RIGHT	214	OUT ...	1213
WEST BOUND	LEFT	151	WESTBOUND	
	THRU	821	IN ...	899
	RIGHT	146	OUT ...	956

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	289	350
	THRU	167	218
	RIGHT	72	113
SOUTH BOUND	LEFT	42	61
	THRU	353	442
	RIGHT	327	399
EAST BOUND	LEFT	81	118
	THRU	720	833
	RIGHT	214	281
WEST BOUND	LEFT	151	182
	THRU	821	1,024
	RIGHT	146	202

11. Arden Avenue at SR-210 EB On-Ramp

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	526	IN ...	685
	RIGHT	101	OUT ...	555
SOUTH BOUND	LEFT	266	SOUTHBOUND	
	THRU	451	IN ...	819
	RIGHT	0	OUT ...	584
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	364

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	526	631
	RIGHT	101	116
SOUTH BOUND	LEFT	266	334
	THRU	451	555
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

12. SR-210 WB Off-Ramp at Highland Avenue

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	274	NORTHBOUND	
	THRU	4	IN ...	279
	RIGHT	119	OUT ...	0
SOUTH BOUND	LEFT	2	SOUTHBOUND	
	THRU	0	IN ...	3
	RIGHT	1	OUT ...	15
EAST BOUND	LEFT	9	EASTBOUND	
	THRU	823	IN ...	954
	RIGHT	0	OUT ...	907
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	851	IN ...	756
	RIGHT	2	OUT ...	1,068

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	274	407
	THRU	4	4
	RIGHT	119	137
SOUTH BOUND	LEFT	2	2
	THRU	0	0
	RIGHT	1	1
EAST BOUND	LEFT	9	10
	THRU	823	963
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	851	1,000
	RIGHT	2	2

13. Victoria Avenue at Highland Avenue

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	237	NORTHBOUND	
	THRU	248	IN ...	453
	RIGHT	42	OUT ...	352
SOUTH BOUND	LEFT	101	SOUTHBOUND	
	THRU	207	IN ...	558
	RIGHT	231	OUT ...	742
EAST BOUND	LEFT	366	EASTBOUND	
	THRU	417	IN ...	1,032
	RIGHT	114	OUT ...	695
WEST BOUND	LEFT	40	WESTBOUND	
	THRU	327	IN ...	429
	RIGHT	78	OUT ...	682

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	237	281
	THRU	248	285
	RIGHT	42	48
SOUTH BOUND	LEFT	101	131
	THRU	207	238
	RIGHT	231	268
EAST BOUND	LEFT	366	423
	THRU	417	508
	RIGHT	114	138
WEST BOUND	LEFT	40	46
	THRU	327	393
	RIGHT	78	91

14. Palm Avenue at Highland Avenue

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	103	NORTHBOUND	
	THRU	116	IN ...	299
	RIGHT	68	OUT ...	299
SOUTH BOUND	LEFT	47	SOUTHBOUND	
	THRU	130	IN ...	332
	RIGHT	129	OUT ...	268
EAST BOUND	LEFT	122	EASTBOUND	
	THRU	239	IN ...	493
	RIGHT	90	OUT ...	513
WEST BOUND	LEFT	44	WESTBOUND	
	THRU	293	IN ...	327
	RIGHT	50	OUT ...	371

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	103	120
	THRU	116	134
	RIGHT	68	78
SOUTH BOUND	LEFT	47	54
	THRU	130	149
	RIGHT	129	148
EAST BOUND	LEFT	122	140
	THRU	239	292
	RIGHT	90	114
WEST BOUND	LEFT	44	50
	THRU	293	357
	RIGHT	50	57

15. Victoria Avenue at Pacific Street

AM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	176	NORTHBOUND	
	THRU	315	IN ...	442
	RIGHT	30	OUT ...	538
SOUTH BOUND	LEFT	68	SOUTHBOUND	
	THRU	278	IN ...	446
	RIGHT	107	OUT ...	465
EAST BOUND	LEFT	141	EASTBOUND	
	THRU	257	IN ...	663
	RIGHT	249	OUT ...	616
WEST BOUND	LEFT	54	WESTBOUND	
	THRU	336	IN ...	451
	RIGHT	82	OUT ...	382

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	176	203
	THRU	315	371
	RIGHT	30	34
SOUTH BOUND	LEFT	68	78
	THRU	278	327
	RIGHT	107	123
EAST BOUND	LEFT	141	162
	THRU	257	296
	RIGHT	249	286
WEST BOUND	LEFT	54	62
	THRU	336	387
	RIGHT	82	94

1. Victoria Avenue at Road A

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	33	NORTHBOUND	
	THRU	9	IN ...	51
	RIGHT	9	OUT ...	120
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	36	IN ...	38
	RIGHT	2	OUT ...	16
EAST BOUND	LEFT	7	EASTBOUND	
	THRU	10	IN ...	84
	RIGHT	67	OUT ...	44
WEST BOUND	LEFT	17	WESTBOUND	
	THRU	9	IN ...	26
	RIGHT	0	OUT ...	19

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	33	33
	THRU	9	9
	RIGHT	9	9
SOUTH BOUND	LEFT	0	0
	THRU	36	36
	RIGHT	2	2
EAST BOUND	LEFT	7	7
	THRU	10	10
	RIGHT	67	67
WEST BOUND	LEFT	17	17
	THRU	9	9
	RIGHT	0	0

2. Victoria Avenue at Road B

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	187
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	187	IN ...	187
	RIGHT	0	OUT ...	0
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	125
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	125	IN ...	125
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	187	187
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	125	125
	RIGHT	0	0

3. Victoria Avenue at Driveway C

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	38	NORTHBOUND	
	THRU	193	IN ...	232
	RIGHT	1	OUT ...	265
SOUTH BOUND	LEFT	18	SOUTHBOUND	
	THRU	236	IN ...	275
	RIGHT	21	OUT ...	211
EAST BOUND	LEFT	18	EASTBOUND	
	THRU	4	IN ...	51
	RIGHT	29	OUT ...	59
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	23

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	38	38
	THRU	193	193
	RIGHT	1	1
SOUTH BOUND	LEFT	18	18
	THRU	236	236
	RIGHT	21	21
EAST BOUND	LEFT	18	18
	THRU	4	4
	RIGHT	29	29
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

4. Victoria Avenue at Driveway D

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	485	IN ...	485
	RIGHT	0	OUT ...	600
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	270	IN ...	270
	RIGHT	0	OUT ...	485
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	330
	RIGHT	330	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	485	485
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	270	270
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	330	330
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

5. Victoria Avenue at Lynwood Drive

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	272	NORTHBOUND	
	THRU	519	IN ...	765
	RIGHT	0	OUT ...	857
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	521	IN ...	616
	RIGHT	0	OUT ...	531
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	313
	RIGHT	281	OUT ...	304
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	272	312
	THRU	519	597
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	521	599
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	281	323
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

6. Victoria Avenue at Mirada Road

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	741	IN ...	748
	RIGHT	33	OUT ...	805
SOUTH BOUND	LEFT	12	SOUTHBOUND	
	THRU	708	IN ...	775
	RIGHT	0	OUT ...	721
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	42	WESTBOUND	
	THRU	0	IN ...	41
	RIGHT	6	OUT ...	39

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	741	852
	RIGHT	33	40
SOUTH BOUND	LEFT	12	14
	THRU	708	814
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	42	50
	THRU	0	0
	RIGHT	6	7

7. Victoria Avenue at Date Street

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	722	IN ...	697
	RIGHT	1	OUT ...	856
SOUTH BOUND	LEFT	3	SOUTHBOUND	
	THRU	761	IN ...	819
	RIGHT	0	OUT ...	731
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	40	WESTBOUND	
	THRU	0	IN ...	75
	RIGHT	35	OUT ...	4

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	722	832
	RIGHT	1	1
SOUTH BOUND	LEFT	3	3
	THRU	761	877
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	40	46
	THRU	0	0
	RIGHT	35	41

8. Sterling Avenue at Highland Avenue

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	142	NORTHBOUND	
	THRU	465	IN ...	581
	RIGHT	69	OUT ...	557
SOUTH BOUND	LEFT	122	SOUTHBOUND	
	THRU	295	IN ...	437
	RIGHT	78	OUT ...	639
EAST BOUND	LEFT	140	EASTBOUND	
	THRU	471	IN ...	688
	RIGHT	177	OUT ...	625
WEST BOUND	LEFT	146	WESTBOUND	
	THRU	420	IN ...	679
	RIGHT	139	OUT ...	564

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	142	163
	THRU	465	537
	RIGHT	69	79
SOUTH BOUND	LEFT	122	141
	THRU	295	342
	RIGHT	78	92
EAST BOUND	LEFT	140	163
	THRU	471	582
	RIGHT	177	204
WEST BOUND	LEFT	146	168
	THRU	420	516
	RIGHT	139	161

9. SR-210 EB Off-Ramp at Highland Avenue

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
SOUTH BOUND	LEFT	825	SOUTHBOUND	
	THRU	0	IN ...	902
	RIGHT	175	OUT ...	0
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	683	IN ...	571
	RIGHT	0	OUT ...	686
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	538	IN ...	530
	RIGHT	0	OUT ...	1317

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
SOUTH BOUND	LEFT	825	949
	THRU	0	0
	RIGHT	175	202
EAST BOUND	LEFT	0	0
	THRU	683	827
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	538	653
	RIGHT	0	0

10. Arden Avenue at Highland Avenue

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	191	NORTHBOUND	
	THRU	91	IN ...	476
	RIGHT	41	OUT ...	725
SOUTH BOUND	LEFT	71	SOUTHBOUND	
	THRU	204	IN ...	380
	RIGHT	250	OUT ...	294
EAST BOUND	LEFT	162	EASTBOUND	
	THRU	976	IN ...	1352
	RIGHT	357	OUT ...	1879
WEST BOUND	LEFT	132	WESTBOUND	
	THRU	1271	IN ...	1722
	RIGHT	172	OUT ...	1033

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	191	308
	THRU	91	120
	RIGHT	41	76
SOUTH BOUND	LEFT	71	93
	THRU	204	261
	RIGHT	250	303
EAST BOUND	LEFT	162	202
	THRU	976	1,129
	RIGHT	357	431
WEST BOUND	LEFT	132	188
	THRU	1,271	1,480
	RIGHT	172	220

11. Arden Avenue at SR-210 EB On-Ramp

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	326	IN ...	570
	RIGHT	89	OUT ...	390
SOUTH BOUND	LEFT	340	SOUTHBOUND	
	THRU	335	IN ...	707
	RIGHT	0	OUT ...	479
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	408

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	326	479
	RIGHT	89	102
SOUTH BOUND	LEFT	340	421
	THRU	335	401
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

12. SR-210 WB Off-Ramp at Highland Avenue

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	263	NORTHBOUND	
	THRU	3	IN ...	338
	RIGHT	97	OUT ...	0
SOUTH BOUND	LEFT	9	SOUTHBOUND	
	THRU	0	IN ...	34
	RIGHT	25	OUT ...	44
EAST BOUND	LEFT	23	EASTBOUND	
	THRU	1125	IN ...	1,093
	RIGHT	0	OUT ...	1,715
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	1280	IN ...	1,481
	RIGHT	18	OUT ...	1,188

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	263	326
	THRU	3	3
	RIGHT	97	112
SOUTH BOUND	LEFT	9	10
	THRU	0	0
	RIGHT	25	29
EAST BOUND	LEFT	23	26
	THRU	1,125	1,311
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	1,280	1,489
	RIGHT	18	21

13. Victoria Avenue at Highland Avenue

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	225	NORTHBOUND	
	THRU	193	IN ...	477
	RIGHT	68	OUT ...	331
SOUTH BOUND	LEFT	185	SOUTHBOUND	
	THRU	133	IN ...	891
	RIGHT	497	OUT ...	722
EAST BOUND	LEFT	389	EASTBOUND	
	THRU	547	IN ...	1,022
	RIGHT	146	OUT ...	1,534
WEST BOUND	LEFT	91	WESTBOUND	
	THRU	628	IN ...	1,031
	RIGHT	151	OUT ...	833

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	225	264
	THRU	193	222
	RIGHT	68	78
SOUTH BOUND	LEFT	185	216
	THRU	133	153
	RIGHT	497	574
EAST BOUND	LEFT	389	449
	THRU	547	648
	RIGHT	146	175
WEST BOUND	LEFT	91	105
	THRU	628	761
	RIGHT	151	178

14. Palm Avenue at Highland Avenue

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	174	NORTHBOUND	
	THRU	75	IN ...	463
	RIGHT	161	OUT ...	274
SOUTH BOUND	LEFT	41	SOUTHBOUND	
	THRU	51	IN ...	87
	RIGHT	58	OUT ...	186
EAST BOUND	LEFT	63	EASTBOUND	
	THRU	632	IN ...	839
	RIGHT	156	OUT ...	737
WEST BOUND	LEFT	108	WESTBOUND	
	THRU	456	IN ...	587
	RIGHT	37	OUT ...	779

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	174	228
	THRU	75	87
	RIGHT	161	185
SOUTH BOUND	LEFT	41	47
	THRU	51	59
	RIGHT	58	67
EAST BOUND	LEFT	63	72
	THRU	632	752
	RIGHT	156	180
WEST BOUND	LEFT	108	124
	THRU	456	549
	RIGHT	37	43

15. Victoria Avenue at Pacific Street

PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	162	NORTHBOUND	
	THRU	355	IN ...	480
	RIGHT	49	OUT ...	424
SOUTH BOUND	LEFT	64	SOUTHBOUND	
	THRU	298	IN ...	407
	RIGHT	82	OUT ...	489
EAST BOUND	LEFT	81	EASTBOUND	
	THRU	325	IN ...	601
	RIGHT	204	OUT ...	477
WEST BOUND	LEFT	46	WESTBOUND	
	THRU	214	IN ...	363
	RIGHT	61	OUT ...	459

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	162	186
	THRU	355	414
	RIGHT	49	56
SOUTH BOUND	LEFT	64	73
	THRU	298	349
	RIGHT	82	97
EAST BOUND	LEFT	81	99
	THRU	325	374
	RIGHT	204	234
WEST BOUND	LEFT	46	53
	THRU	214	249
	RIGHT	61	78

1. Victoria Avenue at Road A

SAT PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	80	NORTHBOUND	
	THRU	11	IN ...	93
	RIGHT	2	OUT ...	81
SOUTH BOUND	LEFT	2	SOUTHBOUND	
	THRU	22	IN ...	29
	RIGHT	5	OUT ...	16
EAST BOUND	LEFT	4	EASTBOUND	
	THRU	4	IN ...	62
	RIGHT	54	OUT ...	88
WEST BOUND	LEFT	5	WESTBOUND	
	THRU	3	IN ...	9
	RIGHT	1	OUT ...	8

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	80	80
	THRU	11	11
	RIGHT	2	2
SOUTH BOUND	LEFT	2	2
	THRU	22	22
	RIGHT	5	5
EAST BOUND	LEFT	4	4
	THRU	4	4
	RIGHT	54	54
WEST BOUND	LEFT	5	5
	THRU	3	3
	RIGHT	1	1

2. Victoria Avenue at Road B

SAT PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	130
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	130	IN ...	130
	RIGHT	0	OUT ...	0
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	179
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	179	IN ...	179
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	130	130
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	179	179
	RIGHT	0	0

3. Victoria Avenue at Driveway C

SAT PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	95	NORTHBOUND	
	THRU	372	IN ...	477
	RIGHT	10	OUT ...	259
SOUTH BOUND	LEFT	31	SOUTHBOUND	
	THRU	226	IN ...	270
	RIGHT	13	OUT ...	381
EAST BOUND	LEFT	9	EASTBOUND	
	THRU	7	IN ...	49
	RIGHT	33	OUT ...	108
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	48

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	95	95
	THRU	372	372
	RIGHT	10	10
SOUTH BOUND	LEFT	31	31
	THRU	226	226
	RIGHT	13	13
EAST BOUND	LEFT	9	9
	THRU	7	7
	RIGHT	33	33
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

4. Victoria Avenue at Driveway D

SAT PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	810	IN ...	810
	RIGHT	0	OUT ...	671
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	254	IN ...	254
	RIGHT	0	OUT ...	810
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	417
	RIGHT	417	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	810	810
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	254	254
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	417	417
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

5. Victoria Avenue at Lynwood Drive

SAT PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	142	NORTHBOUND	
	THRU	805	IN ...	915
	RIGHT	0	OUT ...	899
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	654	IN ...	772
	RIGHT	0	OUT ...	824
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	209
	RIGHT	188	OUT ...	159
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	142	163
	THRU	805	926
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	654	751
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	188	216
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

6. Victoria Avenue at Mirada Road

SAT PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	895	IN ...	884
	RIGHT	20	OUT ...	852
SOUTH BOUND	LEFT	8	SOUTHBOUND	
	THRU	774	IN ...	841
	RIGHT	0	OUT ...	867
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	20	WESTBOUND	
	THRU	0	IN ...	21
	RIGHT	4	OUT ...	24

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	895	1,029
	RIGHT	20	26
SOUTH BOUND	LEFT	8	9
	THRU	774	889
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	20	26
	THRU	0	0
	RIGHT	4	4

7. Victoria Avenue at Date Street

SAT PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	916	IN ...	884
	RIGHT	0	OUT ...	853
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	798	IN ...	855
	RIGHT	0	OUT ...	884
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	916	1,056
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	798	921
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

8. Sterling Avenue at Highland Avenue

SAT PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	145	NORTHBOUND	
	THRU	324	IN ...	463
	RIGHT	70	OUT ...	461
SOUTH BOUND	LEFT	104	SOUTHBOUND	
	THRU	227	IN ...	356
	RIGHT	73	OUT ...	459
EAST BOUND	LEFT	94	EASTBOUND	
	THRU	347	IN ...	503
	RIGHT	134	OUT ...	597
WEST BOUND	LEFT	151	WESTBOUND	
	THRU	393	IN ...	636
	RIGHT	117	OUT ...	444

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	145	167
	THRU	324	374
	RIGHT	70	80
SOUTH BOUND	LEFT	104	119
	THRU	227	262
	RIGHT	73	85
EAST BOUND	LEFT	94	110
	THRU	347	439
	RIGHT	134	154
WEST BOUND	LEFT	151	173
	THRU	393	489
	RIGHT	117	136

9. SR-210 EB Off-Ramp at Highland Avenue

SAT PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
SOUTH BOUND	LEFT	995	SOUTHBOUND	
	THRU	0	IN ...	1035
	RIGHT	152	OUT ...	0
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	521	IN ...	435
	RIGHT	0	OUT ...	676
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	550	IN ...	542
	RIGHT	0	OUT ...	1323

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
SOUTH BOUND	LEFT	995	1,144
	THRU	0	0
	RIGHT	152	175
EAST BOUND	LEFT	0	0
	THRU	521	638
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	550	671
	RIGHT	0	0

10. Arden Avenue at Highland Avenue

SAT PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	165	NORTHBOUND	
	THRU	49	IN ...	365
	RIGHT	33	OUT ...	504
SOUTH BOUND	LEFT	75	SOUTHBOUND	
	THRU	143	IN ...	327
	RIGHT	234	OUT ...	264
EAST BOUND	LEFT	160	EASTBOUND	
	THRU	1188	IN ...	1420
	RIGHT	223	OUT ...	1794
WEST BOUND	LEFT	116	WESTBOUND	
	THRU	1236	IN ...	1667
	RIGHT	173	OUT ...	1230

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	165	257
	THRU	49	83
	RIGHT	33	58
SOUTH BOUND	LEFT	75	105
	THRU	143	200
	RIGHT	234	294
EAST BOUND	LEFT	160	210
	THRU	1,188	1,367
	RIGHT	223	269
WEST BOUND	LEFT	116	160
	THRU	1,236	1,435
	RIGHT	173	230

11. Arden Avenue at SR-210 EB On-Ramp

SAT PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	235	IN ...	412
	RIGHT	65	OUT ...	284
SOUTH BOUND	LEFT	267	SOUTHBOUND	
	THRU	244	IN ...	536
	RIGHT	0	OUT ...	346
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	316

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	235	346
	RIGHT	65	75
SOUTH BOUND	LEFT	267	332
	THRU	244	304
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

12. SR-210 WB Off-Ramp at Highland Avenue

SAT PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	240	NORTHBOUND	
	THRU	5	IN ...	379
	RIGHT	161	OUT ...	0
SOUTH BOUND	LEFT	16	SOUTHBOUND	
	THRU	0	IN ...	73
	RIGHT	57	OUT ...	59
EAST BOUND	LEFT	30	EASTBOUND	
	THRU	1229	IN ...	1,198
	RIGHT	0	OUT ...	1,685
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	1243	IN ...	1,446
	RIGHT	24	OUT ...	1,356

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	240	301
	THRU	5	6
	RIGHT	161	185
SOUTH BOUND	LEFT	16	19
	THRU	0	0
	RIGHT	57	66
EAST BOUND	LEFT	30	34
	THRU	1,229	1,432
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	1,243	1,449
	RIGHT	24	28

13. Victoria Avenue at Highland Avenue

SAT PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	231	NORTHBOUND	
	THRU	135	IN ...	404
	RIGHT	46	OUT ...	253
SOUTH BOUND	LEFT	115	SOUTHBOUND	
	THRU	99	IN ...	841
	RIGHT	555	OUT ...	879
EAST BOUND	LEFT	604	EASTBOUND	
	THRU	544	IN ...	1,197
	RIGHT	119	OUT ...	1,427
WEST BOUND	LEFT	65	WESTBOUND	
	THRU	470	IN ...	816
	RIGHT	154	OUT ...	734

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	231	274
	THRU	135	156
	RIGHT	46	53
SOUTH BOUND	LEFT	115	136
	THRU	99	114
	RIGHT	555	642
EAST BOUND	LEFT	604	697
	THRU	544	642
	RIGHT	119	145
WEST BOUND	LEFT	65	75
	THRU	470	575
	RIGHT	154	183

14. Palm Avenue at Highland Avenue

SAT PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	159	NORTHBOUND	
	THRU	57	IN ...	366
	RIGHT	108	OUT ...	240
SOUTH BOUND	LEFT	27	SOUTHBOUND	
	THRU	51	IN ...	64
	RIGHT	32	OUT ...	135
EAST BOUND	LEFT	35	EASTBOUND	
	THRU	427	IN ...	567
	RIGHT	113	OUT ...	703
WEST BOUND	LEFT	111	WESTBOUND	
	THRU	465	IN ...	597
	RIGHT	35	OUT ...	525

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	159	203
	THRU	57	66
	RIGHT	108	124
SOUTH BOUND	LEFT	27	31
	THRU	51	59
	RIGHT	32	37
EAST BOUND	LEFT	35	41
	THRU	427	518
	RIGHT	113	130
WEST BOUND	LEFT	111	127
	THRU	465	561
	RIGHT	35	41

15. Victoria Avenue at Pacific Street

SAT PM PEAK HOUR

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	114	NORTHBOUND	
	THRU	279	IN ...	366
	RIGHT	39	OUT ...	356
SOUTH BOUND	LEFT	32	SOUTHBOUND	
	THRU	253	IN ...	328
	RIGHT	73	OUT ...	377
EAST BOUND	LEFT	66	EASTBOUND	
	THRU	233	IN ...	455
	RIGHT	163	OUT ...	373
WEST BOUND	LEFT	43	WESTBOUND	
	THRU	172	IN ...	285
	RIGHT	38	OUT ...	319

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	114	131
	THRU	279	329
	RIGHT	39	45
SOUTH BOUND	LEFT	32	38
	THRU	253	299
	RIGHT	73	86
EAST BOUND	LEFT	66	81
	THRU	233	268
	RIGHT	163	187
WEST BOUND	LEFT	43	49
	THRU	172	199
	RIGHT	38	50

APPENDIX B-II

ROADWAY SEGMENT VOLUMES

1. Victoria Avenue, between Lynwood Drive and Mirada Road

DAILY

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	28849	IN ...	28981
	RIGHT	0	OUT ...	0
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	28981
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	28,849	33,162
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

2. Victoria Avenue, between Date Street and Highland Avenue

DAILY

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH	LEFT	0	NORTHBOUND	
BOUND	THRU	27922	IN ...	28036
	RIGHT	0	OUT ...	0
SOUTH	LEFT	0	SOUTHBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	28036
EAST	LEFT	0	EASTBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST	LEFT	0	WESTBOUND	
BOUND	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH	LEFT	0	0
BOUND	THRU	27,922	32,182
	RIGHT	0	0
SOUTH	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
EAST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0
WEST	LEFT	0	0
BOUND	THRU	0	0
	RIGHT	0	0

3. Victoria Avenue, between Highland Avenue and Pacific Street

DAILY

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	12936	IN ...	12,225
	RIGHT	0	OUT ...	0
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	12,225
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	12,936	15,126
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

4. Highland Avenue, between Sterling Avenue and SR-210 EB Off-Ramp

DAILY

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	19622	IN ...	17,982
	RIGHT	0	OUT ...	0
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	17,982
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	19,622	24,523
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

5. Highland Avenue, between SR-210 WB Off-Ramp and Victoria Avenue

DAILY

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	46792	IN ...	48,036
	RIGHT	0	OUT ...	0
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	48,036
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	46,792	54,550
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

6. Highland Avenue, between Victoria Avenue and Central Avenue

DAILY

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	23381	IN ...	25,747
	RIGHT	0	OUT ...	0
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	25,747
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	23,381	27,297
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

1. Victoria Avenue, between Lynwood Drive and Mirada Road

SATURDAY DAILY

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	35638	IN ...	35801
	RIGHT	0	OUT ...	0
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	35801
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	35,638	40,966
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

2. Victoria Avenue, between Date Street and Highland Avenue

SATURDAY DAILY

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	32728	IN ...	32862
	RIGHT	0	OUT ...	0
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	32862
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	32,728	37,710
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

3. Victoria Avenue, between Highland Avenue and Pacific Street

SATURDAY DAILY

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	11752	IN ...	11,106
	RIGHT	0	OUT ...	0
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	11,106
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	11,752	13,784
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

4. Highland Avenue, between Sterling Avenue and SR-210 EB Off-Ramp

SATURDAY DAILY

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	19988	IN ...	18,318
	RIGHT	0	OUT ...	0
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	18,318
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	19,988	24,044
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

5. Highland Avenue, between SR-210 WB Off-Ramp and Victoria Avenue

SATURDAY DAILY

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	50427	IN ...	51,768
	RIGHT	0	OUT ...	0
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	51,768
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	50,427	58,707
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

6. Highland Avenue, between Victoria Avenue and Central Avenue

SATURDAY DAILY

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** INPUT DATA *** Modified by: COMSIS Corp. (M. Roskin) 4/9/86
Modified by: FHWA 12/21/87

APPROACH	TURN MOVEMENT	BY COUNT	APPROACH	FY TOTAL
NORTH BOUND	LEFT	0	NORTHBOUND	
	THRU	22302	IN ...	24,559
	RIGHT	0	OUT ...	0
SOUTH BOUND	LEFT	0	SOUTHBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	24,559
EAST BOUND	LEFT	0	EASTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0
WEST BOUND	LEFT	0	WESTBOUND	
	THRU	0	IN ...	0
	RIGHT	0	OUT ...	0

FUTURE DIRECTIONAL TURN VOLUMES FROM FUTURE DIRECTIONAL LINK VOLUMES
NCHRP 255, PAGE 105 Written by: FHWA (C. Fleet)
*** RESULTS *** Modified by: COMSIS Corp. (M. Roskin) 2/13/86

APPROACH	TURN MOVEMENT	BY COUNT	FY FORECAST
NORTH BOUND	LEFT	0	0
	THRU	22,302	26,012
	RIGHT	0	0
SOUTH BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
EAST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0
WEST BOUND	LEFT	0	0
	THRU	0	0
	RIGHT	0	0

APPENDIX C

EXISTING TRAFFIC CONDITIONS INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX C-I

EXISTING TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.155

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	56	37	17	0	15	4	2	9	36	2	13	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	56	37	17	0	15	4	2	9	36	2	13	1
Peak Hour Factor	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	11	5	0	4	1	1	3	11	1	4	0
Total Analysis Volume [veh/h]	67	44	20	0	18	5	2	11	43	2	16	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	715	894	748	875	662	823	659	732
Degree of Utilization, x	0.16	0.02	0.02	0.01	0.00	0.07	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.55	0.07	0.07	0.02	0.01	0.21	0.01	0.07
95th-Percentile Queue Length [ft]	13.67	1.72	1.85	0.43	0.23	5.25	0.23	1.78
Approach Delay [s/veh]	8.37		7.46		7.41		7.78	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.00							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.079

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	63	0	0	0	0	0	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	63	0	0	0	0	0	57	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	17	0	0	0	0	0	15	0
Total Analysis Volume [veh/h]	0	0	0	0	66	0	0	0	0	0	60	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	9.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					A						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	6.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			9.71			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.08											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.141

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	19	190	1	9	96	18	22	5	9	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	190	1	9	96	18	22	5	9	0	0	0
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	51	0	2	26	5	6	1	2	0	0	0
Total Analysis Volume [veh/h]	21	205	1	10	104	19	24	5	10	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	664	732	733	696	708	821	614	734	
Degree of Utilization, x	0.03	0.14	0.14	0.08	0.08	0.02	0.04	0.02	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.10	0.49	0.49	0.27	0.26	0.07	0.12	0.06	
95th-Percentile Queue Length [ft]	2.45	12.21	12.19	6.67	6.55	1.78	3.04	1.56	
Approach Delay [s/veh]	8.41			8.13			8.38		0.00
Approach LOS	A			A			A		A
Intersection Delay [s/veh]	8.31								
Intersection LOS	A								

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.078

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	361	104	0	0	74
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	361	104	0	0	74
Peak Hour Factor	0.9500	0.9520	0.9520	0.9500	0.9500	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	95	27	0	0	19
Total Analysis Volume [veh/h]	0	379	109	0	0	78
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.08
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	8.74
Movement LOS		A	A			A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.12
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	3.04
d_A, Approach Delay [s/veh]	0.00		0.00		8.74	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.20					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	21.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.344

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	178	359	177	0	0	212
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	178	359	177	0	0	212
Peak Hour Factor	0.9110	0.9110	0.9110	0.9500	0.9500	0.9110
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	99	49	0	0	58
Total Analysis Volume [veh/h]	195	394	194	0	0	233
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	28	46	18	0	0	44
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	68	52	14
g / C, Green / Cycle	0.14	0.76	0.58	0.15
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.05	0.13
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	233	2723	2069	279
d1, Uniform Delay [s]	37.86	3.00	8.61	36.94
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.71	0.11	0.09	6.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.14	0.09	0.84
d, Delay for Lane Group [s/veh]	45.57	3.11	8.70	43.49
Lane Group LOS	D	A	A	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	4.62	0.75	0.82	5.39
50th-Percentile Queue Length [ft]	115.45	18.77	20.48	134.82
95th-Percentile Queue Length [veh]	8.14	1.35	1.47	9.20
95th-Percentile Queue Length [ft]	203.56	33.79	36.87	230.03

Movement, Approach, & Intersection Results

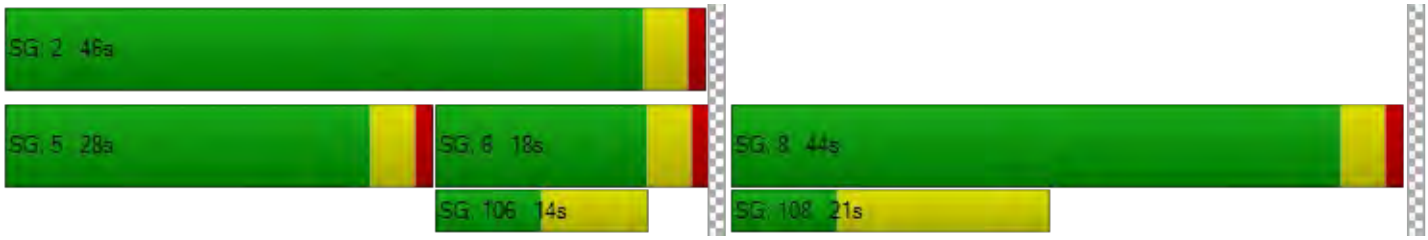
d_M, Delay for Movement [s/veh]	45.57	3.11	8.70	0.00	0.00	43.49
Movement LOS	D	A	A			D
d_A, Approach Delay [s/veh]	17.17		8.70		43.49	
Approach LOS	B		A		D	
d_I, Intersection Delay [s/veh]	21.59					
Intersection LOS	C					
Intersection V/C	0.344					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.497	2.274	1.923
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.618	4.292	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	9.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.379

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	385	230	10	425	137	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	385	230	10	425	137	7
Peak Hour Factor	0.7970	0.7970	0.7970	0.7970	0.7970	0.7970
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	121	72	3	133	43	2
Total Analysis Volume [veh/h]	483	289	13	533	172	9
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	18	0	10	28	62	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	65	65	2	70	12
g / C, Green / Cycle	0.72	0.72	0.02	0.78	0.13
(v / s)_i Volume / Saturation Flow Rate	0.21	0.21	0.01	0.15	0.11
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1291	1291	34	2813	221
d1, Uniform Delay [s]	4.58	4.58	43.59	2.52	38.16
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.59	0.59	7.11	0.15	7.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.30	0.39	0.19	0.82
d, Delay for Lane Group [s/veh]	5.18	5.18	50.71	2.67	45.56
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	2.26	2.26	0.35	0.86	4.28
50th-Percentile Queue Length [ft]	56.49	56.49	8.75	21.60	106.96
95th-Percentile Queue Length [veh]	4.07	4.07	0.63	1.56	7.67
95th-Percentile Queue Length [ft]	101.69	101.69	15.75	38.89	191.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.18	5.18	50.71	2.67	45.56	45.56
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	5.18		3.82		45.56	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	9.56					
Intersection LOS	A					
Intersection V/C	0.379					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.491	2.502	1.950
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.769	4.583	4.431
Bicycle LOS	E	E	E

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	15.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	639	96	21	556	3	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	639	96	21	556	3	2
Peak Hour Factor	0.8510	0.8510	0.8510	0.8510	0.8510	0.8510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	188	28	6	163	1	1
Total Analysis Volume [veh/h]	751	113	25	653	4	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	9.80	0.00	15.74	11.44
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	2.24	1.12	0.05	0.05
95th-Percentile Queue Length [ft]	0.00	0.00	56.07	28.04	1.16	1.16
d_A, Approach Delay [s/veh]	0.00		0.36		14.31	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.21					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	32.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.486

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	114	375	34	94	430	50	28	190	86	104	233	72
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	114	375	34	94	430	50	28	190	86	104	233	72
Peak Hour Factor	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	109	10	27	125	15	8	55	25	30	68	21
Total Analysis Volume [veh/h]	133	438	40	110	502	58	33	222	100	121	272	84
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	29	0	22	36	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	18	18	7	17	17	3	40	40	8	45	45
g / C, Green / Cycle	0.10	0.20	0.20	0.08	0.19	0.19	0.04	0.45	0.45	0.09	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.13	0.06	0.16	0.15	0.02	0.09	0.09	0.07	0.10	0.10
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	165	367	367	141	341	341	66	801	801	154	895	895
d1, Uniform Delay [s]	39.86	33.03	32.90	40.54	35.18	34.97	42.49	15.29	15.19	40.15	12.70	12.61
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.80	2.03	1.89	8.93	5.35	4.53	5.79	0.59	0.54	8.52	0.52	0.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.66	0.64	0.78	0.83	0.81	0.50	0.21	0.19	0.79	0.21	0.19
d, Delay for Lane Group [s/veh]	48.66	35.06	34.79	49.47	40.53	39.50	48.29	15.88	15.73	48.67	13.22	13.09
Lane Group LOS	D	D	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.25	4.98	4.82	2.71	6.39	6.09	0.82	2.14	1.99	2.95	2.10	1.96
50th-Percentile Queue Length [ft]	81.25	124.40	120.60	67.79	159.84	152.25	20.47	53.47	49.74	73.87	52.57	49.07
95th-Percentile Queue Length [veh]	5.85	8.63	8.43	4.88	10.54	10.14	1.47	3.85	3.58	5.32	3.79	3.53
95th-Percentile Queue Length [ft]	146.24	215.86	210.65	122.02	263.51	253.44	36.85	96.25	89.53	132.97	94.63	88.32

Movement, Approach, & Intersection Results

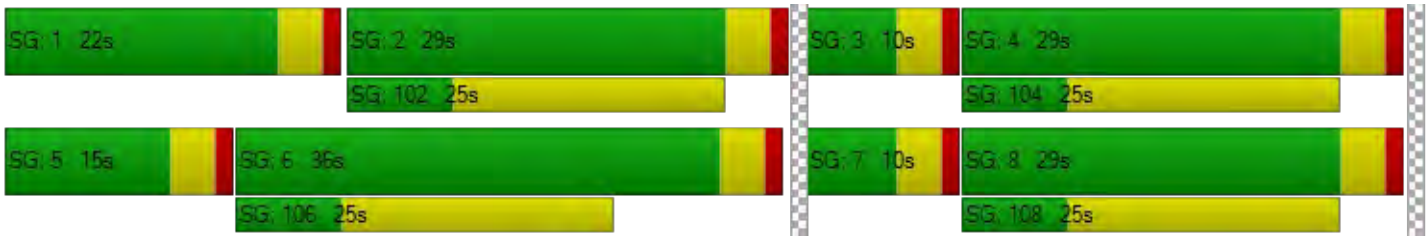
d_M, Delay for Movement [s/veh]	48.66	34.94	34.79	49.47	40.08	39.50	48.29	15.84	15.73	48.67	13.18	13.09
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.91			41.57			18.83			22.17		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	32.31											
Intersection LOS	C											
Intersection V/C	0.486											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.559	2.538	2.459	2.465
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	711	556	556
d_b, Bicycle Delay [s]	23.47	18.69	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.064	2.112	1.852	1.953
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	21.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.409

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	824	203	0	271	324	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	824	203	0	271	324	0
Peak Hour Factor	0.9330	0.9330	0.9500	0.9330	0.9330	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	221	54	0	73	87	0
Total Analysis Volume [veh/h]	883	218	0	290	347	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	29	29	53	53
g / C, Green / Cycle	0.32	0.32	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.28	0.12	0.08	0.10
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1026	577	2126	2126
d1, Uniform Delay [s]	28.64	23.59	8.19	8.34
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.26	0.41	0.13	0.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.38	0.14	0.16
d, Delay for Lane Group [s/veh]	30.90	24.00	8.33	8.50
Lane Group LOS	C	C	A	A
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	8.90	3.56	1.20	1.46
50th-Percentile Queue Length [ft]	222.57	88.89	30.00	36.54
95th-Percentile Queue Length [veh]	13.80	6.40	2.16	2.63
95th-Percentile Queue Length [ft]	344.90	160.01	54.00	65.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.90	24.00	0.00	8.33	8.50	0.00
Movement LOS	C	C		A	A	
d_A, Approach Delay [s/veh]	29.54		8.33		8.50	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	21.80					
Intersection LOS	C					
Intersection V/C	0.409					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.298	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.372	4.419
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	43.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.869

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	289	167	72	42	353	327	81	720	214	151	821	146
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	289	167	72	42	353	327	81	720	214	151	821	146
Peak Hour Factor	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	48	21	12	101	93	23	206	61	43	235	42
Total Analysis Volume [veh/h]	330	191	82	48	403	374	93	823	245	173	938	167
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	37	58	0	18	39	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	49	49	5	29	29	6	32	32	14	40	40
g / C, Green / Cycle	0.21	0.42	0.42	0.04	0.25	0.25	0.05	0.28	0.28	0.12	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.19	0.11	0.05	0.03	0.22	0.21	0.03	0.23	0.14	0.10	0.21	0.20
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	361	759	759	71	452	452	161	1003	501	202	1250	625
d1, Uniform Delay [s]	44.27	21.53	20.16	54.36	41.60	40.75	53.45	38.83	34.67	49.72	30.91	30.69
k, delay calibration	0.22	0.11	0.11	0.11	0.16	0.13	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	16.08	0.17	0.06	10.59	8.93	4.64	3.24	7.52	3.38	9.88	2.09	3.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.25	0.11	0.68	0.89	0.83	0.58	0.82	0.49	0.86	0.59	0.58
d, Delay for Lane Group [s/veh]	60.35	21.70	20.23	64.96	50.53	45.40	56.69	46.35	38.05	59.60	33.00	34.56
Lane Group LOS	E	C	C	E	D	D	E	D	D	E	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	10.74	3.37	1.35	1.58	12.06	10.52	1.39	11.80	6.19	5.42	8.77	8.79
50th-Percentile Queue Length [ft]	268.49	84.22	33.83	39.50	301.39	263.12	34.71	294.96	154.66	135.58	219.36	219.83
95th-Percentile Queue Length [veh]	16.11	6.06	2.44	2.84	17.75	15.85	2.50	17.43	10.27	9.24	13.63	13.66
95th-Percentile Queue Length [ft]	402.85	151.60	60.89	71.10	443.75	396.13	62.48	435.79	256.64	231.06	340.81	341.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	60.35	21.70	20.23	64.96	50.53	45.40	56.69	46.35	38.05	59.60	33.32	34.56
Movement LOS	E	C	C	E	D	D	E	D	D	E	C	C
d_A, Approach Delay [s/veh]	42.65			49.04			45.43			37.04		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	43.00											
Intersection LOS	D											
Intersection V/C	0.869											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	47.03	47.03	47.03
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.560	3.079	2.827
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	939	609	435	435
d_b, Bicycle Delay [s]	16.18	27.83	35.22	35.22
l_b,int, Bicycle LOS Score for Intersection	2.555	2.240	2.517	2.263
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.485

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	526	101	266	451	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	526	101	266	451	0	0
Peak Hour Factor	0.7480	0.7480	0.7480	0.7480	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	176	34	89	151	0	0
Total Analysis Volume [veh/h]	703	135	356	603	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	61	61	21	86	
g / C, Green / Cycle	0.68	0.68	0.23	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.23	0.23	0.21	0.17	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1218	1218	398	3440	
d1, Uniform Delay [s]	6.13	6.13	33.35	0.11	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.77	0.77	7.14	0.11	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.34	0.34	0.89	0.18	
d, Delay for Lane Group [s/veh]	6.90	6.90	40.49	0.22	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	3.10	3.10	8.11	0.05	
50th-Percentile Queue Length [ft]	77.52	77.52	202.68	1.33	
95th-Percentile Queue Length [veh]	5.58	5.58	12.78	0.10	
95th-Percentile Queue Length [ft]	139.53	139.53	319.42	2.39	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.90	6.90	40.49	0.22	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	6.90		15.17		0.00	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	11.31					
Intersection LOS	B					
Intersection V/C	0.485					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.902
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
I_b,int, Bicycle LOS Score for Intersection	4.824	4.924	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.406

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	274	4	119	2	0	1	9	823	0	0	851	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	274	4	119	2	0	1	9	823	0	0	851	2
Peak Hour Factor	0.9360	0.9360	0.9360	0.9360	0.9500	0.9360	0.9360	0.9360	0.9500	0.9500	0.9360	0.9360
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	73	1	32	1	0	0	2	220	0	0	227	1
Total Analysis Volume [veh/h]	293	4	127	2	0	1	10	879	0	0	909	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	52	0	10	0	0	10	28	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	11	0	1	66	61	61
g / C, Green / Cycle	0.12	0.12	0.01	0.02	0.74	0.68	0.68
(v / s)_i Volume / Saturation Flow Rate	0.09	0.07	0.00	0.01	0.24	0.25	0.25
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	400	225	10	27	2648	1215	1215
d1, Uniform Delay [s]	37.99	37.22	44.62	43.91	4.17	6.37	6.37
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.60	2.37	14.31	7.98	0.34	0.88	0.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.58	0.29	0.37	0.33	0.37	0.37
d, Delay for Lane Group [s/veh]	40.59	39.59	58.93	51.89	4.51	7.25	7.25
Lane Group LOS	D	D	E	D	A	A	A
Critical Lane Group	Yes	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	3.21	2.84	0.11	0.28	2.28	3.47	3.47
50th-Percentile Queue Length [ft]	80.30	70.90	2.69	6.99	56.95	86.77	86.77
95th-Percentile Queue Length [veh]	5.78	5.10	0.19	0.50	4.10	6.25	6.25
95th-Percentile Queue Length [ft]	144.54	127.62	4.85	12.58	102.51	156.18	156.18

Movement, Approach, & Intersection Results

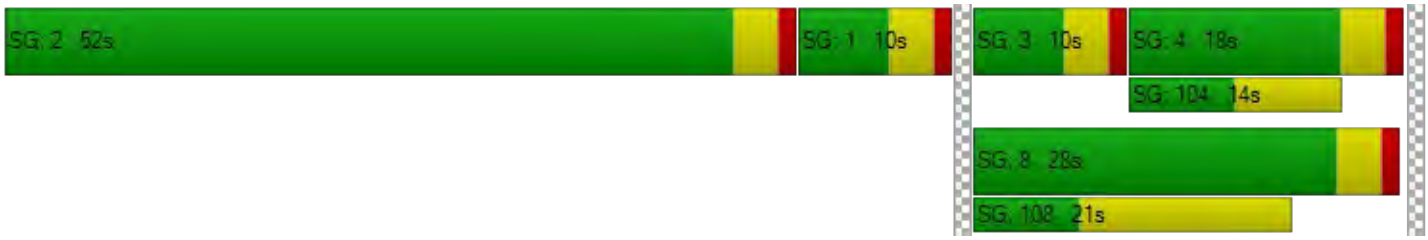
d_M, Delay for Movement [s/veh]	40.59	39.59	39.59	58.93	0.00	58.93	51.89	4.51	0.00	0.00	7.25	7.25
Movement LOS	D	D	D	E		E	D	A			A	A
d_A, Approach Delay [s/veh]	40.28			58.93			5.04			7.25		
Approach LOS	D			E			A			A		
d_I, Intersection Delay [s/veh]	12.73											
Intersection LOS	B											
Intersection V/C	0.406											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.078	1.724	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	0	533	311
d_b, Bicycle Delay [s]	9.80	45.00	24.20	32.09
l_b,int, Bicycle LOS Score for Intersection	2.259	4.137	2.293	2.311
Bicycle LOS	B	D	B	B

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	26.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.600

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	237	248	42	101	207	231	366	417	114	40	327	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	237	248	42	101	207	231	366	417	114	40	327	78
Peak Hour Factor	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	71	12	29	59	66	105	119	33	11	94	22
Total Analysis Volume [veh/h]	271	284	48	116	237	264	419	477	130	46	374	89
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	16	38	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	12	12	22	12	31	15	52	52	4	41	41
g / C, Green / Cycle	0.24	0.13	0.13	0.24	0.13	0.34	0.17	0.58	0.58	0.05	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.16	0.09	0.09	0.07	0.07	0.15	0.13	0.17	0.16	0.03	0.13	0.13
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	426	232	232	377	463	614	539	1043	1043	79	824	824
d1, Uniform Delay [s]	30.93	37.79	37.62	27.91	36.64	22.92	35.89	9.66	9.51	42.11	15.26	15.14
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.58	4.43	3.83	0.46	0.88	0.48	2.47	0.74	0.67	6.51	0.88	0.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.73	0.70	0.31	0.51	0.43	0.78	0.30	0.28	0.58	0.29	0.27
d, Delay for Lane Group [s/veh]	32.51	42.22	41.45	28.36	37.52	23.40	38.36	10.40	10.18	48.62	16.14	15.96
Lane Group LOS	C	D	D	C	D	C	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	5.39	3.83	3.62	2.06	2.46	4.29	4.51	3.12	2.85	1.14	3.12	2.93
50th-Percentile Queue Length [ft]	134.76	95.75	90.62	51.43	61.44	107.30	112.68	77.97	71.14	28.39	77.98	73.36
95th-Percentile Queue Length [veh]	9.20	6.89	6.52	3.70	4.42	7.69	7.99	5.61	5.12	2.04	5.61	5.28
95th-Percentile Queue Length [ft]	229.94	172.35	163.12	92.58	110.60	192.24	199.73	140.35	128.04	51.11	140.36	132.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.51	41.91	41.45	28.36	37.52	23.40	38.36	10.33	10.18	48.62	16.08	15.96
Movement LOS	C	D	D	C	D	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.65			29.76			21.76			19.00		
Approach LOS	D			C			C			B		
d_I, Intersection Delay [s/veh]	26.52											
Intersection LOS	C											
Intersection V/C	0.600											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.497	2.681	2.882	2.548
Crosswalk LOS	B	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	622	756	622
d_b, Bicycle Delay [s]	21.36	21.36	17.42	21.36
l_b,int, Bicycle LOS Score for Intersection	2.057	2.069	2.406	1.980
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	27.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.372

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	103	116	68	47	130	129	122	239	90	44	293	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	103	116	68	47	130	129	122	239	90	44	293	50
Peak Hour Factor	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	32	19	13	36	36	34	67	25	12	82	14
Total Analysis Volume [veh/h]	115	130	76	53	146	144	137	268	101	49	328	56
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	29	0	10	29	0	19	39	0	12	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	11	11	4	10	10	9	54	54	4	50	50
g / C, Green / Cycle	0.06	0.12	0.12	0.05	0.11	0.11	0.10	0.60	0.60	0.05	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.04	0.07	0.04	0.03	0.08	0.08	0.08	0.11	0.10	0.03	0.11	0.10
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	205	220	220	85	196	196	173	1083	1083	82	987	987
d1, Uniform Delay [s]	40.98	37.44	36.26	41.98	38.99	38.94	39.58	8.00	7.94	42.06	10.32	10.28
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.41	2.51	0.93	7.13	5.59	5.32	7.92	0.36	0.33	6.78	0.45	0.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.59	0.35	0.62	0.75	0.74	0.79	0.18	0.16	0.60	0.20	0.19
d, Delay for Lane Group [s/veh]	43.38	39.95	37.19	49.11	44.58	44.26	47.50	8.36	8.26	48.84	10.77	10.71
Lane Group LOS	D	D	D	D	D	D	D	A	A	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	1.29	2.83	1.57	1.31	3.39	3.33	3.30	1.62	1.49	1.21	1.96	1.88
50th-Percentile Queue Length [ft]	32.36	70.70	39.28	32.81	84.78	83.26	82.56	40.42	37.18	30.29	49.05	47.12
95th-Percentile Queue Length [veh]	2.33	5.09	2.83	2.36	6.10	6.00	5.94	2.91	2.68	2.18	3.53	3.39
95th-Percentile Queue Length [ft]	58.24	127.26	70.71	59.07	152.60	149.88	148.61	72.75	66.93	54.52	88.30	84.82

Movement, Approach, & Intersection Results

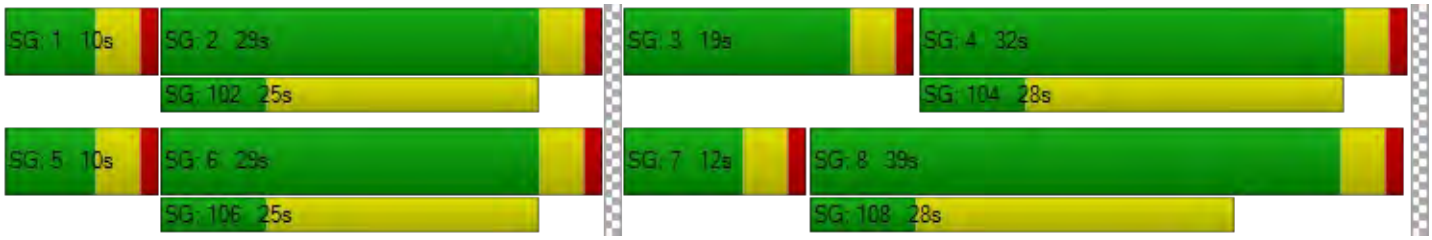
d_M, Delay for Movement [s/veh]	43.38	39.95	37.19	49.11	44.58	44.26	47.50	8.33	8.26	48.84	10.74	10.71
Movement LOS	D	D	D	D	D	D	D	A	A	D	B	B
d_A, Approach Delay [s/veh]	40.53			45.15			18.92			15.05		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.81											
Intersection LOS	C											
Intersection V/C	0.372											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.553	2.293	2.512	2.461
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	778	622
d_b, Bicycle Delay [s]	23.47	23.47	16.81	21.36
l_b,int, Bicycle LOS Score for Intersection	2.089	1.843	1.977	1.917
Bicycle LOS	B	A	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	33.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.701

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	176	315	30	68	278	107	141	257	249	54	336	82
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	176	315	30	68	278	107	141	257	249	54	336	82
Peak Hour Factor	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	110	10	24	97	37	49	90	87	19	117	29
Total Analysis Volume [veh/h]	246	440	42	95	388	149	197	359	348	75	469	115
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	27	29	0	27	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	27	27	7	18	18	13	40	40	5	33	33
g / C, Green / Cycle	0.17	0.28	0.28	0.07	0.18	0.18	0.14	0.42	0.42	0.06	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.14	0.14	0.13	0.06	0.16	0.14	0.12	0.20	0.19	0.04	0.17	0.16
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	283	503	503	123	333	333	232	761	761	98	619	619
d1, Uniform Delay [s]	38.63	28.61	28.48	43.36	37.44	36.88	40.12	19.81	19.66	44.21	24.61	24.32
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.97	0.73	0.69	9.75	5.74	3.82	8.35	2.10	1.98	11.69	2.73	2.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.49	0.47	0.77	0.84	0.77	0.85	0.47	0.46	0.77	0.49	0.46
d, Delay for Lane Group [s/veh]	46.60	29.34	29.17	53.12	43.17	40.69	48.47	21.91	21.64	55.89	27.34	26.74
Lane Group LOS	D	C	C	D	D	D	D	C	C	E	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.13	4.67	4.52	2.51	6.72	5.95	4.98	5.97	5.74	2.05	5.68	5.26
50th-Percentile Queue Length [ft]	153.30	116.87	112.99	62.75	167.93	148.63	124.44	149.28	143.42	51.14	142.10	131.48
95th-Percentile Queue Length [veh]	10.19	8.22	8.01	4.52	10.97	9.94	8.64	9.98	9.66	3.68	9.59	9.02
95th-Percentile Queue Length [ft]	254.82	205.52	200.16	112.95	274.19	248.60	215.92	249.47	241.62	92.05	239.85	225.50

Movement, Approach, & Intersection Results

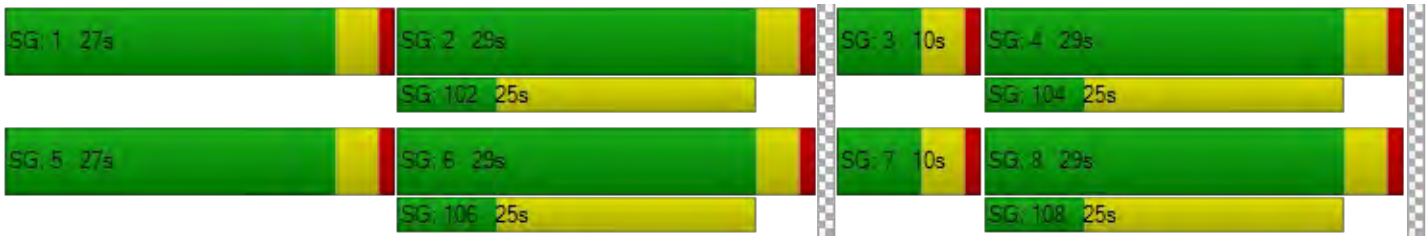
d_M, Delay for Movement [s/veh]	46.60	29.27	29.17	53.12	42.48	40.69	48.47	21.91	21.64	55.89	27.13	26.74
Movement LOS	D	C	C	D	D	D	D	C	C	E	C	C
d_A, Approach Delay [s/veh]	35.12			43.66			27.59			30.33		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	33.56											
Intersection LOS	C											
Intersection V/C	0.701											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	2.602	2.572	2.647	2.527
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	526	526	526	526
d_b, Bicycle Delay [s]	25.79	25.79	25.79	25.79
l_b,int, Bicycle LOS Score for Intersection	2.160	2.081	2.305	2.103
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.131

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	33	9	9	0	36	2	7	10	67	17	9	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	9	9	0	36	2	7	10	67	17	9	0
Peak Hour Factor	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	3	3	0	13	1	3	4	24	6	3	0
Total Analysis Volume [veh/h]	47	13	13	0	52	3	10	14	96	24	13	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	675	848	725	845	667	841	660	727
Degree of Utilization, x	0.09	0.02	0.07	0.00	0.01	0.13	0.04	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.29	0.05	0.23	0.01	0.05	0.45	0.11	0.05
95th-Percentile Queue Length [ft]	7.30	1.17	5.78	0.27	1.14	11.24	2.83	1.37
Approach Delay [s/veh]	8.28		7.99		7.67		8.14	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	7.95							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.341

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	187	0	0	0	0	0	125	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	187	0	0	0	0	0	125	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	62	0	0	0	0	0	42	0
Total Analysis Volume [veh/h]	0	0	0	0	248	0	0	0	0	0	166	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	37.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			12.50			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	7.49											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.216

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	38	193	1	18	236	21	18	4	29	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	193	1	18	236	21	18	4	29	0	0	0
Peak Hour Factor	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	55	0	5	68	6	5	1	8	0	0	0
Total Analysis Volume [veh/h]	44	221	1	21	270	24	21	5	33	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	617	675	675	675	684	789	567	683	
Degree of Utilization, x	0.07	0.16	0.16	0.22	0.21	0.03	0.04	0.06	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.23	0.59	0.59	0.81	0.80	0.09	0.12	0.18	
95th-Percentile Queue Length [ft]	5.74	14.66	14.64	20.37	20.03	2.35	2.88	4.41	
Approach Delay [s/veh]	9.07			9.28			8.65		0.00
Approach LOS	A			A			A		A
Intersection Delay [s/veh]	9.13								
Intersection LOS	A								

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.407

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	485	270	0	0	330
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	485	270	0	0	330
Peak Hour Factor	0.9500	0.9270	0.9270	0.9500	0.9500	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	131	73	0	0	89
Total Analysis Volume [veh/h]	0	523	291	0	0	356
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.41
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.16
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.76
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	18.98
d_A, Approach Delay [s/veh]	0.00		0.00		10.16	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.09					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	20.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.562

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	272	519	521	0	0	281
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	272	519	521	0	0	281
Peak Hour Factor	0.9450	0.9450	0.9450	0.9500	0.9500	0.9450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	137	138	0	0	74
Total Analysis Volume [veh/h]	288	549	551	0	0	297
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	37	55	18	0	0	35
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	65	43	17
g / C, Green / Cycle	0.19	0.72	0.48	0.19
(v / s)_i Volume / Saturation Flow Rate	0.17	0.15	0.15	0.17
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	329	2595	1737	343
d1, Uniform Delay [s]	35.24	4.14	14.23	35.34
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.29	0.19	0.48	6.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.21	0.32	0.87
d, Delay for Lane Group [s/veh]	42.54	4.33	14.71	41.98
Lane Group LOS	D	A	B	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	6.66	1.39	3.38	6.81
50th-Percentile Queue Length [ft]	166.50	34.83	84.58	170.22
95th-Percentile Queue Length [veh]	10.89	2.51	6.09	11.09
95th-Percentile Queue Length [ft]	272.31	62.69	152.24	277.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.54	4.33	14.71	0.00	0.00	41.98
Movement LOS	D	A	B			D
d_A, Approach Delay [s/veh]	17.47		14.71		41.98	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	20.89					
Intersection LOS	C					
Intersection V/C	0.562					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.628	2.399	2.000
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.823	4.587	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	3.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.293

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	741	33	12	708	42	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	741	33	12	708	42	6
Peak Hour Factor	0.9850	0.9850	0.9850	0.9850	0.9850	0.9850
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	188	8	3	180	11	2
Total Analysis Volume [veh/h]	752	34	12	719	43	6
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	51	0	10	61	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	72	72	2	78	4
g / C, Green / Cycle	0.80	0.80	0.02	0.86	0.05
(v / s)_i Volume / Saturation Flow Rate	0.22	0.22	0.01	0.20	0.03
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1440	1440	32	3106	82
d1, Uniform Delay [s]	2.31	2.31	43.68	1.06	41.99
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.47	0.47	7.37	0.17	6.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.27	0.38	0.23	0.60
d, Delay for Lane Group [s/veh]	2.77	2.77	51.05	1.23	48.77
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	1.24	1.24	0.33	0.31	1.21
50th-Percentile Queue Length [ft]	30.95	30.95	8.16	7.84	30.26
95th-Percentile Queue Length [veh]	2.23	2.23	0.59	0.56	2.18
95th-Percentile Queue Length [ft]	55.71	55.71	14.69	14.11	54.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	2.77	2.77	51.05	1.23	48.77	48.77
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	2.77		2.05		48.77	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	3.88					
Intersection LOS	A					
Intersection V/C	0.293					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.508	2.590	1.761
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.781	4.735	4.213
Bicycle LOS	E	E	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	16.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.110

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	722	1	3	761	40	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	722	1	3	761	40	35
Peak Hour Factor	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	186	0	1	196	10	9
Total Analysis Volume [veh/h]	743	1	3	783	41	36
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.11	0.06
d_M, Delay for Movement [s/veh]	0.00	0.00	9.20	0.00	16.22	12.33
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	2.43	1.21	0.60	0.60
95th-Percentile Queue Length [ft]	0.00	0.00	60.67	30.34	14.90	14.90
d_A, Approach Delay [s/veh]	0.00		0.04		14.40	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.71					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	31.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.641

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	142	465	69	122	295	78	140	471	177	146	420	139
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	142	465	69	122	295	78	140	471	177	146	420	139
Peak Hour Factor	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	123	18	32	78	21	37	125	47	39	111	37
Total Analysis Volume [veh/h]	151	493	73	129	313	83	148	499	188	155	445	147
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	14	34	0	13	33	0	14	29	0	14	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	17	17	8	16	16	10	38	38	10	39	39
g / C, Green / Cycle	0.11	0.19	0.19	0.09	0.18	0.18	0.11	0.43	0.43	0.11	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.09	0.16	0.15	0.08	0.11	0.11	0.09	0.20	0.18	0.09	0.17	0.16
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	184	345	345	160	320	320	184	764	764	192	772	772
d1, Uniform Delay [s]	39.37	35.12	34.84	40.03	34.39	34.14	39.28	18.68	18.27	39.06	17.76	17.47
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.80	5.45	4.40	9.09	2.11	1.82	7.97	2.08	1.76	7.89	1.54	1.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.84	0.80	0.81	0.64	0.60	0.80	0.47	0.43	0.81	0.40	0.37
d, Delay for Lane Group [s/veh]	48.17	40.57	39.24	49.12	36.50	35.96	47.24	20.76	20.03	46.95	19.30	18.82
Lane Group LOS	D	D	D	D	D	D	D	C	C	D	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.67	6.50	6.11	3.17	4.26	3.97	3.56	5.61	4.97	3.72	4.56	4.12
50th-Percentile Queue Length [ft]	91.81	162.48	152.64	79.20	106.42	99.31	88.98	140.21	124.21	92.92	114.10	103.06
95th-Percentile Queue Length [veh]	6.61	10.68	10.16	5.70	7.64	7.15	6.41	9.49	8.62	6.69	8.07	7.42
95th-Percentile Queue Length [ft]	165.27	267.01	253.95	142.57	191.01	178.76	160.16	237.30	215.60	167.25	201.69	185.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.17	40.02	39.24	49.12	36.31	35.96	47.24	20.56	20.03	46.95	19.16	18.82
Movement LOS	D	D	D	D	D	D	D	C	C	D	B	B
d_A, Approach Delay [s/veh]	41.66			39.40			25.17			24.86		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	31.92											
Intersection LOS	C											
Intersection V/C	0.641											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.567	2.555	2.595	2.582
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	667	644	556	556
d_b, Bicycle Delay [s]	20.00	20.67	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.151	1.993	2.248	2.176
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.519

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	825	175	0	683	538	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	825	175	0	683	538	0
Peak Hour Factor	0.9460	0.9460	0.9500	0.9460	0.9460	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	218	46	0	180	142	0
Total Analysis Volume [veh/h]	872	185	0	722	569	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	28	28	53	53
g / C, Green / Cycle	0.32	0.32	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.27	0.10	0.20	0.16
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1011	569	2142	2142
d1, Uniform Delay [s]	28.89	23.43	9.21	8.75
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.33	0.33	0.43	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.33	0.34	0.27
d, Delay for Lane Group [s/veh]	31.22	23.75	9.64	9.05
Lane Group LOS	C	C	A	A
Critical Lane Group	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	8.83	2.98	3.40	2.54
50th-Percentile Queue Length [ft]	220.71	74.43	84.95	63.45
95th-Percentile Queue Length [veh]	13.70	5.36	6.12	4.57
95th-Percentile Queue Length [ft]	342.53	133.97	152.91	114.22

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	31.22	23.75	0.00	9.64	9.05	0.00
Movement LOS	C	C		A	A	
d_A, Approach Delay [s/veh]	29.91		9.64		9.05	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	18.62					
Intersection LOS	B					
Intersection V/C	0.519					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.283	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.728	4.602
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	30.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.747

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	191	91	41	71	204	250	162	976	357	132	1271	172
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	191	91	41	71	204	250	162	976	357	132	1271	172
Peak Hour Factor	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	24	11	19	53	65	42	255	93	34	332	45
Total Analysis Volume [veh/h]	200	95	43	74	213	261	169	1020	373	138	1328	180
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	35	0	26	39	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	14	25	25	6	17	17	8	43	43	10	46	46
g / C, Green / Cycle	0.14	0.25	0.25	0.06	0.17	0.17	0.08	0.43	0.43	0.10	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.12	0.05	0.02	0.04	0.12	0.15	0.05	0.28	0.21	0.08	0.28	0.28
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	233	456	456	97	311	311	242	1546	773	171	1635	818
d1, Uniform Delay [s]	42.23	29.47	28.59	46.56	38.84	40.05	45.16	22.75	20.57	44.09	20.73	20.63
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.77	0.22	0.09	11.77	2.66	5.98	3.60	2.23	2.15	8.66	1.76	3.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.21	0.09	0.76	0.68	0.84	0.70	0.66	0.48	0.81	0.62	0.61
d, Delay for Lane Group [s/veh]	51.00	29.69	28.68	58.33	41.50	46.04	48.76	24.98	22.72	52.75	22.48	24.01
Lane Group LOS	D	C	C	E	D	D	D	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	5.35	1.82	0.80	2.12	5.09	6.66	2.16	9.69	6.55	3.73	8.99	9.23
50th-Percentile Queue Length [ft]	133.83	45.54	19.97	53.06	127.24	166.45	53.92	242.30	163.85	93.37	224.84	230.64
95th-Percentile Queue Length [veh]	9.15	3.28	1.44	3.82	8.79	10.89	3.88	14.80	10.75	6.72	13.91	14.21
95th-Percentile Queue Length [ft]	228.69	81.97	35.95	95.52	219.73	272.25	97.06	369.94	268.81	168.06	347.80	355.17

Movement, Approach, & Intersection Results

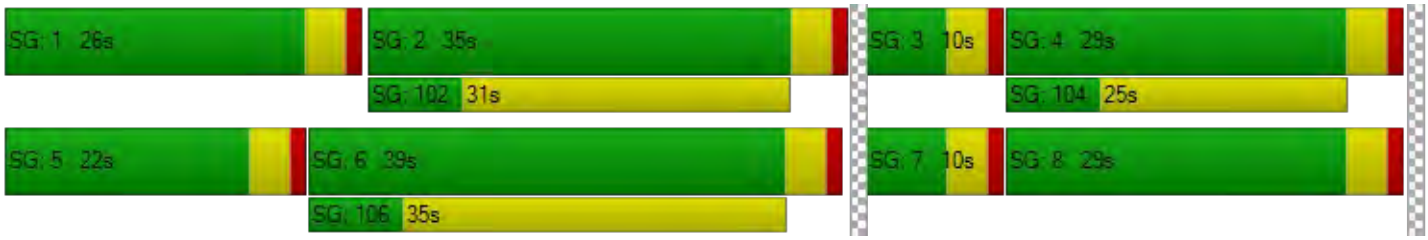
d_M, Delay for Movement [s/veh]	51.00	29.69	28.68	58.33	41.50	46.04	48.76	24.98	22.72	52.75	22.85	24.01
Movement LOS	D	C	C	E	D	D	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	42.17			45.93			27.01			25.48		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	30.18											
Intersection LOS	C											
Intersection V/C	0.747											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	39.61	39.61	39.61
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.498	3.139	2.910
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	620	700	500	500
d_b, Bicycle Delay [s]	23.81	21.13	28.13	28.13
l_b,int, Bicycle LOS Score for Intersection	2.117	2.012	2.848	2.465
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.362

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	326	89	340	335	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	326	89	340	335	0	0
Peak Hour Factor	0.9560	0.9560	0.9560	0.9560	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	23	89	88	0	0
Total Analysis Volume [veh/h]	341	93	356	350	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	61	61	21	86	
g / C, Green / Cycle	0.68	0.68	0.23	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.12	0.12	0.21	0.10	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1218	1218	398	3440	
d1, Uniform Delay [s]	5.34	5.34	33.35	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.32	0.32	7.14	0.06	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.18	0.18	0.89	0.10	
d, Delay for Lane Group [s/veh]	5.66	5.66	40.49	0.16	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	1.39	1.39	8.11	0.03	
50th-Percentile Queue Length [ft]	34.78	34.78	202.68	0.71	
95th-Percentile Queue Length [veh]	2.50	2.50	12.78	0.05	
95th-Percentile Queue Length [ft]	62.60	62.60	319.42	1.27	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.66	5.66	40.49	0.16	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	5.66		20.50		0.00	
Approach LOS	A		C		A	
d_I, Intersection Delay [s/veh]	14.85					
Intersection LOS	B					
Intersection V/C	0.362					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.861
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
I_b,int, Bicycle LOS Score for Intersection	4.490	4.715	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.562

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	263	3	97	9	0	25	23	1125	0	0	1280	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	263	3	97	9	0	25	23	1125	0	0	1280	18
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9500	0.9780	0.9780	0.9780	0.9500	0.9500	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	1	25	2	0	6	6	288	0	0	327	5
Total Analysis Volume [veh/h]	269	3	99	9	0	26	24	1150	0	0	1309	18
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	31	0	10	0	0	10	49	0	0	39	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	10	4	3	64	57	57
g / C, Green / Cycle	0.11	0.11	0.04	0.03	0.71	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.08	0.06	0.02	0.01	0.32	0.37	0.37
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	369	208	68	53	2561	1144	1144
d1, Uniform Delay [s]	38.53	37.41	42.41	42.91	5.52	9.48	9.48
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.77	1.80	5.80	5.83	0.57	2.15	2.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.49	0.51	0.45	0.45	0.58	0.58
d, Delay for Lane Group [s/veh]	41.30	39.21	48.20	48.74	6.09	11.63	11.63
Lane Group LOS	D	D	D	D	A	B	B
Critical Lane Group	Yes	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	2.97	2.19	0.87	0.61	3.85	7.19	7.19
50th-Percentile Queue Length [ft]	74.29	54.68	21.65	15.16	96.16	179.74	179.74
95th-Percentile Queue Length [veh]	5.35	3.94	1.56	1.09	6.92	11.59	11.59
95th-Percentile Queue Length [ft]	133.72	98.42	38.97	27.30	173.08	289.68	289.68

Movement, Approach, & Intersection Results

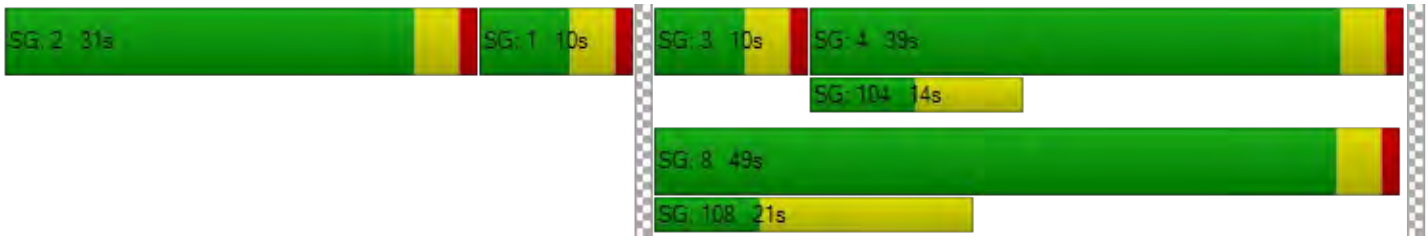
d_M, Delay for Movement [s/veh]	41.30	39.21	39.21	48.20	0.00	48.20	48.74	6.09	0.00	0.00	11.63	11.63
Movement LOS	D	D	D	D		D	D	A			B	B
d_A, Approach Delay [s/veh]	40.73			48.20			6.96			11.63		
Approach LOS	D			D			A			B		
d_I, Intersection Delay [s/veh]	13.90											
Intersection LOS	B											
Intersection V/C	0.562											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.060	1.753	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	0	1000	778
d_b, Bicycle Delay [s]	22.05	45.00	11.25	16.81
l_b,int, Bicycle LOS Score for Intersection	2.172	4.190	2.528	2.654
Bicycle LOS	B	D	B	B

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	26.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.783

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	225	193	68	185	133	497	389	547	146	91	628	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	225	193	68	185	133	497	389	547	146	91	628	151
Peak Hour Factor	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	49	17	47	34	127	99	139	37	23	160	38
Total Analysis Volume [veh/h]	229	197	69	189	136	507	397	558	149	93	640	154
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	33	0	12	34	34	13	34	0	11	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	11	11	23	12	34	18	49	49	6	37	37
g / C, Green / Cycle	0.26	0.12	0.12	0.26	0.13	0.38	0.20	0.54	0.54	0.07	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.13	0.08	0.07	0.11	0.04	0.28	0.12	0.20	0.19	0.05	0.23	0.21
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	505	221	221	440	482	688	653	967	967	123	730	730
d1, Uniform Delay [s]	28.77	37.62	37.42	28.01	35.21	24.00	32.68	12.14	11.93	41.14	20.69	20.30
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.34	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.64	2.84	2.39	0.66	0.32	4.78	0.92	1.13	1.01	9.16	3.12	2.70
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.45	0.62	0.58	0.43	0.28	0.74	0.61	0.38	0.35	0.76	0.56	0.53
d, Delay for Lane Group [s/veh]	29.40	40.46	39.81	28.67	35.53	28.77	33.60	13.28	12.94	50.30	23.81	23.00
Lane Group LOS	C	D	D	C	D	C	C	B	B	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	4.25	3.02	2.79	3.43	1.35	9.80	3.95	4.29	3.91	2.32	7.01	6.39
50th-Percentile Queue Length [ft]	106.34	75.49	69.66	85.67	33.77	245.02	98.70	107.24	97.75	57.93	175.24	159.79
95th-Percentile Queue Length [veh]	7.64	5.44	5.02	6.17	2.43	14.94	7.11	7.69	7.04	4.17	11.35	10.54
95th-Percentile Queue Length [ft]	190.90	135.88	125.39	154.21	60.79	373.38	177.65	192.15	175.96	104.28	283.79	263.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.40	40.26	39.81	28.67	35.53	28.77	33.60	13.16	12.94	50.30	23.52	23.00
Movement LOS	C	D	D	C	D	C	C	B	B	D	C	C
d_A, Approach Delay [s/veh]	35.18			29.85			20.48			26.24		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	26.56											
Intersection LOS	C											
Intersection V/C	0.783											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.470	2.709	2.906	2.670
Crosswalk LOS	B	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	667	667	622
d_b, Bicycle Delay [s]	20.67	20.00	20.00	21.36
l_b,int, Bicycle LOS Score for Intersection	1.968	2.246	2.470	2.291
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	22.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.501

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	174	75	161	41	51	58	63	632	156	108	456	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	174	75	161	41	51	58	63	632	156	108	456	37
Peak Hour Factor	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	19	41	10	13	15	16	161	40	28	116	9
Total Analysis Volume [veh/h]	178	77	164	42	52	59	64	646	159	110	466	38
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	31	0	11	29	0	12	32	0	16	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	11	11	4	8	8	5	52	52	7	55	55
g / C, Green / Cycle	0.08	0.12	0.12	0.04	0.08	0.08	0.05	0.58	0.58	0.08	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.06	0.04	0.09	0.02	0.03	0.03	0.04	0.23	0.22	0.06	0.14	0.14
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	249	212	212	76	152	152	92	1038	1038	142	1091	1091
d1, Uniform Delay [s]	40.59	36.67	38.62	42.19	38.92	39.08	41.91	10.51	10.31	40.49	8.16	8.13
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.78	1.04	5.95	6.13	1.32	1.61	8.96	1.16	1.03	8.68	0.50	0.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.36	0.77	0.55	0.34	0.39	0.69	0.40	0.37	0.77	0.23	0.23
d, Delay for Lane Group [s/veh]	44.37	37.71	44.57	48.32	40.24	40.69	50.87	11.67	11.34	49.17	8.66	8.62
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.03	1.61	3.82	1.04	1.13	1.29	1.61	4.49	4.10	2.70	2.21	2.15
50th-Percentile Queue Length [ft]	50.87	40.17	95.40	25.89	28.23	32.27	40.32	112.22	102.52	67.55	55.33	53.86
95th-Percentile Queue Length [veh]	3.66	2.89	6.87	1.86	2.03	2.32	2.90	7.96	7.38	4.86	3.98	3.88
95th-Percentile Queue Length [ft]	91.57	72.30	171.72	46.60	50.81	58.08	72.57	199.09	184.53	121.59	99.59	96.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.37	37.71	44.57	48.32	40.24	40.69	50.87	11.55	11.34	49.17	8.64	8.62
Movement LOS	D	D	D	D	D	D	D	B	B	D	A	A
d_A, Approach Delay [s/veh]	43.22			42.63			14.41			15.90		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	22.83											
Intersection LOS	C											
Intersection V/C	0.501											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.573	2.212	2.606	2.585
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	556	622	711
d_b, Bicycle Delay [s]	22.05	23.47	21.36	18.69
l_b,int, Bicycle LOS Score for Intersection	2.251	1.686	2.277	2.066
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	29.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.493

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	162	355	49	64	298	82	81	325	204	46	214	61
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	162	355	49	64	298	82	81	325	204	46	214	61
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	93	13	17	78	22	21	85	54	12	56	16
Total Analysis Volume [veh/h]	170	373	51	67	313	86	85	341	214	48	225	64
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	40	0	11	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	19	19	5	13	13	6	46	46	4	44	44
g / C, Green / Cycle	0.12	0.21	0.21	0.05	0.14	0.14	0.06	0.51	0.51	0.05	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.10	0.12	0.12	0.04	0.11	0.11	0.05	0.16	0.14	0.03	0.08	0.08
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	207	377	377	94	258	258	111	918	918	81	886	886
d1, Uniform Delay [s]	38.65	32.01	31.85	41.88	37.34	37.09	41.45	12.95	12.67	42.07	12.67	12.62
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.89	1.37	1.26	9.46	5.50	4.39	10.32	0.92	0.78	6.69	0.41	0.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.57	0.55	0.71	0.79	0.75	0.76	0.32	0.28	0.59	0.17	0.16
d, Delay for Lane Group [s/veh]	46.54	33.37	33.11	51.34	42.85	41.48	51.78	13.88	13.45	48.76	13.08	13.01
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.06	4.29	4.11	1.70	4.69	4.35	2.15	3.52	3.05	1.19	1.68	1.60
50th-Percentile Queue Length [ft]	101.58	107.24	102.82	42.41	117.27	108.78	53.87	88.03	76.22	29.65	41.88	39.88
95th-Percentile Queue Length [veh]	7.31	7.69	7.40	3.05	8.24	7.77	3.88	6.34	5.49	2.13	3.02	2.87
95th-Percentile Queue Length [ft]	182.84	192.16	185.07	76.33	206.06	194.31	96.96	158.46	137.19	53.37	75.39	71.78

Movement, Approach, & Intersection Results

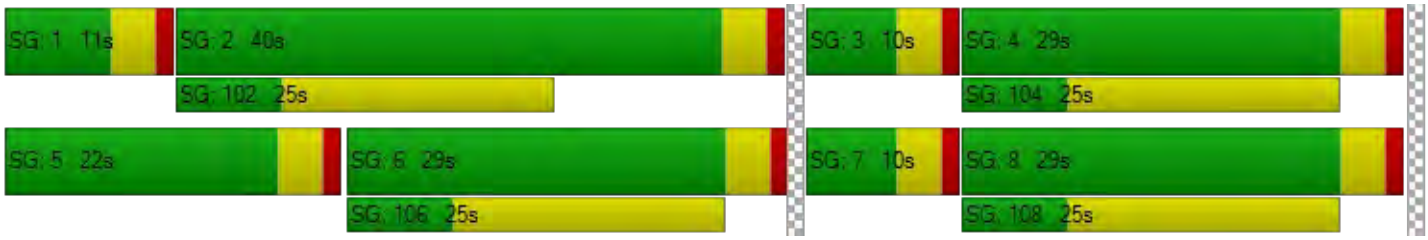
d_M, Delay for Movement [s/veh]	46.54	33.26	33.11	51.34	42.38	41.48	51.78	13.82	13.45	48.76	13.05	13.01
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.05			43.50			18.74			18.13		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.64											
Intersection LOS	C											
Intersection V/C	0.493											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.527	2.492	2.518	2.455
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	556	556	556
d_b, Bicycle Delay [s]	16.20	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.050	1.944	2.088	1.838
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.194

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	80	11	2	2	22	5	4	4	54	5	3	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	11	2	2	22	5	4	4	54	5	3	1
Peak Hour Factor	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	4	1	1	8	2	1	1	20	2	1	0
Total Analysis Volume [veh/h]	117	16	3	3	32	7	6	6	79	7	4	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	686	876	730	859	652	825	645	729
Degree of Utilization, x	0.19	0.00	0.05	0.01	0.01	0.10	0.01	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.71	0.01	0.15	0.02	0.03	0.34	0.03	0.02
95th-Percentile Queue Length [ft]	17.86	0.26	3.77	0.62	0.70	8.58	0.82	0.52
Approach Delay [s/veh]	9.15		7.72		7.61		8.06	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.39							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.253

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	130	0	0	0	0	0	179	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	130	0	0	0	0	0	179	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	42	0	0	0	0	0	58	0
Total Analysis Volume [veh/h]	0	0	0	0	169	0	0	0	0	0	233	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	12.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	25.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			12.22			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	5.14											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.307

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	95	372	10	31	226	13	9	7	33	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	372	10	31	226	13	9	7	33	0	0	0
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	101	3	8	61	4	2	2	9	0	0	0
Total Analysis Volume [veh/h]	103	403	11	34	245	14	10	8	36	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	616	674	679	619	632	720	525	620	
Degree of Utilization, x	0.17	0.31	0.31	0.23	0.22	0.02	0.02	0.07	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.60	1.30	1.29	0.86	0.84	0.06	0.06	0.23	
95th-Percentile Queue Length [ft]	14.91	32.53	32.22	21.53	20.97	1.49	1.45	5.71	
Approach Delay [s/veh]	10.23			10.00			9.09		0.00
Approach LOS	B			A			A		A
Intersection Delay [s/veh]	10.08								
Intersection LOS	B								

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.513

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	810	254	0	0	417
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	810	254	0	0	417
Peak Hour Factor	0.9500	0.9180	0.9180	0.9500	0.9500	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	221	69	0	0	114
Total Analysis Volume [veh/h]	0	882	277	0	0	454
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.51
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.47
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	1.02
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	25.58
d_A, Approach Delay [s/veh]	0.00		0.00		10.47	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.95					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.441

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	142	805	654	0	0	188
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	142	805	654	0	0	188
Peak Hour Factor	0.9670	0.9670	0.9670	0.9500	0.9500	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	208	169	0	0	49
Total Analysis Volume [veh/h]	147	832	676	0	0	194
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	18	51	33	0	0	39
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	70	57	12
g / C, Green / Cycle	0.11	0.78	0.63	0.13
(v / s)_i Volume / Saturation Flow Rate	0.09	0.23	0.19	0.11
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	180	2805	2263	238
d1, Uniform Delay [s]	39.39	2.86	7.64	38.02
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.63	0.27	0.34	6.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.30	0.30	0.82
d, Delay for Lane Group [s/veh]	48.01	3.13	7.98	44.75
Lane Group LOS	D	A	A	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	3.57	1.53	2.76	4.54
50th-Percentile Queue Length [ft]	89.16	38.24	69.11	113.45
95th-Percentile Queue Length [veh]	6.42	2.75	4.98	8.03
95th-Percentile Queue Length [ft]	160.49	68.84	124.40	200.79

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.01	3.13	7.98	0.00	0.00	44.75
Movement LOS	D	A	A			D
d_A, Approach Delay [s/veh]	9.87		7.98		44.75	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	12.84					
Intersection LOS	B					
Intersection V/C	0.441					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.660	2.498	1.881
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.940	4.690	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	2.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.336

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	895	20	8	774	20	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	895	20	8	774	20	4
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	239	5	2	206	5	1
Total Analysis Volume [veh/h]	954	21	9	825	21	4
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	51	0	10	61	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	74	74	1	79	3
g / C, Green / Cycle	0.82	0.82	0.01	0.88	0.03
(v / s)_i Volume / Saturation Flow Rate	0.27	0.27	0.01	0.23	0.01
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1476	1476	25	3164	55
d1, Uniform Delay [s]	2.01	2.01	43.94	0.86	42.80
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.60	0.60	8.48	0.20	5.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.33	0.33	0.36	0.26	0.46
d, Delay for Lane Group [s/veh]	2.61	2.61	52.42	1.06	48.62
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	1.31	1.31	0.26	0.16	0.63
50th-Percentile Queue Length [ft]	32.76	32.76	6.40	3.92	15.75
95th-Percentile Queue Length [veh]	2.36	2.36	0.46	0.28	1.13
95th-Percentile Queue Length [ft]	58.97	58.97	11.52	7.06	28.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	2.61	2.61	52.42	1.06	48.62	48.62
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	2.61		1.61		48.62	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	2.78					
Intersection LOS	A					
Intersection V/C	0.336					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.574	2.649	1.741
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.937	4.820	4.174
Bicycle LOS	E	E	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	17.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	916	0	0	798	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	916	0	0	798	0	0
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	247	0	0	215	0	0
Total Analysis Volume [veh/h]	988	0	0	861	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	10.18	0.00	17.56	11.91
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		14.73	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	30.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.519

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	145	324	70	104	227	73	94	347	134	151	393	117
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	324	70	104	227	73	94	347	134	151	393	117
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	86	19	28	60	19	25	92	36	40	104	31
Total Analysis Volume [veh/h]	154	344	74	111	241	78	100	369	142	160	418	124
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	18	31	0	20	33	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	13	13	7	11	11	7	43	43	10	46	46
g / C, Green / Cycle	0.11	0.15	0.15	0.08	0.12	0.12	0.08	0.48	0.48	0.12	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.09	0.12	0.11	0.07	0.09	0.09	0.06	0.15	0.14	0.09	0.16	0.14
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	189	268	268	142	219	219	130	853	853	198	925	925
d1, Uniform Delay [s]	39.18	37.07	36.82	40.52	38.30	38.08	40.87	14.65	14.45	38.88	12.64	12.47
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.30	5.46	4.39	8.99	5.14	4.18	9.21	0.96	0.85	7.68	0.85	0.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.80	0.76	0.78	0.75	0.71	0.77	0.31	0.29	0.81	0.30	0.28
d, Delay for Lane Group [s/veh]	47.48	42.53	41.22	49.50	43.43	42.25	50.08	15.61	15.29	46.56	13.48	13.23
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.72	4.89	4.56	2.74	3.77	3.49	2.48	3.43	3.10	3.82	3.30	3.02
50th-Percentile Queue Length [ft]	92.91	122.30	113.92	68.44	94.17	87.26	62.08	85.72	77.57	95.51	82.45	75.44
95th-Percentile Queue Length [veh]	6.69	8.52	8.06	4.93	6.78	6.28	4.47	6.17	5.58	6.88	5.94	5.43
95th-Percentile Queue Length [ft]	167.24	212.98	201.45	123.18	169.50	157.07	111.74	154.30	139.62	171.92	148.41	135.79

Movement, Approach, & Intersection Results

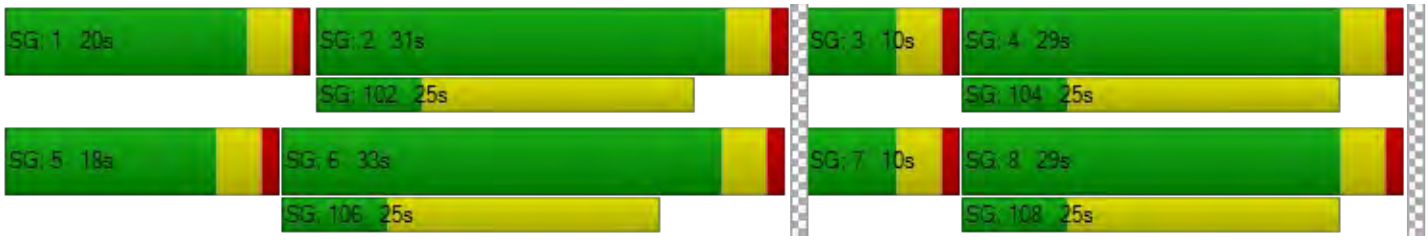
d_M, Delay for Movement [s/veh]	47.48	42.03	41.22	49.50	43.06	42.25	50.08	15.52	15.29	46.56	13.40	13.23
Movement LOS	D	D	D	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	43.39			44.58			21.12			20.93		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	30.92											
Intersection LOS	C											
Intersection V/C	0.519											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.517	2.494	2.545	2.544
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	644	556	556
d_b, Bicycle Delay [s]	22.05	20.67	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.032	1.914	2.064	2.139
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	19.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.519

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	995	152	0	521	550	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	995	152	0	521	550	0
Peak Hour Factor	0.9810	0.9810	0.9500	0.9810	0.9810	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	254	39	0	133	140	0
Total Analysis Volume [veh/h]	1014	155	0	531	561	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	33	49	49
g / C, Green / Cycle	0.36	0.36	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.32	0.09	0.15	0.16
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1157	651	1978	1978
d1, Uniform Delay [s]	26.79	20.03	10.70	10.81
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.29	0.19	0.33	0.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.24	0.27	0.28
d, Delay for Lane Group [s/veh]	29.08	20.22	11.03	11.17
Lane Group LOS	C	C	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	10.05	2.25	2.70	2.89
50th-Percentile Queue Length [ft]	251.23	56.16	67.58	72.13
95th-Percentile Queue Length [veh]	15.25	4.04	4.87	5.19
95th-Percentile Queue Length [ft]	381.20	101.08	121.64	129.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.08	20.22	0.00	11.03	11.17	0.00
Movement LOS	C	C		B	B	
d_A, Approach Delay [s/veh]	27.90		11.03		11.17	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	19.79					
Intersection LOS	B					
Intersection V/C	0.519					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.320	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.570	4.595
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	28.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.772

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	165	49	33	75	143	234	160	1188	223	116	1236	173
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	165	49	33	75	143	234	160	1188	223	116	1236	173
Peak Hour Factor	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	13	9	19	37	61	41	308	58	30	321	45
Total Analysis Volume [veh/h]	171	51	34	78	148	243	166	1232	231	120	1282	179
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	35	0	26	39	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	22	22	6	16	16	7	47	47	9	49	49
g / C, Green / Cycle	0.12	0.22	0.22	0.06	0.16	0.16	0.07	0.47	0.47	0.09	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.10	0.03	0.02	0.05	0.08	0.14	0.05	0.34	0.13	0.07	0.27	0.27
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	204	400	400	102	291	291	240	1690	845	151	1741	870
d1, Uniform Delay [s]	43.09	31.19	30.89	46.39	38.35	40.69	45.20	21.43	16.17	44.71	18.34	18.24
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.73	0.14	0.09	11.34	1.38	6.26	3.57	2.80	0.80	8.97	1.32	2.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.13	0.09	0.77	0.51	0.84	0.69	0.73	0.27	0.79	0.56	0.55
d, Delay for Lane Group [s/veh]	51.82	31.34	30.99	57.73	39.73	46.95	48.77	24.23	16.97	53.68	19.66	20.78
Lane Group LOS	D	C	C	E	D	D	D	C	B	D	B	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.60	1.00	0.66	2.22	3.41	6.25	2.12	11.74	3.32	3.28	8.00	8.16
50th-Percentile Queue Length [ft]	114.98	25.00	16.50	55.56	85.15	156.14	52.96	293.50	83.09	81.89	200.12	203.91
95th-Percentile Queue Length [veh]	8.12	1.80	1.19	4.00	6.13	10.34	3.81	17.36	5.98	5.90	12.64	12.84
95th-Percentile Queue Length [ft]	202.90	45.00	29.70	100.01	153.28	258.61	95.33	433.98	149.57	147.40	316.12	321.01

Movement, Approach, & Intersection Results

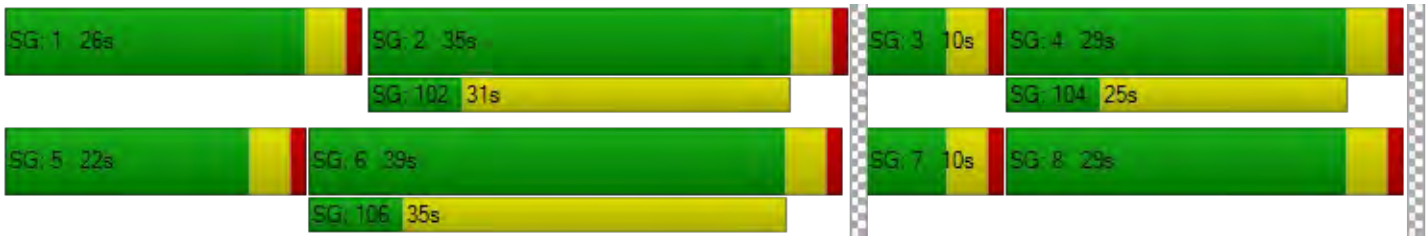
d_M, Delay for Movement [s/veh]	51.82	31.34	30.99	57.73	39.73	46.95	48.77	24.23	16.97	53.68	19.92	20.78
Movement LOS	D	C	C	E	D	D	D	C	B	D	B	C
d_A, Approach Delay [s/veh]	44.97			46.46			25.70			22.58		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	28.18											
Intersection LOS	C											
Intersection V/C	0.772											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	39.61	39.61	39.61
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.473	3.136	2.933
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	620	700	500	500
d_b, Bicycle Delay [s]	23.81	21.13	28.13	28.13
l_b,int, Bicycle LOS Score for Intersection	1.982	1.947	2.904	2.429
Bicycle LOS	A	A	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.288

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	235	65	267	244	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	235	65	267	244	0	0
Peak Hour Factor	0.9190	0.9190	0.9190	0.9190	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	18	73	66	0	0
Total Analysis Volume [veh/h]	256	71	291	266	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	64	64	18	86	
g / C, Green / Cycle	0.72	0.72	0.20	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.09	0.09	0.17	0.07	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1288	1288	333	3440	
d1, Uniform Delay [s]	4.01	4.01	35.11	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.20	0.20	7.25	0.04	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.13	0.13	0.88	0.08	
d, Delay for Lane Group [s/veh]	4.21	4.21	42.37	0.14	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	0.83	0.83	6.71	0.02	
50th-Percentile Queue Length [ft]	20.84	20.84	167.87	0.52	
95th-Percentile Queue Length [veh]	1.50	1.50	10.96	0.04	
95th-Percentile Queue Length [ft]	37.51	37.51	274.11	0.94	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.21	4.21	42.37	0.14	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	4.21		22.20		0.00	
Approach LOS	A		C		A	
d_I, Intersection Delay [s/veh]	15.55					
Intersection LOS	B					
Intersection V/C	0.288					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.776	
Crosswalk LOS	F	F	A	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0	
d_b, Bicycle Delay [s]	45.00	45.00	45.00	
I_b,int, Bicycle LOS Score for Intersection	4.402	4.592	4.132	
Bicycle LOS	E	E	D	

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	16.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.606

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	240	5	161	16	0	57	30	1229	0	0	1243	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	240	5	161	16	0	57	30	1229	0	0	1243	24
Peak Hour Factor	0.9610	0.9610	0.9610	0.9610	0.9500	0.9610	0.9610	0.9610	0.9500	0.9500	0.9610	0.9610
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	1	42	4	0	15	8	320	0	0	323	6
Total Analysis Volume [veh/h]	250	5	168	17	0	59	31	1279	0	0	1293	25
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	25	0	16	0	0	10	49	0	0	39	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	11	5	3	61	54	54
g / C, Green / Cycle	0.13	0.13	0.06	0.04	0.68	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.08	0.10	0.04	0.02	0.36	0.37	0.37
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	405	228	100	63	2453	1080	1080
d1, Uniform Delay [s]	37.31	38.05	41.81	42.58	7.10	11.38	11.38
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.53	5.12	11.15	5.81	0.80	2.57	2.57
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.76	0.76	0.49	0.52	0.61	0.61
d, Delay for Lane Group [s/veh]	38.84	43.17	52.96	48.39	7.89	13.95	13.95
Lane Group LOS	D	D	D	D	A	B	B
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	2.66	3.96	1.96	0.77	5.29	8.14	8.14
50th-Percentile Queue Length [ft]	66.51	98.95	48.88	19.30	132.30	203.50	203.50
95th-Percentile Queue Length [veh]	4.79	7.12	3.52	1.39	9.06	12.82	12.82
95th-Percentile Queue Length [ft]	119.72	178.12	87.99	34.74	226.62	320.47	320.47

Movement, Approach, & Intersection Results

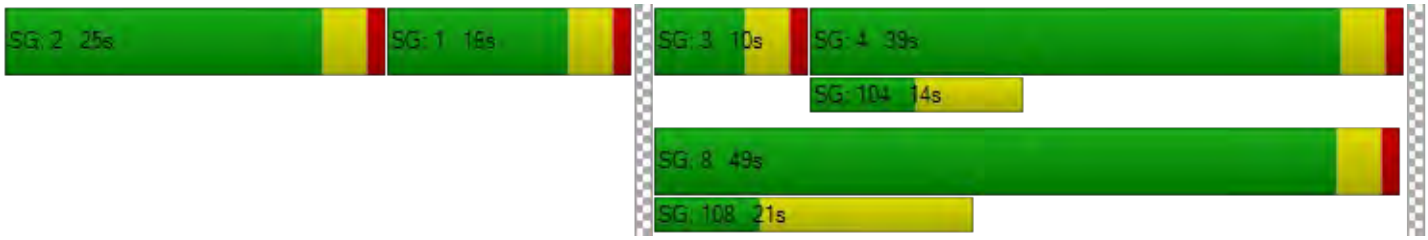
d_M, Delay for Movement [s/veh]	38.84	43.17	43.17	52.96	0.00	52.96	48.39	7.89	0.00	0.00	13.95	13.95
Movement LOS	D	D	D	D		D	D	A			B	B
d_A, Approach Delay [s/veh]	40.61			52.96			8.85			13.95		
Approach LOS	D			D			A			B		
d_I, Intersection Delay [s/veh]	16.37											
Intersection LOS	B											
Intersection V/C	0.606											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.077	1.781	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	467	0	1000	778
d_b, Bicycle Delay [s]	26.45	45.00	11.25	16.81
l_b,int, Bicycle LOS Score for Intersection	2.258	4.258	2.640	2.647
Bicycle LOS	B	E	B	B

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	29.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.779

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	231	135	46	115	99	555	604	544	119	65	470	154
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	231	135	46	115	99	555	604	544	119	65	470	154
Peak Hour Factor	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	35	12	30	26	143	156	140	31	17	121	40
Total Analysis Volume [veh/h]	239	139	48	119	102	573	624	562	123	67	486	159
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	31	46	0	17	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	25	15	15	25	15	44	25	62	62	5	43	43
g / C, Green / Cycle	0.24	0.14	0.14	0.24	0.14	0.42	0.24	0.59	0.59	0.05	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.14	0.05	0.05	0.07	0.03	0.32	0.20	0.20	0.18	0.04	0.19	0.17
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	471	261	261	431	522	760	766	1068	1068	87	730	730
d1, Uniform Delay [s]	35.23	40.59	40.46	32.55	39.54	25.73	37.79	10.81	10.66	49.23	22.83	22.43
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.35	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.85	0.87	0.79	0.34	0.18	4.83	2.18	0.83	0.76	12.96	2.08	1.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.51	0.37	0.35	0.28	0.20	0.75	0.82	0.33	0.31	0.77	0.46	0.42
d, Delay for Lane Group [s/veh]	36.08	41.46	41.25	32.90	39.72	30.57	39.97	11.63	11.43	62.19	24.91	24.23
Lane Group LOS	D	D	D	C	D	C	D	B	B	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	5.47	2.31	2.16	2.51	1.17	12.77	7.72	4.17	3.89	2.05	6.38	5.77
50th-Percentile Queue Length [ft]	136.80	57.77	54.07	62.70	29.29	319.20	192.97	104.16	97.15	51.13	159.54	144.17
95th-Percentile Queue Length [veh]	9.31	4.16	3.89	4.51	2.11	18.63	12.28	7.50	6.99	3.68	10.52	9.71
95th-Percentile Queue Length [ft]	232.72	103.99	97.32	112.86	52.71	465.70	306.88	187.49	174.87	92.04	263.12	242.63

Movement, Approach, & Intersection Results

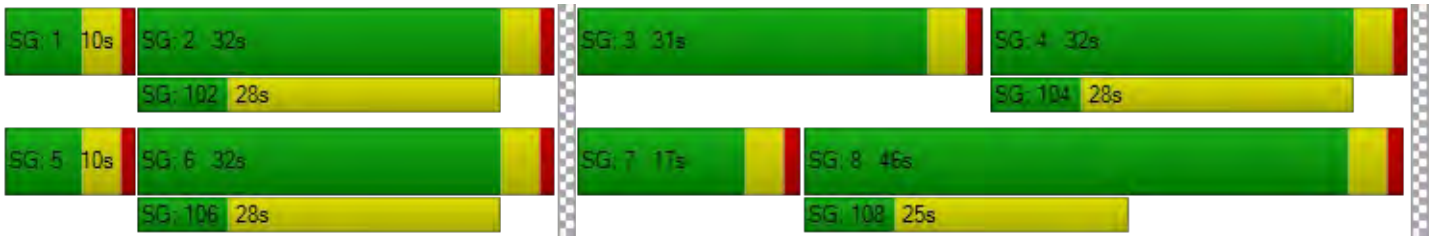
d_M, Delay for Movement [s/veh]	36.08	41.40	41.25	32.90	39.72	30.57	39.97	11.56	11.43	62.19	24.70	24.23
Movement LOS	D	D	D	C	D	C	D	B	B	E	C	C
d_A, Approach Delay [s/veh]	38.39			32.09			25.09			28.12		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	29.22											
Intersection LOS	C											
Intersection V/C	0.779											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	42.08	42.08	42.08	42.08
l_p,int, Pedestrian LOS Score for Intersection	2.447	2.739	2.992	2.616
Crosswalk LOS	B	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	533	800	533
d_b, Bicycle Delay [s]	28.23	28.23	18.90	28.23
l_b,int, Bicycle LOS Score for Intersection	1.911	2.215	2.640	2.147
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	21.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.382

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	159	57	108	27	51	32	35	427	113	111	465	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	159	57	108	27	51	32	35	427	113	111	465	35
Peak Hour Factor	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	15	29	7	14	8	9	113	30	29	123	9
Total Analysis Volume [veh/h]	168	60	114	29	54	34	37	452	120	118	493	37
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	29	0	10	29	0	10	32	0	19	41	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	8	8	3	5	5	4	55	55	8	59	59
g / C, Green / Cycle	0.07	0.09	0.09	0.04	0.06	0.06	0.04	0.61	0.61	0.09	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.05	0.03	0.06	0.02	0.02	0.02	0.02	0.16	0.15	0.07	0.15	0.15
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	216	166	166	61	109	109	70	1090	1090	151	1176	1176
d1, Uniform Delay [s]	41.37	38.45	39.68	42.65	40.83	40.80	42.35	8.39	8.29	40.20	6.37	6.34
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.92	1.32	4.99	5.68	2.48	2.36	5.95	0.61	0.56	8.34	0.45	0.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.36	0.69	0.48	0.41	0.40	0.53	0.27	0.25	0.78	0.23	0.22
d, Delay for Lane Group [s/veh]	47.29	39.77	44.67	48.33	43.31	43.15	48.31	9.00	8.85	48.54	6.82	6.78
Lane Group LOS	D	D	D	D	D	D	D	A	A	D	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	1.99	1.29	2.64	0.72	1.02	0.99	0.92	2.64	2.45	2.88	1.96	1.91
50th-Percentile Queue Length [ft]	49.79	32.32	66.12	18.08	25.52	24.69	22.88	66.00	61.14	71.94	49.00	47.75
95th-Percentile Queue Length [veh]	3.58	2.33	4.76	1.30	1.84	1.78	1.65	4.75	4.40	5.18	3.53	3.44
95th-Percentile Queue Length [ft]	89.62	58.17	119.01	32.55	45.93	44.44	41.18	118.80	110.05	129.48	88.20	85.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.29	39.77	44.67	48.33	43.28	43.15	48.31	8.95	8.85	48.54	6.80	6.78
Movement LOS	D	D	D	D	D	D	D	A	A	D	A	A
d_A, Approach Delay [s/veh]	45.10			44.50			11.32			14.40		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	21.48											
Intersection LOS	C											
Intersection V/C	0.382											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.555	2.192	2.554	2.542
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	622	822
d_b, Bicycle Delay [s]	23.47	23.47	21.36	15.61
l_b,int, Bicycle LOS Score for Intersection	2.124	1.656	2.062	2.094
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	29.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.424

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	114	279	39	32	253	73	66	233	163	43	172	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	114	279	39	32	253	73	66	233	163	43	172	38
Peak Hour Factor	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	81	11	9	73	21	19	67	47	12	50	11
Total Analysis Volume [veh/h]	132	323	45	37	292	84	76	269	188	50	199	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	39	0	12	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	17	17	4	12	12	5	49	49	4	48	48
g / C, Green / Cycle	0.10	0.19	0.19	0.04	0.14	0.14	0.06	0.54	0.54	0.05	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.08	0.10	0.10	0.02	0.11	0.10	0.04	0.13	0.12	0.03	0.07	0.07
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	166	347	347	71	246	246	100	971	971	83	953	953
d1, Uniform Delay [s]	39.80	32.81	32.68	42.34	37.66	37.43	41.81	11.04	10.85	42.04	10.71	10.69
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.31	1.31	1.22	5.86	5.49	4.46	11.18	0.61	0.53	6.89	0.28	0.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.54	0.52	0.52	0.79	0.75	0.76	0.25	0.22	0.60	0.13	0.13
d, Delay for Lane Group [s/veh]	48.11	34.11	33.90	48.20	43.15	41.89	52.99	11.65	11.38	48.93	10.99	10.96
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.20	3.74	3.60	0.91	4.42	4.12	1.96	2.57	2.24	1.24	1.25	1.20
50th-Percentile Queue Length [ft]	80.11	93.60	90.12	22.85	110.61	103.06	48.90	64.14	56.11	30.92	31.19	30.11
95th-Percentile Queue Length [veh]	5.77	6.74	6.49	1.65	7.87	7.42	3.52	4.62	4.04	2.23	2.25	2.17
95th-Percentile Queue Length [ft]	144.19	168.47	162.22	41.13	196.85	185.51	88.01	115.44	101.01	55.66	56.14	54.20

Movement, Approach, & Intersection Results

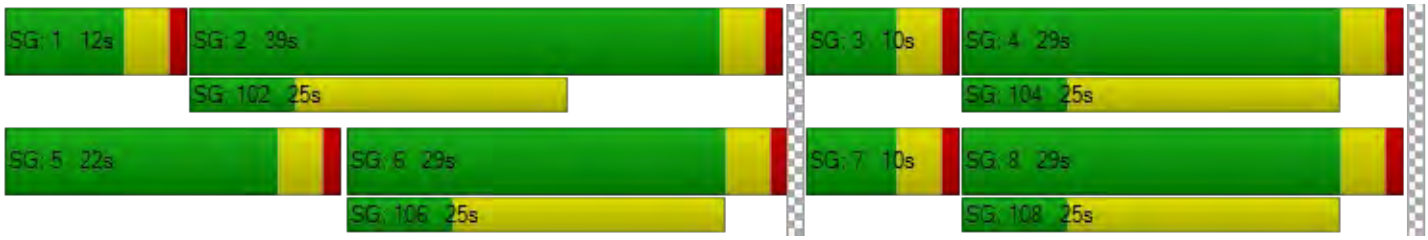
d_M, Delay for Movement [s/veh]	48.11	34.02	33.90	48.20	42.72	41.89	52.99	11.62	11.38	48.93	10.98	10.96
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.73			43.04			17.43			17.45		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.35											
Intersection LOS	C											
Intersection V/C	0.424											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.500	2.466	2.484	2.425
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	778	556	556	556
d_b, Bicycle Delay [s]	16.81	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	1.972	1.900	1.999	1.801
Bicycle LOS	A	A	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX C-II

EXISTING WITH PROJECT (PHASE 1) TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.228

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	96	37	17	0	15	4	2	9	63	2	13	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	37	17	0	15	4	2	9	63	2	13	1
Peak Hour Factor	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	11	5	0	4	1	1	3	19	1	4	0
Total Analysis Volume [veh/h]	115	44	20	0	18	5	2	11	75	2	16	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	696	876	729	849	646	808	639	708
Degree of Utilization, x	0.23	0.02	0.02	0.01	0.00	0.11	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.88	0.07	0.08	0.02	0.01	0.36	0.01	0.07
95th-Percentile Queue Length [ft]	21.91	1.75	1.90	0.44	0.23	8.91	0.24	1.84
Approach Delay [s/veh]	9.12		7.59		7.70		7.96	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.53							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.124

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	90	0	0	0	0	0	119	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	90	0	0	0	0	0	119	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	24	0	0	0	0	0	31	0
Total Analysis Volume [veh/h]	0	0	0	0	95	0	0	0	0	0	125	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	10.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	10.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10.37			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.48											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.345

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	138	282	205	9	160	0	31	5	13	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	282	205	9	160	0	31	5	13	0	0	0
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	76	55	2	43	0	8	1	4	0	0	0
Total Analysis Volume [veh/h]	149	305	221	10	173	0	33	5	14	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	658	700	810	629	634	527	629	
Degree of Utilization, x	0.35	0.32	0.27	0.15	0.14	0.07	0.02	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.54	1.41	1.11	0.51	0.50	0.23	0.07	
95th-Percentile Queue Length [ft]	38.45	35.19	27.73	12.69	12.55	5.81	1.71	
Approach Delay [s/veh]	10.06			9.37		9.66		0.00
Approach LOS	B			A		A		A
Intersection Delay [s/veh]	9.90							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.210

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	625	172	0	0	189
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	625	172	0	0	189
Peak Hour Factor	0.9500	0.9520	0.9520	0.9500	0.9500	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	164	45	0	0	50
Total Analysis Volume [veh/h]	0	657	181	0	0	199
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.21
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.24
Movement LOS		A	A			A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.35
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	8.75
d_A, Approach Delay [s/veh]	0.00		0.00		9.24	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.77					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	16.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.408

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	178	623	360	0	0	212
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	178	623	360	0	0	212
Peak Hour Factor	0.9110	0.9110	0.9110	0.9500	0.9500	0.9110
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	171	99	0	0	58
Total Analysis Volume [veh/h]	195	684	395	0	0	233
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	28	46	18	0	0	44
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	68	52	14
g / C, Green / Cycle	0.14	0.76	0.58	0.15
(v / s)_i Volume / Saturation Flow Rate	0.11	0.19	0.11	0.13
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	233	2723	2069	279
d1, Uniform Delay [s]	37.86	3.30	9.15	36.94
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.71	0.22	0.21	6.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.25	0.19	0.84
d, Delay for Lane Group [s/veh]	45.57	3.52	9.35	43.49
Lane Group LOS	D	A	A	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	4.62	1.44	1.78	5.39
50th-Percentile Queue Length [ft]	115.45	35.91	44.39	134.82
95th-Percentile Queue Length [veh]	8.14	2.59	3.20	9.20
95th-Percentile Queue Length [ft]	203.56	64.64	79.90	230.03

Movement, Approach, & Intersection Results

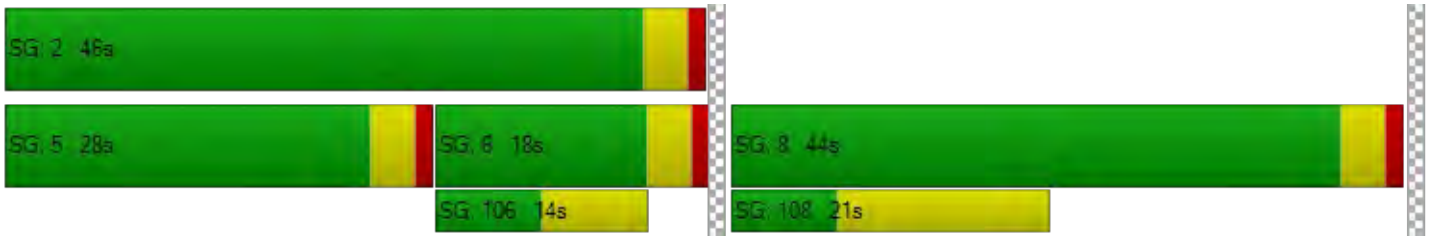
d_M, Delay for Movement [s/veh]	45.57	3.52	9.35	0.00	0.00	43.49
Movement LOS	D	A	A			D
d_A, Approach Delay [s/veh]	12.85		9.35		43.49	
Approach LOS	B		A		D	
d_I, Intersection Delay [s/veh]	16.67					
Intersection LOS	B					
Intersection V/C	0.408					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.593	2.394	1.923
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.858	4.458	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.491

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	644	230	14	604	137	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	644	230	14	604	137	12
Peak Hour Factor	0.7970	0.7970	0.7970	0.7970	0.7970	0.7970
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	202	72	4	189	43	4
Total Analysis Volume [veh/h]	808	289	18	758	172	15
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	18	0	10	28	62	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	64	64	2	70	12
g / C, Green / Cycle	0.71	0.71	0.02	0.78	0.13
(v / s)_i Volume / Saturation Flow Rate	0.30	0.30	0.01	0.21	0.11
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1274	1274	43	2800	227
d1, Uniform Delay [s]	5.53	5.53	43.22	2.82	37.99
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.06	1.06	6.27	0.24	7.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.43	0.42	0.27	0.82
d, Delay for Lane Group [s/veh]	6.59	6.59	49.49	3.06	45.34
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	3.85	3.85	0.47	1.37	4.41
50th-Percentile Queue Length [ft]	96.20	96.20	11.66	34.36	110.29
95th-Percentile Queue Length [veh]	6.93	6.93	0.84	2.47	7.86
95th-Percentile Queue Length [ft]	173.17	173.17	20.99	61.85	196.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.59	6.59	49.49	3.06	45.34	45.34
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	6.59		4.13		45.34	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	9.18					
Intersection LOS	A					
Intersection V/C	0.491					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.625	2.611	1.955
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.037	4.773	4.441
Bicycle LOS	F	E	E

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	20.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.017

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	898	96	21	735	3	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	898	96	21	735	3	2
Peak Hour Factor	0.8510	0.8510	0.8510	0.8510	0.8510	0.8510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	264	28	6	216	1	1
Total Analysis Volume [veh/h]	1055	113	25	864	4	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.04	0.01	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	11.33	0.00	20.70	13.20
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	6.60	3.30	0.07	0.07
95th-Percentile Queue Length [ft]	0.00	0.00	164.95	82.47	1.65	1.65
d_A, Approach Delay [s/veh]	0.00		0.32		18.20	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	32.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.497

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	114	375	34	94	430	50	28	216	86	104	251	72
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	114	375	34	94	430	50	28	216	86	104	251	72
Peak Hour Factor	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	109	10	27	125	15	8	63	25	30	73	21
Total Analysis Volume [veh/h]	133	438	40	110	502	58	33	252	100	121	293	84
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	29	0	22	36	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	18	18	7	17	17	3	40	40	8	45	45
g / C, Green / Cycle	0.10	0.20	0.20	0.08	0.19	0.19	0.04	0.45	0.45	0.09	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.13	0.06	0.16	0.15	0.02	0.10	0.09	0.07	0.11	0.10
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	165	367	367	141	341	341	66	801	801	154	895	895
d1, Uniform Delay [s]	39.86	33.03	32.90	40.54	35.18	34.97	42.49	15.44	15.33	40.15	12.78	12.69
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.80	2.03	1.89	8.93	5.35	4.53	5.79	0.66	0.61	8.52	0.56	0.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.66	0.64	0.78	0.83	0.81	0.50	0.23	0.21	0.79	0.22	0.20
d, Delay for Lane Group [s/veh]	48.66	35.06	34.79	49.47	40.53	39.50	48.29	16.09	15.94	48.67	13.34	13.21
Lane Group LOS	D	D	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.25	4.98	4.82	2.71	6.39	6.09	0.82	2.36	2.20	2.95	2.24	2.09
50th-Percentile Queue Length [ft]	81.25	124.40	120.60	67.79	159.84	152.25	20.47	59.01	54.96	73.87	56.02	52.37
95th-Percentile Queue Length [veh]	5.85	8.63	8.43	4.88	10.54	10.14	1.47	4.25	3.96	5.32	4.03	3.77
95th-Percentile Queue Length [ft]	146.24	215.86	210.65	122.02	263.51	253.44	36.85	106.22	98.92	132.97	100.84	94.26

Movement, Approach, & Intersection Results

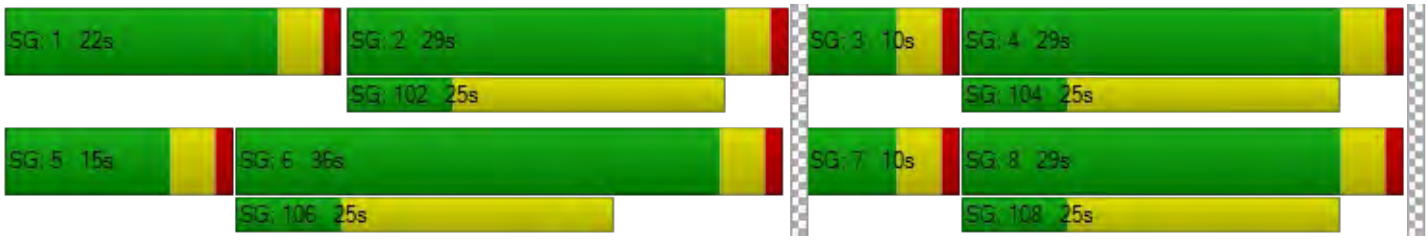
d_M, Delay for Movement [s/veh]	48.66	34.94	34.79	49.47	40.08	39.50	48.29	16.05	15.94	48.67	13.30	13.21
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.91			41.57			18.78			21.88		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	31.95											
Intersection LOS	C											
Intersection V/C	0.497											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.559	2.538	2.469	2.475
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	711	556	556
d_b, Bicycle Delay [s]	23.47	18.69	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.064	2.112	1.877	1.970
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	21.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.454

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	930	203	0	297	342	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	930	203	0	297	342	0
Peak Hour Factor	0.9330	0.9330	0.9500	0.9330	0.9330	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	249	54	0	80	92	0
Total Analysis Volume [veh/h]	997	218	0	318	367	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	32	32	50	50
g / C, Green / Cycle	0.36	0.36	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.31	0.12	0.09	0.10
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1145	644	1991	1991
d1, Uniform Delay [s]	26.90	21.07	9.84	9.99
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.20	0.31	0.17	0.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.34	0.16	0.18
d, Delay for Lane Group [s/veh]	29.10	21.38	10.01	10.19
Lane Group LOS	C	C	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	9.86	3.31	1.49	1.75
50th-Percentile Queue Length [ft]	246.59	82.85	37.34	43.77
95th-Percentile Queue Length [veh]	15.01	5.97	2.69	3.15
95th-Percentile Queue Length [ft]	375.35	149.13	67.21	78.78

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.10	21.38	0.00	10.01	10.19	0.00
Movement LOS	C	C		B	B	
d_A, Approach Delay [s/veh]	27.71		10.01		10.19	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	21.37					
Intersection LOS	C					
Intersection V/C	0.454					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.335	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.395	4.435
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	52.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.954

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	289	167	85	50	353	327	81	852	214	206	913	151
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	289	167	85	50	353	327	81	852	214	206	913	151
Peak Hour Factor	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	48	24	14	101	93	23	243	61	59	261	43
Total Analysis Volume [veh/h]	330	191	97	57	403	374	93	974	245	235	1043	173
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	27	35	0	32	40	0	10	36	0	17	43	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	47	47	5	30	30	6	33	33	18	46	46
g / C, Green / Cycle	0.19	0.39	0.39	0.04	0.25	0.25	0.05	0.28	0.28	0.15	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.19	0.11	0.05	0.03	0.22	0.21	0.03	0.27	0.14	0.14	0.23	0.22
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	326	710	710	76	444	444	158	990	495	260	1363	682
d1, Uniform Delay [s]	48.54	24.66	23.30	56.73	43.89	43.00	55.91	43.28	36.54	50.00	29.99	29.78
k, delay calibration	0.29	0.11	0.11	0.11	0.27	0.23	0.11	0.50	0.50	0.12	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	40.65	0.20	0.09	13.86	15.65	8.89	3.48	24.97	3.51	12.39	1.95	3.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.01	0.27	0.14	0.75	0.91	0.84	0.59	0.98	0.49	0.90	0.60	0.58
d, Delay for Lane Group [s/veh]	89.18	24.86	23.38	70.59	59.54	51.90	59.40	68.25	40.05	62.39	31.95	33.43
Lane Group LOS	F	C	C	E	E	D	E	E	D	E	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	13.40	3.74	1.79	2.00	13.48	11.60	1.46	17.65	6.52	7.81	9.78	9.81
50th-Percentile Queue Length [ft]	335.06	93.42	44.78	50.06	336.98	289.92	36.45	441.16	163.00	195.28	244.54	245.22
95th-Percentile Queue Length [veh]	19.52	6.73	3.22	3.60	19.50	17.18	2.62	24.54	10.71	12.39	14.91	14.95
95th-Percentile Queue Length [ft]	488.12	168.16	80.60	90.11	487.51	429.54	65.60	613.39	267.69	309.87	372.77	373.63

Movement, Approach, & Intersection Results

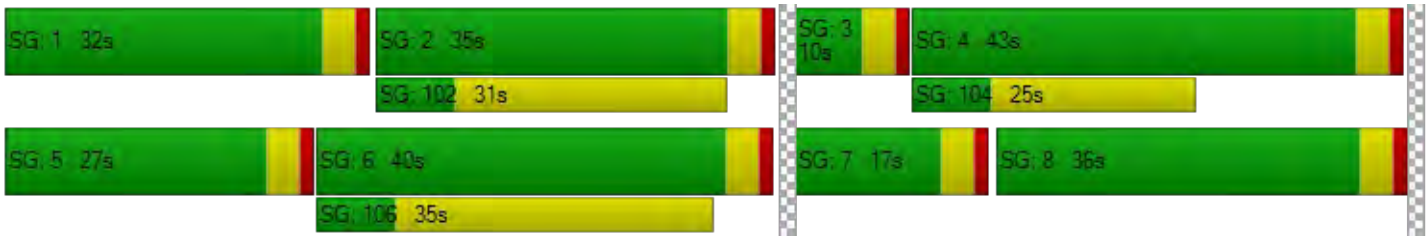
d_M, Delay for Movement [s/veh]	89.18	24.86	23.38	70.59	59.54	51.90	59.40	68.25	40.05	62.39	32.27	33.43
Movement LOS	F	C	C	E	E	D	E	E	D	E	C	C
d_A, Approach Delay [s/veh]	58.97			56.87			62.36			37.28		
Approach LOS	E			E			E			D		
d_I, Intersection Delay [s/veh]	52.14											
Intersection LOS	D											
Intersection V/C	0.954											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.565	3.112	2.886
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	517	600	533	650
d_b, Bicycle Delay [s]	33.00	29.40	32.27	27.34
l_b,int, Bicycle LOS Score for Intersection	2.579	2.248	2.642	2.358
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.530

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	539	101	312	460	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	539	101	312	460	0	0
Peak Hour Factor	0.7480	0.7480	0.7480	0.7480	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	180	34	104	154	0	0
Total Analysis Volume [veh/h]	721	135	417	615	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	58	58	24	86	
g / C, Green / Cycle	0.64	0.64	0.27	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.24	0.24	0.25	0.17	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1153	1153	460	3440	
d1, Uniform Delay [s]	7.63	7.63	31.71	0.11	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.92	0.92	7.04	0.11	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.37	0.37	0.91	0.18	
d, Delay for Lane Group [s/veh]	8.54	8.54	38.75	0.22	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	3.72	3.72	9.38	0.05	
50th-Percentile Queue Length [ft]	93.04	93.04	234.42	1.36	
95th-Percentile Queue Length [veh]	6.70	6.70	14.40	0.10	
95th-Percentile Queue Length [ft]	167.48	167.48	359.97	2.45	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.54	8.54	38.75	0.22	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	8.54		15.79		0.00	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	12.50					
Intersection LOS	B					
Intersection V/C	0.530					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.961
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.839	4.984	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	13.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	274	4	185	2	0	1	9	976	0	0	1003	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	274	4	185	2	0	1	9	976	0	0	1003	2
Peak Hour Factor	0.9360	0.9360	0.9360	0.9360	0.9500	0.9360	0.9360	0.9360	0.9500	0.9500	0.9360	0.9360
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	73	1	49	1	0	0	2	261	0	0	268	1
Total Analysis Volume [veh/h]	293	4	198	2	0	1	10	1043	0	0	1072	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	52	0	10	0	0	10	28	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	13	0	1	64	59	59
g / C, Green / Cycle	0.15	0.15	0.01	0.02	0.71	0.65	0.65
(v / s)_i Volume / Saturation Flow Rate	0.09	0.11	0.00	0.01	0.29	0.30	0.30
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	471	265	10	27	2569	1176	1176
d1, Uniform Delay [s]	36.10	36.94	44.62	43.91	5.21	7.73	7.73
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.35	4.53	14.31	7.98	0.48	1.28	1.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.76	0.29	0.37	0.41	0.46	0.46
d, Delay for Lane Group [s/veh]	37.45	41.47	58.93	51.89	5.68	9.01	9.01
Lane Group LOS	D	D	E	D	A	A	A
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	3.07	4.54	0.11	0.28	3.29	4.82	4.82
50th-Percentile Queue Length [ft]	76.68	113.40	2.69	6.99	82.37	120.52	120.52
95th-Percentile Queue Length [veh]	5.52	8.03	0.19	0.50	5.93	8.42	8.42
95th-Percentile Queue Length [ft]	138.02	200.73	4.85	12.58	148.27	210.53	210.53

Movement, Approach, & Intersection Results

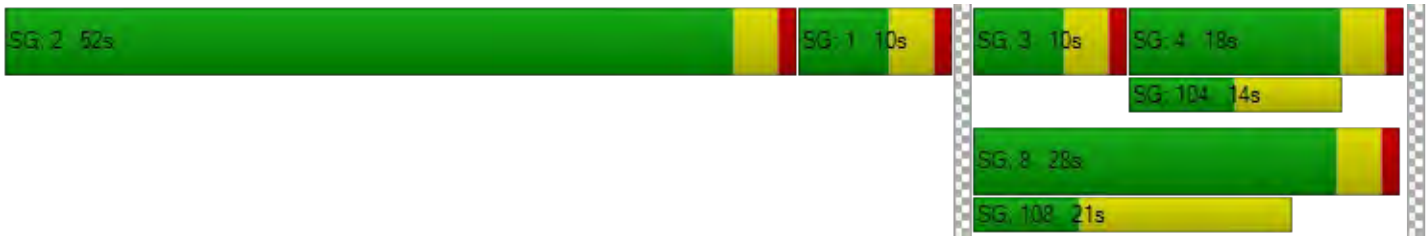
d_M, Delay for Movement [s/veh]	37.45	41.47	41.47	58.93	0.00	58.93	51.89	5.68	0.00	0.00	9.01	9.01
Movement LOS	D	D	D	E		E	D	A			A	A
d_A, Approach Delay [s/veh]	39.09			58.93			6.12			9.01		
Approach LOS	D			E			A			A		
d_I, Intersection Delay [s/veh]	13.58											
Intersection LOS	B											
Intersection V/C	0.482											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.101	1.724	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	0	533	311
d_b, Bicycle Delay [s]	9.80	45.00	24.20	32.09
l_b,int, Bicycle LOS Score for Intersection	2.376	4.137	2.428	2.446
Bicycle LOS	B	D	B	B

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	29.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.739

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	237	261	42	119	216	383	585	417	114	40	327	104
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	237	261	42	119	216	383	585	417	114	40	327	104
Peak Hour Factor	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	75	12	34	62	110	167	119	33	11	94	30
Total Analysis Volume [veh/h]	271	299	48	136	247	438	669	477	130	46	374	119
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	26	48	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	13	13	23	13	42	25	61	61	4	40	40
g / C, Green / Cycle	0.23	0.13	0.13	0.23	0.13	0.42	0.25	0.61	0.61	0.04	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.16	0.10	0.09	0.08	0.07	0.24	0.21	0.17	0.16	0.03	0.14	0.13
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	391	233	233	338	465	755	801	1091	1091	75	720	720
d1, Uniform Delay [s]	35.31	42.11	41.92	32.26	40.76	22.30	35.59	9.42	9.29	47.01	21.01	20.78
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.21	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.21	5.10	4.36	0.77	0.94	1.36	2.39	0.67	0.61	7.79	1.36	1.23
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	0.76	0.73	0.40	0.53	0.58	0.84	0.29	0.27	0.61	0.35	0.33
d, Delay for Lane Group [s/veh]	37.53	47.21	46.28	33.04	41.70	23.67	37.98	10.09	9.90	54.80	22.37	22.01
Lane Group LOS	D	D	D	C	D	C	D	B	A	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.22	4.52	4.28	2.81	2.89	7.96	7.86	3.26	3.00	1.28	4.37	4.03
50th-Percentile Queue Length [ft]	155.42	113.02	107.04	70.32	72.22	198.98	196.45	81.47	74.99	32.08	109.17	100.72
95th-Percentile Queue Length [veh]	10.31	8.01	7.67	5.06	5.20	12.59	12.46	5.87	5.40	2.31	7.79	7.25
95th-Percentile Queue Length [ft]	257.65	200.19	191.87	126.58	130.00	314.65	311.38	146.64	134.98	57.74	194.85	181.29

Movement, Approach, & Intersection Results

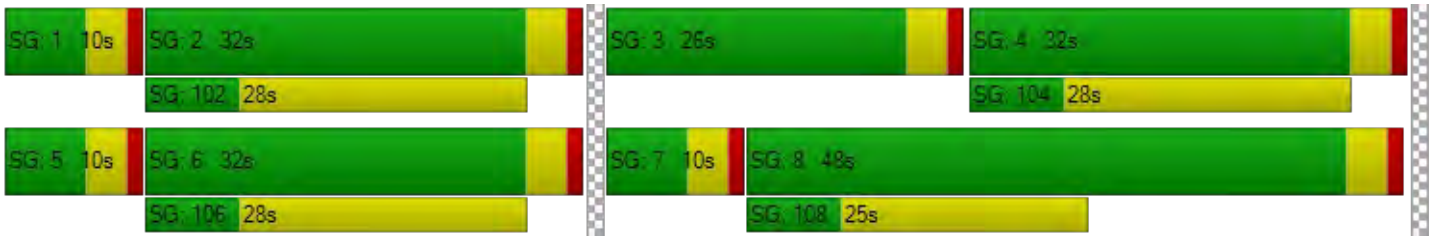
d_M, Delay for Movement [s/veh]	37.53	46.83	46.28	33.04	41.70	23.67	37.98	10.02	9.90	54.80	22.26	22.01
Movement LOS	D	D	D	C	D	C	D	B	A	D	C	C
d_A, Approach Delay [s/veh]	42.71			30.65			24.67			24.98		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	29.65											
Intersection LOS	C											
Intersection V/C	0.739											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	39.61	39.61	39.61	39.61
l_p,int, Pedestrian LOS Score for Intersection	2.508	2.768	2.983	2.568
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	560	560	880	560
d_b, Bicycle Delay [s]	25.92	25.92	15.68	25.92
l_b,int, Bicycle LOS Score for Intersection	2.069	2.237	2.612	2.004
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	27.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.383

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	116	116	68	47	130	129	122	248	99	44	306	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	116	116	68	47	130	129	122	248	99	44	306	50
Peak Hour Factor	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	32	19	13	36	36	34	69	28	12	86	14
Total Analysis Volume [veh/h]	130	130	76	53	146	144	137	278	111	49	343	56
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	29	0	10	29	0	19	39	0	12	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	11	11	4	10	10	9	54	54	4	49	49
g / C, Green / Cycle	0.06	0.12	0.12	0.05	0.11	0.11	0.10	0.60	0.60	0.05	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.04	0.07	0.04	0.03	0.08	0.08	0.08	0.11	0.10	0.03	0.11	0.11
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	208	222	222	85	196	196	173	1081	1081	82	985	985
d1, Uniform Delay [s]	41.08	37.34	36.17	41.98	38.99	38.94	39.58	8.10	8.03	42.06	10.42	10.38
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.04	2.44	0.91	7.13	5.59	5.32	7.93	0.38	0.35	6.78	0.47	0.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.59	0.34	0.62	0.75	0.74	0.79	0.19	0.17	0.60	0.21	0.20
d, Delay for Lane Group [s/veh]	44.12	39.78	37.08	49.11	44.58	44.26	47.50	8.49	8.37	48.84	10.89	10.83
Lane Group LOS	D	D	D	D	D	D	D	A	A	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	1.48	2.82	1.57	1.31	3.39	3.33	3.30	1.73	1.58	1.21	2.06	1.98
50th-Percentile Queue Length [ft]	36.96	70.52	39.21	32.81	84.78	83.27	82.56	43.19	39.48	30.29	51.39	49.38
95th-Percentile Queue Length [veh]	2.66	5.08	2.82	2.36	6.10	6.00	5.94	3.11	2.84	2.18	3.70	3.56
95th-Percentile Queue Length [ft]	66.54	126.94	70.57	59.07	152.61	149.88	148.61	77.74	71.07	54.52	92.49	88.89

Movement, Approach, & Intersection Results

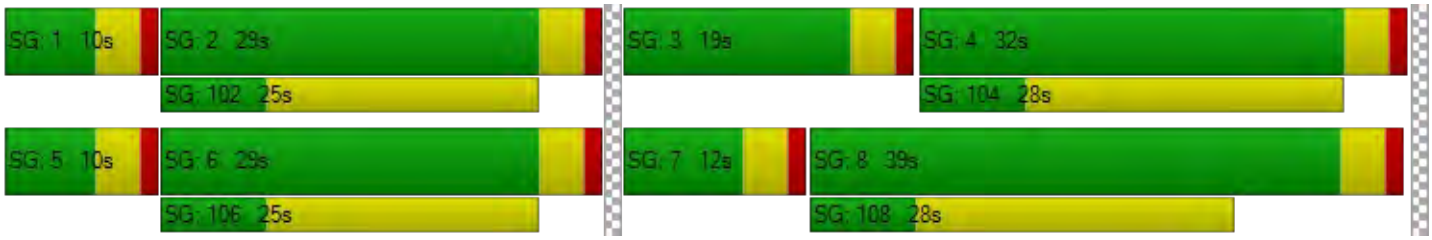
d_M, Delay for Movement [s/veh]	44.12	39.78	37.08	49.11	44.58	44.26	47.50	8.45	8.37	48.84	10.87	10.83
Movement LOS	D	D	D	D	D	D	D	A	A	D	B	B
d_A, Approach Delay [s/veh]	40.85			45.15			18.61			15.02		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.66											
Intersection LOS	C											
Intersection V/C	0.383											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.557	2.293	2.522	2.466
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	778	622
d_b, Bicycle Delay [s]	23.47	23.47	16.81	21.36
l_b,int, Bicycle LOS Score for Intersection	2.114	1.843	1.994	1.929
Bicycle LOS	B	A	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	33.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.706

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	176	328	30	68	287	107	141	257	249	54	336	82
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	176	328	30	68	287	107	141	257	249	54	336	82
Peak Hour Factor	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	115	10	24	100	37	49	90	87	19	117	29
Total Analysis Volume [veh/h]	246	458	42	95	401	149	197	359	348	75	469	115
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	27	29	0	27	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	27	27	7	18	18	13	40	40	5	32	32
g / C, Green / Cycle	0.17	0.28	0.28	0.07	0.19	0.19	0.14	0.42	0.42	0.06	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.14	0.14	0.14	0.06	0.16	0.15	0.12	0.20	0.19	0.04	0.17	0.16
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	283	509	509	123	340	340	232	754	754	98	612	612
d1, Uniform Delay [s]	38.63	28.47	28.35	43.36	37.25	36.69	40.13	20.07	19.92	44.21	24.89	24.59
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.97	0.75	0.71	9.75	5.73	3.81	8.39	2.15	2.03	11.70	2.81	2.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.50	0.48	0.77	0.84	0.78	0.85	0.48	0.46	0.77	0.49	0.46
d, Delay for Lane Group [s/veh]	46.60	29.23	29.06	53.12	42.98	40.50	48.52	22.22	21.95	55.91	27.70	27.09
Lane Group LOS	D	C	C	D	D	D	D	C	C	E	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.13	4.85	4.69	2.51	6.87	6.08	4.98	6.02	5.79	2.05	5.73	5.30
50th-Percentile Queue Length [ft]	153.30	121.17	117.23	62.75	171.68	152.09	124.52	150.58	144.66	51.15	143.22	132.50
95th-Percentile Queue Length [veh]	10.19	8.46	8.24	4.52	11.16	10.13	8.64	10.05	9.73	3.68	9.65	9.08
95th-Percentile Queue Length [ft]	254.82	211.43	206.01	112.95	279.12	253.21	216.02	251.21	243.29	92.06	241.36	226.89

Movement, Approach, & Intersection Results

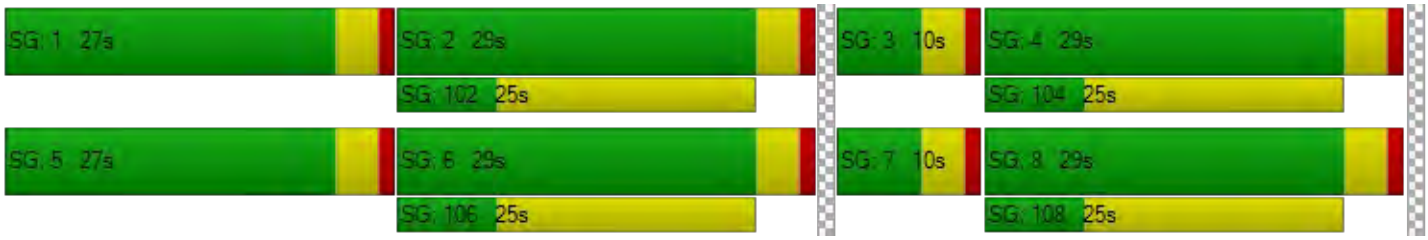
d_M, Delay for Movement [s/veh]	46.60	29.15	29.06	53.12	42.27	40.50	48.52	22.22	21.95	55.91	27.48	27.09
Movement LOS	D	C	C	D	D	D	D	C	C	E	C	C
d_A, Approach Delay [s/veh]	34.90			43.46			27.85			30.65		
Approach LOS	C			D			C			C		
d_I, Intersection Delay [s/veh]	33.66											
Intersection LOS	C											
Intersection V/C	0.706											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	2.608	2.578	2.647	2.527
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	526	526	526	526
d_b, Bicycle Delay [s]	25.79	25.79	25.79	25.79
l_b,int, Bicycle LOS Score for Intersection	2.175	2.092	2.305	2.103
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.219

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	81	9	9	0	36	2	7	10	114	17	9	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	9	9	0	36	2	7	10	114	17	9	0
Peak Hour Factor	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	3	3	0	13	1	3	4	41	6	3	0
Total Analysis Volume [veh/h]	116	13	13	0	52	3	10	14	163	24	13	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	646	815	691	798	642	807	628	688
Degree of Utilization, x	0.20	0.02	0.08	0.00	0.02	0.22	0.04	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.74	0.05	0.24	0.01	0.05	0.83	0.12	0.06
95th-Percentile Queue Length [ft]	18.49	1.22	6.09	0.28	1.19	20.87	2.98	1.44
Approach Delay [s/veh]	9.43		8.28		8.41		8.45	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.74							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	234	0	0	0	0	0	205	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	234	0	0	0	0	0	205	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	78	0	0	0	0	0	68	0
Total Analysis Volume [veh/h]	0	0	0	0	311	0	0	0	0	0	272	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	67.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			16.00			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	8.53											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.530

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	182	305	318	18	345	0	34	4	35	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	182	305	318	18	345	0	34	4	35	0	0	0
Peak Hour Factor	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	87	91	5	99	0	10	1	10	0	0	0
Total Analysis Volume [veh/h]	208	349	364	21	395	0	39	5	40	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	580	627	696	578	582	449	522	
Degree of Utilization, x	0.53	0.49	0.44	0.36	0.36	0.10	0.08	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.10	2.70	2.26	1.63	1.61	0.32	0.25	
95th-Percentile Queue Length [ft]	77.48	67.43	56.52	40.80	40.32	8.11	6.20	
Approach Delay [s/veh]	13.80			12.35		10.92		0.00
Approach LOS	B			B		B		A
Intersection Delay [s/veh]	13.21							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.710

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	806	385	0	0	526
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	806	385	0	0	526
Peak Hour Factor	0.9500	0.9270	0.9270	0.9500	0.9500	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	217	104	0	0	142
Total Analysis Volume [veh/h]	0	869	415	0	0	567
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.71
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.97
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	1.61
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	40.27
d_A, Approach Delay [s/veh]	0.00		0.00		11.97	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.67					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	18.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.668

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	272	840	832	0	0	281
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	272	840	832	0	0	281
Peak Hour Factor	0.9450	0.9450	0.9450	0.9500	0.9500	0.9450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	222	220	0	0	74
Total Analysis Volume [veh/h]	288	889	880	0	0	297
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	42	60	18	0	0	30
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	65	44	17
g / C, Green / Cycle	0.19	0.72	0.48	0.19
(v / s)_i Volume / Saturation Flow Rate	0.17	0.25	0.24	0.17
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	330	2599	1740	341
d1, Uniform Delay [s]	35.21	4.62	15.90	35.44
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.19	0.36	1.05	6.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.34	0.51	0.87
d, Delay for Lane Group [s/veh]	42.40	4.98	16.96	42.37
Lane Group LOS	D	A	B	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	6.65	2.53	6.09	6.84
50th-Percentile Queue Length [ft]	166.21	63.25	152.33	171.06
95th-Percentile Queue Length [veh]	10.88	4.55	10.14	11.13
95th-Percentile Queue Length [ft]	271.93	113.84	253.53	278.31

Movement, Approach, & Intersection Results

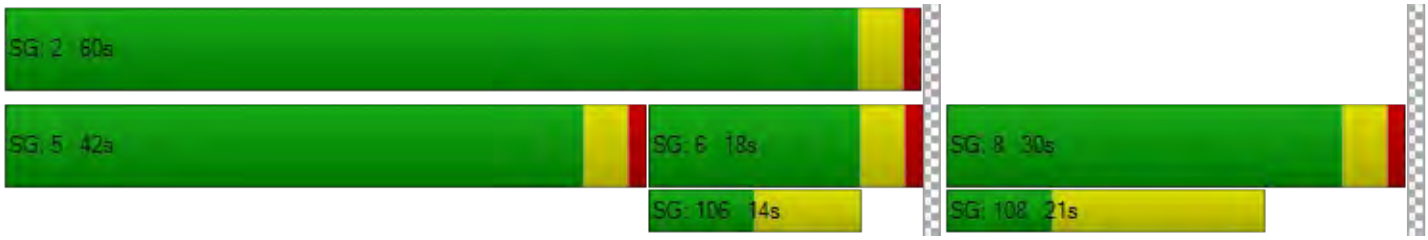
d_M, Delay for Movement [s/veh]	42.40	4.98	16.96	0.00	0.00	42.37
Movement LOS	D	A	B			D
d_A, Approach Delay [s/veh]	14.14		16.96		42.37	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	18.75					
Intersection LOS	B					
Intersection V/C	0.668					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.758	2.562	2.000
Crosswalk LOS	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.103	4.858	4.132
Bicycle LOS	F	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	4.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.404

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	1056	33	18	1013	42	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1056	33	18	1013	42	12
Peak Hour Factor	0.9850	0.9850	0.9850	0.9850	0.9850	0.9850
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	268	8	5	257	11	3
Total Analysis Volume [veh/h]	1072	34	18	1028	43	12
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	51	0	10	61	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	71	71	2	77	5
g / C, Green / Cycle	0.79	0.79	0.02	0.86	0.05
(v / s)_i Volume / Saturation Flow Rate	0.31	0.31	0.01	0.29	0.03
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1423	1423	43	3097	87
d1, Uniform Delay [s]	2.86	2.86	43.22	1.23	41.91
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.80	0.80	6.27	0.29	7.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.39	0.42	0.33	0.63
d, Delay for Lane Group [s/veh]	3.66	3.66	49.49	1.52	49.36
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	2.18	2.18	0.47	0.55	1.37
50th-Percentile Queue Length [ft]	54.41	54.41	11.66	13.86	34.13
95th-Percentile Queue Length [veh]	3.92	3.92	0.84	1.00	2.46
95th-Percentile Queue Length [ft]	97.94	97.94	20.99	24.96	61.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	3.66	3.66	49.49	1.52	49.36	49.36
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	3.66		2.35		49.36	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.18					
Intersection LOS	A					
Intersection V/C	0.404					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.661	2.715	1.767
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.045	4.995	4.223
Bicycle LOS	F	E	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	22.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.162

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1037	1	3	1066	40	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1037	1	3	1066	40	35
Peak Hour Factor	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	267	0	1	274	10	9
Total Analysis Volume [veh/h]	1067	1	3	1097	41	36
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.16	0.07
d_M, Delay for Movement [s/veh]	0.00	0.00	10.58	0.00	22.63	15.71
Movement LOS	A	A	B	A	C	C
95th-Percentile Queue Length [veh]	0.00	0.00	9.48	4.74	0.90	0.90
95th-Percentile Queue Length [ft]	0.00	0.00	236.96	118.48	22.49	22.49
d_A, Approach Delay [s/veh]	0.00		0.03		19.39	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.68					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	31.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.653

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	142	465	69	122	295	78	140	503	177	146	451	139
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	142	465	69	122	295	78	140	503	177	146	451	139
Peak Hour Factor	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	123	18	32	78	21	37	133	47	39	120	37
Total Analysis Volume [veh/h]	151	493	73	129	313	83	148	533	188	155	478	147
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	14	34	0	13	33	0	14	29	0	14	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	17	17	8	16	16	10	38	38	10	39	39
g / C, Green / Cycle	0.11	0.19	0.19	0.09	0.18	0.18	0.11	0.43	0.43	0.11	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.09	0.16	0.15	0.08	0.11	0.11	0.09	0.21	0.19	0.09	0.18	0.17
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	184	345	345	160	320	320	184	764	764	192	772	772
d1, Uniform Delay [s]	39.37	35.12	34.84	40.03	34.39	34.14	39.28	18.91	18.48	39.06	17.96	17.66
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.80	5.45	4.40	9.09	2.11	1.82	7.97	2.27	1.92	7.89	1.69	1.48
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.84	0.80	0.81	0.64	0.60	0.80	0.49	0.45	0.81	0.42	0.39
d, Delay for Lane Group [s/veh]	48.17	40.57	39.24	49.12	36.50	35.96	47.24	21.18	20.40	46.95	19.65	19.14
Lane Group LOS	D	D	D	D	D	D	D	C	C	D	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.67	6.50	6.11	3.17	4.26	3.97	3.56	5.96	5.30	3.72	4.87	4.41
50th-Percentile Queue Length [ft]	91.81	162.48	152.64	79.20	106.42	99.31	88.98	149.02	132.39	92.92	121.86	110.35
95th-Percentile Queue Length [veh]	6.61	10.68	10.16	5.70	7.64	7.15	6.41	9.96	9.07	6.69	8.49	7.86
95th-Percentile Queue Length [ft]	165.27	267.01	253.95	142.57	191.01	178.76	160.16	249.12	226.74	167.25	212.37	196.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.17	40.02	39.24	49.12	36.31	35.96	47.24	20.95	20.40	46.95	19.49	19.14
Movement LOS	D	D	D	D	D	D	D	C	C	D	B	B
d_A, Approach Delay [s/veh]	41.66			39.40			25.31			24.88		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	31.81											
Intersection LOS	C											
Intersection V/C	0.653											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.567	2.555	2.608	2.595
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	667	644	556	556
d_b, Bicycle Delay [s]	20.00	20.67	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.151	1.993	2.277	2.203
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	19.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	953	175	0	715	569	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	953	175	0	715	569	0
Peak Hour Factor	0.9460	0.9460	0.9500	0.9460	0.9460	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	252	46	0	189	150	0
Total Analysis Volume [veh/h]	1007	185	0	756	601	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	32	32	49	49
g / C, Green / Cycle	0.36	0.36	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.31	0.10	0.21	0.17
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1153	648	1983	1983
d1, Uniform Delay [s]	26.83	20.49	11.47	10.88
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.24	0.24	0.56	0.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.29	0.38	0.30
d, Delay for Lane Group [s/veh]	29.07	20.73	12.03	11.28
Lane Group LOS	C	C	B	B
Critical Lane Group	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	9.97	2.74	4.15	3.12
50th-Percentile Queue Length [ft]	249.25	68.51	103.72	78.01
95th-Percentile Queue Length [veh]	15.15	4.93	7.47	5.62
95th-Percentile Queue Length [ft]	378.70	123.31	186.69	140.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.07	20.73	0.00	12.03	11.28	0.00
Movement LOS	C	C		B	B	
d_A, Approach Delay [s/veh]	27.78		12.03		11.28	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	19.22					
Intersection LOS	B					
Intersection V/C	0.576					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.327	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.756	4.628
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	35.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.862

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	191	91	57	81	204	250	162	1137	357	225	1427	181
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	191	91	57	81	204	250	162	1137	357	225	1427	181
Peak Hour Factor	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	24	15	21	53	65	42	297	93	59	373	47
Total Analysis Volume [veh/h]	200	95	60	85	213	261	169	1188	373	235	1491	189
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	21	35	0	25	39	0	10	19	0	26	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	14	25	25	7	18	18	8	40	40	17	49	49
g / C, Green / Cycle	0.14	0.24	0.24	0.06	0.17	0.17	0.07	0.38	0.38	0.16	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.12	0.05	0.03	0.05	0.12	0.15	0.05	0.33	0.21	0.14	0.31	0.31
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	231	437	437	110	309	309	238	1371	686	271	1677	839
d1, Uniform Delay [s]	44.48	31.82	31.18	48.41	40.93	42.21	47.53	30.07	25.41	43.08	21.77	21.74
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.38	0.25	0.14	10.99	2.76	6.34	3.86	7.56	3.09	8.18	2.13	4.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.22	0.14	0.77	0.69	0.85	0.71	0.87	0.54	0.87	0.67	0.67
d, Delay for Lane Group [s/veh]	53.85	32.06	31.32	59.40	43.69	48.55	51.39	37.62	28.50	51.27	23.90	25.91
Lane Group LOS	D	C	C	E	D	D	D	D	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	5.67	1.96	1.21	2.52	5.38	7.05	2.28	14.87	7.72	6.52	10.82	11.24
50th-Percentile Queue Length [ft]	141.66	48.94	30.26	63.02	134.59	176.20	57.02	371.87	192.95	163.03	270.41	281.04
95th-Percentile Queue Length [veh]	9.57	3.52	2.18	4.54	9.19	11.40	4.11	21.20	12.27	10.71	16.21	16.74
95th-Percentile Queue Length [ft]	239.26	88.10	54.46	113.43	229.72	285.04	102.63	530.00	306.85	267.74	405.25	418.51

Movement, Approach, & Intersection Results

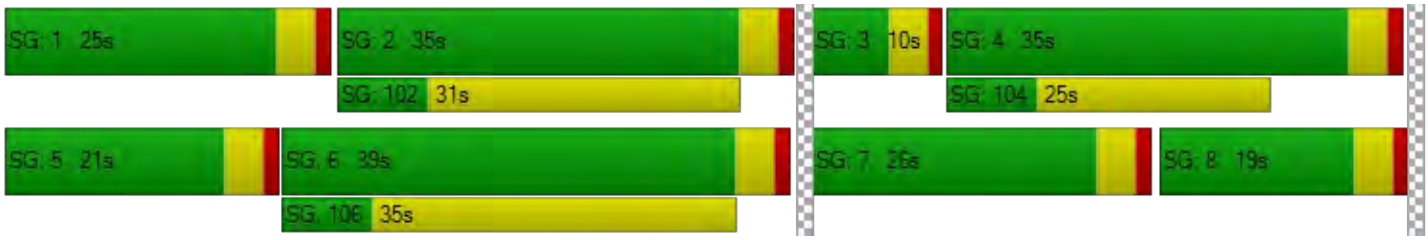
d_M, Delay for Movement [s/veh]	53.85	32.06	31.32	59.40	43.69	48.55	51.39	37.62	28.50	51.27	24.40	25.91
Movement LOS	D	C	C	E	D	D	D	D	C	D	C	C
d_A, Approach Delay [s/veh]	44.21			48.35			37.00			27.85		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	35.11											
Intersection LOS	D											
Intersection V/C	0.862											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	42.08	42.08	42.08
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.504	3.181	2.988
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	590	667	286	590
d_b, Bicycle Delay [s]	26.08	23.33	38.57	26.08
l_b,int, Bicycle LOS Score for Intersection	2.145	2.021	2.987	2.613
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.420

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	342	89	418	351	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	342	89	418	351	0	0
Peak Hour Factor	0.9560	0.9560	0.9560	0.9560	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	23	109	92	0	0
Total Analysis Volume [veh/h]	358	93	437	367	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	57	57	25	86	
g / C, Green / Cycle	0.63	0.63	0.28	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.13	0.13	0.26	0.10	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1132	1132	480	3440	
d1, Uniform Delay [s]	7.09	7.09	31.18	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.40	0.40	7.00	0.06	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.20	0.20	0.91	0.11	
d, Delay for Lane Group [s/veh]	7.49	7.49	38.18	0.16	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	1.77	1.77	9.78	0.03	
50th-Percentile Queue Length [ft]	44.36	44.36	244.62	0.75	
95th-Percentile Queue Length [veh]	3.19	3.19	14.91	0.05	
95th-Percentile Queue Length [ft]	79.84	79.84	372.87	1.34	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.49	7.49	38.18	0.16	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	7.49		20.83		0.00	
Approach LOS	A		C		A	
d_I, Intersection Delay [s/veh]	16.03					
Intersection LOS	B					
Intersection V/C	0.420					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.940
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.504	4.796	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	16.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.668

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	263	3	177	9	0	25	23	1311	0	0	1538	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	263	3	177	9	0	25	23	1311	0	0	1538	18
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9500	0.9780	0.9780	0.9780	0.9500	0.9500	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	1	45	2	0	6	6	335	0	0	393	5
Total Analysis Volume [veh/h]	269	3	181	9	0	26	24	1340	0	0	1573	18
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	10	0	0	10	50	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	12	4	3	62	56	56
g / C, Green / Cycle	0.13	0.13	0.04	0.03	0.69	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.08	0.10	0.02	0.01	0.37	0.44	0.44
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	431	243	68	53	2491	1109	1109
d1, Uniform Delay [s]	36.86	37.60	42.41	42.92	6.81	11.89	11.89
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.48	4.83	5.82	5.89	0.84	3.99	3.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.76	0.51	0.45	0.54	0.72	0.72
d, Delay for Lane Group [s/veh]	38.34	42.43	48.23	48.81	7.65	15.88	15.88
Lane Group LOS	D	D	D	D	A	B	B
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	2.85	4.17	0.87	0.61	5.41	10.75	10.75
50th-Percentile Queue Length [ft]	71.17	104.37	21.66	15.18	135.25	268.65	268.65
95th-Percentile Queue Length [veh]	5.12	7.51	1.56	1.09	9.22	16.12	16.12
95th-Percentile Queue Length [ft]	128.11	187.86	38.98	27.32	230.62	403.05	403.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.34	42.43	42.43	48.23	0.00	48.23	48.81	7.65	0.00	0.00	15.88	15.88
Movement LOS	D	D	D	D		D	D	A			B	B
d_A, Approach Delay [s/veh]	40.00			48.23			8.38			15.88		
Approach LOS	D			D			A			B		
d_I, Intersection Delay [s/veh]	16.41											
Intersection LOS	B											
Intersection V/C	0.668											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.087	1.753	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	0	1022	800
d_b, Bicycle Delay [s]	22.76	45.00	10.76	16.20
l_b,int, Bicycle LOS Score for Intersection	2.307	4.190	2.685	2.872
Bicycle LOS	B	D	B	C

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	33.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.907

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	225	209	68	216	149	755	655	547	146	91	628	183
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	225	209	68	216	149	755	655	547	146	91	628	183
Peak Hour Factor	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	53	17	55	38	192	167	139	37	23	160	47
Total Analysis Volume [veh/h]	229	213	69	220	152	770	668	558	149	93	640	187
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	42	0	10	42	42	26	47	0	11	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	32	22	22	32	22	56	30	58	58	8	36	36
g / C, Green / Cycle	0.29	0.20	0.20	0.29	0.20	0.51	0.27	0.53	0.53	0.07	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.13	0.08	0.08	0.13	0.04	0.43	0.21	0.20	0.19	0.05	0.24	0.22
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	534	359	359	475	718	917	875	954	954	118	587	587
d1, Uniform Delay [s]	31.96	38.38	38.16	31.76	36.83	23.15	36.72	15.24	15.01	50.41	32.83	32.06
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.54	0.74	0.66	0.71	0.15	9.13	1.41	1.16	1.05	10.83	7.87	6.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.41	0.38	0.46	0.21	0.84	0.76	0.38	0.36	0.79	0.73	0.68
d, Delay for Lane Group [s/veh]	32.50	39.11	38.82	32.47	36.97	32.28	38.13	16.40	16.06	61.24	40.70	38.21
Lane Group LOS	C	D	D	C	D	C	D	B	B	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	5.06	3.50	3.25	4.84	1.73	18.62	8.33	5.54	5.13	2.87	11.28	10.02
50th-Percentile Queue Length [ft]	126.40	87.41	81.23	121.09	43.19	465.55	208.16	138.55	128.16	71.78	282.09	250.50
95th-Percentile Queue Length [veh]	8.74	6.29	5.85	8.45	3.11	25.70	13.06	9.40	8.84	5.17	16.79	15.21
95th-Percentile Queue Length [ft]	218.58	157.34	146.21	211.32	77.74	642.48	326.47	235.06	220.99	129.21	419.81	380.29

Movement, Approach, & Intersection Results

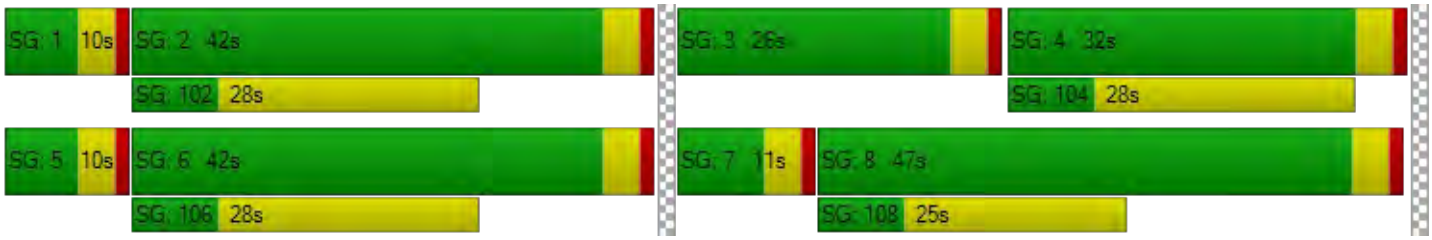
d_M, Delay for Movement [s/veh]	32.50	39.02	38.82	32.47	36.97	32.28	38.13	16.28	16.06	61.24	39.88	38.21
Movement LOS	C	D	D	C	D	C	D	B	B	E	D	D
d_A, Approach Delay [s/veh]	36.07			32.94			26.87			41.70		
Approach LOS	D			C			C			D		
d_I, Intersection Delay [s/veh]	33.27											
Intersection LOS	C											
Intersection V/C	0.907											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	44.55	44.55	44.55
l_p,int, Pedestrian LOS Score for Intersection	2.486	2.822	3.056	2.745
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	691	691	782	509
d_b, Bicycle Delay [s]	23.56	23.56	20.40	30.56
l_b,int, Bicycle LOS Score for Intersection	1.981	2.502	2.694	2.319
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	22.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.513

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	190	75	161	41	51	58	63	648	172	108	472	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	75	161	41	51	58	63	648	172	108	472	37
Peak Hour Factor	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	19	41	10	13	15	16	165	44	28	121	9
Total Analysis Volume [veh/h]	194	77	164	42	52	59	64	662	176	110	482	38
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	11	29	0	13	32	0	17	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	11	11	4	7	7	5	52	52	7	55	55
g / C, Green / Cycle	0.08	0.12	0.12	0.04	0.08	0.08	0.05	0.58	0.58	0.08	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.06	0.04	0.09	0.02	0.03	0.03	0.04	0.24	0.22	0.06	0.15	0.14
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	264	212	212	76	144	144	92	1038	1038	142	1091	1091
d1, Uniform Delay [s]	40.41	36.68	38.63	42.19	39.31	39.47	41.91	10.65	10.41	40.49	8.20	8.17
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.96	1.05	5.97	6.13	1.53	1.87	8.96	1.24	1.10	8.68	0.52	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.36	0.77	0.55	0.36	0.41	0.69	0.42	0.39	0.77	0.24	0.24
d, Delay for Lane Group [s/veh]	44.37	37.72	44.60	48.32	40.84	41.34	50.87	11.89	11.51	49.17	8.72	8.67
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.22	1.61	3.82	1.04	1.14	1.30	1.61	4.75	4.31	2.70	2.29	2.23
50th-Percentile Queue Length [ft]	55.49	40.17	95.43	25.89	28.51	32.61	40.32	118.76	107.66	67.55	57.37	55.87
95th-Percentile Queue Length [veh]	4.00	2.89	6.87	1.86	2.05	2.35	2.90	8.32	7.71	4.86	4.13	4.02
95th-Percentile Queue Length [ft]	99.89	72.31	171.78	46.60	51.31	58.70	72.57	208.12	192.74	121.59	103.27	100.56

Movement, Approach, & Intersection Results

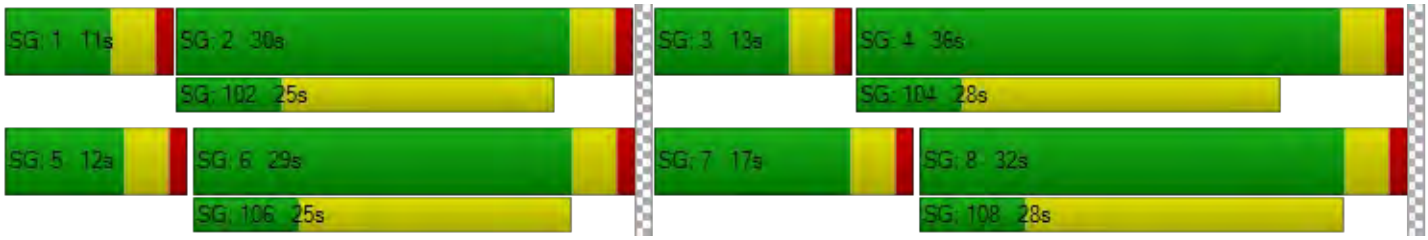
d_M, Delay for Movement [s/veh]	44.37	37.72	44.60	48.32	40.84	41.34	50.87	11.76	11.51	49.17	8.70	8.67
Movement LOS	D	D	D	D	D	D	D	B	B	D	A	A
d_A, Approach Delay [s/veh]	43.28			43.09			14.48			15.76		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	22.84											
Intersection LOS	C											
Intersection V/C	0.513											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.578	2.212	2.619	2.591
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	556	622	711
d_b, Bicycle Delay [s]	22.76	23.47	21.36	18.69
l_b,int, Bicycle LOS Score for Intersection	2.277	1.686	2.304	2.079
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.499

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	162	371	49	64	314	82	81	325	204	46	214	61
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	162	371	49	64	314	82	81	325	204	46	214	61
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	97	13	17	82	22	21	85	54	12	56	16
Total Analysis Volume [veh/h]	170	389	51	67	329	86	85	341	214	48	225	64
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	40	0	11	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	19	19	5	13	13	6	46	46	4	44	44
g / C, Green / Cycle	0.12	0.21	0.21	0.05	0.15	0.15	0.06	0.51	0.51	0.05	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.10	0.12	0.12	0.04	0.12	0.11	0.05	0.16	0.14	0.03	0.08	0.08
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	207	386	386	94	267	267	111	909	909	81	877	877
d1, Uniform Delay [s]	38.65	31.79	31.63	41.88	37.12	36.86	41.46	13.20	12.92	42.07	12.91	12.86
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.89	1.38	1.28	9.46	5.50	4.38	10.33	0.94	0.79	6.69	0.41	0.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.58	0.56	0.71	0.80	0.76	0.76	0.32	0.29	0.59	0.17	0.16
d, Delay for Lane Group [s/veh]	46.54	33.17	32.91	51.34	42.62	41.24	51.79	14.15	13.71	48.76	13.32	13.25
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.06	4.44	4.26	1.70	4.87	4.52	2.16	3.57	3.09	1.19	1.70	1.61
50th-Percentile Queue Length [ft]	101.58	111.03	106.52	42.41	121.69	112.96	53.88	89.15	77.18	29.65	42.38	40.36
95th-Percentile Queue Length [veh]	7.31	7.90	7.65	3.05	8.49	8.00	3.88	6.42	5.56	2.13	3.05	2.91
95th-Percentile Queue Length [ft]	182.84	197.44	191.15	76.33	212.15	200.11	96.98	160.47	138.93	53.37	76.29	72.64

Movement, Approach, & Intersection Results

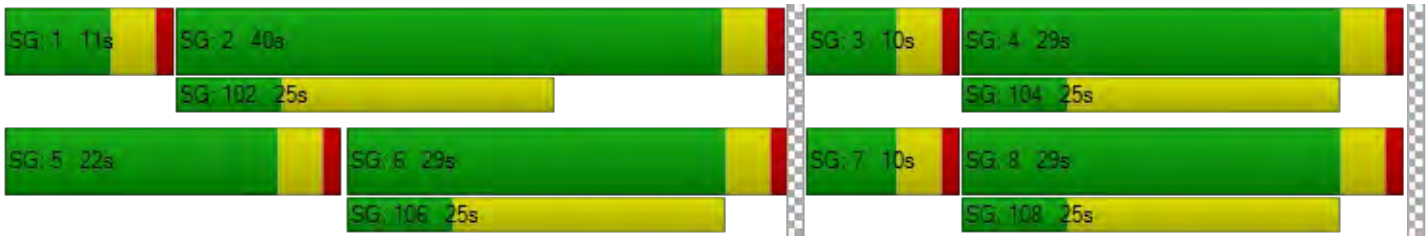
d_M, Delay for Movement [s/veh]	46.54	33.06	32.91	51.34	42.13	41.24	51.79	14.09	13.71	48.76	13.30	13.25
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	36.80			43.25			18.97			18.34		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.78											
Intersection LOS	C											
Intersection V/C	0.499											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.534	2.498	2.518	2.455
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	556	556	556
d_b, Bicycle Delay [s]	16.20	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.063	1.957	2.088	1.838
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	155	11	2	2	22	5	4	4	120	5	3	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	155	11	2	2	22	5	4	4	120	5	3	1
Peak Hour Factor	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	4	1	1	8	2	1	1	44	2	1	0
Total Analysis Volume [veh/h]	227	16	3	3	32	7	6	6	176	7	4	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	651	825	674	785	614	770	595	666
Degree of Utilization, x	0.37	0.00	0.05	0.01	0.01	0.24	0.01	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.73	0.01	0.16	0.03	0.03	0.92	0.04	0.02
95th-Percentile Queue Length [ft]	43.25	0.27	4.10	0.68	0.74	22.94	0.89	0.57
Approach Delay [s/veh]	11.44		8.16		8.81		8.54	
Approach LOS	B		A		A		A	
Intersection Delay [s/veh]	10.08							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	17.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.469

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	196	0	0	0	0	0	301	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	196	0	0	0	0	0	301	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	64	0	0	0	0	0	98	0
Total Analysis Volume [veh/h]	0	0	0	0	255	0	0	0	0	0	392	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	17.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	61.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			17.33			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	6.83											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	24.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.853

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	320	547	443	31	379	0	31	7	42	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	547	443	31	379	0	31	7	42	0	0	0
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	87	148	120	8	103	0	8	2	11	0	0	0
Total Analysis Volume [veh/h]	347	593	480	34	411	0	34	8	46	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	555	589	665	515	521	398	451	
Degree of Utilization, x	0.85	0.80	0.71	0.43	0.43	0.11	0.10	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	9.15	7.91	5.93	2.15	2.12	0.37	0.32	
95th-Percentile Queue Length [ft]	228.87	197.71	148.31	53.86	52.95	9.24	8.07	
Approach Delay [s/veh]	28.42			14.79		12.21		0.00
Approach LOS	D			B		B		A
Intersection Delay [s/veh]	24.58							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.971

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	1309	416	0	0	692
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1309	416	0	0	692
Peak Hour Factor	0.9500	0.9180	0.9180	0.9500	0.9500	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	356	113	0	0	188
Total Analysis Volume [veh/h]	0	1426	453	0	0	754
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.97
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.93
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	2.69
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	67.17
d_A, Approach Delay [s/veh]	0.00		0.00		13.93	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.99					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.586

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	142	1304	1091	0	0	188
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	142	1304	1091	0	0	188
Peak Hour Factor	0.9670	0.9670	0.9670	0.9500	0.9500	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	337	282	0	0	49
Total Analysis Volume [veh/h]	147	1349	1128	0	0	194
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	19	37	18	0	0	53
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	70	57	12
g / C, Green / Cycle	0.11	0.78	0.63	0.13
(v / s)_i Volume / Saturation Flow Rate	0.09	0.37	0.31	0.11
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	181	2804	2261	238
d1, Uniform Delay [s]	39.37	3.52	9.07	37.99
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.54	0.59	0.79	6.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.48	0.50	0.81
d, Delay for Lane Group [s/veh]	47.91	4.12	9.86	44.62
Lane Group LOS	D	A	A	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	3.56	3.08	5.51	4.53
50th-Percentile Queue Length [ft]	89.05	77.03	137.64	113.26
95th-Percentile Queue Length [veh]	6.41	5.55	9.35	8.02
95th-Percentile Queue Length [ft]	160.30	138.65	233.85	200.53

Movement, Approach, & Intersection Results

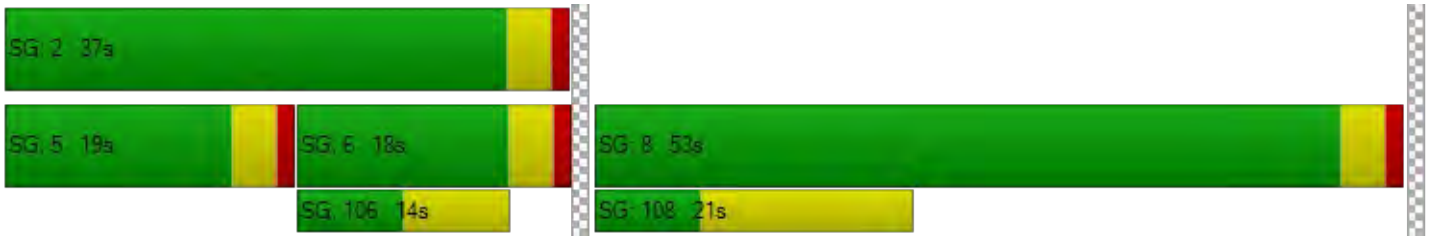
d_M, Delay for Movement [s/veh]	47.91	4.12	9.86	0.00	0.00	44.62
Movement LOS	D	A	A			D
d_A, Approach Delay [s/veh]	8.42		9.86		44.62	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	11.49					
Intersection LOS	B					
Intersection V/C	0.586					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.849	2.734	1.881
Crosswalk LOS	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.367	5.063	4.132
Bicycle LOS	F	F	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	4.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.516

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	1384	20	17	1202	20	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1384	20	17	1202	20	14
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	369	5	5	320	5	4
Total Analysis Volume [veh/h]	1475	21	18	1281	21	15
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	51	0	10	61	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	72	72	2	78	4
g / C, Green / Cycle	0.80	0.80	0.02	0.87	0.04
(v / s)_i Volume / Saturation Flow Rate	0.42	0.42	0.01	0.36	0.02
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1441	1441	43	3133	69
d1, Uniform Delay [s]	3.06	3.06	43.22	1.17	42.32
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.34	1.34	6.27	0.40	5.90
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.52	0.42	0.41	0.52
d, Delay for Lane Group [s/veh]	4.40	4.40	49.49	1.57	48.22
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	3.19	3.19	0.47	0.51	0.89
50th-Percentile Queue Length [ft]	79.76	79.76	11.66	12.83	22.26
95th-Percentile Queue Length [veh]	5.74	5.74	0.84	0.92	1.60
95th-Percentile Queue Length [ft]	143.58	143.58	20.99	23.10	40.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.40	4.40	49.49	1.57	48.22	48.22
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	4.40		2.24		48.22	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	3.97					
Intersection LOS	A					
Intersection V/C	0.516					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.813	2.843	1.751
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.367	5.204	4.192
Bicycle LOS	F	F	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	28.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1405	0	0	1226	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1405	0	0	1226	0	0
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	379	0	0	331	0	0
Total Analysis Volume [veh/h]	1516	0	0	1323	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	13.25	0.00	28.76	15.30
Movement LOS	A	A	B	A	D	C
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		22.03	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	31.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.531

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	145	324	70	104	227	73	94	397	134	151	437	117
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	324	70	104	227	73	94	397	134	151	437	117
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	86	19	28	60	19	25	105	36	40	116	31
Total Analysis Volume [veh/h]	154	344	74	111	241	78	100	422	142	160	464	124
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	35	0	21	34	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	14	14	8	11	11	7	46	46	11	50	50
g / C, Green / Cycle	0.11	0.15	0.15	0.08	0.12	0.12	0.08	0.49	0.49	0.12	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.09	0.12	0.11	0.07	0.09	0.09	0.06	0.16	0.15	0.09	0.17	0.16
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	188	265	265	141	215	215	129	874	874	196	946	946
d1, Uniform Delay [s]	41.37	39.26	38.99	42.80	40.57	40.34	43.16	15.03	14.81	41.09	12.90	12.73
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.39	5.78	4.62	9.24	5.51	4.45	9.40	1.04	0.92	7.94	0.90	0.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.81	0.77	0.79	0.76	0.72	0.77	0.34	0.31	0.81	0.32	0.30
d, Delay for Lane Group [s/veh]	49.76	45.04	43.62	52.04	46.08	44.79	52.56	16.06	15.73	49.02	13.80	13.54
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.93	5.21	4.85	2.90	4.01	3.72	2.63	3.99	3.62	4.05	3.76	3.45
50th-Percentile Queue Length [ft]	98.25	130.20	121.25	72.44	100.32	92.92	65.63	99.67	90.53	101.28	93.98	86.29
95th-Percentile Queue Length [veh]	7.07	8.95	8.46	5.22	7.22	6.69	4.73	7.18	6.52	7.29	6.77	6.21
95th-Percentile Queue Length [ft]	176.84	223.77	211.55	130.39	180.58	167.26	118.14	179.41	162.95	182.31	169.16	155.33

Movement, Approach, & Intersection Results

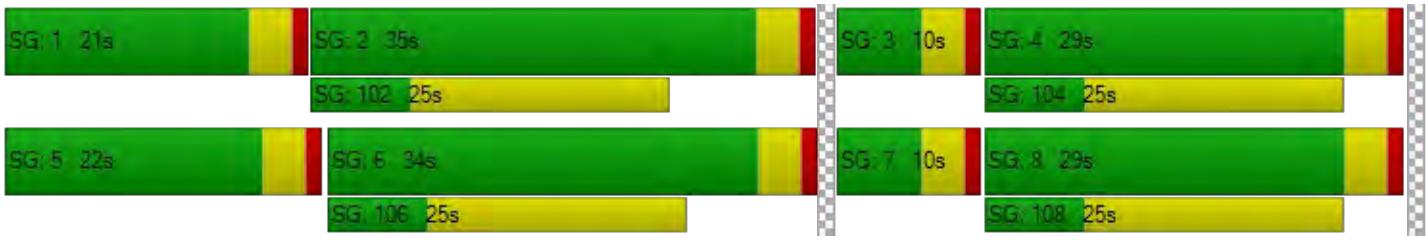
d_M, Delay for Movement [s/veh]	49.76	44.50	43.62	52.04	45.67	44.79	52.56	15.96	15.73	49.02	13.71	13.54
Movement LOS	D	D	D	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	45.80			47.16			21.42			21.24		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	31.73											
Intersection LOS	C											
Intersection V/C	0.531											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	2.520	2.497	2.567	2.566
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	653	632	526	526
d_b, Bicycle Delay [s]	21.56	22.24	25.79	25.79
l_b,int, Bicycle LOS Score for Intersection	2.032	1.914	2.107	2.177
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	20.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.603

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1195	152	0	571	594	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1195	152	0	571	594	0
Peak Hour Factor	0.9810	0.9810	0.9500	0.9810	0.9810	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	305	39	0	146	151	0
Total Analysis Volume [veh/h]	1218	155	0	582	606	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	39	39	43	43
g / C, Green / Cycle	0.43	0.43	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.38	0.09	0.16	0.17
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1369	770	1739	1739
d1, Uniform Delay [s]	23.74	16.09	14.31	14.43
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.19	0.13	0.52	0.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.20	0.33	0.35
d, Delay for Lane Group [s/veh]	25.93	16.22	14.83	14.98
Lane Group LOS	C	B	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	11.62	1.96	3.61	3.79
50th-Percentile Queue Length [ft]	290.46	48.98	90.25	94.76
95th-Percentile Queue Length [veh]	17.21	3.53	6.50	6.82
95th-Percentile Queue Length [ft]	430.21	88.17	162.44	170.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.93	16.22	0.00	14.83	14.98	0.00
Movement LOS	C	B		B	B	
d_A, Approach Delay [s/veh]	24.84		14.83		14.98	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	20.23					
Intersection LOS	C					
Intersection V/C	0.603					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.386	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.613	4.632
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	38.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.924

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	165	49	58	90	143	234	160	1438	223	247	1455	186
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	165	49	58	90	143	234	160	1438	223	247	1455	186
Peak Hour Factor	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	13	15	23	37	61	41	373	58	64	377	48
Total Analysis Volume [veh/h]	171	51	60	93	148	243	166	1492	231	256	1509	193
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	35	0	21	39	0	10	54	0	10	54	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	24	24	8	19	19	8	52	52	20	64	64
g / C, Green / Cycle	0.11	0.20	0.20	0.07	0.16	0.16	0.07	0.44	0.44	0.17	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.10	0.03	0.03	0.05	0.08	0.14	0.05	0.41	0.13	0.15	0.32	0.31
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	184	353	353	116	281	281	225	1573	787	281	1915	958
d1, Uniform Delay [s]	53.04	39.90	40.11	55.11	46.57	49.41	54.71	32.48	21.82	49.23	19.19	19.17
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.16	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	17.62	0.19	0.23	11.96	1.53	7.87	4.72	13.34	0.95	15.16	1.36	2.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.93	0.14	0.17	0.80	0.53	0.87	0.74	0.95	0.29	0.91	0.59	0.59
d, Delay for Lane Group [s/veh]	70.65	40.09	40.33	67.07	48.10	57.28	59.43	45.82	22.77	64.39	20.55	21.85
Lane Group LOS	E	D	D	E	D	E	E	D	C	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	6.00	1.27	1.51	3.16	4.19	7.71	2.61	23.16	4.42	8.70	10.91	11.22
50th-Percentile Queue Length [ft]	150.11	31.83	37.66	78.93	104.78	192.69	65.20	579.06	110.47	217.41	272.64	280.45
95th-Percentile Queue Length [veh]	10.02	2.29	2.71	5.68	7.54	12.26	4.69	31.06	7.87	13.53	16.32	16.71
95th-Percentile Queue Length [ft]	250.57	57.30	67.78	142.08	188.61	306.51	117.36	776.39	196.66	338.32	408.03	417.77

Movement, Approach, & Intersection Results

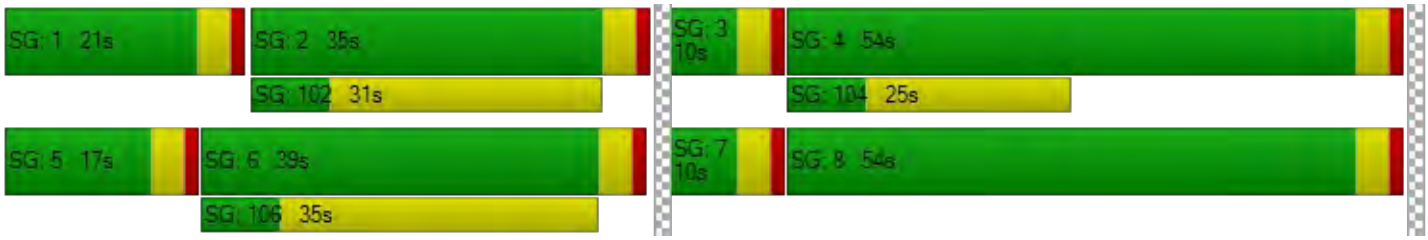
d_M, Delay for Movement [s/veh]	70.65	40.09	40.33	67.07	48.10	57.28	59.43	45.82	22.77	64.39	20.87	21.85
Movement LOS	E	D	D	E	D	E	E	D	C	E	C	C
d_A, Approach Delay [s/veh]	58.67			56.36			44.20			26.66		
Approach LOS	E			E			D			C		
d_I, Intersection Delay [s/veh]	38.91											
Intersection LOS	D											
Intersection V/C	0.924											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.488	3.204	3.052
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	517	583	833	833
d_b, Bicycle Delay [s]	33.00	30.10	20.42	20.42
l_b,int, Bicycle LOS Score for Intersection	2.025	1.959	3.118	2.637
Bicycle LOS	B	A	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	17.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.372

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	260	65	376	266	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	260	65	376	266	0	0
Peak Hour Factor	0.9190	0.9190	0.9190	0.9190	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	71	18	102	72	0	0
Total Analysis Volume [veh/h]	283	71	409	289	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	58	58	24	86	
g / C, Green / Cycle	0.65	0.65	0.27	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.24	0.08	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1161	1161	452	3440	
d1, Uniform Delay [s]	6.28	6.28	31.93	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.28	0.28	7.05	0.05	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.15	0.15	0.91	0.08	
d, Delay for Lane Group [s/veh]	6.56	6.56	38.98	0.14	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	1.26	1.26	9.21	0.02	
50th-Percentile Queue Length [ft]	31.62	31.62	230.32	0.57	
95th-Percentile Queue Length [veh]	2.28	2.28	14.19	0.04	
95th-Percentile Queue Length [ft]	56.92	56.92	354.76	1.03	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.56	6.56	38.98	0.14	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	6.56		22.90		0.00	
Approach LOS	A		C		A	
d_I, Intersection Delay [s/veh]	17.40					
Intersection LOS	B					
Intersection V/C	0.372					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.891	
Crosswalk LOS	F	F	A	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0	
d_b, Bicycle Delay [s]	45.00	45.00	45.00	
l_b,int, Bicycle LOS Score for Intersection	4.424	4.708	4.132	
Bicycle LOS	E	E	D	

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	25.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.793

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	240	5	286	16	0	57	30	1518	0	0	1606	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	240	5	286	16	0	57	30	1518	0	0	1606	24
Peak Hour Factor	0.9610	0.9610	0.9610	0.9610	0.9500	0.9610	0.9610	0.9610	0.9500	0.9500	0.9610	0.9610
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	1	74	4	0	15	8	395	0	0	418	6
Total Analysis Volume [veh/h]	250	5	298	17	0	59	31	1580	0	0	1671	25
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	67	0	10	0	0	10	28	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	21	6	4	66	59	59
g / C, Green / Cycle	0.20	0.20	0.06	0.03	0.63	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.08	0.17	0.04	0.02	0.44	0.47	0.47
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	631	355	99	59	2269	1004	1004
d1, Uniform Delay [s]	36.71	40.69	48.77	49.87	12.81	19.45	19.45
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.40	5.84	11.63	7.15	1.80	8.70	8.70
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.40	0.85	0.77	0.53	0.70	0.85	0.85
d, Delay for Lane Group [s/veh]	37.11	46.53	60.40	57.02	14.60	28.14	28.14
Lane Group LOS	D	D	E	E	B	C	C
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	2.82	8.06	2.28	0.92	11.68	18.47	18.47
50th-Percentile Queue Length [ft]	70.51	201.47	56.93	22.88	292.03	461.70	461.70
95th-Percentile Queue Length [veh]	5.08	12.71	4.10	1.65	17.29	25.52	25.52
95th-Percentile Queue Length [ft]	126.91	317.87	102.47	41.18	432.16	637.89	637.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.11	46.53	46.53	60.40	0.00	60.40	57.02	14.60	0.00	0.00	28.14	28.14
Movement LOS	D	D	D	E		E	E	B			C	C
d_A, Approach Delay [s/veh]	42.28			60.40			15.42			28.14		
Approach LOS	D			E			B			C		
d_I, Intersection Delay [s/veh]	25.54											
Intersection LOS	C											
Intersection V/C	0.793											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	42.08	42.08	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.127	1.789	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1200	0	457	267
d_b, Bicycle Delay [s]	8.40	52.50	31.24	39.43
l_b,int, Bicycle LOS Score for Intersection	2.472	4.258	2.889	2.959
Bicycle LOS	B	E	C	C

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	36.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.007

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	231	160	46	159	121	918	1018	544	119	65	470	204
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	231	160	46	159	121	918	1018	544	119	65	470	204
Peak Hour Factor	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	41	12	41	31	237	263	140	31	17	121	53
Total Analysis Volume [veh/h]	239	165	48	164	125	948	1052	562	123	67	486	211
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	46	66	0	12	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	37	27	27	37	27	73	42	65	65	6	29	29
g / C, Green / Cycle	0.31	0.22	0.22	0.31	0.22	0.61	0.35	0.54	0.54	0.05	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.14	0.06	0.06	0.10	0.03	0.53	0.33	0.19	0.19	0.04	0.20	0.18
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	543	400	400	504	800	1095	1128	975	975	87	433	433
d1, Uniform Delay [s]	33.55	38.68	38.54	31.92	37.63	19.49	37.52	15.61	15.52	56.30	43.50	42.44
k, delay calibration	0.13	0.11	0.11	0.11	0.11	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.68	0.37	0.34	0.37	0.09	9.23	4.19	1.01	0.98	13.39	18.11	12.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.27	0.26	0.33	0.16	0.87	0.93	0.36	0.35	0.77	0.85	0.76
d, Delay for Lane Group [s/veh]	34.23	39.05	38.88	32.29	37.72	28.72	41.71	16.62	16.50	69.69	61.61	54.53
Lane Group LOS	C	D	D	C	D	C	D	B	B	E	E	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	5.73	2.73	2.57	3.72	1.50	23.20	15.33	5.58	5.42	2.33	12.49	10.54
50th-Percentile Queue Length [ft]	143.23	68.18	64.18	93.12	37.54	579.89	383.15	139.57	135.40	58.27	312.26	263.51
95th-Percentile Queue Length [veh]	9.65	4.91	4.62	6.70	2.70	31.09	21.75	9.46	9.23	4.20	18.29	15.86
95th-Percentile Queue Length [ft]	241.37	122.73	115.52	167.62	67.58	777.36	543.66	236.44	230.81	104.88	457.16	396.62

Movement, Approach, & Intersection Results

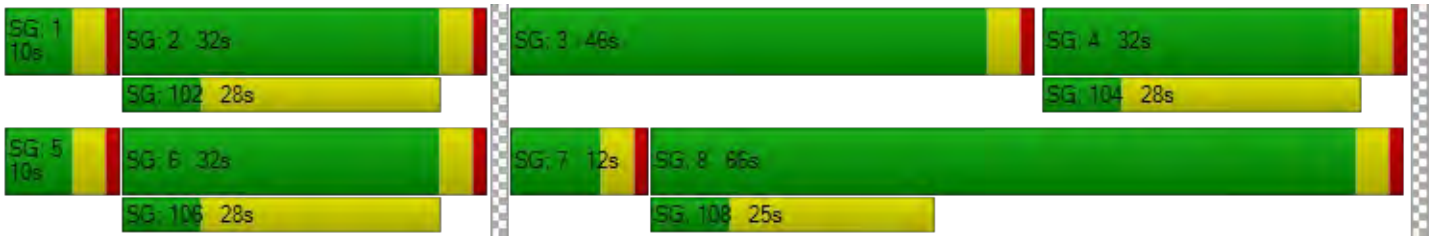
d_M, Delay for Movement [s/veh]	34.23	38.99	38.88	32.29	37.72	28.72	41.71	16.57	16.50	69.69	59.86	54.53
Movement LOS	C	D	D	C	D	C	D	B	B	E	E	D
d_A, Approach Delay [s/veh]	36.46			30.10			31.79			59.25		
Approach LOS	D			C			C			E		
d_I, Intersection Delay [s/veh]	36.80											
Intersection LOS	D											
Intersection V/C	1.007											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.463	2.900	3.156	2.669
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	467	467	1033	467
d_b, Bicycle Delay [s]	35.27	35.27	14.02	35.27
l_b,int, Bicycle LOS Score for Intersection	1.933	2.580	2.993	2.190
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	21.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.405

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	184	57	108	27	51	32	35	449	135	111	490	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	184	57	108	27	51	32	35	449	135	111	490	35
Peak Hour Factor	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	15	29	7	14	8	9	119	36	29	130	9
Total Analysis Volume [veh/h]	195	60	114	29	54	34	37	476	143	118	519	37
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	29	0	11	29	0	10	32	0	18	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	9	9	3	5	5	4	54	54	8	58	58
g / C, Green / Cycle	0.08	0.10	0.10	0.04	0.06	0.06	0.04	0.60	0.60	0.09	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.06	0.03	0.06	0.02	0.02	0.02	0.02	0.18	0.17	0.07	0.16	0.15
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	252	186	186	61	109	109	70	1070	1070	151	1156	1156
d1, Uniform Delay [s]	40.76	37.52	38.72	42.65	40.83	40.80	42.35	9.02	8.88	40.20	6.84	6.81
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.07	1.00	3.27	5.68	2.48	2.36	5.95	0.72	0.65	8.36	0.50	0.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.32	0.61	0.48	0.41	0.40	0.53	0.30	0.28	0.78	0.24	0.24
d, Delay for Lane Group [s/veh]	45.84	38.52	42.00	48.33	43.31	43.16	48.31	9.74	9.53	48.56	7.34	7.30
Lane Group LOS	D	D	D	D	D	D	D	A	A	D	A	A
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.27	1.27	2.55	0.72	1.02	0.99	0.92	3.04	2.78	2.88	2.17	2.12
50th-Percentile Queue Length [ft]	56.82	31.65	63.75	18.08	25.52	24.69	22.88	75.90	69.43	71.95	54.25	52.89
95th-Percentile Queue Length [veh]	4.09	2.28	4.59	1.30	1.84	1.78	1.65	5.46	5.00	5.18	3.91	3.81
95th-Percentile Queue Length [ft]	102.28	56.96	114.75	32.55	45.93	44.44	41.18	136.61	124.97	129.51	97.64	95.20

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.84	38.52	42.00	48.33	43.29	43.16	48.31	9.67	9.53	48.56	7.32	7.30
Movement LOS	D	D	D	D	D	D	D	A	A	D	A	A
d_A, Approach Delay [s/veh]	43.46			44.50			11.82			14.54		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	21.36											
Intersection LOS	C											
Intersection V/C	0.405											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.564	2.192	2.573	2.551
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	622	800
d_b, Bicycle Delay [s]	23.47	23.47	21.36	16.20
l_b,int, Bicycle LOS Score for Intersection	2.168	1.656	2.101	2.116
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	29.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	114	304	39	32	275	73	66	233	163	43	172	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	114	304	39	32	275	73	66	233	163	43	172	38
Peak Hour Factor	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	88	11	9	79	21	19	67	47	12	50	11
Total Analysis Volume [veh/h]	132	351	45	37	318	84	76	269	188	50	199	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	40	0	11	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	18	18	4	13	13	5	48	48	4	47	47
g / C, Green / Cycle	0.10	0.20	0.20	0.04	0.14	0.14	0.06	0.53	0.53	0.05	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.08	0.11	0.11	0.02	0.11	0.11	0.04	0.13	0.12	0.03	0.07	0.07
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	166	360	360	71	259	259	100	958	958	83	939	939
d1, Uniform Delay [s]	39.80	32.47	32.34	42.34	37.30	37.06	41.81	11.41	11.22	42.04	11.07	11.04
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.31	1.35	1.26	5.86	5.47	4.43	11.19	0.63	0.54	6.89	0.29	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.56	0.54	0.52	0.79	0.75	0.76	0.25	0.22	0.60	0.13	0.13
d, Delay for Lane Group [s/veh]	48.11	33.82	33.60	48.20	42.77	41.49	53.01	12.04	11.76	48.93	11.36	11.32
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.20	4.02	3.87	0.91	4.71	4.39	1.96	2.62	2.29	1.24	1.27	1.23
50th-Percentile Queue Length [ft]	80.11	100.43	96.80	22.85	117.83	109.86	48.91	65.56	57.36	30.92	31.86	30.75
95th-Percentile Queue Length [veh]	5.77	7.23	6.97	1.65	8.27	7.83	3.52	4.72	4.13	2.23	2.29	2.21
95th-Percentile Queue Length [ft]	144.19	180.77	174.24	41.13	206.84	195.81	88.03	118.01	103.25	55.66	57.34	55.36

Movement, Approach, & Intersection Results

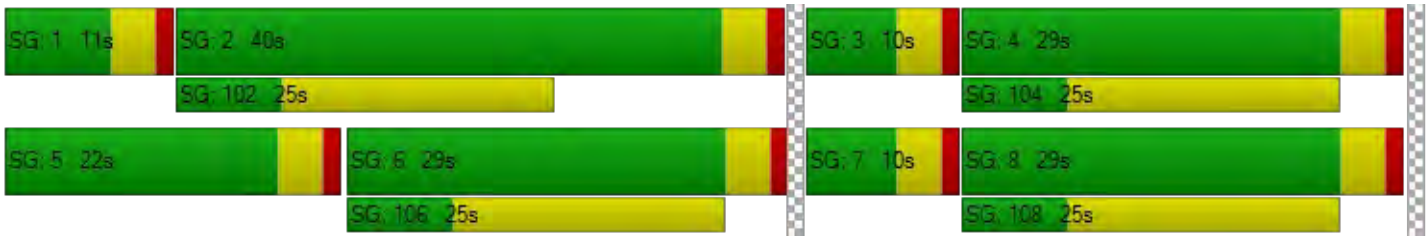
d_M, Delay for Movement [s/veh]	48.11	33.73	33.60	48.20	42.32	41.49	53.01	12.01	11.76	48.93	11.34	11.32
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.31			42.66			17.77			17.75		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.61											
Intersection LOS	C											
Intersection V/C	0.433											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.511	2.477	2.484	2.425
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	556	556	556
d_b, Bicycle Delay [s]	16.20	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	1.995	1.922	1.999	1.801
Bicycle LOS	A	A	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX C-III

EXISTING WITH PROJECT (PHASE 1) WITH MITIGATION TRAFFIC CONDITIONS

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APPENDIX C-IV

EXISTING WITH PROJECT (PHASE 2) TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.259

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	113	37	17	0	15	4	2	9	73	2	13	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	113	37	17	0	15	4	2	9	73	2	13	1
Peak Hour Factor	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	11	5	0	4	1	1	3	22	1	4	0
Total Analysis Volume [veh/h]	135	44	20	0	18	5	2	11	87	2	16	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	690	870	721	838	639	799	631	697
Degree of Utilization, x	0.26	0.02	0.02	0.01	0.00	0.12	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.03	0.07	0.08	0.02	0.01	0.42	0.01	0.07
95th-Percentile Queue Length [ft]	25.85	1.76	1.92	0.45	0.24	10.44	0.24	1.87
Approach Delay [s/veh]	9.45		7.65		7.85		8.03	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.78							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.142

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	100	0	0	0	0	0	146	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	100	0	0	0	0	0	146	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	26	0	0	0	0	0	38	0
Total Analysis Volume [veh/h]	0	0	0	0	105	0	0	0	0	0	154	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	10.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	12.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10.69			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.33											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	190	323	228	9	182	0	34	5	14	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	323	228	9	182	0	34	5	14	0	0	0
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	87	62	2	49	0	9	1	4	0	0	0
Total Analysis Volume [veh/h]	205	349	246	10	197	0	37	5	15	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	640	686	791	606	611	503	596	
Degree of Utilization, x	0.43	0.40	0.31	0.17	0.17	0.08	0.03	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.18	1.96	1.33	0.61	0.61	0.27	0.08	
95th-Percentile Queue Length [ft]	54.55	48.96	33.18	15.30	15.15	6.81	1.94	
Approach Delay [s/veh]	11.17			9.83		10.09		0.00
Approach LOS	B			A		B		A
Intersection Delay [s/veh]	10.85							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.259

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	742	195	0	0	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	742	195	0	0	230
Peak Hour Factor	0.9500	0.9520	0.9520	0.9500	0.9500	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	195	51	0	0	60
Total Analysis Volume [veh/h]	0	779	205	0	0	242
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.26
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.43
Movement LOS		A	A			A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.45
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	11.13
d_A, Approach Delay [s/veh]	0.00		0.00		9.43	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.86					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.431

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	178	740	424	0	0	212
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	178	740	424	0	0	212
Peak Hour Factor	0.9110	0.9110	0.9110	0.9500	0.9500	0.9110
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	203	116	0	0	58
Total Analysis Volume [veh/h]	195	812	465	0	0	233
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	35	53	18	0	0	37
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	68	52	14
g / C, Green / Cycle	0.14	0.76	0.57	0.15
(v / s)_i Volume / Saturation Flow Rate	0.11	0.23	0.13	0.13
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	234	2724	2068	278
d1, Uniform Delay [s]	37.80	3.44	9.36	36.98
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.49	0.28	0.25	6.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.30	0.22	0.84
d, Delay for Lane Group [s/veh]	45.30	3.72	9.61	43.62
Lane Group LOS	D	A	A	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	4.60	1.78	2.14	5.40
50th-Percentile Queue Length [ft]	115.07	44.51	53.51	135.04
95th-Percentile Queue Length [veh]	8.12	3.20	3.85	9.21
95th-Percentile Queue Length [ft]	203.03	80.12	96.31	230.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.30	3.72	9.61	0.00	0.00	43.62
Movement LOS	D	A	A			D
d_A, Approach Delay [s/veh]	11.77		9.61		43.62	
Approach LOS	B		A		D	
d_I, Intersection Delay [s/veh]	15.54					
Intersection LOS	B					
Intersection V/C	0.431					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.632	2.442	1.923
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.963	4.516	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.540

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	758	230	15	667	137	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	758	230	15	667	137	15
Peak Hour Factor	0.7970	0.7970	0.7970	0.7970	0.7970	0.7970
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	238	72	5	209	43	5
Total Analysis Volume [veh/h]	951	289	19	837	172	19
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	18	0	10	28	62	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	63	63	2	70	12
g / C, Green / Cycle	0.71	0.71	0.03	0.78	0.14
(v / s)_i Volume / Saturation Flow Rate	0.34	0.34	0.01	0.23	0.11
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1268	1268	45	2791	231
d1, Uniform Delay [s]	6.00	6.00	43.15	2.96	37.87
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.35	1.35	6.17	0.28	7.32
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.49	0.42	0.30	0.83
d, Delay for Lane Group [s/veh]	7.36	7.36	49.32	3.24	45.19
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	4.72	4.72	0.49	1.60	4.50
50th-Percentile Queue Length [ft]	118.04	118.04	12.24	39.92	112.50
95th-Percentile Queue Length [veh]	8.29	8.29	0.88	2.87	7.98
95th-Percentile Queue Length [ft]	207.13	207.13	22.04	71.85	199.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.36	7.36	49.32	3.24	45.19	45.19
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	7.36		4.26		45.19	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	9.36					
Intersection LOS	A					
Intersection V/C	0.540					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.679	2.655	1.958
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.155	4.839	4.448
Bicycle LOS	F	E	E

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	23.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.020

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1012	96	21	798	3	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1012	96	21	798	3	2
Peak Hour Factor	0.8510	0.8510	0.8510	0.8510	0.8510	0.8510
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	297	28	6	234	1	1
Total Analysis Volume [veh/h]	1189	113	25	938	4	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.05	0.01	0.02	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	12.16	0.00	23.59	14.14
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	10.85	5.43	0.08	0.08
95th-Percentile Queue Length [ft]	0.00	0.00	271.36	135.68	1.93	1.93
d_A, Approach Delay [s/veh]	0.00		0.32		20.44	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.19					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	31.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.501

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	114	375	34	94	430	50	28	228	86	104	258	72
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	114	375	34	94	430	50	28	228	86	104	258	72
Peak Hour Factor	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570	0.8570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	109	10	27	125	15	8	67	25	30	75	21
Total Analysis Volume [veh/h]	133	438	40	110	502	58	33	266	100	121	301	84
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	29	0	22	36	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	18	18	7	17	17	3	40	40	8	45	45
g / C, Green / Cycle	0.10	0.20	0.20	0.08	0.19	0.19	0.04	0.45	0.45	0.09	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.13	0.06	0.16	0.15	0.02	0.10	0.10	0.07	0.11	0.10
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	165	367	367	141	341	341	66	801	801	154	895	895
d1, Uniform Delay [s]	39.86	33.03	32.90	40.54	35.18	34.97	42.49	15.50	15.39	40.15	12.82	12.73
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.80	2.03	1.89	8.93	5.35	4.53	5.79	0.69	0.64	8.52	0.57	0.53
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.66	0.64	0.78	0.83	0.81	0.50	0.24	0.22	0.79	0.22	0.21
d, Delay for Lane Group [s/veh]	48.66	35.06	34.79	49.47	40.53	39.50	48.29	16.19	16.03	48.67	13.39	13.26
Lane Group LOS	D	D	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.25	4.98	4.82	2.71	6.39	6.09	0.82	2.47	2.30	2.95	2.29	2.15
50th-Percentile Queue Length [ft]	81.25	124.40	120.60	67.79	159.84	152.25	20.47	61.64	57.43	73.87	57.35	53.64
95th-Percentile Queue Length [veh]	5.85	8.63	8.43	4.88	10.54	10.14	1.47	4.44	4.13	5.32	4.13	3.86
95th-Percentile Queue Length [ft]	146.24	215.86	210.65	122.02	263.51	253.44	36.85	110.95	103.37	132.97	103.23	96.55

Movement, Approach, & Intersection Results

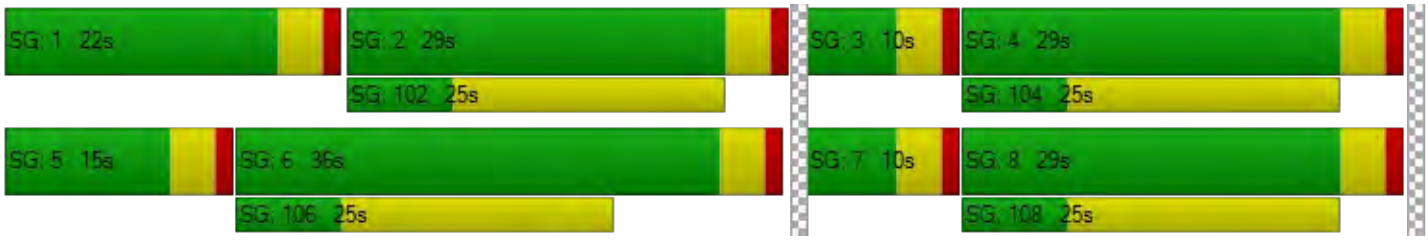
d_M, Delay for Movement [s/veh]	48.66	34.94	34.79	49.47	40.08	39.50	48.29	16.15	16.03	48.67	13.34	13.26
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.91			41.57			18.78			21.78		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	31.81											
Intersection LOS	C											
Intersection V/C	0.501											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.559	2.538	2.473	2.479
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	711	556	556
d_b, Bicycle Delay [s]	23.47	18.69	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.064	2.112	1.889	1.977
Bicycle LOS	B	B	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	21.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.473

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	976	203	0	309	349	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	976	203	0	309	349	0
Peak Hour Factor	0.9330	0.9330	0.9500	0.9330	0.9330	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	262	54	0	83	94	0
Total Analysis Volume [veh/h]	1046	218	0	331	374	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	34	48	48
g / C, Green / Cycle	0.37	0.37	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.33	0.12	0.09	0.10
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1196	673	1933	1933
d1, Uniform Delay [s]	26.16	20.03	10.60	10.74
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.18	0.28	0.19	0.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.32	0.17	0.19
d, Delay for Lane Group [s/veh]	28.33	20.31	10.79	10.97
Lane Group LOS	C	C	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	10.26	3.21	1.64	1.87
50th-Percentile Queue Length [ft]	256.48	80.29	40.89	46.84
95th-Percentile Queue Length [veh]	15.51	5.78	2.94	3.37
95th-Percentile Queue Length [ft]	387.81	144.52	73.60	84.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.33	20.31	0.00	10.79	10.97	0.00
Movement LOS	C	C		B	B	
d_A, Approach Delay [s/veh]	26.95		10.79		10.97	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	21.20					
Intersection LOS	C					
Intersection V/C	0.473					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.351	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.405	4.441
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	57.0
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.990

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	289	167	91	53	353	327	81	911	214	225	945	153
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	289	167	91	53	353	327	81	911	214	225	945	153
Peak Hour Factor	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	48	26	15	101	93	23	260	61	64	270	44
Total Analysis Volume [veh/h]	330	191	104	61	403	374	93	1041	245	257	1080	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	27	48	0	25	46	0	10	37	0	10	37	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	47	47	6	30	30	6	33	33	18	45	45
g / C, Green / Cycle	0.19	0.39	0.39	0.05	0.25	0.25	0.05	0.28	0.28	0.15	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.19	0.11	0.06	0.04	0.22	0.21	0.03	0.29	0.14	0.15	0.23	0.23
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	326	710	710	79	448	448	154	996	498	254	1360	680
d1, Uniform Delay [s]	48.51	24.62	23.35	56.62	43.61	42.72	56.00	43.42	36.36	51.05	30.34	30.13
k, delay calibration	0.29	0.11	0.11	0.11	0.20	0.16	0.11	0.50	0.50	0.16	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	40.90	0.20	0.09	14.91	11.20	6.02	3.77	41.13	3.45	35.07	2.13	3.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.01	0.27	0.15	0.78	0.90	0.83	0.60	1.05	0.49	1.01	0.62	0.61
d, Delay for Lane Group [s/veh]	89.41	24.82	23.45	71.53	54.81	48.74	59.77	84.55	39.81	86.13	32.47	34.11
Lane Group LOS	F	C	C	E	D	D	E	F	D	F	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	13.41	3.74	1.93	2.16	12.90	11.21	1.46	20.32	6.50	10.07	10.23	10.29
50th-Percentile Queue Length [ft]	335.16	93.40	48.20	53.88	322.45	280.19	36.56	507.89	162.62	251.75	255.68	257.16
95th-Percentile Queue Length [veh]	19.54	6.72	3.47	3.88	18.79	16.70	2.63	28.49	10.69	15.36	15.47	15.55
95th-Percentile Queue Length [ft]	488.51	168.12	86.76	96.99	469.70	417.45	65.81	712.19	267.19	384.05	386.80	388.65

Movement, Approach, & Intersection Results

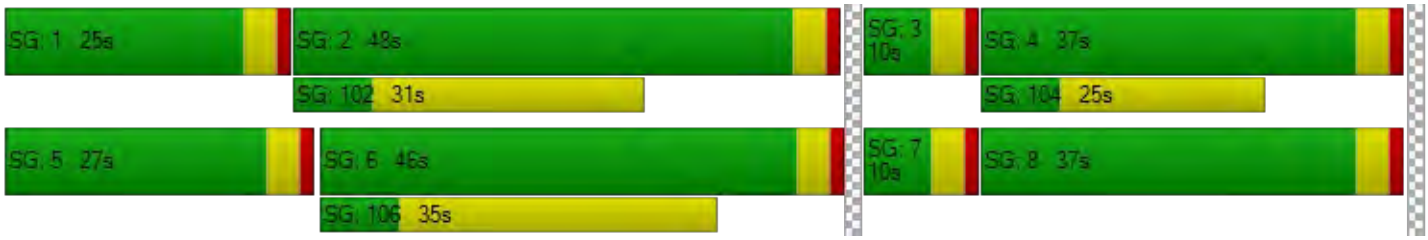
d_M, Delay for Movement [s/veh]	89.41	24.82	23.45	71.53	54.81	48.74	59.77	84.55	39.81	86.13	32.83	34.11
Movement LOS	F	C	C	E	D	D	E	F	D	F	C	C
d_A, Approach Delay [s/veh]	58.69			53.32			74.93			42.04		
Approach LOS	E			D			E			D		
d_I, Intersection Delay [s/veh]	57.02											
Intersection LOS	E											
Intersection V/C	0.990											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.567	3.125	2.908
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	733	700	550	550
d_b, Bicycle Delay [s]	24.07	25.35	31.54	31.54
l_b,int, Bicycle LOS Score for Intersection	2.591	2.251	2.697	2.391
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	12.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.547

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	545	101	328	463	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	545	101	328	463	0	0
Peak Hour Factor	0.7480	0.7480	0.7480	0.7480	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	182	34	110	155	0	0
Total Analysis Volume [veh/h]	729	135	439	619	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	56	56	26	86	
g / C, Green / Cycle	0.63	0.63	0.28	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.24	0.24	0.26	0.17	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1129	1129	482	3440	
d1, Uniform Delay [s]	8.21	8.21	31.12	0.11	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.98	0.98	7.00	0.11	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.38	0.38	0.91	0.18	
d, Delay for Lane Group [s/veh]	9.20	9.20	38.12	0.22	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	3.96	3.96	9.83	0.05	
50th-Percentile Queue Length [ft]	99.09	99.09	245.63	1.37	
95th-Percentile Queue Length [veh]	7.13	7.13	14.97	0.10	
95th-Percentile Queue Length [ft]	178.36	178.36	374.15	2.47	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.20	9.20	38.12	0.22	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	9.20		15.95		0.00	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	12.91					
Intersection LOS	B					
Intersection V/C	0.547					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.983	
Crosswalk LOS	F	F	A	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0	
d_b, Bicycle Delay [s]	45.00	45.00	45.00	
l_b,int, Bicycle LOS Score for Intersection	4.845	5.005	4.132	
Bicycle LOS	E	F	D	

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	14.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.520

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	274	4	214	2	0	1	9	1044	0	0	1056	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	274	4	214	2	0	1	9	1044	0	0	1056	2
Peak Hour Factor	0.9360	0.9360	0.9360	0.9360	0.9500	0.9360	0.9360	0.9360	0.9500	0.9500	0.9360	0.9360
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	73	1	57	1	0	0	2	279	0	0	282	1
Total Analysis Volume [veh/h]	293	4	229	2	0	1	10	1115	0	0	1128	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	52	0	10	0	0	10	28	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	0	1	63	57	57
g / C, Green / Cycle	0.16	0.16	0.01	0.02	0.70	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.09	0.13	0.00	0.01	0.31	0.31	0.31
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	525	295	9	26	2510	1147	1147
d1, Uniform Delay [s]	34.65	36.15	44.63	43.92	5.98	8.63	8.63
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.93	4.69	18.60	8.86	0.57	1.51	1.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.79	0.32	0.38	0.44	0.49	0.49
d, Delay for Lane Group [s/veh]	35.58	40.84	63.23	52.78	6.55	10.15	10.15
Lane Group LOS	D	D	E	D	A	B	B
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	2.98	5.21	0.11	0.28	3.98	5.56	5.56
50th-Percentile Queue Length [ft]	74.39	130.26	2.86	7.08	99.38	138.95	138.95
95th-Percentile Queue Length [veh]	5.36	8.95	0.21	0.51	7.16	9.42	9.42
95th-Percentile Queue Length [ft]	133.90	223.85	5.15	12.75	178.89	235.60	235.60

Movement, Approach, & Intersection Results

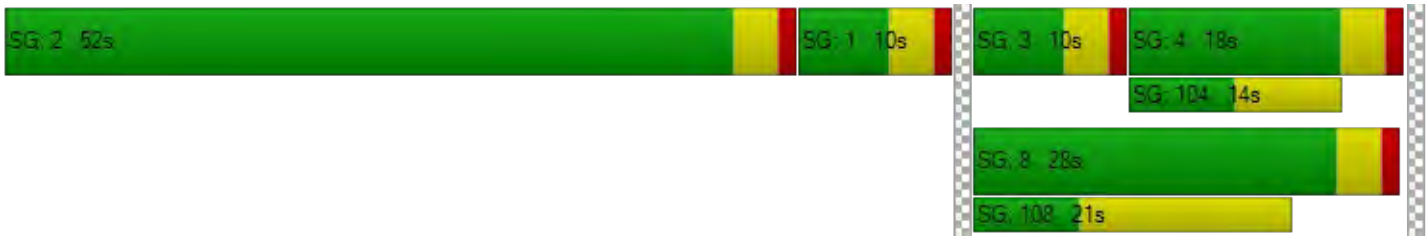
d_M, Delay for Movement [s/veh]	35.58	40.84	40.84	63.23	0.00	63.23	52.78	6.55	0.00	0.00	10.15	10.15
Movement LOS	D	D	D	E		E	D	A			B	B
d_A, Approach Delay [s/veh]	37.91			63.23			6.97			10.15		
Approach LOS	D			E			A			B		
d_I, Intersection Delay [s/veh]	14.16											
Intersection LOS	B											
Intersection V/C	0.520											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.111	1.724	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	0	533	311
d_b, Bicycle Delay [s]	9.80	45.00	24.20	32.09
l_b,int, Bicycle LOS Score for Intersection	2.428	4.137	2.488	2.492
Bicycle LOS	B	D	B	B

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	32.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.756

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	237	267	42	126	219	436	682	417	114	40	327	116
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	237	267	42	126	219	436	682	417	114	40	327	116
Peak Hour Factor	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740	0.8740
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	76	12	36	63	125	195	119	33	11	94	33
Total Analysis Volume [veh/h]	271	305	48	144	251	499	780	477	130	46	374	133
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	36	58	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	14	14	24	14	49	31	69	69	5	43	43
g / C, Green / Cycle	0.22	0.13	0.13	0.22	0.13	0.45	0.29	0.63	0.63	0.04	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.16	0.10	0.10	0.08	0.07	0.28	0.24	0.17	0.16	0.03	0.15	0.14
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	361	230	230	307	460	809	912	1133	1133	71	696	696
d1, Uniform Delay [s]	39.89	46.53	46.32	36.63	45.01	23.11	37.21	9.15	9.03	51.93	24.27	23.97
k, delay calibration	0.15	0.11	0.11	0.11	0.11	0.22	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.23	5.75	4.88	1.11	1.01	1.55	2.43	0.60	0.56	9.33	1.56	1.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.78	0.75	0.47	0.55	0.62	0.86	0.28	0.26	0.64	0.38	0.35
d, Delay for Lane Group [s/veh]	44.12	52.28	51.19	37.75	46.02	24.65	39.64	9.75	9.59	61.26	25.84	25.36
Lane Group LOS	D	D	D	D	D	C	D	A	A	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	7.19	5.13	4.86	3.40	3.27	9.98	10.09	3.38	3.13	1.43	5.19	4.75
50th-Percentile Queue Length [ft]	179.80	128.24	121.45	84.94	81.82	249.45	252.17	84.43	78.33	35.84	129.75	118.65
95th-Percentile Queue Length [veh]	11.59	8.84	8.47	6.12	5.89	15.16	15.30	6.08	5.64	2.58	8.93	8.32
95th-Percentile Queue Length [ft]	289.75	221.11	211.82	152.89	147.28	378.96	382.38	151.97	140.99	64.52	223.16	207.97

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.12	51.84	51.19	37.75	46.02	24.65	39.64	9.70	9.59	61.26	25.70	25.36
Movement LOS	D	D	D	D	D	C	D	A	A	E	C	C
d_A, Approach Delay [s/veh]	48.44			32.76			26.53			28.57		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	32.42											
Intersection LOS	C											
Intersection V/C	0.756											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	44.55	44.55	44.55
l_p,int, Pedestrian LOS Score for Intersection	2.514	2.806	3.038	2.578
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	509	509	982	509
d_b, Bicycle Delay [s]	30.56	30.56	14.25	30.56
l_b,int, Bicycle LOS Score for Intersection	2.074	2.297	2.704	2.016
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	27.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.388

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	122	116	68	47	130	129	122	251	102	44	312	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	122	116	68	47	130	129	122	251	102	44	312	50
Peak Hour Factor	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930	0.8930
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	32	19	13	36	36	34	70	29	12	87	14
Total Analysis Volume [veh/h]	137	130	76	53	146	144	137	281	114	49	349	56
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	29	0	10	29	0	19	39	0	12	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	11	11	4	10	10	9	54	54	4	49	49
g / C, Green / Cycle	0.07	0.12	0.12	0.05	0.11	0.11	0.10	0.60	0.60	0.05	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.04	0.07	0.04	0.03	0.08	0.08	0.08	0.11	0.11	0.03	0.11	0.11
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	210	223	223	85	195	195	173	1080	1080	82	984	984
d1, Uniform Delay [s]	41.14	37.31	36.14	41.98	38.99	38.94	39.58	8.14	8.05	42.06	10.46	10.41
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.42	2.41	0.90	7.13	5.59	5.32	7.93	0.39	0.35	6.78	0.48	0.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.58	0.34	0.62	0.75	0.74	0.79	0.19	0.18	0.60	0.21	0.20
d, Delay for Lane Group [s/veh]	44.56	39.72	37.04	49.11	44.58	44.27	47.50	8.53	8.41	48.84	10.94	10.88
Lane Group LOS	D	D	D	D	D	D	D	A	A	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	1.57	2.82	1.57	1.31	3.39	3.33	3.30	1.76	1.61	1.21	2.09	2.01
50th-Percentile Queue Length [ft]	39.19	70.46	39.18	32.81	84.79	83.27	82.56	44.04	40.19	30.29	52.32	50.29
95th-Percentile Queue Length [veh]	2.82	5.07	2.82	2.36	6.10	6.00	5.94	3.17	2.89	2.18	3.77	3.62
95th-Percentile Queue Length [ft]	70.55	126.82	70.52	59.07	152.61	149.89	148.61	79.27	72.34	54.52	94.18	90.52

Movement, Approach, & Intersection Results

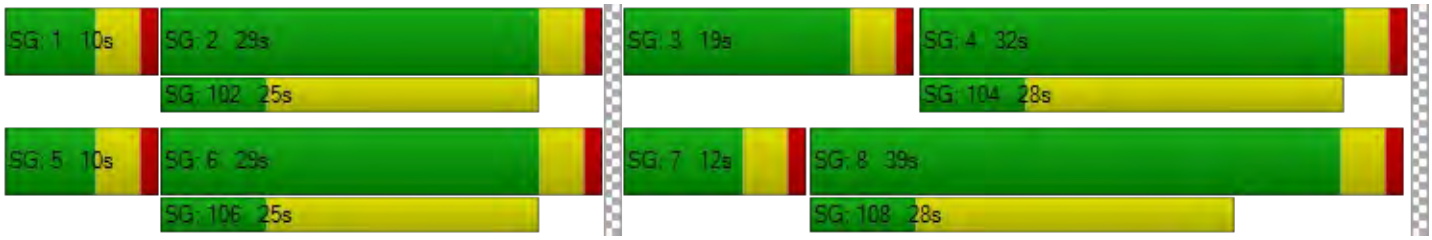
d_M, Delay for Movement [s/veh]	44.56	39.72	37.04	49.11	44.58	44.27	47.50	8.50	8.41	48.84	10.92	10.88
Movement LOS	D	D	D	D	D	D	D	A	A	D	B	B
d_A, Approach Delay [s/veh]	41.06			45.15			18.52			15.00		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.65											
Intersection LOS	C											
Intersection V/C	0.388											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.558	2.293	2.526	2.468
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	778	622
d_b, Bicycle Delay [s]	23.47	23.47	16.81	21.36
l_b,int, Bicycle LOS Score for Intersection	2.126	1.843	1.999	1.934
Bicycle LOS	B	A	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	33.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	176	334	30	68	290	107	141	257	249	54	336	82
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	176	334	30	68	290	107	141	257	249	54	336	82
Peak Hour Factor	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160	0.7160
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	117	10	24	101	37	49	90	87	19	117	29
Total Analysis Volume [veh/h]	246	466	42	95	405	149	197	359	348	75	469	115
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	27	29	0	27	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	27	27	7	18	18	13	40	40	5	32	32
g / C, Green / Cycle	0.17	0.28	0.28	0.07	0.19	0.19	0.14	0.42	0.42	0.06	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.14	0.14	0.14	0.06	0.16	0.15	0.12	0.20	0.19	0.04	0.17	0.16
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	283	511	511	123	342	342	232	752	752	98	610	610
d1, Uniform Delay [s]	38.63	28.46	28.33	43.36	37.19	36.63	40.13	20.15	20.00	44.21	24.97	24.67
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.97	0.77	0.73	9.75	5.73	3.81	8.41	2.17	2.04	11.70	2.84	2.53
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.50	0.49	0.77	0.84	0.78	0.85	0.48	0.46	0.77	0.49	0.46
d, Delay for Lane Group [s/veh]	46.60	29.22	29.05	53.12	42.92	40.44	48.54	22.32	22.04	55.91	27.81	27.20
Lane Group LOS	D	C	C	D	D	D	D	C	C	E	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.13	4.93	4.77	2.51	6.91	6.13	4.98	6.04	5.80	2.05	5.74	5.31
50th-Percentile Queue Length [ft]	153.30	123.19	119.22	62.75	172.83	153.15	124.54	150.99	145.04	51.15	143.57	132.81
95th-Percentile Queue Length [veh]	10.19	8.57	8.35	4.52	11.23	10.19	8.64	10.07	9.75	3.68	9.67	9.09
95th-Percentile Queue Length [ft]	254.82	214.20	208.75	112.95	280.63	254.63	216.05	251.74	243.80	92.07	241.83	227.32

Movement, Approach, & Intersection Results

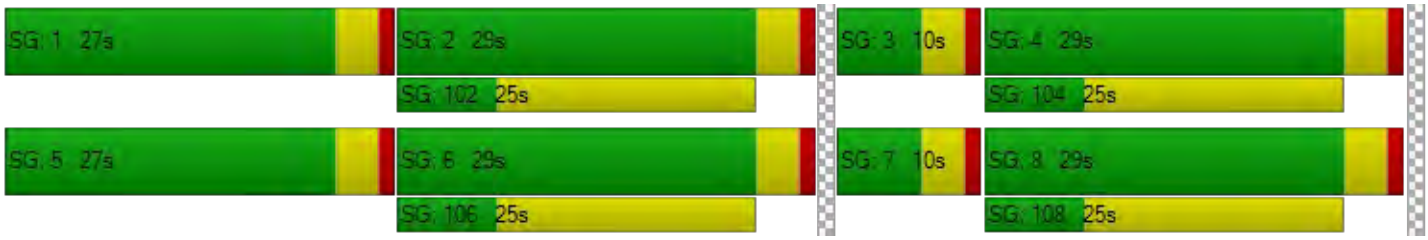
d_M, Delay for Movement [s/veh]	46.60	29.15	29.05	53.12	42.21	40.44	48.54	22.32	22.04	55.91	27.59	27.20
Movement LOS	D	C	C	D	D	D	D	C	C	E	C	C
d_A, Approach Delay [s/veh]	34.84			43.40			27.92			30.75		
Approach LOS	C			D			C			C		
d_I, Intersection Delay [s/veh]	33.69											
Intersection LOS	C											
Intersection V/C	0.707											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	2.611	2.580	2.647	2.527
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	526	526	526	526
d_b, Bicycle Delay [s]	25.79	25.79	25.79	25.79
l_b,int, Bicycle LOS Score for Intersection	2.182	2.095	2.305	2.103
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.243

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	97	9	9	0	36	2	7	10	125	17	9	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	9	9	0	36	2	7	10	125	17	9	0
Peak Hour Factor	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	3	3	0	13	1	3	4	45	6	3	0
Total Analysis Volume [veh/h]	139	13	13	0	52	3	10	14	179	24	13	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	640	806	681	785	634	794	617	675
Degree of Utilization, x	0.24	0.02	0.08	0.00	0.02	0.24	0.04	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.92	0.05	0.25	0.01	0.05	0.95	0.12	0.06
95th-Percentile Queue Length [ft]	23.01	1.23	6.19	0.29	1.20	23.76	3.03	1.47
Approach Delay [s/veh]	9.84		8.37		8.67		8.55	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	9.04							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	17.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.534

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	245	0	0	0	0	0	230	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	245	0	0	0	0	0	230	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	81	0	0	0	0	0	76	0
Total Analysis Volume [veh/h]	0	0	0	0	325	0	0	0	0	0	305	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	17.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	3.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	78.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			17.49			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	9.03											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	230	342	339	18	372	0	37	4	37	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	230	342	339	18	372	0	37	4	37	0	0	0
Peak Hour Factor	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	98	97	5	107	0	11	1	11	0	0	0
Total Analysis Volume [veh/h]	263	392	388	21	426	0	42	5	42	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	564	608	679	559	563	430	497	
Degree of Utilization, x	0.62	0.57	0.51	0.40	0.40	0.11	0.08	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.18	3.61	2.94	1.91	1.89	0.37	0.28	
95th-Percentile Queue Length [ft]	104.55	90.30	73.52	47.80	47.27	9.14	6.89	
Approach Delay [s/veh]	16.17			13.30		11.40		0.00
Approach LOS	C			B		B		A
Intersection Delay [s/veh]	15.09							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.794

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	912	414	0	0	574
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	912	414	0	0	574
Peak Hour Factor	0.9500	0.9270	0.9270	0.9500	0.9500	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	246	112	0	0	155
Total Analysis Volume [veh/h]	0	984	447	0	0	619
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.79
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.62
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	1.91
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	47.79
d_A, Approach Delay [s/veh]	0.00		0.00		12.62	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.81					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	18.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.694

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	272	946	909	0	0	281
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	272	946	909	0	0	281
Peak Hour Factor	0.9450	0.9450	0.9450	0.9500	0.9500	0.9450
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	250	240	0	0	74
Total Analysis Volume [veh/h]	288	1001	962	0	0	297
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	42	60	18	0	0	30
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	65	44	17
g / C, Green / Cycle	0.19	0.72	0.48	0.19
(v / s)_i Volume / Saturation Flow Rate	0.17	0.28	0.27	0.17
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	330	2599	1740	341
d1, Uniform Delay [s]	35.21	4.82	16.40	35.44
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.19	0.43	1.27	6.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.39	0.55	0.87
d, Delay for Lane Group [s/veh]	42.40	5.26	17.67	42.37
Lane Group LOS	D	A	B	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	6.65	2.98	6.89	6.84
50th-Percentile Queue Length [ft]	166.21	74.38	172.20	171.06
95th-Percentile Queue Length [veh]	10.88	5.36	11.19	11.13
95th-Percentile Queue Length [ft]	271.93	133.89	279.81	278.31

Movement, Approach, & Intersection Results

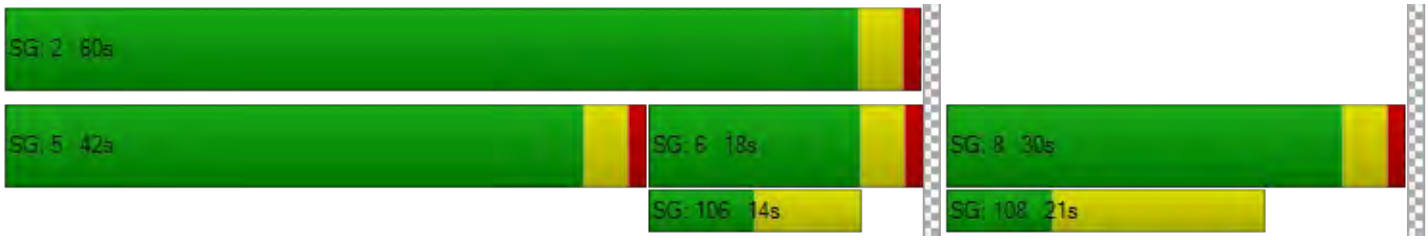
d_M, Delay for Movement [s/veh]	42.40	5.26	17.67	0.00	0.00	42.37
Movement LOS	D	A	B			D
d_A, Approach Delay [s/veh]	13.56		17.67		42.37	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	18.47					
Intersection LOS	B					
Intersection V/C	0.694					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.796	2.609	2.000
Crosswalk LOS	C	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.196	4.926	4.132
Bicycle LOS	F	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	4.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.441

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	1159	33	20	1088	42	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1159	33	20	1088	42	15
Peak Hour Factor	0.9850	0.9850	0.9850	0.9850	0.9850	0.9850
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	294	8	5	276	11	4
Total Analysis Volume [veh/h]	1177	34	20	1105	43	15
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	51	0	10	61	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	71	71	2	77	5
g / C, Green / Cycle	0.79	0.79	0.03	0.86	0.05
(v / s)_i Volume / Saturation Flow Rate	0.34	0.34	0.01	0.31	0.03
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1417	1417	47	3092	89
d1, Uniform Delay [s]	3.08	3.08	43.09	1.29	41.88
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.94	0.94	6.08	0.32	7.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.43	0.43	0.36	0.65
d, Delay for Lane Group [s/veh]	4.02	4.02	49.17	1.62	49.75
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	2.57	2.57	0.51	0.64	1.45
50th-Percentile Queue Length [ft]	64.31	64.31	12.83	16.00	36.13
95th-Percentile Queue Length [veh]	4.63	4.63	0.92	1.15	2.60
95th-Percentile Queue Length [ft]	115.75	115.75	23.09	28.80	65.03

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.02	4.02	49.17	1.62	49.75	49.75
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	4.02		2.46		49.75	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.40					
Intersection LOS	A					
Intersection V/C	0.441					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.706	2.751	1.769
Crosswalk LOS	B	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.131	5.061	4.228
Bicycle LOS	F	F	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	25.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.184

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1140	1	3	1141	40	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1140	1	3	1141	40	35
Peak Hour Factor	0.9720	0.9720	0.9720	0.9720	0.9720	0.9720
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	293	0	1	293	10	9
Total Analysis Volume [veh/h]	1173	1	3	1174	41	36
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.18	0.08
d_M, Delay for Movement [s/veh]	0.00	0.00	11.13	0.00	25.49	17.29
Movement LOS	A	A	B	A	D	C
95th-Percentile Queue Length [veh]	0.00	0.00	14.72	7.36	1.03	1.03
95th-Percentile Queue Length [ft]	0.00	0.00	367.96	183.98	25.82	25.82
d_A, Approach Delay [s/veh]	0.00		0.03		21.66	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.70					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	31.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.657

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	142	465	69	122	295	78	140	514	177	146	459	139
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	142	465	69	122	295	78	140	514	177	146	459	139
Peak Hour Factor	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430	0.9430
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	123	18	32	78	21	37	136	47	39	122	37
Total Analysis Volume [veh/h]	151	493	73	129	313	83	148	545	188	155	487	147
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	14	34	0	13	33	0	14	29	0	14	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	17	17	8	16	16	10	38	38	10	39	39
g / C, Green / Cycle	0.11	0.19	0.19	0.09	0.18	0.18	0.11	0.43	0.43	0.11	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.09	0.16	0.15	0.08	0.11	0.11	0.09	0.21	0.19	0.09	0.18	0.17
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	184	345	345	160	320	320	184	764	764	192	772	772
d1, Uniform Delay [s]	39.37	35.12	34.84	40.03	34.39	34.14	39.28	18.99	18.56	39.06	18.02	17.72
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.80	5.45	4.40	9.09	2.11	1.82	7.97	2.35	1.98	7.89	1.73	1.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.84	0.80	0.81	0.64	0.60	0.80	0.50	0.46	0.81	0.43	0.39
d, Delay for Lane Group [s/veh]	48.17	40.57	39.24	49.12	36.50	35.96	47.24	21.33	20.54	46.95	19.74	19.23
Lane Group LOS	D	D	D	D	D	D	D	C	C	D	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.67	6.50	6.11	3.17	4.26	3.97	3.56	6.09	5.41	3.72	4.96	4.49
50th-Percentile Queue Length [ft]	91.81	162.48	152.64	79.20	106.42	99.31	88.98	152.19	135.34	92.92	124.01	112.37
95th-Percentile Queue Length [veh]	6.61	10.68	10.16	5.70	7.64	7.15	6.41	10.13	9.23	6.69	8.61	7.97
95th-Percentile Queue Length [ft]	165.27	267.01	253.95	142.57	191.01	178.76	160.16	253.34	230.74	167.25	215.32	199.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.17	40.02	39.24	49.12	36.31	35.96	47.24	21.10	20.54	46.95	19.58	19.23
Movement LOS	D	D	D	D	D	D	D	C	C	D	B	B
d_A, Approach Delay [s/veh]	41.66			39.40			25.37			24.89		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	31.78											
Intersection LOS	C											
Intersection V/C	0.657											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.567	2.555	2.612	2.599
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	667	644	556	556
d_b, Bicycle Delay [s]	20.00	20.67	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.151	1.993	2.286	2.211
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	19.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.595

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	996	175	0	726	577	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	996	175	0	726	577	0
Peak Hour Factor	0.9460	0.9460	0.9500	0.9460	0.9460	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	263	46	0	192	152	0
Total Analysis Volume [veh/h]	1053	185	0	767	610	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	34	48	48
g / C, Green / Cycle	0.38	0.38	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.33	0.10	0.21	0.17
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1201	675	1929	1929
d1, Uniform Delay [s]	26.13	19.54	12.30	11.66
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.22	0.22	0.61	0.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.27	0.40	0.32
d, Delay for Lane Group [s/veh]	28.35	19.76	12.92	12.09
Lane Group LOS	C	B	B	B
Critical Lane Group	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	10.34	2.66	4.42	3.32
50th-Percentile Queue Length [ft]	258.52	66.51	110.40	82.98
95th-Percentile Queue Length [veh]	15.61	4.79	7.86	5.97
95th-Percentile Queue Length [ft]	390.37	119.73	196.57	149.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.35	19.76	0.00	12.92	12.09	0.00
Movement LOS	C	B		B	B	
d_A, Approach Delay [s/veh]	27.07		12.92		12.09	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	19.42					
Intersection LOS	B					
Intersection V/C	0.595					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.342	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.765	4.636
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	38.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.877

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	191	91	62	84	204	250	162	1190	357	248	1465	184
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	191	91	62	84	204	250	162	1190	357	248	1465	184
Peak Hour Factor	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	24	16	22	53	65	42	311	93	65	383	48
Total Analysis Volume [veh/h]	200	95	65	88	213	261	169	1243	373	259	1531	192
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	35	0	24	39	0	10	10	0	51	51	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	28	28	8	20	20	9	47	47	21	59	59
g / C, Green / Cycle	0.13	0.23	0.23	0.07	0.17	0.17	0.07	0.40	0.40	0.17	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.12	0.05	0.04	0.05	0.12	0.15	0.05	0.35	0.21	0.15	0.32	0.32
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	226	422	422	113	302	302	230	1421	710	291	1780	890
d1, Uniform Delay [s]	51.16	37.16	36.51	55.23	47.19	48.67	54.64	33.62	27.77	48.65	22.56	22.55
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.84	0.27	0.17	11.09	3.02	7.35	4.56	7.79	2.77	9.03	1.82	3.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.23	0.15	0.78	0.71	0.86	0.74	0.87	0.53	0.89	0.65	0.65
d, Delay for Lane Group [s/veh]	61.99	37.42	36.68	66.31	50.22	56.02	59.20	41.41	30.53	57.68	24.38	26.15
Lane Group LOS	E	D	D	E	D	E	E	D	C	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	6.58	2.30	1.55	2.97	6.26	8.21	2.65	17.94	8.67	8.30	12.22	12.64
50th-Percentile Queue Length [ft]	164.60	57.57	38.67	74.28	156.62	205.31	66.27	448.38	216.84	207.41	305.52	316.04
95th-Percentile Queue Length [veh]	10.79	4.14	2.78	5.35	10.37	12.91	4.77	24.88	13.50	13.02	17.95	18.47
95th-Percentile Queue Length [ft]	269.80	103.62	69.61	133.70	259.25	322.81	119.29	622.02	337.59	325.50	448.84	461.82

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	61.99	37.42	36.68	66.31	50.22	56.02	59.20	41.41	30.53	57.68	24.82	26.15
Movement LOS	E	D	D	E	D	E	E	D	C	E	C	C
d_A, Approach Delay [s/veh]	50.94			55.43			40.82			29.24		
Approach LOS	D			E			D			C		
d_I, Intersection Delay [s/veh]	38.46											
Intersection LOS	D											
Intersection V/C	0.877											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.512	3.200	3.016
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	517	583	100	783
d_b, Bicycle Delay [s]	33.00	30.10	54.15	22.20
l_b,int, Bicycle LOS Score for Intersection	2.154	2.023	3.032	2.650
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	16.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.434

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	347	89	437	354	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	347	89	437	354	0	0
Peak Hour Factor	0.9560	0.9560	0.9560	0.9560	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	91	23	114	93	0	0
Total Analysis Volume [veh/h]	363	93	457	370	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	55	55	26	86	
g / C, Green / Cycle	0.62	0.62	0.29	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.13	0.13	0.27	0.10	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1110	1110	500	3440	
d1, Uniform Delay [s]	7.56	7.56	30.64	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.42	0.42	6.97	0.06	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.21	0.21	0.91	0.11	
d, Delay for Lane Group [s/veh]	7.98	7.98	37.61	0.16	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	1.88	1.88	10.19	0.03	
50th-Percentile Queue Length [ft]	46.93	46.93	254.71	0.75	
95th-Percentile Queue Length [veh]	3.38	3.38	15.42	0.05	
95th-Percentile Queue Length [ft]	84.48	84.48	385.58	1.36	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.98	7.98	37.61	0.16	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	7.98		20.86		0.00	
Approach LOS	A		C		A	
d_I, Intersection Delay [s/veh]	16.28					
Intersection LOS	B					
Intersection V/C	0.434					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.959	
Crosswalk LOS	F	F	A	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0	
d_b, Bicycle Delay [s]	45.00	45.00	45.00	
l_b,int, Bicycle LOS Score for Intersection	4.509	4.815	4.132	
Bicycle LOS	E	E	D	

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	17.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.707

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	263	3	204	9	0	25	23	1373	0	0	1602	18
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	263	3	204	9	0	25	23	1373	0	0	1602	18
Peak Hour Factor	0.9780	0.9780	0.9780	0.9780	0.9500	0.9780	0.9780	0.9780	0.9500	0.9500	0.9780	0.9780
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	1	52	2	0	6	6	351	0	0	410	5
Total Analysis Volume [veh/h]	269	3	209	9	0	26	24	1404	0	0	1638	18
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	28	0	10	0	0	10	52	0	0	42	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	13	4	3	61	54	54
g / C, Green / Cycle	0.15	0.15	0.04	0.03	0.68	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.08	0.12	0.02	0.01	0.39	0.46	0.46
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	479	269	68	53	2438	1083	1083
d1, Uniform Delay [s]	35.60	36.96	42.42	42.93	7.70	13.24	13.24
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.04	5.08	5.85	5.96	1.00	5.14	5.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.79	0.51	0.45	0.58	0.76	0.76
d, Delay for Lane Group [s/veh]	36.64	42.04	48.27	48.90	8.70	18.39	18.39
Lane Group LOS	D	D	D	D	A	B	B
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	2.77	4.80	0.87	0.61	6.28	12.35	12.35
50th-Percentile Queue Length [ft]	69.31	120.10	21.67	15.20	157.12	308.75	308.75
95th-Percentile Queue Length [veh]	4.99	8.40	1.56	1.09	10.40	18.11	18.11
95th-Percentile Queue Length [ft]	124.76	209.97	39.00	27.36	259.90	452.83	452.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.64	42.04	42.04	48.27	0.00	48.27	48.90	8.70	0.00	0.00	18.39	18.39
Movement LOS	D	D	D	D		D	D	A			B	B
d_A, Approach Delay [s/veh]	39.02			48.27			9.37			18.39		
Approach LOS	D			D			A			B		
d_I, Intersection Delay [s/veh]	17.86											
Intersection LOS	B											
Intersection V/C	0.707											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.096	1.753	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	0	1067	844
d_b, Bicycle Delay [s]	24.20	45.00	9.80	15.02
l_b,int, Bicycle LOS Score for Intersection	2.353	4.190	2.738	2.926
Bicycle LOS	B	D	B	C

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	34.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.964

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	225	214	68	224	152	819	743	547	146	91	628	194
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	225	214	68	224	152	819	743	547	146	91	628	194
Peak Hour Factor	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810	0.9810
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	55	17	57	39	209	189	139	37	23	160	49
Total Analysis Volume [veh/h]	229	218	69	228	155	835	757	558	149	93	640	198
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	40	0	10	40	40	27	50	0	10	33	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	24	24	34	24	59	31	57	57	8	33	33
g / C, Green / Cycle	0.31	0.22	0.22	0.31	0.22	0.54	0.28	0.51	0.51	0.07	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.13	0.08	0.08	0.13	0.04	0.46	0.24	0.20	0.19	0.05	0.24	0.22
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	563	391	391	504	782	968	909	924	924	117	537	537
d1, Uniform Delay [s]	30.41	36.75	36.54	30.39	35.24	21.95	36.94	16.32	16.10	50.45	35.75	34.86
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.47	0.61	0.55	0.64	0.12	10.07	2.07	1.26	1.15	11.26	12.63	9.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.38	0.35	0.45	0.20	0.86	0.83	0.39	0.37	0.79	0.81	0.75
d, Delay for Lane Group [s/veh]	30.88	37.35	37.08	31.03	35.36	32.01	39.02	17.58	17.25	61.70	48.38	44.04
Lane Group LOS	C	D	D	C	D	C	D	B	B	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	4.91	3.47	3.22	4.90	1.72	20.21	9.67	5.77	5.38	2.88	12.58	10.96
50th-Percentile Queue Length [ft]	122.69	86.66	80.60	122.46	42.95	505.22	241.77	144.26	134.49	72.07	314.48	274.11
95th-Percentile Queue Length [veh]	8.54	6.24	5.80	8.53	3.09	27.58	14.77	9.71	9.18	5.19	18.40	16.39
95th-Percentile Queue Length [ft]	213.52	155.99	145.08	213.20	77.31	689.54	369.28	242.75	229.59	129.73	459.89	409.87

Movement, Approach, & Intersection Results

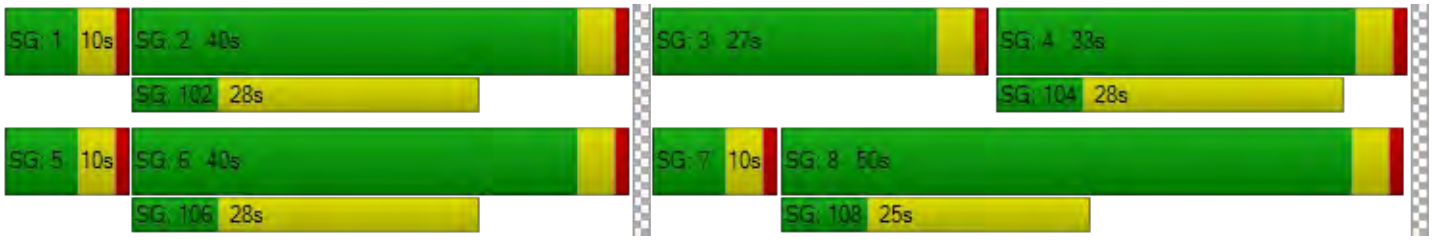
d_M, Delay for Movement [s/veh]	30.88	37.27	37.08	31.03	35.36	32.01	39.02	17.46	17.25	61.70	47.00	44.04
Movement LOS	C	D	D	C	D	C	D	B	B	E	D	D
d_A, Approach Delay [s/veh]	34.41			32.25			28.59			47.84		
Approach LOS	C			C			C			D		
d_I, Intersection Delay [s/veh]	34.74											
Intersection LOS	C											
Intersection V/C	0.964											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	44.55	44.55	44.55
l_p,int, Pedestrian LOS Score for Intersection	2.487	2.851	3.082	2.761
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	655	655	836	527
d_b, Bicycle Delay [s]	24.89	24.89	18.62	29.82
l_b,int, Bicycle LOS Score for Intersection	1.985	2.564	2.767	2.328
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	22.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.515

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	195	75	161	41	51	58	63	651	175	108	477	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	195	75	161	41	51	58	63	651	175	108	477	37
Peak Hour Factor	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790	0.9790
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	19	41	10	13	15	16	166	45	28	122	9
Total Analysis Volume [veh/h]	199	77	164	42	52	59	64	665	179	110	487	38
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	11	29	0	12	32	0	17	37	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	11	11	4	7	7	5	52	52	7	55	55
g / C, Green / Cycle	0.08	0.12	0.12	0.04	0.08	0.08	0.05	0.58	0.58	0.08	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.06	0.04	0.09	0.02	0.03	0.03	0.04	0.24	0.23	0.06	0.15	0.14
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	269	212	212	76	141	141	92	1038	1038	142	1091	1091
d1, Uniform Delay [s]	40.34	36.68	38.63	42.19	39.44	39.60	41.91	10.67	10.43	40.49	8.21	8.18
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.99	1.05	5.97	6.13	1.60	1.97	8.96	1.26	1.11	8.68	0.53	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.36	0.77	0.55	0.37	0.42	0.69	0.42	0.39	0.77	0.24	0.24
d, Delay for Lane Group [s/veh]	44.33	37.72	44.60	48.32	41.05	41.57	50.87	11.93	11.54	49.17	8.74	8.69
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.28	1.61	3.82	1.04	1.14	1.31	1.61	4.80	4.34	2.70	2.32	2.26
50th-Percentile Queue Length [ft]	56.91	40.17	95.43	25.89	28.61	32.73	40.32	119.97	108.61	67.55	58.02	56.50
95th-Percentile Queue Length [veh]	4.10	2.89	6.87	1.86	2.06	2.36	2.90	8.39	7.76	4.86	4.18	4.07
95th-Percentile Queue Length [ft]	102.45	72.31	171.78	46.60	51.49	58.91	72.57	209.78	194.07	121.59	104.44	101.70

Movement, Approach, & Intersection Results

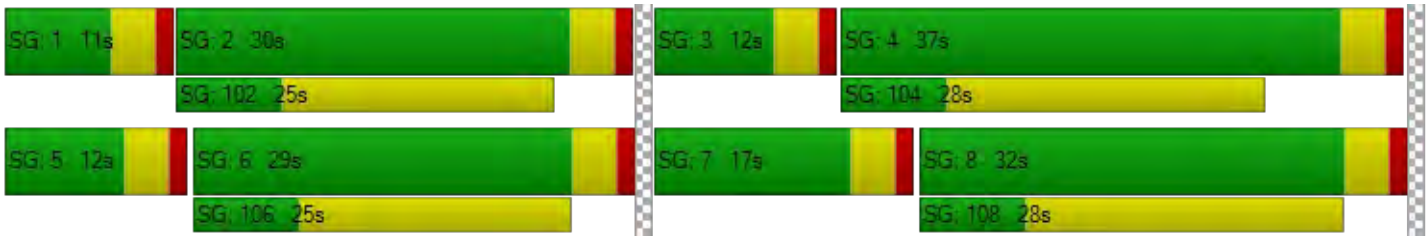
d_M, Delay for Movement [s/veh]	44.33	37.72	44.60	48.32	41.05	41.57	50.87	11.80	11.54	49.17	8.72	8.69
Movement LOS	D	D	D	D	D	D	D	B	B	D	A	A
d_A, Approach Delay [s/veh]	43.28			43.25			14.50			15.73		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	22.85											
Intersection LOS	C											
Intersection V/C	0.515											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.579	2.212	2.622	2.593
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	556	622	733
d_b, Bicycle Delay [s]	22.76	23.47	21.36	18.05
l_b,int, Bicycle LOS Score for Intersection	2.286	1.686	2.309	2.083
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.500

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	162	376	49	64	317	82	81	325	204	46	214	61
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	162	376	49	64	317	82	81	325	204	46	214	61
Peak Hour Factor	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530	0.9530
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	99	13	17	83	22	21	85	54	12	56	16
Total Analysis Volume [veh/h]	170	395	51	67	333	86	85	341	214	48	225	64
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	40	0	11	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	19	19	5	13	13	6	46	46	4	44	44
g / C, Green / Cycle	0.12	0.21	0.21	0.05	0.15	0.15	0.06	0.51	0.51	0.05	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.10	0.13	0.12	0.04	0.12	0.11	0.05	0.16	0.14	0.03	0.08	0.08
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	207	388	388	94	269	269	111	907	907	81	875	875
d1, Uniform Delay [s]	38.65	31.75	31.60	41.88	37.07	36.80	41.46	13.27	12.98	42.07	12.97	12.92
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.89	1.40	1.29	9.46	5.49	4.38	10.34	0.95	0.80	6.69	0.42	0.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.58	0.56	0.71	0.80	0.76	0.76	0.32	0.29	0.59	0.17	0.16
d, Delay for Lane Group [s/veh]	46.54	33.15	32.89	51.34	42.56	41.18	51.79	14.22	13.78	48.76	13.38	13.31
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.06	4.50	4.32	1.70	4.91	4.56	2.16	3.58	3.10	1.19	1.70	1.62
50th-Percentile Queue Length [ft]	101.58	112.57	108.02	42.41	122.79	114.00	53.88	89.43	77.42	29.65	42.51	40.48
95th-Percentile Queue Length [veh]	7.31	7.98	7.73	3.05	8.55	8.06	3.88	6.44	5.57	2.13	3.06	2.91
95th-Percentile Queue Length [ft]	182.84	199.57	193.25	76.33	213.66	201.55	96.98	160.98	139.36	53.37	76.52	72.86

Movement, Approach, & Intersection Results

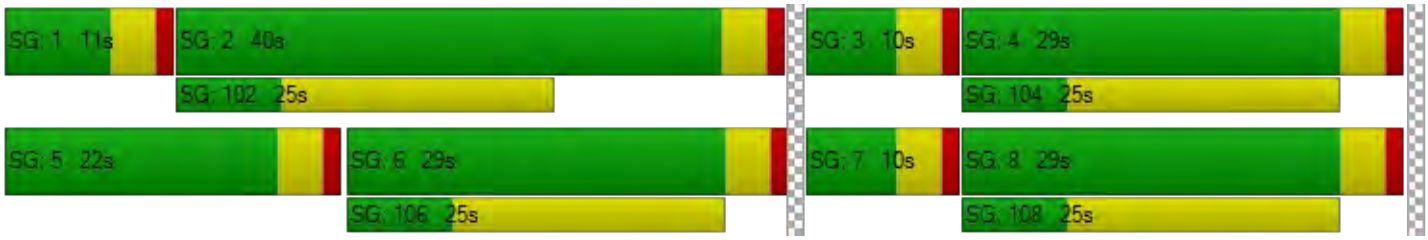
d_M, Delay for Movement [s/veh]	46.54	33.04	32.89	51.34	42.07	41.18	51.79	14.16	13.78	48.76	13.36	13.31
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	36.75			43.19			19.03			18.39		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.83											
Intersection LOS	C											
Intersection V/C	0.500											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.535	2.500	2.518	2.455
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	556	556	556
d_b, Bicycle Delay [s]	16.20	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.068	1.961	2.088	1.838
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.406

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	168	11	2	2	22	5	4	4	128	5	3	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	168	11	2	2	22	5	4	4	128	5	3	1
Peak Hour Factor	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	4	1	1	8	2	1	1	47	2	1	0
Total Analysis Volume [veh/h]	246	16	3	3	32	7	6	6	188	7	4	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	646	818	667	774	609	761	587	656
Degree of Utilization, x	0.41	0.00	0.05	0.01	0.01	0.26	0.01	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.97	0.01	0.17	0.03	0.03	1.01	0.04	0.02
95th-Percentile Queue Length [ft]	49.16	0.28	4.15	0.68	0.75	25.33	0.90	0.58
Approach Delay [s/veh]	11.97		8.23		9.04		8.62	
Approach LOS	B		A		A		A	
Intersection Delay [s/veh]	10.46							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.506

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	204	0	0	0	0	0	321	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	204	0	0	0	0	0	321	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	66	0	0	0	0	0	104	0
Total Analysis Volume [veh/h]	0	0	0	0	266	0	0	0	0	0	418	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	18.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	70.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			18.64			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	7.25											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	30.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.930

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	359	577	460	31	398	0	34	7	43	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	359	577	460	31	398	0	34	7	43	0	0	0
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	156	125	8	108	0	9	2	12	0	0	0
Total Analysis Volume [veh/h]	389	625	498	34	431	0	37	8	47	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	545	579	653	505	511	384	434	
Degree of Utilization, x	0.93	0.88	0.76	0.46	0.46	0.12	0.11	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	11.60	10.00	7.06	2.39	2.35	0.40	0.35	
95th-Percentile Queue Length [ft]	290.03	249.93	176.47	59.71	58.74	10.11	8.83	
Approach Delay [s/veh]	36.68			15.63		12.66		0.00
Approach LOS	E			C		B		A
Intersection Delay [s/veh]	30.88							
Intersection LOS	D							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.998

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	1396	435	0	0	726
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1396	435	0	0	726
Peak Hour Factor	0.9500	0.9180	0.9180	0.9500	0.9500	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	380	118	0	0	198
Total Analysis Volume [veh/h]	0	1521	474	0	0	791
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.00	1.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.98
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	2.83
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	70.72
d_A, Approach Delay [s/veh]	0.00		0.00		13.98	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.97					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	11.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.603

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	142	1391	1144	0	0	188
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	142	1391	1144	0	0	188
Peak Hour Factor	0.9670	0.9670	0.9670	0.9500	0.9500	0.9670
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	360	296	0	0	49
Total Analysis Volume [veh/h]	147	1438	1183	0	0	194
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	19	37	18	0	0	53
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	70	57	12
g / C, Green / Cycle	0.11	0.78	0.63	0.13
(v / s)_i Volume / Saturation Flow Rate	0.09	0.40	0.33	0.11
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	181	2804	2261	238
d1, Uniform Delay [s]	39.37	3.67	9.27	37.99
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.54	0.67	0.87	6.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.51	0.52	0.81
d, Delay for Lane Group [s/veh]	47.91	4.34	10.14	44.62
Lane Group LOS	D	A	B	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	3.56	3.43	5.91	4.53
50th-Percentile Queue Length [ft]	89.05	85.63	147.82	113.26
95th-Percentile Queue Length [veh]	6.41	6.17	9.90	8.02
95th-Percentile Queue Length [ft]	160.30	154.14	247.52	200.53

Movement, Approach, & Intersection Results

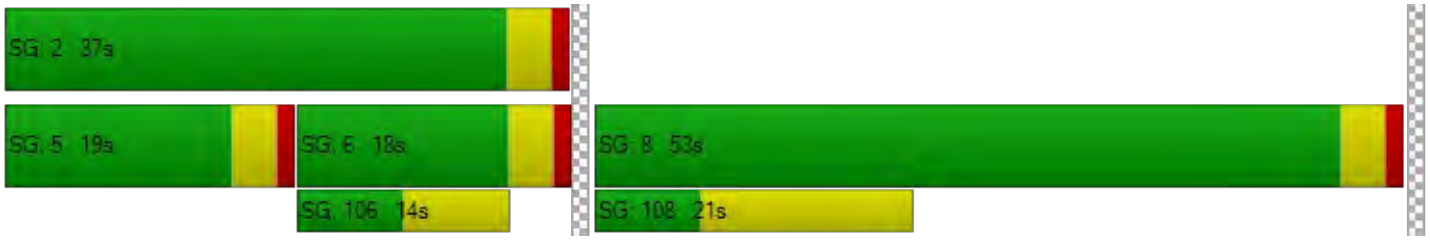
d_M, Delay for Movement [s/veh]	47.91	4.34	10.14	0.00	0.00	44.62
Movement LOS	D	A	B			D
d_A, Approach Delay [s/veh]	8.38		10.14		44.62	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	11.46					
Intersection LOS	B					
Intersection V/C	0.603					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.877	2.769	1.881
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.440	5.108	4.132
Bicycle LOS	F	F	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	4.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.543

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	1469	20	18	1254	20	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1469	20	18	1254	20	16
Peak Hour Factor	0.9380	0.9380	0.9380	0.9380	0.9380	0.9380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	392	5	5	334	5	4
Total Analysis Volume [veh/h]	1566	21	19	1337	21	17
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	56	0	10	66	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	77	77	2	83	4
g / C, Green / Cycle	0.81	0.81	0.03	0.88	0.04
(v / s)_i Volume / Saturation Flow Rate	0.44	0.44	0.01	0.37	0.02
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1454	1454	43	3151	69
d1, Uniform Delay [s]	3.14	3.14	45.63	1.18	44.73
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.48	1.48	6.82	0.42	6.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.55	0.44	0.42	0.55
d, Delay for Lane Group [s/veh]	4.62	4.62	52.45	1.60	51.44
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	3.69	3.69	0.52	0.61	1.00
50th-Percentile Queue Length [ft]	92.14	92.14	13.03	15.25	25.02
95th-Percentile Queue Length [veh]	6.63	6.63	0.94	1.10	1.80
95th-Percentile Queue Length [ft]	165.86	165.86	23.45	27.46	45.04

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.62	4.62	52.45	1.60	51.44	51.44
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	4.62		2.31		51.44	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.17					
Intersection LOS	A					
Intersection V/C	0.543					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	2.851	2.875	1.755
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	47.50	47.50	47.50
l_b,int, Bicycle LOS Score for Intersection	5.442	5.251	4.195
Bicycle LOS	F	F	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	31.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1490	0	0	1278	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1490	0	0	1278	0	0
Peak Hour Factor	0.9270	0.9270	0.9270	0.9270	0.9270	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	402	0	0	345	0	0
Total Analysis Volume [veh/h]	1607	0	0	1379	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	13.94	0.00	31.50	16.04
Movement LOS	A	A	B	A	D	C
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		23.77	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	31.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.534

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	145	324	70	104	227	73	94	406	134	151	442	117
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	145	324	70	104	227	73	94	406	134	151	442	117
Peak Hour Factor	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410	0.9410
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	86	19	28	60	19	25	108	36	40	117	31
Total Analysis Volume [veh/h]	154	344	74	111	241	78	100	431	142	160	470	124
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	23	35	0	21	33	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	14	14	8	11	11	7	46	46	11	50	50
g / C, Green / Cycle	0.11	0.15	0.15	0.08	0.12	0.12	0.08	0.49	0.49	0.12	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.09	0.12	0.11	0.07	0.09	0.09	0.06	0.17	0.15	0.09	0.17	0.16
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	189	265	265	141	215	215	129	874	874	196	946	946
d1, Uniform Delay [s]	41.35	39.26	38.99	42.80	40.59	40.35	43.16	15.07	14.85	41.09	12.93	12.75
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.33	5.78	4.62	9.24	5.54	4.47	9.40	1.06	0.94	7.94	0.91	0.83
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.81	0.77	0.79	0.76	0.72	0.77	0.34	0.31	0.81	0.33	0.30
d, Delay for Lane Group [s/veh]	49.68	45.04	43.62	52.04	46.13	44.83	52.56	16.13	15.79	49.02	13.84	13.58
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.93	5.21	4.85	2.90	4.02	3.72	2.63	4.06	3.69	4.05	3.80	3.50
50th-Percentile Queue Length [ft]	98.16	130.20	121.25	72.44	100.38	92.97	65.63	101.56	92.30	101.28	95.12	87.38
95th-Percentile Queue Length [veh]	7.07	8.95	8.46	5.22	7.23	6.69	4.73	7.31	6.65	7.29	6.85	6.29
95th-Percentile Queue Length [ft]	176.70	223.77	211.55	130.39	180.68	167.34	118.14	182.81	166.14	182.31	171.22	157.28

Movement, Approach, & Intersection Results

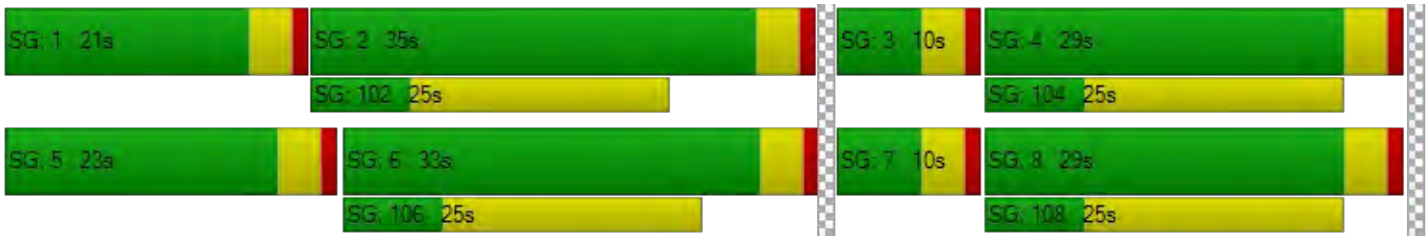
d_M, Delay for Movement [s/veh]	49.68	44.50	43.62	52.04	45.71	44.83	52.56	16.03	15.79	49.02	13.75	13.58
Movement LOS	D	D	D	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	45.78			47.19			21.41			21.21		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	31.65											
Intersection LOS	C											
Intersection V/C	0.534											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	2.520	2.497	2.570	2.569
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	653	611	526	526
d_b, Bicycle Delay [s]	21.56	22.93	25.79	25.79
l_b,int, Bicycle LOS Score for Intersection	2.032	1.914	2.115	2.182
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	20.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.616

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1229	152	0	580	599	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1229	152	0	580	599	0
Peak Hour Factor	0.9810	0.9810	0.9500	0.9810	0.9810	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	313	39	0	148	153	0
Total Analysis Volume [veh/h]	1253	155	0	591	611	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	40	40	42	42
g / C, Green / Cycle	0.44	0.44	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.39	0.09	0.16	0.17
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1405	790	1699	1699
d1, Uniform Delay [s]	23.23	15.46	14.99	15.09
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.18	0.12	0.56	0.59
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.20	0.35	0.36
d, Delay for Lane Group [s/veh]	25.41	15.58	15.55	15.68
Lane Group LOS	C	B	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	11.87	1.91	3.78	3.94
50th-Percentile Queue Length [ft]	296.69	47.77	94.53	98.42
95th-Percentile Queue Length [veh]	17.52	3.44	6.81	7.09
95th-Percentile Queue Length [ft]	437.93	85.99	170.15	177.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	25.41	15.58	0.00	15.55	15.68	0.00
Movement LOS	C	B		B	B	
d_A, Approach Delay [s/veh]	24.33		15.55		15.68	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	20.32					
Intersection LOS	C					
Intersection V/C	0.616					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.397	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.620	4.636
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	41.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.949

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	165	49	62	93	143	234	160	1481	223	263	1481	188
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	165	49	62	93	143	234	160	1481	223	263	1481	188
Peak Hour Factor	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	13	16	24	37	61	41	384	58	68	384	49
Total Analysis Volume [veh/h]	171	51	64	96	148	243	166	1536	231	273	1536	195
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	16	35	0	21	40	0	12	40	0	24	52	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	22	22	8	19	19	8	52	52	21	65	65
g / C, Green / Cycle	0.10	0.19	0.19	0.07	0.16	0.16	0.07	0.43	0.43	0.18	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.10	0.03	0.04	0.06	0.08	0.14	0.05	0.43	0.13	0.16	0.32	0.32
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	171	335	335	120	281	281	226	1552	776	304	1941	970
d1, Uniform Delay [s]	54.00	40.92	41.23	54.94	46.55	49.39	54.67	33.89	22.29	48.24	18.77	18.77
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	32.13	0.21	0.27	11.36	1.52	7.75	4.55	20.53	0.98	9.41	1.35	2.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.00	0.15	0.19	0.80	0.53	0.86	0.73	0.99	0.30	0.90	0.59	0.59
d, Delay for Lane Group [s/veh]	86.13	41.13	41.50	66.30	48.07	57.14	59.22	54.41	23.27	57.65	20.13	21.45
Lane Group LOS	F	D	D	E	D	E	E	D	C	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	6.68	1.29	1.64	3.24	4.19	7.70	2.60	25.95	4.47	8.76	10.95	11.30
50th-Percentile Queue Length [ft]	166.94	32.31	40.88	80.99	104.76	192.47	65.08	648.72	111.74	219.06	273.87	282.46
95th-Percentile Queue Length [veh]	10.92	2.33	2.94	5.83	7.54	12.25	4.69	34.30	7.94	13.62	16.38	16.81
95th-Percentile Queue Length [ft]	272.94	58.16	73.58	145.78	188.57	306.23	117.15	857.57	198.42	340.43	409.58	420.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	86.13	41.13	41.50	66.30	48.07	57.14	59.22	54.41	23.27	57.65	20.45	21.45
Movement LOS	F	D	D	E	D	E	E	D	C	E	C	C
d_A, Approach Delay [s/veh]	68.12			56.19			51.10			25.62		
Approach LOS	E			E			D			C		
d_I, Intersection Delay [s/veh]	41.82											
Intersection LOS	D											
Intersection V/C	0.949											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.489	3.212	3.068
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	517	600	600	800
d_b, Bicycle Delay [s]	33.00	29.40	29.40	21.60
l_b,int, Bicycle LOS Score for Intersection	2.032	1.961	3.154	2.662
Bicycle LOS	B	A	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	17.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.383

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	264	65	390	269	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	264	65	390	269	0	0
Peak Hour Factor	0.9190	0.9190	0.9190	0.9190	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	18	106	73	0	0
Total Analysis Volume [veh/h]	287	71	424	293	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	57	57	25	86	
g / C, Green / Cycle	0.64	0.64	0.27	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.25	0.08	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1145	1145	467	3440	
d1, Uniform Delay [s]	6.60	6.60	31.52	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.29	0.29	7.02	0.05	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.16	0.16	0.91	0.09	
d, Delay for Lane Group [s/veh]	6.89	6.89	38.55	0.15	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	1.33	1.33	9.52	0.02	
50th-Percentile Queue Length [ft]	33.16	33.16	238.00	0.58	
95th-Percentile Queue Length [veh]	2.39	2.39	14.58	0.04	
95th-Percentile Queue Length [ft]	59.69	59.69	364.51	1.05	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.89	6.89	38.55	0.15	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	6.89		22.86		0.00	
Approach LOS	A		C		A	
d_I, Intersection Delay [s/veh]	17.54					
Intersection LOS	B					
Intersection V/C	0.383					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.906	
Crosswalk LOS	F	F	A	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0	
d_b, Bicycle Delay [s]	45.00	45.00	45.00	
l_b,int, Bicycle LOS Score for Intersection	4.428	4.724	4.132	
Bicycle LOS	E	E	D	

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	27.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.816

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	240	5	308	16	0	57	30	1569	0	0	1650	24
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	240	5	308	16	0	57	30	1569	0	0	1650	24
Peak Hour Factor	0.9610	0.9610	0.9610	0.9610	0.9500	0.9610	0.9610	0.9610	0.9500	0.9500	0.9610	0.9610
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	1	80	4	0	15	8	408	0	0	429	6
Total Analysis Volume [veh/h]	250	5	320	17	0	59	31	1633	0	0	1717	25
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	43	0	10	0	0	10	57	0	0	47	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	23	6	4	69	61	61
g / C, Green / Cycle	0.21	0.21	0.06	0.03	0.63	0.56	0.56
(v / s)_i Volume / Saturation Flow Rate	0.08	0.18	0.04	0.02	0.45	0.48	0.48
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	664	373	98	58	2253	1000	1000
d1, Uniform Delay [s]	37.50	42.18	51.16	52.32	14.09	21.04	21.04
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.35	6.32	12.28	7.61	2.07	10.29	10.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.38	0.87	0.78	0.54	0.72	0.87	0.87
d, Delay for Lane Group [s/veh]	37.85	48.50	63.44	59.93	16.16	31.34	31.34
Lane Group LOS	D	D	E	E	B	C	C
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	2.93	9.12	2.40	0.96	13.41	20.88	20.88
50th-Percentile Queue Length [ft]	73.17	228.01	59.91	24.08	335.13	521.95	521.95
95th-Percentile Queue Length [veh]	5.27	14.07	4.31	1.73	19.41	28.37	28.37
95th-Percentile Queue Length [ft]	131.70	351.82	107.84	43.34	485.24	709.29	709.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	37.85	48.50	48.50	63.44	0.00	63.44	59.93	16.16	0.00	0.00	31.34	31.34
Movement LOS	D	D	D	E		E	E	B			C	C
d_A, Approach Delay [s/veh]	43.87			63.44			16.97			31.34		
Approach LOS	D			E			B			C		
d_I, Intersection Delay [s/veh]	27.82											
Intersection LOS	C											
Intersection V/C	0.816											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	44.55	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.137	1.791	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	709	0	964	782
d_b, Bicycle Delay [s]	22.91	55.00	14.77	20.40
l_b,int, Bicycle LOS Score for Intersection	2.508	4.258	2.932	2.997
Bicycle LOS	B	E	C	C

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	40.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.048

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	231	164	46	164	124	962	1090	544	119	65	470	213
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	231	164	46	164	124	962	1090	544	119	65	470	213
Peak Hour Factor	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680	0.9680
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	42	12	42	32	248	282	140	31	17	121	55
Total Analysis Volume [veh/h]	239	169	48	169	128	994	1126	562	123	67	486	220
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	46	67	0	11	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	38	28	28	38	28	74	42	64	64	6	28	28
g / C, Green / Cycle	0.32	0.23	0.23	0.32	0.23	0.62	0.35	0.53	0.53	0.05	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.14	0.06	0.06	0.10	0.04	0.55	0.35	0.19	0.19	0.04	0.21	0.19
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	577	419	419	539	839	1112	1124	961	961	85	418	418
d1, Uniform Delay [s]	32.63	37.63	37.49	31.14	36.60	19.58	38.92	16.13	16.07	56.40	44.57	43.44
k, delay calibration	0.13	0.11	0.11	0.11	0.11	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.57	0.34	0.31	0.33	0.08	11.08	12.81	1.05	1.02	15.11	23.44	14.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.27	0.25	0.31	0.15	0.89	1.00	0.36	0.35	0.79	0.89	0.80
d, Delay for Lane Group [s/veh]	33.20	37.96	37.80	31.47	36.68	30.66	51.72	17.18	17.09	71.51	68.01	58.22
Lane Group LOS	C	D	D	C	D	C	F	B	B	E	E	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	5.63	2.74	2.58	3.78	1.51	25.33	18.26	5.69	5.57	2.36	13.35	11.04
50th-Percentile Queue Length [ft]	140.63	68.39	64.42	94.59	37.86	633.36	456.40	142.18	139.30	59.08	333.73	275.94
95th-Percentile Queue Length [veh]	9.51	4.92	4.64	6.81	2.73	33.59	25.29	9.60	9.44	4.25	19.34	16.49
95th-Percentile Queue Length [ft]	237.87	123.10	115.95	170.26	68.16	839.73	632.20	239.96	236.09	106.34	483.53	412.16

Movement, Approach, & Intersection Results

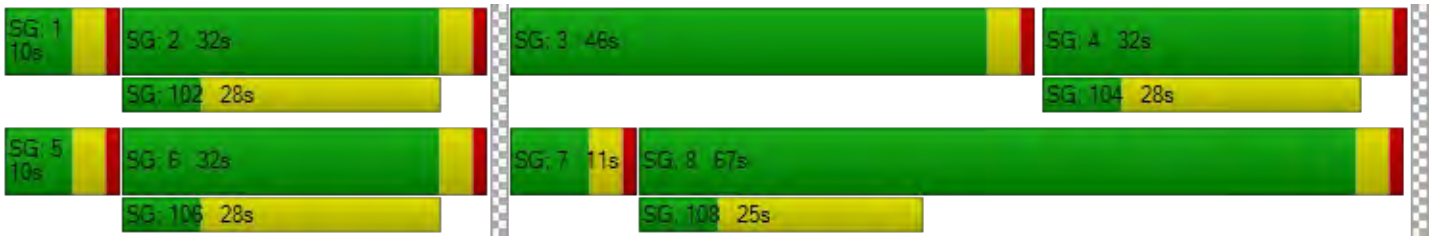
d_M, Delay for Movement [s/veh]	33.20	37.91	37.80	31.47	36.68	30.66	51.72	17.14	17.09	71.51	65.71	58.22
Movement LOS	C	D	D	C	D	C	F	B	B	E	E	E
d_A, Approach Delay [s/veh]	35.43			31.36			38.64			64.08		
Approach LOS	D			C			D			E		
d_I, Intersection Delay [s/veh]	40.67											
Intersection LOS	D											
Intersection V/C	1.048											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.465	2.923	3.179	2.676
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	467	467	1050	467
d_b, Bicycle Delay [s]	35.27	35.27	13.54	35.27
l_b,int, Bicycle LOS Score for Intersection	1.936	2.625	3.054	2.197
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.409

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	188	57	108	27	51	32	35	452	138	111	494	35
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	188	57	108	27	51	32	35	452	138	111	494	35
Peak Hour Factor	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440	0.9440
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	15	29	7	14	8	9	120	37	29	131	9
Total Analysis Volume [veh/h]	199	60	114	29	54	34	37	479	146	118	523	37
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	11	29	0	10	32	0	17	39	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	10	10	3	5	5	4	53	53	8	58	58
g / C, Green / Cycle	0.08	0.11	0.11	0.04	0.06	0.06	0.04	0.59	0.59	0.09	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.06	0.03	0.06	0.02	0.02	0.02	0.02	0.18	0.17	0.07	0.16	0.15
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	269	195	195	61	109	109	70	1061	1061	151	1146	1146
d1, Uniform Delay [s]	40.34	37.07	38.26	42.65	40.83	40.79	42.35	9.28	9.14	40.21	7.06	7.03
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.99	0.88	2.75	5.68	2.48	2.36	5.94	0.75	0.67	8.36	0.51	0.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.31	0.58	0.48	0.41	0.40	0.53	0.31	0.28	0.78	0.25	0.24
d, Delay for Lane Group [s/veh]	44.33	37.95	41.00	48.33	43.31	43.15	48.29	10.03	9.81	48.57	7.57	7.53
Lane Group LOS	D	D	D	D	D	D	D	B	A	D	A	A
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.28	1.25	2.51	0.72	1.02	0.99	0.92	3.13	2.86	2.88	2.23	2.18
50th-Percentile Queue Length [ft]	56.91	31.35	62.86	18.08	25.51	24.69	22.88	78.22	71.44	71.96	55.86	54.46
95th-Percentile Queue Length [veh]	4.10	2.26	4.53	1.30	1.84	1.78	1.65	5.63	5.14	5.18	4.02	3.92
95th-Percentile Queue Length [ft]	102.45	56.43	113.15	32.55	45.93	44.43	41.18	140.79	128.59	129.52	100.54	98.03

Movement, Approach, & Intersection Results

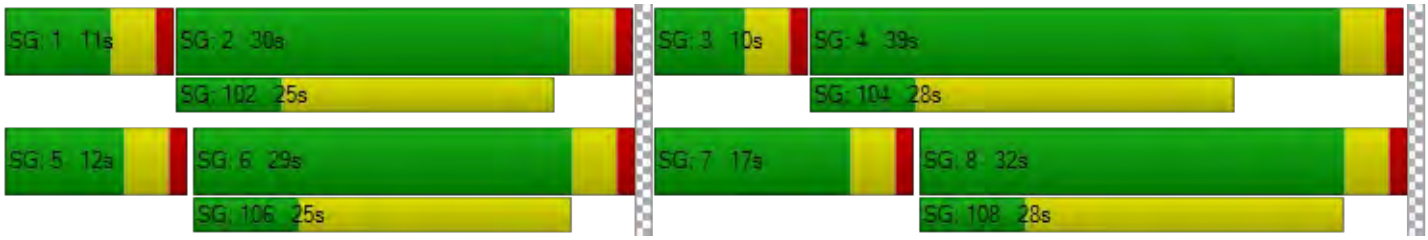
d_M, Delay for Movement [s/veh]	44.33	37.95	41.00	48.33	43.28	43.15	48.29	9.96	9.81	48.57	7.55	7.53
Movement LOS	D	D	D	D	D	D	D	A	A	D	A	A
d_A, Approach Delay [s/veh]	42.29			44.49			12.07			14.69		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	21.27											
Intersection LOS	C											
Intersection V/C	0.409											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.565	2.192	2.576	2.553
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	556	622	778
d_b, Bicycle Delay [s]	22.76	23.47	21.36	16.81
l_b,int, Bicycle LOS Score for Intersection	2.175	1.656	2.106	2.119
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	29.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.434

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	114	308	39	32	278	73	66	233	163	43	172	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	114	308	39	32	278	73	66	233	163	43	172	38
Peak Hour Factor	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650	0.8650
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	89	11	9	80	21	19	67	47	12	50	11
Total Analysis Volume [veh/h]	132	356	45	37	321	84	76	269	188	50	199	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	21	40	0	11	30	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	18	18	4	13	13	5	48	48	4	47	47
g / C, Green / Cycle	0.10	0.20	0.20	0.04	0.14	0.14	0.06	0.53	0.53	0.05	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.08	0.11	0.11	0.02	0.12	0.11	0.04	0.13	0.12	0.03	0.07	0.07
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	166	362	362	71	261	261	100	956	956	83	938	938
d1, Uniform Delay [s]	39.81	32.46	32.33	42.34	37.26	37.02	41.81	11.45	11.26	42.04	11.10	11.07
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.36	1.37	1.28	5.86	5.47	4.43	11.19	0.64	0.55	6.89	0.29	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.56	0.55	0.52	0.80	0.76	0.76	0.25	0.23	0.60	0.13	0.13
d, Delay for Lane Group [s/veh]	48.17	33.83	33.61	48.20	42.73	41.44	53.01	12.08	11.80	48.93	11.39	11.35
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.21	4.07	3.92	0.91	4.75	4.43	1.96	2.63	2.30	1.24	1.28	1.23
50th-Percentile Queue Length [ft]	80.17	101.75	98.10	22.85	118.66	110.65	48.91	65.70	57.48	30.92	31.92	30.82
95th-Percentile Queue Length [veh]	5.77	7.33	7.06	1.65	8.32	7.88	3.52	4.73	4.14	2.23	2.30	2.22
95th-Percentile Queue Length [ft]	144.30	183.16	176.57	41.13	207.98	196.90	88.03	118.26	103.47	55.66	57.46	55.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.17	33.74	33.61	48.20	42.27	41.44	53.01	12.05	11.80	48.93	11.38	11.35
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.30			42.61			17.80			17.78		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.66											
Intersection LOS	C											
Intersection V/C	0.434											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.512	2.478	2.484	2.425
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	578	556	556
d_b, Bicycle Delay [s]	16.20	22.76	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	1.999	1.924	1.999	1.801
Bicycle LOS	A	A	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX C-V

EXISTING WITH PROJECT (PHASE 2) WITH MITIGATION TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	42.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.885

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	289	167	91	53	353	327	81	911	214	225	945	153
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	289	167	91	53	353	327	81	911	214	225	945	153
Peak Hour Factor	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750	0.8750
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	83	48	26	15	101	93	23	260	61	64	270	44
Total Analysis Volume [veh/h]	330	191	104	61	403	374	93	1041	245	257	1080	175
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	18	64	0	10	56	0	10	29	0	17	36	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	14	22	22	30	30	6	40	40	20	54	54
g / C, Green / Cycle	0.12	0.18	0.18	0.25	0.25	0.05	0.33	0.33	0.17	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.10	0.16	0.04	0.22	0.21	0.03	0.29	0.14	0.15	0.23	0.23
s, saturation flow rate [veh/h]	3200	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	375	330	313	451	451	155	1188	594	288	1623	811
d1, Uniform Delay [s]	52.17	47.91	41.43	43.47	42.58	55.97	37.91	31.19	48.81	23.65	23.49
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.79	8.51	0.30	6.43	4.00	3.66	9.20	2.11	9.46	1.19	2.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.89	0.19	0.89	0.83	0.60	0.88	0.41	0.89	0.52	0.51
d, Delay for Lane Group [s/veh]	58.96	56.42	41.73	49.90	46.59	59.63	47.11	33.30	58.27	24.84	25.75
Lane Group LOS	E	E	D	D	D	E	D	C	E	C	C
Critical Lane Group	Yes	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	5.24	9.37	1.56	12.29	10.94	1.46	15.75	5.86	8.27	8.75	8.74
50th-Percentile Queue Length [ft]	130.99	234.32	39.12	307.21	273.53	36.52	393.79	146.52	206.77	218.72	218.51
95th-Percentile Queue Length [veh]	8.99	14.39	2.82	18.04	16.37	2.63	22.26	9.83	12.99	13.60	13.59
95th-Percentile Queue Length [ft]	224.84	359.84	70.41	450.93	409.15	65.74	556.51	245.78	324.69	339.99	339.72

Movement, Approach, & Intersection Results

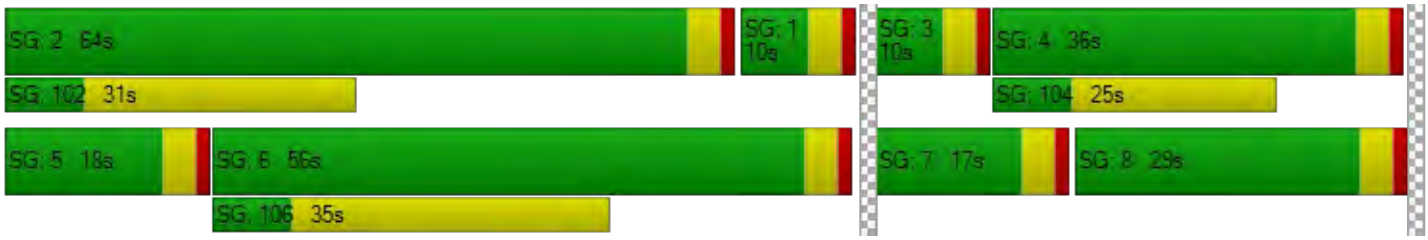
d_M, Delay for Movement [s/veh]	58.96	56.42	56.42	41.73	49.90	46.59	59.63	47.11	33.30	58.27	25.04	25.75
Movement LOS	E	E	E	D	D	D	E	D	C	E	C	C
d_A, Approach Delay [s/veh]	57.76			47.83			45.50			30.77		
Approach LOS	E			D			D			C		
d_I, Intersection Delay [s/veh]	42.59											
Intersection LOS	D											
Intersection V/C	0.885											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.567	3.125	2.908
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1000	867	417	533
d_b, Bicycle Delay [s]	15.00	19.27	37.60	32.27
l_b,int, Bicycle LOS Score for Intersection	2.591	2.251	2.697	2.391
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	30.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.848

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	191	91	62	84	204	250	162	1190	357	248	1465	184
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	191	91	62	84	204	250	162	1190	357	248	1465	184
Peak Hour Factor	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570	0.9570
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	24	16	22	53	65	42	311	93	65	383	48
Total Analysis Volume [veh/h]	200	95	65	88	213	261	169	1243	373	259	1531	192
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	35	0	15	39	0	10	10	0	35	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	10	13	17	17	7	39	39	17	48	48
g / C, Green / Cycle	0.07	0.11	0.14	0.17	0.17	0.08	0.41	0.41	0.18	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.06	0.09	0.05	0.12	0.15	0.05	0.35	0.21	0.15	0.32	0.32
s, saturation flow rate [veh/h]	3200	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	238	199	235	314	314	245	1464	732	300	1823	912
d1, Uniform Delay [s]	43.47	41.29	37.29	36.80	37.94	42.83	25.59	21.13	38.07	17.02	17.01
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.68	7.31	0.99	2.58	5.71	3.44	6.33	2.53	7.31	1.67	3.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.80	0.38	0.68	0.83	0.69	0.85	0.51	0.86	0.63	0.63
d, Delay for Lane Group [s/veh]	51.15	48.60	38.28	39.37	43.65	46.28	31.93	23.66	45.37	18.68	20.30
Lane Group LOS	D	D	D	D	D	D	C	C	D	B	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.56	4.03	1.91	4.80	6.28	2.04	13.40	6.52	6.38	8.96	9.36
50th-Percentile Queue Length [ft]	63.88	100.63	47.77	119.98	156.95	50.91	334.92	162.89	159.44	224.05	234.02
95th-Percentile Queue Length [veh]	4.60	7.25	3.44	8.39	10.39	3.67	19.40	10.70	10.52	13.87	14.38
95th-Percentile Queue Length [ft]	114.98	181.13	85.98	209.80	259.68	91.64	484.99	267.55	262.98	346.79	359.47

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	51.15	48.60	48.60	38.28	39.37	43.65	46.28	31.93	23.66	45.37	19.09	20.30
Movement LOS	D	D	D	D	D	D	D	C	C	D	B	C
d_A, Approach Delay [s/veh]	50.02			41.19			31.56			22.64		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	30.36											
Intersection LOS	C											
Intersection V/C	0.848											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.501	3.188	3.004
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	653	737	126	653
d_b, Bicycle Delay [s]	21.56	18.95	41.69	21.56
l_b,int, Bicycle LOS Score for Intersection	2.154	2.023	3.032	2.650
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	34.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.895

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	165	49	62	93	143	234	160	1481	223	263	1481	188
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	165	49	62	93	143	234	160	1481	223	263	1481	188
Peak Hour Factor	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640	0.9640
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	13	16	24	37	61	41	384	58	68	384	49
Total Analysis Volume [veh/h]	171	51	64	96	148	243	166	1536	231	273	1536	195
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	35	0	16	40	0	12	45	0	24	57	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	10	16	19	19	8	57	57	21	70	70
g / C, Green / Cycle	0.06	0.08	0.14	0.16	0.16	0.07	0.47	0.47	0.18	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.05	0.06	0.06	0.08	0.14	0.05	0.43	0.13	0.16	0.32	0.32
s, saturation flow rate [veh/h]	3200	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	189	144	230	281	281	226	1703	851	303	2090	1045
d1, Uniform Delay [s]	56.15	54.26	47.58	46.55	49.40	54.67	29.09	19.13	48.28	15.54	15.54
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.60	9.57	1.21	1.52	7.76	4.55	8.22	0.79	9.54	1.06	2.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.80	0.42	0.53	0.86	0.73	0.90	0.27	0.90	0.55	0.55
d, Delay for Lane Group [s/veh]	70.76	63.83	48.79	48.08	57.15	59.22	37.30	19.92	57.81	16.60	17.64
Lane Group LOS	E	E	D	D	E	E	D	B	E	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.96	3.80	2.72	4.19	7.70	2.60	21.60	4.08	8.77	9.72	10.01
50th-Percentile Queue Length [ft]	73.94	94.96	67.95	104.77	192.49	65.08	540.09	101.88	219.34	242.98	250.23
95th-Percentile Queue Length [veh]	5.32	6.84	4.89	7.54	12.25	4.69	29.23	7.34	13.63	14.83	15.20
95th-Percentile Queue Length [ft]	133.10	170.92	122.31	188.58	306.26	117.15	730.65	183.39	340.79	370.80	379.94

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	70.76	63.83	63.83	48.79	48.08	57.15	59.22	37.30	19.92	57.81	16.86	17.64
Movement LOS	E	E	E	D	D	E	E	D	B	E	B	B
d_A, Approach Delay [s/veh]	67.97			52.75			37.11			22.51		
Approach LOS	E			D			D			C		
d_I, Intersection Delay [s/veh]	34.39											
Intersection LOS	C											
Intersection V/C	0.895											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.489	3.212	3.068
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	517	600	683	883
d_b, Bicycle Delay [s]	33.00	29.40	26.00	18.70
l_b,int, Bicycle LOS Score for Intersection	2.032	1.961	3.154	2.662
Bicycle LOS	B	A	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX D

YEAR 2020 TRAFFIC CONDITIONS INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX D-I

YEAR 2020 WITHOUT PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.155

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	56	37	17	0	15	4	2	9	36	2	13	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	56	37	17	0	15	4	2	9	36	2	13	1
Peak Hour Factor	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	11	5	0	4	1	1	3	11	1	4	0
Total Analysis Volume [veh/h]	67	44	20	0	18	5	2	11	43	2	16	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	715	894	748	875	662	823	659	732
Degree of Utilization, x	0.16	0.02	0.02	0.01	0.00	0.07	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.55	0.07	0.07	0.02	0.01	0.21	0.01	0.07
95th-Percentile Queue Length [ft]	13.67	1.72	1.85	0.43	0.23	5.25	0.23	1.78
Approach Delay [s/veh]	8.37		7.46		7.41		7.78	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.00							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.079

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	63	0	0	0	0	0	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	63	0	0	0	0	0	57	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	17	0	0	0	0	0	15	0
Total Analysis Volume [veh/h]	0	0	0	0	66	0	0	0	0	0	60	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	9.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					A						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	6.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			9.71			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.08											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.141

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	19	190	1	9	96	18	22	5	9	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	190	1	9	96	18	22	5	9	0	0	0
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	51	0	2	26	5	6	1	2	0	0	0
Total Analysis Volume [veh/h]	21	205	1	10	104	19	24	5	10	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	664	732	733	696	708	821	614	734	
Degree of Utilization, x	0.03	0.14	0.14	0.08	0.08	0.02	0.04	0.02	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.10	0.49	0.49	0.27	0.26	0.07	0.12	0.06	
95th-Percentile Queue Length [ft]	2.45	12.21	12.19	6.67	6.55	1.78	3.04	1.56	
Approach Delay [s/veh]	8.41			8.13			8.38		0.00
Approach LOS	A			A			A		A
Intersection Delay [s/veh]	8.31								
Intersection LOS	A								

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.078

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	361	104	0	0	74
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	361	104	0	0	74
Peak Hour Factor	0.9500	0.9520	0.9520	0.9500	0.9500	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	95	27	0	0	19
Total Analysis Volume [veh/h]	0	379	109	0	0	78
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.08
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	8.74
Movement LOS		A	A			A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.12
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	3.04
d_A, Approach Delay [s/veh]	0.00		0.00		8.74	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.20					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	21.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.350

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	189	381	188	0	0	225
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	189	381	188	0	0	225
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	100	49	0	0	59
Total Analysis Volume [veh/h]	199	401	198	0	0	237
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	29	47	18	0	0	43
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	68	51	14
g / C, Green / Cycle	0.14	0.75	0.57	0.16
(v / s)_i Volume / Saturation Flow Rate	0.12	0.11	0.06	0.13
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	238	2715	2052	283
d1, Uniform Delay [s]	37.74	3.06	8.81	36.84
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.65	0.11	0.09	6.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.15	0.10	0.84
d, Delay for Lane Group [s/veh]	45.39	3.18	8.91	43.38
Lane Group LOS	D	A	A	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	4.71	0.78	0.85	5.48
50th-Percentile Queue Length [ft]	117.63	19.47	21.25	137.03
95th-Percentile Queue Length [veh]	8.26	1.40	1.53	9.32
95th-Percentile Queue Length [ft]	206.56	35.05	38.25	233.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.39	3.18	8.91	0.00	0.00	43.38
Movement LOS	D	A	A			D
d_A, Approach Delay [s/veh]	17.18		8.91		43.38	
Approach LOS	B		A		D	
d_I, Intersection Delay [s/veh]	21.60					
Intersection LOS	C					
Intersection V/C	0.350					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.501	2.277	1.927
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.627	4.296	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.339

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	408	246	11	451	147	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	408	246	11	451	147	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	107	65	3	119	39	2
Total Analysis Volume [veh/h]	429	259	12	475	155	7
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	18	0	10	28	62	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	66	66	2	71	11
g / C, Green / Cycle	0.73	0.73	0.02	0.79	0.12
(v / s)_i Volume / Saturation Flow Rate	0.19	0.19	0.01	0.13	0.10
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1315	1315	32	2856	200
d1, Uniform Delay [s]	4.05	4.05	43.68	2.21	38.73
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.48	0.48	7.37	0.13	7.56
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	0.26	0.38	0.17	0.81
d, Delay for Lane Group [s/veh]	4.53	4.53	51.05	2.34	46.29
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	1.81	1.81	0.33	0.67	3.86
50th-Percentile Queue Length [ft]	45.21	45.21	8.16	16.82	96.38
95th-Percentile Queue Length [veh]	3.26	3.26	0.59	1.21	6.94
95th-Percentile Queue Length [ft]	81.38	81.38	14.69	30.28	173.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.53	4.53	51.05	2.34	46.29	46.29
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	4.53		3.54		46.29	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	9.23					
Intersection LOS	A					
Intersection V/C	0.339					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.452	2.479	1.925
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.700	4.534	4.400
Bicycle LOS	E	E	E

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	15.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.008

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	679	102	22	591	3	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	679	102	22	591	3	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	179	27	6	156	1	1
Total Analysis Volume [veh/h]	715	107	23	622	3	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	9.61	0.00	15.16	11.20
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	1.95	0.97	0.04	0.04
95th-Percentile Queue Length [ft]	0.00	0.00	48.73	24.37	0.89	0.89
d_A, Approach Delay [s/veh]	0.00		0.34		13.58	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.20					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	31.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	121	407	36	101	460	57	39	244	91	110	342	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	121	407	36	101	460	57	39	244	91	110	342	79
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	107	9	27	121	15	10	64	24	29	90	21
Total Analysis Volume [veh/h]	127	428	38	106	484	60	41	257	96	116	360	83
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	31	0	20	36	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	18	18	7	17	17	4	41	41	8	45	45
g / C, Green / Cycle	0.09	0.20	0.20	0.08	0.18	0.18	0.04	0.46	0.46	0.09	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.07	0.13	0.13	0.06	0.15	0.15	0.02	0.10	0.10	0.07	0.13	0.12
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	159	357	357	136	333	333	75	822	822	148	900	900
d1, Uniform Delay [s]	40.05	33.35	33.23	40.69	35.39	35.17	42.23	14.80	14.70	40.31	12.89	12.80
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.90	2.09	1.95	9.19	5.36	4.52	6.14	0.62	0.57	8.63	0.67	0.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.66	0.64	0.78	0.83	0.80	0.55	0.22	0.21	0.78	0.25	0.24
d, Delay for Lane Group [s/veh]	48.95	35.44	35.18	49.88	40.75	39.69	48.37	15.42	15.27	48.95	13.57	13.42
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.11	4.87	4.73	2.63	6.23	5.92	1.01	2.30	2.15	2.84	2.66	2.50
50th-Percentile Queue Length [ft]	77.82	121.83	118.26	65.64	155.65	147.97	25.30	57.55	53.69	71.05	66.61	62.58
95th-Percentile Queue Length [veh]	5.60	8.49	8.30	4.73	10.32	9.91	1.82	4.14	3.87	5.12	4.80	4.51
95th-Percentile Queue Length [ft]	140.07	212.33	207.43	118.16	257.95	247.72	45.54	103.59	96.64	127.89	119.90	112.65

Movement, Approach, & Intersection Results

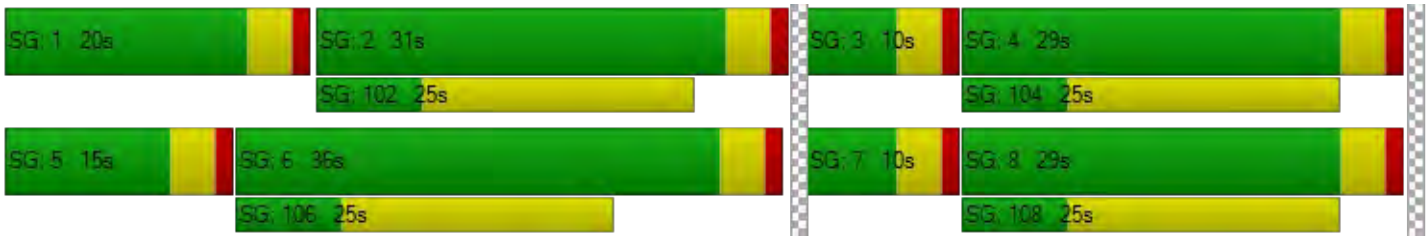
d_M, Delay for Movement [s/veh]	48.95	35.32	35.18	49.88	40.29	39.69	48.37	15.38	15.27	48.95	13.52	13.42
Movement LOS	D	D	D	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	38.23			41.80			18.78			20.86		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	31.38											
Intersection LOS	C											
Intersection V/C	0.484											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.551	2.534	2.483	2.487
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	711	556	556
d_b, Bicycle Delay [s]	22.05	18.69	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.049	2.096	1.885	2.021
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	20.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.457

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	873	215	0	331	441	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	873	215	0	331	441	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	230	57	0	87	116	0
Total Analysis Volume [veh/h]	919	226	0	348	464	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	30	30	52	52
g / C, Green / Cycle	0.33	0.33	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.29	0.13	0.10	0.13
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1064	599	2082	2082
d1, Uniform Delay [s]	28.07	22.88	8.84	9.17
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.23	0.39	0.17	0.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.38	0.17	0.22
d, Delay for Lane Group [s/veh]	30.30	23.27	9.01	9.41
Lane Group LOS	C	C	A	A
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	9.21	3.62	1.53	2.11
50th-Percentile Queue Length [ft]	230.16	90.61	38.14	52.79
95th-Percentile Queue Length [veh]	14.18	6.52	2.75	3.80
95th-Percentile Queue Length [ft]	354.56	163.09	68.65	95.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.30	23.27	0.00	9.01	9.41	0.00
Movement LOS	C	C		A	A	
d_A, Approach Delay [s/veh]	28.91		9.01		9.41	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	20.75					
Intersection LOS	C					
Intersection V/C	0.457					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.312	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.420	4.515
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	43.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.872

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	306	202	76	57	407	369	110	768	242	160	946	186
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	306	202	76	57	407	369	110	768	242	160	946	186
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	81	53	20	15	107	97	29	202	64	42	249	49
Total Analysis Volume [veh/h]	322	213	80	60	428	388	116	808	255	168	996	196
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	37	35	0	41	39	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	49	49	5	30	30	6	31	31	13	38	38
g / C, Green / Cycle	0.21	0.43	0.43	0.05	0.26	0.26	0.05	0.27	0.27	0.12	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.19	0.12	0.04	0.04	0.24	0.22	0.04	0.22	0.14	0.10	0.22	0.22
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	354	768	768	79	477	477	173	980	490	197	1202	601
d1, Uniform Delay [s]	44.53	21.46	19.80	54.26	40.79	39.64	53.41	39.29	35.50	49.91	32.87	32.54
k, delay calibration	0.20	0.11	0.11	0.11	0.18	0.14	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	15.37	0.19	0.06	14.06	9.92	4.35	4.40	7.84	3.91	9.96	2.97	5.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.28	0.10	0.76	0.90	0.81	0.67	0.82	0.52	0.85	0.67	0.65
d, Delay for Lane Group [s/veh]	59.91	21.65	19.86	68.31	50.72	43.98	57.80	47.14	39.42	59.88	35.84	37.82
Lane Group LOS	E	C	B	E	D	D	E	D	D	E	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	10.42	3.77	1.31	2.02	12.89	10.77	1.75	11.67	6.58	5.28	10.01	9.97
50th-Percentile Queue Length [ft]	260.53	94.28	32.63	50.60	322.22	269.28	43.80	291.75	164.49	131.89	250.23	249.20
95th-Percentile Queue Length [veh]	15.72	6.79	2.35	3.64	18.78	16.15	3.15	17.27	10.79	9.04	15.20	15.15
95th-Percentile Queue Length [ft]	392.88	169.71	58.73	91.09	469.41	403.84	78.84	431.81	269.65	226.06	379.95	378.64

Movement, Approach, & Intersection Results

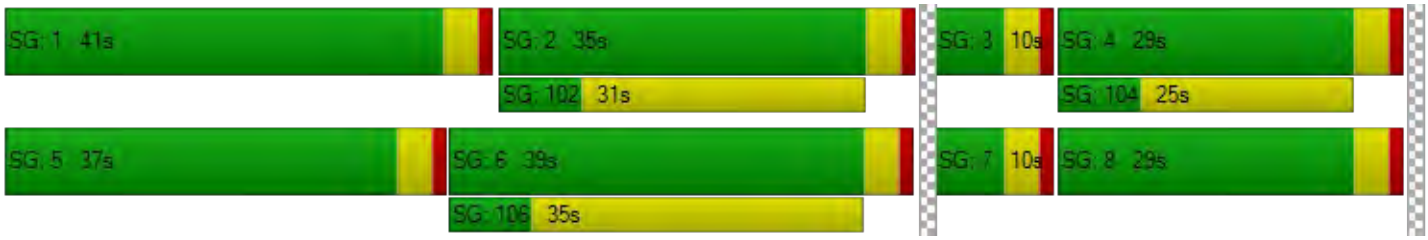
d_M, Delay for Movement [s/veh]	59.91	21.65	19.86	68.31	50.72	43.98	57.80	47.14	39.42	59.88	36.22	37.82
Movement LOS	E	C	B	E	D	D	E	D	D	E	D	D
d_A, Approach Delay [s/veh]	41.45			48.94			46.52			39.37		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	43.86											
Intersection LOS	D											
Intersection V/C	0.872											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	47.03	47.03	47.03
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.585	3.089	2.840
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	539	609	435	435
d_b, Bicycle Delay [s]	30.68	27.83	35.22	35.22
l_b,int, Bicycle LOS Score for Intersection	2.574	2.282	2.532	2.308
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	11.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.430

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	583	107	306	503	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	583	107	306	503	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	153	28	81	132	0	0
Total Analysis Volume [veh/h]	614	113	322	529	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	63	63	19	86	
g / C, Green / Cycle	0.70	0.70	0.21	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.20	0.20	0.19	0.15	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1255	1255	364	3440	
d1, Uniform Delay [s]	5.18	5.18	34.27	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.58	0.58	7.20	0.10	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.29	0.29	0.88	0.15	
d, Delay for Lane Group [s/veh]	5.76	5.76	41.47	0.20	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	2.34	2.34	7.38	0.05	
50th-Percentile Queue Length [ft]	58.53	58.53	184.59	1.14	
95th-Percentile Queue Length [veh]	4.21	4.21	11.84	0.08	
95th-Percentile Queue Length [ft]	105.36	105.36	296.00	2.04	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.76	5.76	41.47	0.20	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	5.76		15.82		0.00	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	11.18					
Intersection LOS	B					
Intersection V/C	0.430					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.847
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.732	4.834	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	14.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.464

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	375	4	126	2	0	1	10	889	0	0	923	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	375	4	126	2	0	1	10	889	0	0	923	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	99	1	33	1	0	0	3	234	0	0	243	1
Total Analysis Volume [veh/h]	395	4	133	2	0	1	11	936	0	0	972	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	52	0	10	0	0	10	28	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	14	14	0	2	63	58	58
g / C, Green / Cycle	0.16	0.16	0.01	0.02	0.70	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.12	0.08	0.00	0.01	0.26	0.27	0.27
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	510	287	10	30	2526	1152	1152
d1, Uniform Delay [s]	36.36	34.50	44.62	43.82	5.43	8.02	8.02
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.57	1.24	14.31	7.62	0.42	1.14	1.14
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.48	0.29	0.37	0.37	0.42	0.42
d, Delay for Lane Group [s/veh]	38.93	35.74	58.93	51.44	5.85	9.16	9.16
Lane Group LOS	D	D	E	D	A	A	A
Critical Lane Group	Yes	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	4.28	2.79	0.11	0.30	3.03	4.43	4.43
50th-Percentile Queue Length [ft]	106.89	69.82	2.69	7.57	75.73	110.71	110.71
95th-Percentile Queue Length [veh]	7.67	5.03	0.19	0.55	5.45	7.88	7.88
95th-Percentile Queue Length [ft]	191.67	125.67	4.85	13.63	136.32	196.99	196.99

Movement, Approach, & Intersection Results

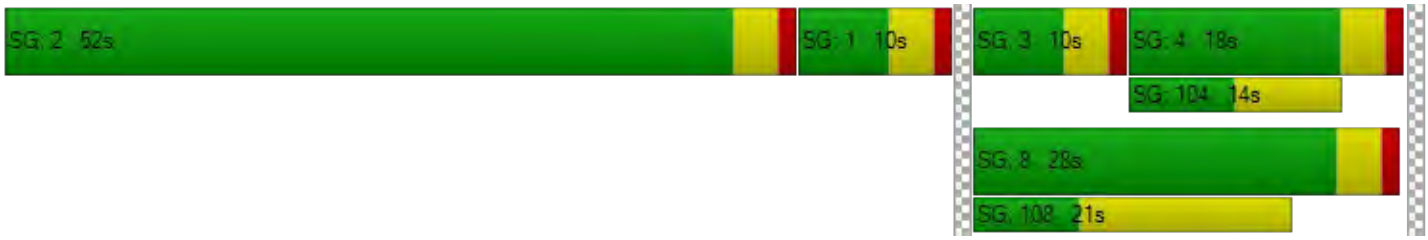
d_M, Delay for Movement [s/veh]	38.93	35.74	35.74	58.93	0.00	58.93	51.44	5.85	0.00	0.00	9.16	9.16
Movement LOS	D	D	D	E		E	D	A			A	A
d_A, Approach Delay [s/veh]	38.11			58.93			6.38			9.16		
Approach LOS	D			E			A			A		
d_I, Intersection Delay [s/veh]	14.42											
Intersection LOS	B											
Intersection V/C	0.464											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.113	1.724	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	0	533	311
d_b, Bicycle Delay [s]	9.80	45.00	24.20	32.09
l_b,int, Bicycle LOS Score for Intersection	2.437	4.137	2.341	2.363
Bicycle LOS	B	D	B	B

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	26.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.597

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	259	263	45	107	219	247	390	452	128	42	362	83
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	259	263	45	107	219	247	390	452	128	42	362	83
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	69	12	28	58	65	103	119	34	11	95	22
Total Analysis Volume [veh/h]	273	277	47	113	231	260	411	476	135	44	381	87
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	16	38	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	11	11	21	11	30	15	53	53	4	42	42
g / C, Green / Cycle	0.24	0.13	0.13	0.24	0.13	0.34	0.17	0.58	0.58	0.05	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.16	0.09	0.09	0.07	0.06	0.14	0.13	0.18	0.16	0.03	0.13	0.13
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	425	228	228	376	455	606	530	1049	1049	78	833	833
d1, Uniform Delay [s]	31.16	37.90	37.73	28.02	36.77	23.20	36.01	9.52	9.37	42.16	15.01	14.90
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.63	4.41	3.82	0.44	0.88	0.48	2.46	0.74	0.67	6.35	0.87	0.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.73	0.70	0.30	0.51	0.43	0.77	0.30	0.28	0.57	0.29	0.27
d, Delay for Lane Group [s/veh]	32.79	42.30	41.55	28.47	37.65	23.69	38.47	10.26	10.04	48.50	15.88	15.71
Lane Group LOS	C	D	D	C	D	C	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	5.46	3.74	3.54	2.01	2.40	4.25	4.42	3.11	2.83	1.09	3.12	2.94
50th-Percentile Queue Length [ft]	136.50	93.50	88.52	50.17	59.98	106.37	110.62	77.85	70.81	27.15	77.97	73.48
95th-Percentile Queue Length [veh]	9.29	6.73	6.37	3.61	4.32	7.64	7.87	5.61	5.10	1.95	5.61	5.29
95th-Percentile Queue Length [ft]	232.31	168.30	159.34	90.31	107.96	190.94	196.87	140.14	127.46	48.87	140.34	132.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.79	42.00	41.55	28.47	37.65	23.69	38.47	10.19	10.04	48.50	15.82	15.71
Movement LOS	C	D	D	C	D	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.75			29.92			21.54			18.61		
Approach LOS	D			C			C			B		
d_I, Intersection Delay [s/veh]	26.38											
Intersection LOS	C											
Intersection V/C	0.597											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.496	2.676	2.885	2.547
Crosswalk LOS	B	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	622	756	622
d_b, Bicycle Delay [s]	21.36	21.36	17.42	21.36
l_b,int, Bicycle LOS Score for Intersection	2.052	2.058	2.403	1.982
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	27.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.377

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	109	123	72	50	138	137	129	266	95	47	328	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	109	123	72	50	138	137	129	266	95	47	328	53
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	32	19	13	36	36	34	70	25	12	86	14
Total Analysis Volume [veh/h]	115	129	76	53	145	144	136	280	100	49	345	56
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	29	0	10	29	0	19	39	0	12	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	11	11	4	10	10	9	54	54	4	50	50
g / C, Green / Cycle	0.06	0.12	0.12	0.05	0.11	0.11	0.10	0.60	0.60	0.05	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.04	0.07	0.04	0.03	0.08	0.08	0.08	0.11	0.10	0.03	0.11	0.11
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	205	219	219	85	195	195	172	1084	1084	82	989	989
d1, Uniform Delay [s]	40.98	37.46	36.31	41.98	39.01	38.99	39.61	8.01	7.94	42.06	10.32	10.27
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.41	2.50	0.94	7.13	5.58	5.44	7.94	0.37	0.34	6.78	0.47	0.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.59	0.35	0.62	0.75	0.74	0.79	0.18	0.17	0.60	0.21	0.20
d, Delay for Lane Group [s/veh]	43.38	39.97	37.25	49.11	44.60	44.43	47.55	8.38	8.28	48.84	10.79	10.73
Lane Group LOS	D	D	D	D	D	D	D	A	A	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	1.29	2.81	1.57	1.31	3.37	3.34	3.28	1.67	1.54	1.21	2.05	1.97
50th-Percentile Queue Length [ft]	32.36	70.17	39.32	32.81	84.21	83.45	82.00	41.65	38.39	30.29	51.32	49.32
95th-Percentile Queue Length [veh]	2.33	5.05	2.83	2.36	6.06	6.01	5.90	3.00	2.76	2.18	3.70	3.55
95th-Percentile Queue Length [ft]	58.24	126.30	70.78	59.07	151.58	150.21	147.60	74.97	69.11	54.52	92.38	88.78

Movement, Approach, & Intersection Results

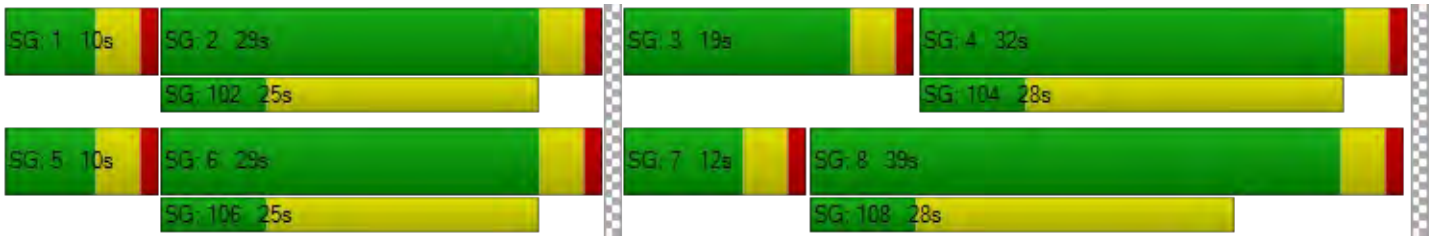
d_M, Delay for Movement [s/veh]	43.38	39.97	37.25	49.11	44.60	44.43	47.55	8.35	8.28	48.84	10.77	10.73
Movement LOS	D	D	D	D	D	D	D	A	A	D	B	B
d_A, Approach Delay [s/veh]	40.55			45.23			18.67			14.91		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.51											
Intersection LOS	C											
Intersection V/C	0.377											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.552	2.292	2.518	2.467
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	778	622
d_b, Bicycle Delay [s]	23.47	23.47	16.81	21.36
l_b,int, Bicycle LOS Score for Intersection	2.088	1.842	1.985	1.931
Bicycle LOS	B	A	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	30.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.568

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	187	342	32	72	302	113	149	272	264	57	356	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	187	342	32	72	302	113	149	272	264	57	356	87
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	90	8	19	79	30	39	72	69	15	94	23
Total Analysis Volume [veh/h]	197	360	34	76	318	119	157	286	278	60	375	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	37	0	14	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	21	21	5	14	14	10	43	43	5	38	38
g / C, Green / Cycle	0.14	0.24	0.24	0.06	0.16	0.16	0.11	0.48	0.48	0.05	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.12	0.11	0.11	0.04	0.13	0.12	0.09	0.16	0.15	0.04	0.13	0.13
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	235	424	424	99	280	280	193	857	857	90	747	747
d1, Uniform Delay [s]	37.90	29.63	29.54	41.87	36.77	36.39	39.02	14.72	14.65	41.93	17.80	17.65
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.84	0.81	0.77	11.71	5.50	4.02	7.94	1.05	1.01	8.23	1.14	1.05
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.47	0.46	0.77	0.81	0.75	0.81	0.33	0.32	0.67	0.32	0.30
d, Delay for Lane Group [s/veh]	45.73	30.45	30.31	53.57	42.26	40.41	46.96	15.77	15.65	50.16	18.93	18.70
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	4.68	3.74	3.64	1.97	5.16	4.66	3.77	3.72	3.59	1.50	3.48	3.26
50th-Percentile Queue Length [ft]	116.95	93.60	90.89	49.22	129.05	116.53	94.14	92.90	89.77	37.53	87.00	81.59
95th-Percentile Queue Length [veh]	8.23	6.74	6.54	3.54	8.89	8.20	6.78	6.69	6.46	2.70	6.26	5.87
95th-Percentile Queue Length [ft]	205.63	168.48	163.60	88.59	222.20	205.05	169.45	167.21	161.59	67.55	156.61	146.86

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.73	30.39	30.31	53.57	41.73	40.41	46.96	15.77	15.65	50.16	18.85	18.70
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	35.50			43.18			22.52			22.39		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	30.26											
Intersection LOS	C											
Intersection V/C	0.568											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.543	2.518	2.575	2.479
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	733	556	556	556
d_b, Bicycle Delay [s]	18.05	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.047	1.983	2.154	1.994
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.131

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	33	9	9	0	36	2	7	10	67	17	9	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	9	9	0	36	2	7	10	67	17	9	0
Peak Hour Factor	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	3	3	0	13	1	3	4	24	6	3	0
Total Analysis Volume [veh/h]	47	13	13	0	52	3	10	14	96	24	13	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	675	848	725	845	667	841	660	727
Degree of Utilization, x	0.09	0.02	0.07	0.00	0.01	0.13	0.04	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.29	0.05	0.23	0.01	0.05	0.45	0.11	0.05
95th-Percentile Queue Length [ft]	7.30	1.17	5.78	0.27	1.14	11.24	2.83	1.37
Approach Delay [s/veh]	8.28		7.99		7.67		8.14	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	7.95							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.341

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	187	0	0	0	0	0	125	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	187	0	0	0	0	0	125	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	62	0	0	0	0	0	42	0
Total Analysis Volume [veh/h]	0	0	0	0	248	0	0	0	0	0	166	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	37.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			12.50			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	7.49											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.216

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	38	193	1	18	236	21	18	4	29	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	193	1	18	236	21	18	4	29	0	0	0
Peak Hour Factor	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	55	0	5	68	6	5	1	8	0	0	0
Total Analysis Volume [veh/h]	44	221	1	21	270	24	21	5	33	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	617	675	675	675	684	789	567	683	
Degree of Utilization, x	0.07	0.16	0.16	0.22	0.21	0.03	0.04	0.06	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.23	0.59	0.59	0.81	0.80	0.09	0.12	0.18	
95th-Percentile Queue Length [ft]	5.74	14.66	14.64	20.37	20.03	2.35	2.88	4.41	
Approach Delay [s/veh]	9.07			9.28			8.65		0.00
Approach LOS	A			A			A		A
Intersection Delay [s/veh]	9.13								
Intersection LOS	A								

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.407

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	485	270	0	0	330
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	485	270	0	0	330
Peak Hour Factor	0.9500	0.9270	0.9270	0.9500	0.9500	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	131	73	0	0	89
Total Analysis Volume [veh/h]	0	523	291	0	0	356
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.41
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.16
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.76
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	18.98
d_A, Approach Delay [s/veh]	0.00		0.00		10.16	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.09					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.593

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	288	550	552	0	0	298
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	288	550	552	0	0	298
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	76	145	145	0	0	78
Total Analysis Volume [veh/h]	303	579	581	0	0	314
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	37	55	18	0	0	35
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	18	64	42	18
g / C, Green / Cycle	0.20	0.71	0.46	0.20
(v / s)_i Volume / Saturation Flow Rate	0.18	0.16	0.16	0.17
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	344	2561	1671	360
d1, Uniform Delay [s]	34.84	4.47	15.41	34.91
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.29	0.21	0.57	6.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.23	0.35	0.87
d, Delay for Lane Group [s/veh]	42.13	4.68	15.98	41.55
Lane Group LOS	D	A	B	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	6.99	1.57	3.77	7.18
50th-Percentile Queue Length [ft]	174.71	39.19	94.29	179.46
95th-Percentile Queue Length [veh]	11.32	2.82	6.79	11.57
95th-Percentile Queue Length [ft]	283.10	70.53	169.71	289.31

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.13	4.68	15.98	0.00	0.00	41.55
Movement LOS	D	A	B			D
d_A, Approach Delay [s/veh]	17.55		15.98		41.55	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	21.28					
Intersection LOS	C					
Intersection V/C	0.593					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.646	2.413	2.015
Crosswalk LOS	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.860	4.612	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	4.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.324

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	785	37	13	750	47	6
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	785	37	13	750	47	6
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	207	10	3	197	12	2
Total Analysis Volume [veh/h]	826	39	14	789	49	6
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	51	0	10	61	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	72	72	2	77	5
g / C, Green / Cycle	0.80	0.80	0.02	0.86	0.05
(v / s)_i Volume / Saturation Flow Rate	0.24	0.24	0.01	0.22	0.03
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1431	1431	36	3097	87
d1, Uniform Delay [s]	2.50	2.50	43.51	1.13	41.91
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.54	0.54	6.89	0.20	7.46
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.30	0.30	0.39	0.25	0.63
d, Delay for Lane Group [s/veh]	3.04	3.04	50.40	1.33	49.36
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	1.48	1.48	0.37	0.39	1.37
50th-Percentile Queue Length [ft]	36.97	36.97	9.33	9.69	34.13
95th-Percentile Queue Length [veh]	2.66	2.66	0.67	0.70	2.46
95th-Percentile Queue Length [ft]	66.55	66.55	16.80	17.45	61.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	3.04	3.04	50.40	1.33	49.36	49.36
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	3.04		2.18		49.36	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.12					
Intersection LOS	A					
Intersection V/C	0.324					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.546	2.618	1.767
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.846	4.795	4.223
Bicycle LOS	E	E	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	17.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.128

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	767	1	3	809	42	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	767	1	3	809	42	37
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	202	0	1	213	11	10
Total Analysis Volume [veh/h]	807	1	3	852	44	39
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.13	0.07
d_M, Delay for Movement [s/veh]	0.00	0.00	9.44	0.00	17.43	13.03
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	3.12	1.56	0.71	0.71
95th-Percentile Queue Length [ft]	0.00	0.00	78.10	39.05	17.65	17.65
d_A, Approach Delay [s/veh]	0.00		0.03		15.36	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.75					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	32.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.690

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	151	495	73	130	315	85	150	535	188	155	474	148
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	151	495	73	130	315	85	150	535	188	155	474	148
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	130	19	34	83	22	39	141	49	41	125	39
Total Analysis Volume [veh/h]	159	521	77	137	332	89	158	563	198	163	499	156
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	14	34	0	13	33	0	14	29	0	14	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	18	18	9	17	17	10	37	37	11	37	37
g / C, Green / Cycle	0.11	0.20	0.20	0.10	0.19	0.19	0.11	0.41	0.41	0.12	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.09	0.17	0.16	0.08	0.12	0.11	0.09	0.22	0.20	0.10	0.19	0.17
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	190	361	361	169	339	339	194	729	729	200	735	735
d1, Uniform Delay [s]	39.25	34.70	34.40	39.80	33.79	33.52	38.99	20.48	19.99	38.84	19.48	19.12
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.32	5.46	4.36	9.03	2.02	1.73	7.91	2.92	2.42	7.87	2.10	1.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.85	0.81	0.81	0.64	0.60	0.81	0.55	0.50	0.82	0.46	0.43
d, Delay for Lane Group [s/veh]	48.57	40.16	38.76	48.82	35.82	35.25	46.90	23.40	22.41	46.71	21.58	20.94
Lane Group LOS	D	D	D	D	D	D	D	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.89	6.85	6.42	3.35	4.49	4.18	3.79	6.71	5.94	3.90	5.43	4.90
50th-Percentile Queue Length [ft]	97.16	171.26	160.54	83.86	112.36	104.47	94.68	167.68	148.38	97.50	135.76	122.38
95th-Percentile Queue Length [veh]	7.00	11.14	10.58	6.04	7.97	7.52	6.82	10.95	9.93	7.02	9.25	8.52
95th-Percentile Queue Length [ft]	174.89	278.57	264.43	150.94	199.28	188.05	170.43	273.86	248.26	175.50	231.30	213.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.57	39.58	38.76	48.82	35.62	35.25	46.90	23.11	22.41	46.71	21.37	20.94
Movement LOS	D	D	D	D	D	D	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	41.38			38.80			27.05			26.34		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	32.56											
Intersection LOS	C											
Intersection V/C	0.690											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.582	2.571	2.624	2.610
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	667	644	556	556
d_b, Bicycle Delay [s]	20.00	20.67	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.184	2.020	2.318	2.234
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.560

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	875	186	0	761	600	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	875	186	0	761	600	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	230	49	0	200	158	0
Total Analysis Volume [veh/h]	921	196	0	801	632	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	30	30	52	52
g / C, Green / Cycle	0.33	0.33	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.29	0.11	0.22	0.18
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1063	598	2083	2083
d1, Uniform Delay [s]	28.11	22.47	10.26	9.67
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.28	0.32	0.54	0.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.33	0.38	0.30
d, Delay for Lane Group [s/veh]	30.39	22.78	10.80	10.05
Lane Group LOS	C	C	B	B
Critical Lane Group	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	9.24	3.08	4.10	3.04
50th-Percentile Queue Length [ft]	231.10	77.07	102.46	76.06
95th-Percentile Queue Length [veh]	14.23	5.55	7.38	5.48
95th-Percentile Queue Length [ft]	355.76	138.72	184.43	136.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.39	22.78	0.00	10.80	10.05	0.00
Movement LOS	C	C		B	B	
d_A, Approach Delay [s/veh]	29.06		10.80		10.05	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	18.61					
Intersection LOS	B					
Intersection V/C	0.560					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.303	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.793	4.654
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	34.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.802

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	202	111	43	86	239	280	187	1041	394	140	1362	201
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	202	111	43	86	239	280	187	1041	394	140	1362	201
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	29	11	23	63	74	49	274	104	37	358	53
Total Analysis Volume [veh/h]	213	117	45	91	252	295	197	1096	415	147	1434	212
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	27	35	0	31	39	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	28	28	7	20	20	9	43	43	11	45	45
g / C, Green / Cycle	0.14	0.27	0.27	0.07	0.19	0.19	0.08	0.41	0.41	0.11	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.13	0.07	0.03	0.05	0.14	0.16	0.06	0.30	0.23	0.09	0.31	0.30
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	246	481	481	117	345	345	270	1461	730	179	1538	769
d1, Uniform Delay [s]	43.93	30.16	28.93	48.14	39.95	41.09	46.97	26.68	24.12	46.03	24.87	24.72
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.80	0.26	0.08	10.42	2.99	6.12	3.79	3.59	3.19	8.86	2.90	5.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.24	0.09	0.78	0.73	0.86	0.73	0.75	0.57	0.82	0.72	0.71
d, Delay for Lane Group [s/veh]	52.74	30.42	29.01	58.56	42.94	47.21	50.76	30.27	27.31	54.89	27.77	30.14
Lane Group LOS	D	C	C	E	D	D	D	C	C	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	5.98	2.35	0.87	2.68	6.36	7.90	2.65	12.10	8.43	4.18	11.59	11.91
50th-Percentile Queue Length [ft]	149.48	58.74	21.63	66.89	158.95	197.40	66.13	302.40	210.74	104.48	289.76	297.79
95th-Percentile Queue Length [veh]	9.99	4.23	1.56	4.82	10.49	12.50	4.76	17.80	13.19	7.52	17.17	17.57
95th-Percentile Queue Length [ft]	249.74	105.74	38.93	120.41	262.33	312.61	119.04	445.00	329.78	188.07	429.34	439.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	52.74	30.42	29.01	58.56	42.94	47.21	50.76	30.27	27.31	54.89	28.32	30.14
Movement LOS	D	C	C	E	D	D	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	42.93			47.14			31.91			30.71		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	34.50											
Intersection LOS	C											
Intersection V/C	0.802											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	42.08	42.08	42.08
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.534	3.178	2.952
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	590	667	476	476
d_b, Bicycle Delay [s]	26.08	23.33	30.48	30.48
l_b,int, Bicycle LOS Score for Intersection	2.178	2.086	2.969	2.546
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	15.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.406

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	361	94	383	370	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	361	94	383	370	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	95	25	101	97	0	0
Total Analysis Volume [veh/h]	380	99	403	389	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	58	58	24	86	
g / C, Green / Cycle	0.65	0.65	0.26	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.13	0.13	0.24	0.11	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1168	1168	446	3440	
d1, Uniform Delay [s]	6.40	6.40	32.09	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.40	0.40	7.06	0.07	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.21	0.21	0.90	0.11	
d, Delay for Lane Group [s/veh]	6.80	6.80	39.15	0.17	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	1.76	1.76	9.09	0.03	
50th-Percentile Queue Length [ft]	43.94	43.94	227.22	0.80	
95th-Percentile Queue Length [veh]	3.16	3.16	14.03	0.06	
95th-Percentile Queue Length [ft]	79.10	79.10	350.83	1.43	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.80	6.80	39.15	0.17	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	6.80		20.00		0.00	
Approach LOS	A		C		A	
d_I, Intersection Delay [s/veh]	15.03					
Intersection LOS	B					
Intersection V/C	0.406					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.912
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.528	4.786	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	15.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.626

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	297	3	103	10	0	27	24	1210	0	0	1374	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	297	3	103	10	0	27	24	1210	0	0	1374	19
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	1	27	3	0	7	6	318	0	0	362	5
Total Analysis Volume [veh/h]	313	3	108	11	0	28	25	1274	0	0	1446	20
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	10	0	0	10	50	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	12	4	3	63	56	56
g / C, Green / Cycle	0.13	0.13	0.04	0.03	0.70	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.10	0.06	0.02	0.01	0.35	0.41	0.41
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	415	234	73	55	2499	1112	1112
d1, Uniform Delay [s]	37.84	36.39	42.28	42.87	6.52	11.11	11.11
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.79	1.50	5.99	5.85	0.75	3.07	3.07
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.48	0.54	0.46	0.51	0.66	0.66
d, Delay for Lane Group [s/veh]	40.63	37.88	48.27	48.71	7.27	14.18	14.18
Lane Group LOS	D	D	D	D	A	B	B
Critical Lane Group	Yes	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	3.44	2.33	0.96	0.63	4.93	9.16	9.16
50th-Percentile Queue Length [ft]	86.01	58.34	24.07	15.76	123.31	229.04	229.04
95th-Percentile Queue Length [veh]	6.19	4.20	1.73	1.13	8.57	14.13	14.13
95th-Percentile Queue Length [ft]	154.82	105.01	43.32	28.37	214.37	353.14	353.14

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	40.63	37.88	37.88	48.27	0.00	48.27	48.71	7.27	0.00	0.00	14.18	14.18
Movement LOS	D	D	D	D		D	D	A			B	B
d_A, Approach Delay [s/veh]	39.91			48.27			8.07			14.18		
Approach LOS	D			D			A			B		
d_I, Intersection Delay [s/veh]	15.51											
Intersection LOS	B											
Intersection V/C	0.626											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.078	1.757	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	0	1022	800
d_b, Bicycle Delay [s]	22.76	45.00	10.76	16.20
l_b,int, Bicycle LOS Score for Intersection	2.259	4.197	2.631	2.769
Bicycle LOS	B	D	B	C

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	28.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.850

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	244	205	72	196	141	529	414	595	161	96	679	160
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	244	205	72	196	141	529	414	595	161	96	679	160
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	54	19	52	37	139	109	157	42	25	179	42
Total Analysis Volume [veh/h]	257	216	76	206	148	557	436	626	169	101	715	168
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	32	0	15	36	36	16	29	0	19	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	11	11	26	15	40	21	50	50	7	36	36
g / C, Green / Cycle	0.27	0.12	0.12	0.27	0.16	0.43	0.23	0.52	0.52	0.08	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.15	0.08	0.08	0.12	0.04	0.31	0.14	0.23	0.21	0.06	0.25	0.24
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	524	210	210	450	570	765	719	937	937	132	673	673
d1, Uniform Delay [s]	29.46	40.58	40.31	28.45	35.20	22.82	33.17	14.19	13.91	43.11	25.04	24.50
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.44	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.71	4.57	3.63	0.73	0.24	5.30	0.83	1.49	1.32	8.87	5.44	4.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.72	0.67	0.46	0.26	0.73	0.61	0.44	0.41	0.77	0.68	0.63
d, Delay for Lane Group [s/veh]	30.17	45.16	43.94	29.18	35.44	28.12	34.00	15.68	15.23	51.98	30.47	29.01
Lane Group LOS	C	D	D	C	D	C	C	B	B	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	5.04	3.65	3.33	3.91	1.51	11.05	4.52	5.58	5.09	2.64	9.37	8.49
50th-Percentile Queue Length [ft]	125.93	91.34	83.37	97.76	37.85	276.20	113.03	139.45	127.24	65.90	234.25	212.17
95th-Percentile Queue Length [veh]	8.72	6.58	6.00	7.04	2.73	16.50	8.01	9.45	8.79	4.74	14.39	13.26
95th-Percentile Queue Length [ft]	217.95	164.42	150.07	175.97	68.14	412.48	200.22	236.29	219.74	118.62	359.76	331.61

Movement, Approach, & Intersection Results

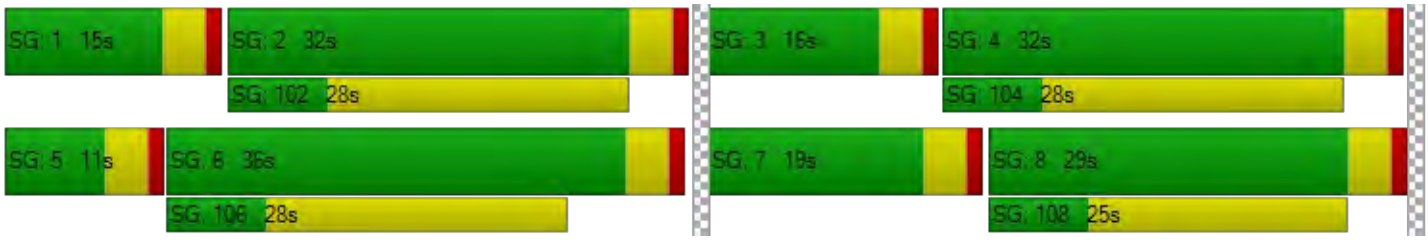
d_M, Delay for Movement [s/veh]	30.17	44.79	43.94	29.18	35.44	28.12	34.00	15.53	15.23	51.98	29.95	29.01
Movement LOS	C	D	D	C	D	C	C	B	B	D	C	C
d_A, Approach Delay [s/veh]	37.83			29.55			22.03			32.05		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	28.94											
Intersection LOS	C											
Intersection V/C	0.850											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	2.491	2.736	2.986	2.711
Crosswalk LOS	B	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	589	674	526	589
d_b, Bicycle Delay [s]	23.63	20.89	25.79	23.63
l_b,int, Bicycle LOS Score for Intersection	2.013	2.311	2.575	2.371
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	23.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.554

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	184	80	171	43	54	61	67	689	165	114	501	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	184	80	171	43	54	61	67	689	165	114	501	39
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	21	45	11	14	16	18	181	43	30	132	10
Total Analysis Volume [veh/h]	194	84	180	45	57	64	71	725	174	120	527	41
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	19	31	0	17	29	0	10	32	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	11	11	4	8	8	5	50	50	8	54	54
g / C, Green / Cycle	0.08	0.13	0.13	0.05	0.09	0.09	0.06	0.56	0.56	0.09	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.06	0.05	0.10	0.03	0.03	0.04	0.04	0.26	0.24	0.07	0.16	0.16
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	273	229	229	79	159	159	96	1005	1005	154	1066	1066
d1, Uniform Delay [s]	40.17	36.01	38.15	42.12	38.68	38.84	41.90	11.85	11.58	40.15	8.91	8.88
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.43	0.98	5.84	6.35	1.35	1.63	10.59	1.53	1.35	8.35	0.62	0.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.71	0.37	0.79	0.57	0.36	0.40	0.74	0.46	0.43	0.78	0.27	0.26
d, Delay for Lane Group [s/veh]	43.60	36.99	43.99	48.47	40.03	40.46	52.49	13.38	12.94	48.49	9.54	9.48
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.20	1.73	4.17	1.11	1.23	1.40	1.82	5.52	5.03	2.92	2.67	2.60
50th-Percentile Queue Length [ft]	54.94	43.34	104.13	27.74	30.84	34.88	45.48	138.01	125.69	73.11	66.81	64.97
95th-Percentile Queue Length [veh]	3.96	3.12	7.50	2.00	2.22	2.51	3.27	9.37	8.71	5.26	4.81	4.68
95th-Percentile Queue Length [ft]	98.89	78.00	187.44	49.93	55.51	62.78	81.86	234.34	217.63	131.60	120.25	116.94

Movement, Approach, & Intersection Results

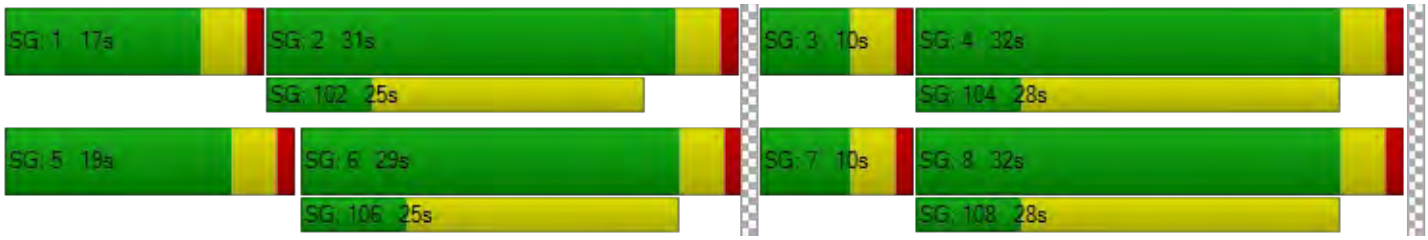
d_M, Delay for Movement [s/veh]	43.60	36.99	43.99	48.47	40.03	40.46	52.49	13.22	12.94	48.49	9.51	9.48
Movement LOS	D	D	D	D	D	D	D	B	B	D	A	A
d_A, Approach Delay [s/veh]	42.54			42.48			16.05			16.31		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	23.37											
Intersection LOS	C											
Intersection V/C	0.554											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.584	2.219	2.642	2.619
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	556	622	622
d_b, Bicycle Delay [s]	22.05	23.47	21.36	21.36
l_b,int, Bicycle LOS Score for Intersection	2.315	1.697	2.360	2.127
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	29.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.528

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	172	381	52	68	322	87	86	345	216	49	227	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	172	381	52	68	322	87	86	345	216	49	227	65
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	100	14	18	85	23	23	91	57	13	60	17
Total Analysis Volume [veh/h]	181	401	55	72	339	92	91	363	227	52	239	68
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	29	0	22	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	20	20	5	14	14	6	44	44	4	43	43
g / C, Green / Cycle	0.13	0.22	0.22	0.06	0.15	0.15	0.07	0.49	0.49	0.05	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.11	0.13	0.12	0.04	0.12	0.12	0.05	0.17	0.15	0.03	0.09	0.08
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	218	404	404	97	275	275	119	885	885	84	849	849
d1, Uniform Delay [s]	38.34	31.14	30.97	41.88	36.89	36.61	41.23	14.11	13.77	42.01	13.80	13.74
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.85	1.29	1.19	10.70	5.49	4.30	9.89	1.11	0.92	7.11	0.48	0.45
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.57	0.55	0.74	0.81	0.76	0.77	0.35	0.31	0.62	0.19	0.18
d, Delay for Lane Group [s/veh]	46.19	32.43	32.16	52.58	42.39	40.91	51.11	15.22	14.70	49.12	14.28	14.20
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.31	4.56	4.36	1.85	5.05	4.67	2.29	3.99	3.43	1.29	1.89	1.79
50th-Percentile Queue Length [ft]	107.83	113.88	108.95	46.16	126.36	116.72	57.20	99.75	85.82	32.21	47.18	44.80
95th-Percentile Queue Length [veh]	7.72	8.06	7.78	3.32	8.74	8.21	4.12	7.18	6.18	2.32	3.40	3.23
95th-Percentile Queue Length [ft]	192.98	201.39	194.54	83.08	218.53	205.31	102.96	179.54	154.47	57.98	84.93	80.64

Movement, Approach, & Intersection Results

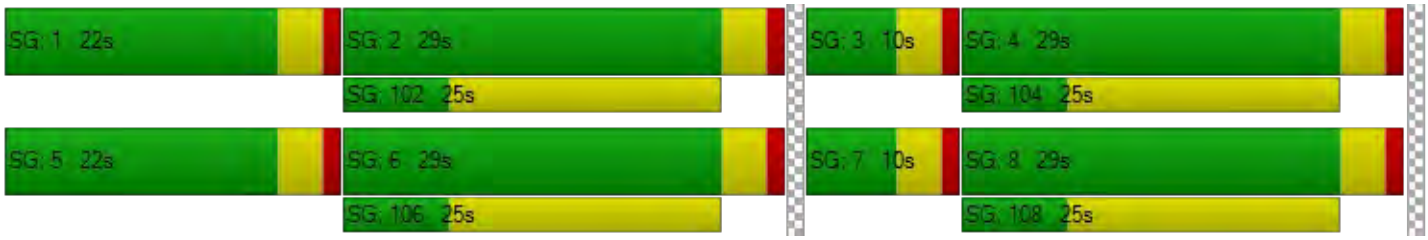
d_M, Delay for Movement [s/veh]	46.19	32.31	32.16	52.58	41.88	40.91	51.11	15.15	14.70	49.12	14.25	14.20
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	36.24			43.23			19.80			19.29		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.93											
Intersection LOS	C											
Intersection V/C	0.528											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.544	2.507	2.532	2.465
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	556	556
d_b, Bicycle Delay [s]	23.47	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.085	1.975	2.121	1.856
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.194

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	80	11	2	2	22	5	4	4	54	5	3	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	11	2	2	22	5	4	4	54	5	3	1
Peak Hour Factor	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	4	1	1	8	2	1	1	20	2	1	0
Total Analysis Volume [veh/h]	117	16	3	3	32	7	6	6	79	7	4	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	686	876	730	859	652	825	645	729
Degree of Utilization, x	0.19	0.00	0.05	0.01	0.01	0.10	0.01	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.71	0.01	0.15	0.02	0.03	0.34	0.03	0.02
95th-Percentile Queue Length [ft]	17.86	0.26	3.77	0.62	0.70	8.58	0.82	0.52
Approach Delay [s/veh]	9.15		7.72		7.61		8.06	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.39							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.253

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	130	0	0	0	0	0	179	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	130	0	0	0	0	0	179	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	42	0	0	0	0	0	58	0
Total Analysis Volume [veh/h]	0	0	0	0	169	0	0	0	0	0	233	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	12.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	25.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			12.22			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	5.14											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.307

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	95	372	10	31	226	13	9	7	33	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	372	10	31	226	13	9	7	33	0	0	0
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	101	3	8	61	4	2	2	9	0	0	0
Total Analysis Volume [veh/h]	103	403	11	34	245	14	10	8	36	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	616	674	679	619	632	720	525	620	
Degree of Utilization, x	0.17	0.31	0.31	0.23	0.22	0.02	0.02	0.07	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.60	1.30	1.29	0.86	0.84	0.06	0.06	0.23	
95th-Percentile Queue Length [ft]	14.91	32.53	32.22	21.53	20.97	1.49	1.45	5.71	
Approach Delay [s/veh]	10.23			10.00			9.09		0.00
Approach LOS	B			A			A		A
Intersection Delay [s/veh]	10.08								
Intersection LOS	B								

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.513

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	810	254	0	0	417
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	810	254	0	0	417
Peak Hour Factor	0.9500	0.9180	0.9180	0.9500	0.9500	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	221	69	0	0	114
Total Analysis Volume [veh/h]	0	882	277	0	0	454
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.51
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.47
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	1.02
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	25.58
d_A, Approach Delay [s/veh]	0.00		0.00		10.47	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.95					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.476

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	151	853	693	0	0	199
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	151	853	693	0	0	199
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	224	182	0	0	52
Total Analysis Volume [veh/h]	159	898	729	0	0	209
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	33	51	18	0	0	39
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	69	55	13
g / C, Green / Cycle	0.12	0.77	0.61	0.14
(v / s)_i Volume / Saturation Flow Rate	0.09	0.25	0.20	0.12
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	196	2773	2198	253
d1, Uniform Delay [s]	38.87	3.16	8.56	37.61
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.79	0.31	0.41	6.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.32	0.33	0.82
d, Delay for Lane Group [s/veh]	46.66	3.47	8.96	44.28
Lane Group LOS	D	A	A	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	3.80	1.83	3.25	4.87
50th-Percentile Queue Length [ft]	95.00	45.63	81.25	121.74
95th-Percentile Queue Length [veh]	6.84	3.29	5.85	8.49
95th-Percentile Queue Length [ft]	171.00	82.14	146.24	212.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.66	3.47	8.96	0.00	0.00	44.28
Movement LOS	D	A	A			D
d_A, Approach Delay [s/veh]	9.97		8.96		44.28	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	13.20					
Intersection LOS	B					
Intersection V/C	0.476					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.688	2.527	1.894
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.004	4.734	4.132
Bicycle LOS	F	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	2.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.353

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	949	24	8	820	24	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	949	24	8	820	24	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	250	6	2	216	6	1
Total Analysis Volume [veh/h]	999	25	8	863	25	4
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	51	0	10	61	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	74	74	1	79	3
g / C, Green / Cycle	0.82	0.82	0.01	0.88	0.04
(v / s)_i Volume / Saturation Flow Rate	0.28	0.28	0.00	0.24	0.02
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1472	1472	23	3152	61
d1, Uniform Delay [s]	2.09	2.09	44.03	0.92	42.60
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.65	0.65	9.01	0.22	5.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.35	0.35	0.35	0.27	0.48
d, Delay for Lane Group [s/veh]	2.74	2.74	53.05	1.13	48.37
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	1.44	1.44	0.23	0.22	0.72
50th-Percentile Queue Length [ft]	36.04	36.04	5.80	5.38	18.10
95th-Percentile Queue Length [veh]	2.59	2.59	0.42	0.39	1.30
95th-Percentile Queue Length [ft]	64.87	64.87	10.45	9.69	32.57

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	2.74	2.74	53.05	1.13	48.37	48.37
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	2.74		1.61		48.37	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	2.92					
Intersection LOS	A					
Intersection V/C	0.353					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.597	2.665	1.745
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.977	4.851	4.180
Bicycle LOS	E	E	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	18.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	974	0	0	849	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	974	0	0	849	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	256	0	0	223	0	0
Total Analysis Volume [veh/h]	1025	0	0	894	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	10.35	0.00	18.13	12.11
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		15.12	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	32.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.551

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	154	345	74	110	242	78	102	403	142	160	450	125
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	154	345	74	110	242	78	102	403	142	160	450	125
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	91	19	29	64	21	27	106	37	42	118	33
Total Analysis Volume [veh/h]	162	363	78	116	255	82	107	424	149	168	474	132
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	35	0	21	34	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	15	15	8	12	12	8	45	45	11	49	49
g / C, Green / Cycle	0.12	0.15	0.15	0.09	0.12	0.12	0.08	0.47	0.47	0.12	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.10	0.13	0.12	0.07	0.10	0.09	0.06	0.17	0.15	0.10	0.17	0.16
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	197	278	278	147	225	225	137	847	847	205	918	918
d1, Uniform Delay [s]	41.12	38.92	38.63	42.62	40.31	40.06	42.89	15.99	15.74	40.84	13.83	13.62
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.34	5.75	4.54	9.08	5.54	4.41	9.09	1.15	1.02	7.89	1.02	0.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.81	0.77	0.79	0.77	0.73	0.78	0.35	0.32	0.82	0.34	0.32
d, Delay for Lane Group [s/veh]	49.46	44.67	43.17	51.70	45.85	44.47	51.99	17.14	16.75	48.73	14.84	14.53
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.12	5.48	5.09	3.02	4.24	3.91	2.79	4.23	3.82	4.24	4.07	3.72
50th-Percentile Queue Length [ft]	103.09	137.10	127.32	75.43	105.91	97.78	69.78	105.74	95.59	106.08	101.78	93.03
95th-Percentile Queue Length [veh]	7.42	9.32	8.79	5.43	7.61	7.04	5.02	7.60	6.88	7.62	7.33	6.70
95th-Percentile Queue Length [ft]	185.56	233.11	219.85	135.77	190.29	176.01	125.61	190.06	172.06	190.54	183.20	167.45

Movement, Approach, & Intersection Results

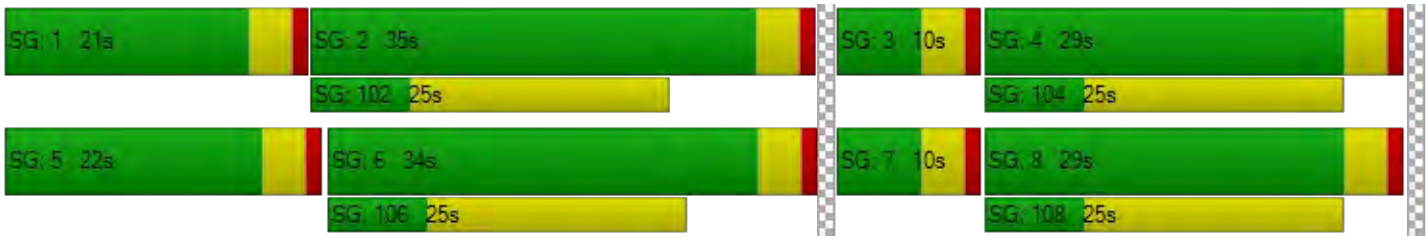
d_M, Delay for Movement [s/veh]	49.46	44.11	43.17	51.70	45.41	44.47	51.99	17.02	16.75	48.73	14.74	14.53
Movement LOS	D	D	D	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	45.42			46.85			22.47			22.08		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	32.26											
Intersection LOS	C											
Intersection V/C	0.551											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	2.531	2.508	2.575	2.574
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	653	632	526	526
d_b, Bicycle Delay [s]	21.56	22.24	25.79	25.79
l_b,int, Bicycle LOS Score for Intersection	2.057	1.933	2.121	2.198
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	19.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.579

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1055	161	0	587	617	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1055	161	0	587	617	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	278	42	0	154	162	0
Total Analysis Volume [veh/h]	1111	169	0	618	649	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	35	35	46	46
g / C, Green / Cycle	0.39	0.39	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.35	0.09	0.17	0.18
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1260	709	1862	1862
d1, Uniform Delay [s]	25.30	18.23	12.63	12.77
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.22	0.17	0.48	0.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.24	0.33	0.35
d, Delay for Lane Group [s/veh]	27.51	18.40	13.11	13.28
Lane Group LOS	C	B	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	10.81	2.32	3.55	3.77
50th-Percentile Queue Length [ft]	270.20	57.95	88.75	94.23
95th-Percentile Queue Length [veh]	16.20	4.17	6.39	6.78
95th-Percentile Queue Length [ft]	404.99	104.30	159.75	169.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.51	18.40	0.00	13.11	13.28	0.00
Movement LOS	C	B		B	B	
d_A, Approach Delay [s/veh]	26.31		13.11		13.28	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	19.79					
Intersection LOS	B					
Intersection V/C	0.579					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.356	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.642	4.668
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	32.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.847

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	175	77	35	97	183	272	195	1260	245	123	1320	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	175	77	35	97	183	272	195	1260	245	123	1320	210
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	20	9	26	48	72	51	332	64	32	347	55
Total Analysis Volume [veh/h]	184	81	37	102	193	286	205	1326	258	129	1389	221
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	19	35	0	23	39	0	10	32	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	24	24	8	19	19	9	43	43	9	44	44
g / C, Green / Cycle	0.13	0.24	0.24	0.08	0.19	0.19	0.09	0.43	0.43	0.09	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.11	0.05	0.02	0.06	0.11	0.16	0.06	0.37	0.14	0.08	0.30	0.29
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	216	427	427	130	336	336	280	1555	778	161	1580	790
d1, Uniform Delay [s]	42.78	30.52	29.76	45.42	37.12	39.40	44.53	25.57	18.85	44.42	22.51	22.33
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.07	0.21	0.09	9.80	1.56	6.12	3.66	6.13	1.14	8.92	2.42	4.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.85	0.19	0.09	0.78	0.58	0.85	0.73	0.85	0.33	0.80	0.68	0.67
d, Delay for Lane Group [s/veh]	51.84	30.74	29.85	55.22	38.68	45.52	48.19	31.70	20.00	53.33	24.93	26.83
Lane Group LOS	D	C	C	E	D	D	D	C	B	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.96	1.58	0.70	2.83	4.41	7.28	2.61	14.84	4.12	3.51	10.32	10.51
50th-Percentile Queue Length [ft]	123.95	39.51	17.57	70.71	110.32	182.08	65.13	370.89	103.11	87.76	257.92	262.69
95th-Percentile Queue Length [veh]	8.61	2.84	1.27	5.09	7.86	11.71	4.69	21.15	7.42	6.32	15.58	15.82
95th-Percentile Queue Length [ft]	215.24	71.12	31.63	127.28	196.44	292.72	117.23	528.81	185.60	157.96	389.61	395.59

Movement, Approach, & Intersection Results

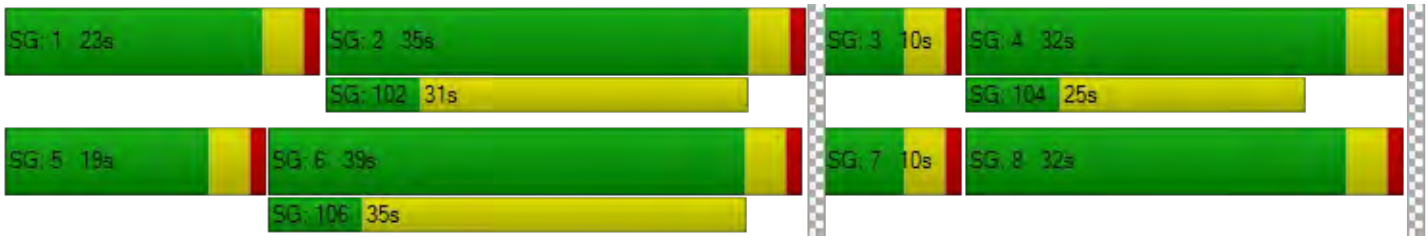
d_M, Delay for Movement [s/veh]	51.84	30.74	29.85	55.22	38.68	45.52	48.19	31.70	20.00	53.33	25.35	26.83
Movement LOS	D	C	C	E	D	D	D	C	B	D	C	C
d_A, Approach Delay [s/veh]	43.49			44.95			31.90			27.62		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	32.72											
Intersection LOS	C											
Intersection V/C	0.847											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	39.61	39.61	39.61
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.517	3.175	2.978
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	620	700	560	560
d_b, Bicycle Delay [s]	23.81	21.13	25.92	25.92
l_b,int, Bicycle LOS Score for Intersection	2.058	2.039	3.036	2.516
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	15.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.313

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	274	69	299	282	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	274	69	299	282	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	18	79	74	0	0
Total Analysis Volume [veh/h]	288	73	315	297	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	63	63	19	86	
g / C, Green / Cycle	0.70	0.70	0.21	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.10	0.10	0.19	0.08	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1262	1262	357	3440	
d1, Uniform Delay [s]	4.47	4.47	34.46	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.24	0.24	7.21	0.05	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.14	0.14	0.88	0.09	
d, Delay for Lane Group [s/veh]	4.70	4.70	41.67	0.15	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	1.00	1.00	7.23	0.02	
50th-Percentile Queue Length [ft]	25.10	25.10	180.83	0.59	
95th-Percentile Queue Length [veh]	1.81	1.81	11.64	0.04	
95th-Percentile Queue Length [ft]	45.18	45.18	291.10	1.06	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.70	4.70	41.67	0.15	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	4.70		21.52		0.00	
Approach LOS	A		C		A	
d_I, Intersection Delay [s/veh]	15.28					
Intersection LOS	B					
Intersection V/C	0.313					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.801
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.430	4.637	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	17.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.656

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	271	5	171	17	0	60	32	1321	0	0	1338	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	271	5	171	17	0	60	32	1321	0	0	1338	25
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	71	1	45	4	0	16	8	348	0	0	352	7
Total Analysis Volume [veh/h]	285	5	180	18	0	63	34	1391	0	0	1408	26
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	27	0	14	0	0	10	49	0	0	39	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	12	6	3	60	53	53
g / C, Green / Cycle	0.13	0.13	0.06	0.04	0.67	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.09	0.10	0.05	0.02	0.39	0.40	0.40
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	432	243	106	67	2410	1055	1055
d1, Uniform Delay [s]	37.04	37.61	41.61	42.47	8.03	12.85	12.85
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.73	4.90	10.64	5.89	1.01	3.54	3.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.66	0.76	0.76	0.51	0.58	0.68	0.68
d, Delay for Lane Group [s/veh]	38.77	42.51	52.25	48.36	9.04	16.39	16.39
Lane Group LOS	D	D	D	D	A	B	B
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	3.04	4.20	2.07	0.84	6.42	9.90	9.90
50th-Percentile Queue Length [ft]	76.03	105.06	51.64	21.09	160.40	247.62	247.62
95th-Percentile Queue Length [veh]	5.47	7.56	3.72	1.52	10.57	15.07	15.07
95th-Percentile Queue Length [ft]	136.86	189.11	92.95	37.97	264.25	376.66	376.66

Movement, Approach, & Intersection Results

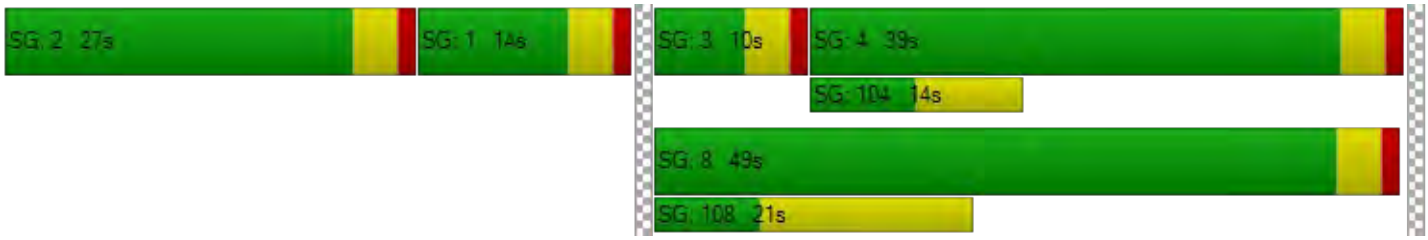
d_M, Delay for Movement [s/veh]	38.77	42.51	42.51	52.25	0.00	52.25	48.36	9.04	0.00	0.00	16.39	16.39
Movement LOS	D	D	D	D		D	D	A			B	B
d_A, Approach Delay [s/veh]	40.24			52.25			9.98			16.39		
Approach LOS	D			D			A			B		
d_I, Intersection Delay [s/veh]	17.85											
Intersection LOS	B											
Intersection V/C	0.656											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.092	1.786	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	511	0	1000	778
d_b, Bicycle Delay [s]	24.94	45.00	11.25	16.81
l_b,int, Bicycle LOS Score for Intersection	2.335	4.266	2.735	2.743
Bicycle LOS	B	E	B	B

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.834

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	253	143	49	122	105	591	643	590	134	69	511	163
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	253	143	49	122	105	591	643	590	134	69	511	163
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	38	13	32	28	156	169	155	35	18	134	43
Total Analysis Volume [veh/h]	266	151	52	128	111	622	677	621	141	73	538	172
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	31	29	0	34	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	26	16	16	26	16	47	27	61	61	6	40	40
g / C, Green / Cycle	0.25	0.16	0.16	0.25	0.16	0.45	0.26	0.58	0.58	0.06	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.16	0.06	0.05	0.08	0.03	0.35	0.21	0.22	0.21	0.04	0.21	0.19
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	487	281	281	444	562	811	820	1039	1039	96	679	679
d1, Uniform Delay [s]	34.84	39.74	39.58	31.78	38.61	24.25	36.88	11.99	11.83	48.91	25.64	25.12
k, delay calibration	0.12	0.11	0.11	0.11	0.11	0.42	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.05	0.82	0.74	0.35	0.17	5.85	2.19	1.04	0.96	11.79	3.11	2.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.37	0.35	0.29	0.20	0.77	0.83	0.38	0.36	0.76	0.54	0.50
d, Delay for Lane Group [s/veh]	35.90	40.56	40.32	32.14	38.78	30.10	39.07	13.03	12.79	60.70	28.75	27.75
Lane Group LOS	D	D	D	C	D	C	D	B	B	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.12	2.49	2.32	2.67	1.26	13.82	8.33	5.00	4.69	2.19	7.69	6.91
50th-Percentile Queue Length [ft]	153.00	62.13	57.88	66.69	31.46	345.38	208.16	125.00	117.16	54.87	192.34	172.75
95th-Percentile Queue Length [veh]	10.18	4.47	4.17	4.80	2.27	19.91	13.06	8.67	8.24	3.95	12.24	11.22
95th-Percentile Queue Length [ft]	254.42	111.84	104.18	120.04	56.64	497.77	326.47	216.68	205.92	98.77	306.06	280.53

Movement, Approach, & Intersection Results

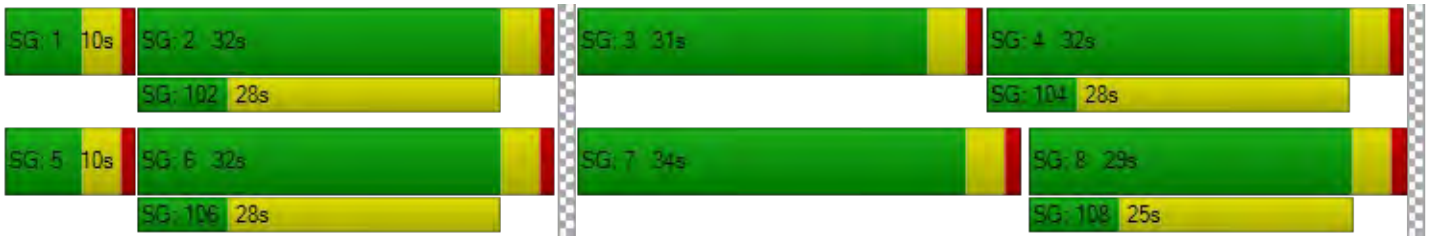
d_M, Delay for Movement [s/veh]	35.90	40.49	40.32	32.14	38.78	30.10	39.07	12.94	12.79	60.70	28.44	27.75
Movement LOS	D	D	D	C	D	C	D	B	B	E	C	C
d_A, Approach Delay [s/veh]	37.87			31.53			25.22			31.30		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	29.76											
Intersection LOS	C											
Intersection V/C	0.834											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	42.08	42.08	42.08	42.08
l_p,int, Pedestrian LOS Score for Intersection	2.462	2.763	3.072	2.648
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	533	476	533
d_b, Bicycle Delay [s]	28.23	28.23	30.48	28.23
l_b,int, Bicycle LOS Score for Intersection	1.947	2.270	2.747	2.206
Bicycle LOS	A	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.409

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	169	60	114	29	54	34	37	471	120	118	511	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	169	60	114	29	54	34	37	471	120	118	511	37
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	16	30	8	14	9	10	124	32	31	134	10
Total Analysis Volume [veh/h]	178	63	120	31	57	36	39	496	126	124	538	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	29	0	11	29	0	10	32	0	18	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	9	9	3	5	5	4	53	53	8	58	58
g / C, Green / Cycle	0.08	0.10	0.10	0.04	0.06	0.06	0.04	0.59	0.59	0.09	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.06	0.04	0.07	0.02	0.03	0.03	0.02	0.18	0.17	0.07	0.16	0.16
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	246	181	181	64	110	110	73	1064	1064	158	1155	1155
d1, Uniform Delay [s]	40.68	37.78	39.07	42.56	40.82	40.78	42.29	9.17	9.04	40.00	6.91	6.88
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.98	1.14	4.08	5.70	2.63	2.49	6.05	0.73	0.67	8.18	0.53	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.35	0.66	0.49	0.43	0.42	0.54	0.30	0.28	0.78	0.25	0.25
d, Delay for Lane Group [s/veh]	44.66	38.92	43.15	48.26	43.45	43.27	48.34	9.89	9.71	48.18	7.43	7.39
Lane Group LOS	D	D	D	D	D	D	D	A	A	D	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.04	1.34	2.73	0.77	1.08	1.04	0.96	3.07	2.84	3.01	2.27	2.21
50th-Percentile Queue Length [ft]	51.07	33.47	68.23	19.27	27.03	26.10	24.09	76.77	70.97	75.28	56.82	55.34
95th-Percentile Queue Length [veh]	3.68	2.41	4.91	1.39	1.95	1.88	1.73	5.53	5.11	5.42	4.09	3.98
95th-Percentile Queue Length [ft]	91.92	60.24	122.82	34.68	48.66	46.98	43.36	138.18	127.75	135.50	102.27	99.61

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.66	38.92	43.15	48.26	43.42	43.27	48.34	9.83	9.71	48.18	7.41	7.39
Movement LOS	D	D	D	D	D	D	D	A	A	D	A	A
d_A, Approach Delay [s/veh]	43.16			44.58			12.08			14.62		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	21.30											
Intersection LOS	C											
Intersection V/C	0.409											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.561	2.195	2.575	2.562
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	622	800
d_b, Bicycle Delay [s]	23.47	23.47	21.36	16.20
l_b,int, Bicycle LOS Score for Intersection	2.155	1.662	2.105	2.138
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	29.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.412

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	121	304	41	34	276	77	70	247	173	46	182	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	121	304	41	34	276	77	70	247	173	46	182	40
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	80	11	9	73	20	18	65	46	12	48	11
Total Analysis Volume [veh/h]	127	320	43	36	291	81	74	260	182	48	192	42
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	39	0	12	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	17	17	4	12	12	5	49	49	4	48	48
g / C, Green / Cycle	0.09	0.19	0.19	0.04	0.13	0.13	0.06	0.55	0.55	0.05	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.07	0.10	0.10	0.02	0.11	0.10	0.04	0.13	0.12	0.03	0.07	0.06
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	161	340	340	70	243	243	97	981	981	81	964	964
d1, Uniform Delay [s]	39.96	33.07	32.95	42.37	37.72	37.50	41.89	10.72	10.55	42.07	10.41	10.39
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.42	1.35	1.26	5.82	5.49	4.49	11.39	0.57	0.49	6.69	0.26	0.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.54	0.53	0.52	0.78	0.74	0.76	0.24	0.21	0.59	0.12	0.12
d, Delay for Lane Group [s/veh]	48.38	34.42	34.21	48.19	43.21	41.99	53.28	11.29	11.04	48.76	10.67	10.64
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.09	3.71	3.58	0.89	4.38	4.09	1.91	2.43	2.13	1.19	1.18	1.14
50th-Percentile Queue Length [ft]	77.30	92.70	89.41	22.25	109.39	102.18	47.78	60.64	53.23	29.65	29.42	28.45
95th-Percentile Queue Length [veh]	5.57	6.67	6.44	1.60	7.81	7.36	3.44	4.37	3.83	2.13	2.12	2.05
95th-Percentile Queue Length [ft]	139.14	166.86	160.94	40.04	195.16	183.93	86.01	109.15	95.81	53.37	52.96	51.21

Movement, Approach, & Intersection Results

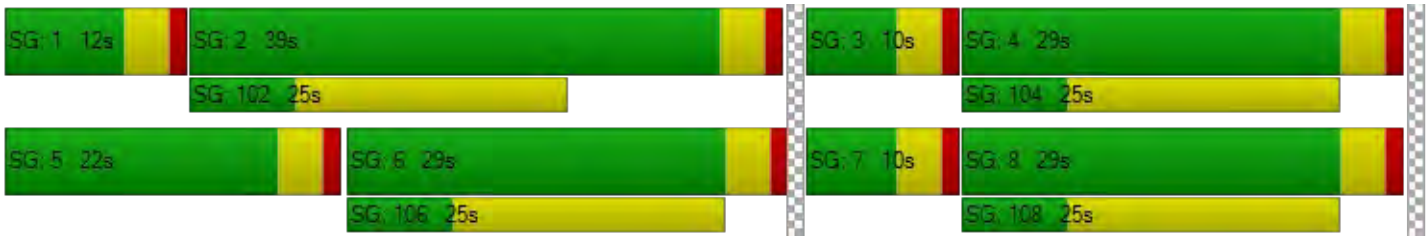
d_M, Delay for Movement [s/veh]	48.38	34.33	34.21	48.19	42.79	41.99	53.28	11.26	11.04	48.76	10.66	10.64
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.96			43.11			17.21			17.14		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.42											
Intersection LOS	C											
Intersection V/C	0.412											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.496	2.464	2.478	2.420
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	778	556	556	556
d_b, Bicycle Delay [s]	16.81	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	1.964	1.896	1.985	1.792
Bicycle LOS	A	A	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX D-II

YEAR 2020 WITH PROJECT (PHASE 1) TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.228

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	96	37	17	0	15	4	2	9	63	2	13	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	37	17	0	15	4	2	9	63	2	13	1
Peak Hour Factor	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	11	5	0	4	1	1	3	19	1	4	0
Total Analysis Volume [veh/h]	115	44	20	0	18	5	2	11	75	2	16	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	696	876	729	849	646	808	639	708
Degree of Utilization, x	0.23	0.02	0.02	0.01	0.00	0.11	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.88	0.07	0.08	0.02	0.01	0.36	0.01	0.07
95th-Percentile Queue Length [ft]	21.91	1.75	1.90	0.44	0.23	8.91	0.24	1.84
Approach Delay [s/veh]	9.12		7.59		7.70		7.96	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.53							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.124

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	90	0	0	0	0	0	119	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	90	0	0	0	0	0	119	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	24	0	0	0	0	0	31	0
Total Analysis Volume [veh/h]	0	0	0	0	95	0	0	0	0	0	125	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	10.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	10.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10.37			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.48											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.345

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	138	282	205	9	160	0	31	5	13	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	282	205	9	160	0	31	5	13	0	0	0
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9500	0.9260	0.9260	0.9260	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	76	55	2	43	0	8	1	4	0	0	0
Total Analysis Volume [veh/h]	149	305	221	10	173	0	33	5	14	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	658	700	810	629	634	527	629	
Degree of Utilization, x	0.35	0.32	0.27	0.15	0.14	0.07	0.02	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.54	1.41	1.11	0.51	0.50	0.23	0.07	
95th-Percentile Queue Length [ft]	38.45	35.19	27.73	12.69	12.55	5.81	1.71	
Approach Delay [s/veh]	10.06			9.37		9.66		0.00
Approach LOS	B			A		A		A
Intersection Delay [s/veh]	9.90							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.210

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	625	172	0	0	189
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	625	172	0	0	189
Peak Hour Factor	0.9500	0.9520	0.9520	0.9500	0.9500	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	164	45	0	0	50
Total Analysis Volume [veh/h]	0	657	181	0	0	199
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.21
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.24
Movement LOS		A	A			A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.35
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	8.75
d_A, Approach Delay [s/veh]	0.00		0.00		9.24	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.77					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	16.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.412

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	189	645	371	0	0	225
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	189	645	371	0	0	225
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	50	170	98	0	0	59
Total Analysis Volume [veh/h]	199	679	391	0	0	237
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	34	52	18	0	0	38
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	68	51	14
g / C, Green / Cycle	0.14	0.75	0.57	0.16
(v / s)_i Volume / Saturation Flow Rate	0.12	0.19	0.11	0.13
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	238	2716	2051	282
d1, Uniform Delay [s]	37.70	3.35	9.35	36.87
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.50	0.22	0.21	6.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.25	0.19	0.84
d, Delay for Lane Group [s/veh]	45.20	3.57	9.56	43.48
Lane Group LOS	D	A	A	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	4.69	1.44	1.78	5.49
50th-Percentile Queue Length [ft]	117.34	36.11	44.59	137.20
95th-Percentile Queue Length [veh]	8.25	2.60	3.21	9.33
95th-Percentile Queue Length [ft]	206.17	65.00	80.26	233.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.20	3.57	9.56	0.00	0.00	43.48
Movement LOS	D	A	A			D
d_A, Approach Delay [s/veh]	13.00		9.56		43.48	
Approach LOS	B		A		D	
d_I, Intersection Delay [s/veh]	16.90					
Intersection LOS	B					
Intersection V/C	0.412					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.593	2.391	1.927
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.857	4.455	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	8.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	667	246	15	630	147	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	667	246	15	630	147	12
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	176	65	4	166	39	3
Total Analysis Volume [veh/h]	702	259	16	663	155	13
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	18	0	10	28	62	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	65	65	2	71	11
g / C, Green / Cycle	0.72	0.72	0.02	0.79	0.12
(v / s)_i Volume / Saturation Flow Rate	0.27	0.27	0.01	0.18	0.10
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1299	1299	40	2842	207
d1, Uniform Delay [s]	4.75	4.75	43.36	2.44	38.55
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.81	0.81	6.53	0.19	7.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.37	0.40	0.23	0.81
d, Delay for Lane Group [s/veh]	5.56	5.56	49.90	2.64	46.04
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	2.95	2.95	0.42	1.04	3.99
50th-Percentile Queue Length [ft]	73.67	73.67	10.50	26.00	99.71
95th-Percentile Queue Length [veh]	5.30	5.30	0.76	1.87	7.18
95th-Percentile Queue Length [ft]	132.61	132.61	18.90	46.81	179.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.56	5.56	49.90	2.64	46.04	46.04
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	5.56		3.75		46.04	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.64					
Intersection LOS	A					
Intersection V/C	0.433					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.564	2.571	1.930
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.925	4.693	4.410
Bicycle LOS	E	E	E

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	19.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	938	102	22	770	3	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	938	102	22	770	3	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	247	27	6	203	1	1
Total Analysis Volume [veh/h]	987	107	23	811	3	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.04	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	10.90	0.00	19.21	12.67
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	4.89	2.45	0.05	0.05
95th-Percentile Queue Length [ft]	0.00	0.00	122.27	61.14	1.21	1.21
d_A, Approach Delay [s/veh]	0.00		0.30		16.59	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.17					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	31.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.493

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	121	407	36	101	460	57	39	270	91	110	360	79
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	121	407	36	101	460	57	39	270	91	110	360	79
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	107	9	27	121	15	10	71	24	29	95	21
Total Analysis Volume [veh/h]	127	428	38	106	484	60	41	284	96	116	379	83
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	30	0	21	36	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	18	18	7	17	17	4	41	41	8	45	45
g / C, Green / Cycle	0.09	0.20	0.20	0.08	0.18	0.18	0.04	0.46	0.46	0.09	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.07	0.13	0.13	0.06	0.15	0.15	0.02	0.11	0.10	0.07	0.13	0.12
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	159	357	357	136	333	333	75	822	822	148	900	900
d1, Uniform Delay [s]	40.05	33.35	33.23	40.69	35.39	35.17	42.23	14.92	14.82	40.31	12.97	12.87
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.90	2.10	1.96	9.14	5.36	4.52	6.14	0.68	0.63	8.63	0.71	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.66	0.64	0.78	0.83	0.80	0.55	0.24	0.22	0.78	0.26	0.25
d, Delay for Lane Group [s/veh]	48.95	35.45	35.19	49.82	40.75	39.69	48.37	15.61	15.45	48.95	13.69	13.54
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.11	4.87	4.73	2.62	6.23	5.92	1.01	2.50	2.33	2.84	2.80	2.63
50th-Percentile Queue Length [ft]	77.82	121.85	118.28	65.60	155.65	147.97	25.30	62.49	58.36	71.05	69.89	65.73
95th-Percentile Queue Length [veh]	5.60	8.49	8.30	4.72	10.32	9.91	1.82	4.50	4.20	5.12	5.03	4.73
95th-Percentile Queue Length [ft]	140.07	212.36	207.46	118.08	257.95	247.72	45.54	112.47	105.05	127.89	125.81	118.31

Movement, Approach, & Intersection Results

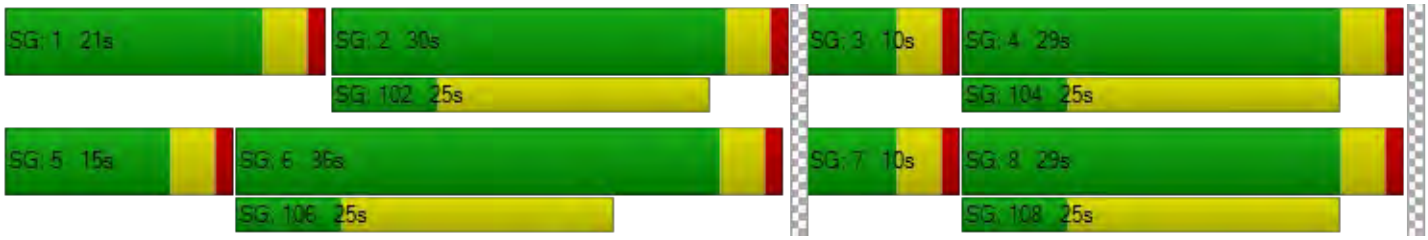
d_M, Delay for Movement [s/veh]	48.95	35.33	35.19	49.82	40.29	39.69	48.37	15.56	15.45	48.95	13.63	13.54
Movement LOS	D	D	D	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	38.24			41.79			18.73			20.71		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	31.09											
Intersection LOS	C											
Intersection V/C	0.493											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.551	2.534	2.492	2.496
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	711	556	556
d_b, Bicycle Delay [s]	22.76	18.69	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.049	2.096	1.907	2.036
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.501

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	979	215	0	357	459	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	979	215	0	357	459	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	258	57	0	94	121	0
Total Analysis Volume [veh/h]	1031	226	0	376	483	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	33	33	49	49
g / C, Green / Cycle	0.37	0.37	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.32	0.13	0.10	0.13
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1182	665	1950	1950
d1, Uniform Delay [s]	26.36	20.44	10.53	10.90
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.17	0.30	0.22	0.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.34	0.19	0.25
d, Delay for Lane Group [s/veh]	28.54	20.74	10.75	11.20
Lane Group LOS	C	C	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	10.13	3.38	1.86	2.47
50th-Percentile Queue Length [ft]	253.33	84.45	46.49	61.85
95th-Percentile Queue Length [veh]	15.35	6.08	3.35	4.45
95th-Percentile Queue Length [ft]	383.84	152.01	83.69	111.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.54	20.74	0.00	10.75	11.20	0.00
Movement LOS	C	C		B	B	
d_A, Approach Delay [s/veh]	27.13		10.75		11.20	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	20.59					
Intersection LOS	C					
Intersection V/C	0.501					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.348	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.443	4.531
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	52.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.950

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	306	202	89	65	407	369	110	900	242	215	1038	191
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	306	202	89	65	407	369	110	900	242	215	1038	191
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	81	53	23	17	107	97	29	237	64	57	273	50
Total Analysis Volume [veh/h]	322	213	94	68	428	388	116	947	255	226	1093	201
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	27	35	0	31	39	0	10	36	0	18	44	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	48	48	6	31	31	6	32	32	18	44	44
g / C, Green / Cycle	0.19	0.40	0.40	0.05	0.26	0.26	0.05	0.27	0.27	0.15	0.36	0.36
(v / s)_i Volume / Saturation Flow Rate	0.19	0.12	0.05	0.04	0.24	0.22	0.04	0.26	0.14	0.13	0.24	0.23
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	326	716	716	89	466	466	170	970	485	250	1307	654
d1, Uniform Delay [s]	48.38	24.69	22.97	56.16	43.31	42.08	55.88	43.51	37.35	50.42	32.15	31.83
k, delay calibration	0.27	0.11	0.11	0.11	0.32	0.27	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	33.78	0.23	0.08	12.40	18.77	9.18	4.75	23.76	4.04	11.68	2.71	4.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.99	0.30	0.13	0.76	0.92	0.83	0.68	0.98	0.53	0.91	0.67	0.65
d, Delay for Lane Group [s/veh]	82.17	24.92	23.05	68.56	62.07	51.26	60.63	67.26	41.39	62.10	34.85	36.71
Lane Group LOS	F	C	C	E	E	D	E	E	D	E	C	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	12.62	4.20	1.72	2.34	14.69	11.99	1.84	17.01	6.93	7.47	11.03	11.00
50th-Percentile Queue Length [ft]	315.58	104.89	43.00	58.59	367.31	299.78	46.01	425.18	173.21	186.79	275.80	275.05
95th-Percentile Queue Length [veh]	18.45	7.55	3.10	4.22	20.98	17.67	3.31	23.77	11.25	11.95	16.48	16.44
95th-Percentile Queue Length [ft]	461.25	188.80	77.40	105.46	524.47	441.76	82.82	594.27	281.14	298.86	411.98	411.05

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	82.17	24.92	23.05	68.56	62.07	51.26	60.63	67.26	41.39	62.10	35.23	36.71
Movement LOS	F	C	C	E	E	D	E	E	D	E	D	D
d_A, Approach Delay [s/veh]	53.95			57.83			61.67			39.42		
Approach LOS	D			E			E			D		
d_I, Intersection Delay [s/veh]	52.00											
Intersection LOS	D											
Intersection V/C	0.950											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.589	3.120	2.894
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	517	583	533	667
d_b, Bicycle Delay [s]	33.00	30.10	32.27	26.67
l_b,int, Bicycle LOS Score for Intersection	2.597	2.289	2.647	2.396
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.465

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	596	107	352	512	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	596	107	352	512	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	157	28	93	135	0	0
Total Analysis Volume [veh/h]	627	113	371	539	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	60	60	22	86	
g / C, Green / Cycle	0.67	0.67	0.24	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.21	0.21	0.22	0.15	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1202	1202	414	3440	
d1, Uniform Delay [s]	6.25	6.25	32.95	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.66	0.66	7.12	0.10	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.31	0.31	0.90	0.16	
d, Delay for Lane Group [s/veh]	6.91	6.91	40.07	0.20	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	2.75	2.75	8.42	0.05	
50th-Percentile Queue Length [ft]	68.67	68.67	210.57	1.16	
95th-Percentile Queue Length [veh]	4.94	4.94	13.18	0.08	
95th-Percentile Queue Length [ft]	123.61	123.61	329.56	2.09	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.91	6.91	40.07	0.20	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	6.91		16.45		0.00	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	12.17					
Intersection LOS	B					
Intersection V/C	0.465					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	
I_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.895	
Crosswalk LOS	F	F	A	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0	
d_b, Bicycle Delay [s]	45.00	45.00	45.00	
I_b,int, Bicycle LOS Score for Intersection	4.743	4.883	4.132	
Bicycle LOS	E	E	D	

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	15.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.515

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	375	4	192	2	0	1	10	1042	0	0	1075	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	375	4	192	2	0	1	10	1042	0	0	1075	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	99	1	51	1	0	0	3	274	0	0	283	1
Total Analysis Volume [veh/h]	395	4	202	2	0	1	11	1097	0	0	1132	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	52	0	10	0	0	10	28	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	14	14	0	2	63	58	58
g / C, Green / Cycle	0.16	0.16	0.01	0.02	0.70	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.12	0.11	0.00	0.01	0.30	0.32	0.32
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	516	290	10	30	2518	1148	1148
d1, Uniform Delay [s]	36.19	35.82	44.62	43.82	5.86	8.64	8.64
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.40	3.20	14.31	7.62	0.55	1.52	1.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.71	0.29	0.37	0.44	0.49	0.49
d, Delay for Lane Group [s/veh]	38.59	39.01	58.93	51.44	6.41	10.16	10.16
Lane Group LOS	D	D	E	D	A	B	B
Critical Lane Group	Yes	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	4.25	4.47	0.11	0.30	3.83	5.57	5.57
50th-Percentile Queue Length [ft]	106.36	111.81	2.69	7.57	95.71	139.14	139.14
95th-Percentile Queue Length [veh]	7.64	7.94	0.19	0.55	6.89	9.43	9.43
95th-Percentile Queue Length [ft]	190.93	198.52	4.85	13.63	172.29	235.87	235.87

Movement, Approach, & Intersection Results

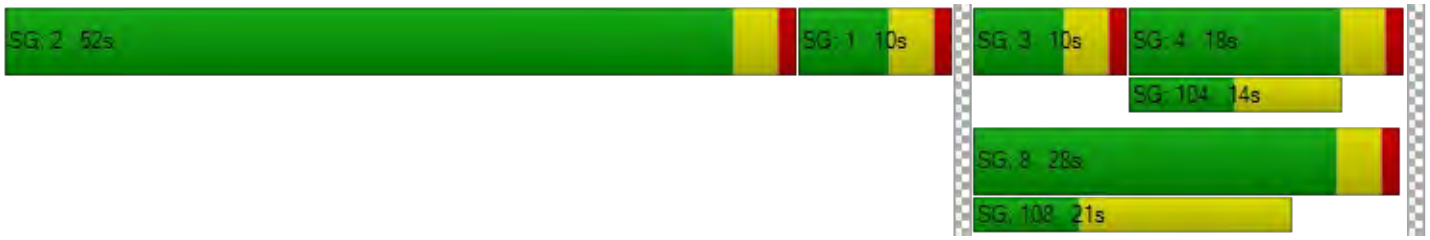
d_M, Delay for Movement [s/veh]	38.59	39.01	39.01	58.93	0.00	58.93	51.44	6.41	0.00	0.00	10.16	10.16
Movement LOS	D	D	D	E		E	D	A			B	B
d_A, Approach Delay [s/veh]	38.73			58.93			6.85			10.16		
Approach LOS	D			E			A			B		
d_I, Intersection Delay [s/veh]	14.96											
Intersection LOS	B											
Intersection V/C	0.515											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.135	1.724	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	0	533	311
d_b, Bicycle Delay [s]	9.80	45.00	24.20	32.09
l_b,int, Bicycle LOS Score for Intersection	2.551	4.137	2.474	2.495
Bicycle LOS	B	D	B	B

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	29.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.726

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	259	276	45	125	228	399	609	452	128	42	362	109
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	259	276	45	125	228	399	609	452	128	42	362	109
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	73	12	33	60	105	160	119	34	11	95	29
Total Analysis Volume [veh/h]	273	291	47	132	240	420	641	476	135	44	381	115
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	26	48	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	13	13	23	13	41	24	61	61	4	41	41
g / C, Green / Cycle	0.23	0.13	0.13	0.23	0.13	0.41	0.24	0.61	0.61	0.04	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.16	0.10	0.09	0.08	0.07	0.23	0.20	0.18	0.16	0.03	0.14	0.13
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	390	228	228	338	456	734	772	1097	1097	74	741	741
d1, Uniform Delay [s]	35.60	42.24	42.05	32.40	40.92	22.89	36.04	9.27	9.13	47.04	20.23	20.01
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.19	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.34	5.07	4.35	0.74	0.94	1.21	2.39	0.66	0.60	7.53	1.28	1.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.76	0.73	0.39	0.53	0.57	0.83	0.29	0.27	0.60	0.35	0.32
d, Delay for Lane Group [s/veh]	37.94	47.31	46.41	33.13	41.86	24.10	38.43	9.93	9.74	54.57	21.51	21.17
Lane Group LOS	D	D	D	C	D	C	D	A	A	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.31	4.41	4.17	2.73	2.81	7.68	7.55	3.25	2.98	1.23	4.28	3.96
50th-Percentile Queue Length [ft]	157.64	110.15	104.36	68.31	70.28	192.12	188.79	81.30	74.53	30.64	107.09	99.11
95th-Percentile Queue Length [veh]	10.42	7.85	7.51	4.92	5.06	12.23	12.06	5.85	5.37	2.21	7.68	7.14
95th-Percentile Queue Length [ft]	260.59	196.21	187.84	122.95	126.50	305.78	301.46	146.34	134.15	55.15	191.95	178.39

Movement, Approach, & Intersection Results

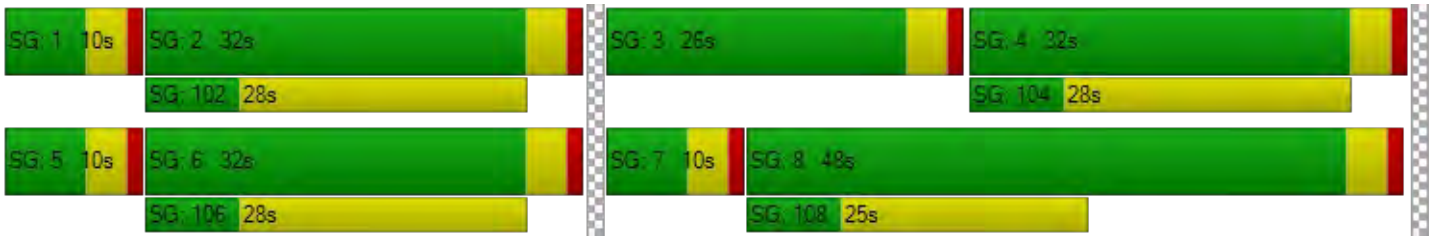
d_M, Delay for Movement [s/veh]	37.94	46.94	46.41	33.13	41.86	24.10	38.43	9.87	9.74	54.57	21.40	21.17
Movement LOS	D	D	D	C	D	C	D	A	A	D	C	C
d_A, Approach Delay [s/veh]	42.88			30.99			24.48			24.05		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	29.54											
Intersection LOS	C											
Intersection V/C	0.726											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	39.61	39.61	39.61	39.61
l_p,int, Pedestrian LOS Score for Intersection	2.506	2.757	2.980	2.565
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	560	560	880	560
d_b, Bicycle Delay [s]	25.92	25.92	15.68	25.92
l_b,int, Bicycle LOS Score for Intersection	2.064	2.213	2.593	2.005
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	27.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.386

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	122	123	72	50	138	137	129	275	104	47	341	53
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	122	123	72	50	138	137	129	275	104	47	341	53
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	32	19	13	36	36	34	72	27	12	90	14
Total Analysis Volume [veh/h]	128	129	76	53	145	144	136	289	109	49	359	56
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	29	0	10	29	0	19	39	0	12	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	11	11	4	10	10	9	54	54	4	50	50
g / C, Green / Cycle	0.06	0.12	0.12	0.05	0.11	0.11	0.10	0.60	0.60	0.05	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.04	0.07	0.04	0.03	0.08	0.08	0.08	0.11	0.11	0.03	0.12	0.11
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	208	221	221	85	195	195	172	1082	1082	82	987	987
d1, Uniform Delay [s]	41.06	37.38	36.23	41.98	39.01	38.99	39.61	8.10	8.02	42.06	10.41	10.37
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.94	2.44	0.92	7.13	5.58	5.45	7.94	0.39	0.36	6.78	0.50	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.62	0.58	0.34	0.62	0.75	0.74	0.79	0.19	0.18	0.60	0.21	0.21
d, Delay for Lane Group [s/veh]	44.01	39.81	37.15	49.11	44.60	44.44	47.55	8.49	8.38	48.84	10.91	10.84
Lane Group LOS	D	D	D	D	D	D	D	A	A	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	1.45	2.80	1.57	1.31	3.37	3.34	3.28	1.77	1.62	1.21	2.14	2.06
50th-Percentile Queue Length [ft]	36.34	70.01	39.25	32.81	84.21	83.45	82.00	44.16	40.47	30.29	53.51	51.44
95th-Percentile Queue Length [veh]	2.62	5.04	2.83	2.36	6.06	6.01	5.90	3.18	2.91	2.18	3.85	3.70
95th-Percentile Queue Length [ft]	65.41	126.01	70.66	59.07	151.59	150.22	147.60	79.48	72.85	54.52	96.32	92.60

Movement, Approach, & Intersection Results

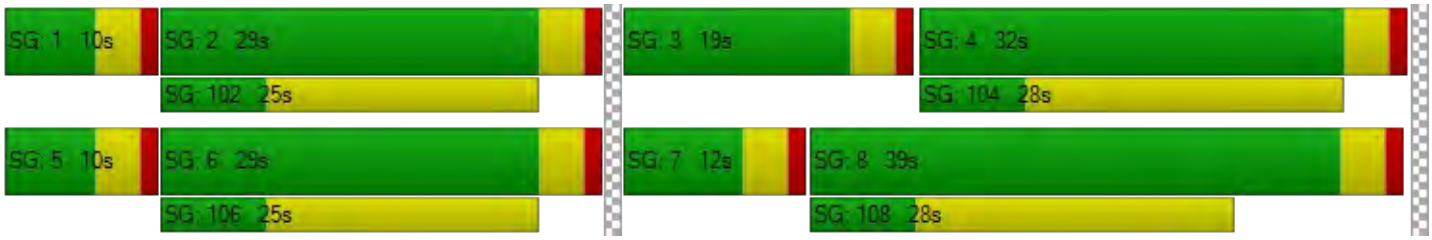
d_M, Delay for Movement [s/veh]	44.01	39.81	37.15	49.11	44.60	44.44	47.55	8.46	8.38	48.84	10.88	10.84
Movement LOS	D	D	D	D	D	D	D	A	A	D	B	B
d_A, Approach Delay [s/veh]	40.82			45.23			18.40			14.88		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.37											
Intersection LOS	C											
Intersection V/C	0.386											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.556	2.292	2.527	2.471
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	778	622
d_b, Bicycle Delay [s]	23.47	23.47	16.81	21.36
l_b,int, Bicycle LOS Score for Intersection	2.109	1.842	2.000	1.942
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	30.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.571

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	187	355	32	72	311	113	149	272	264	57	356	87
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	187	355	32	72	311	113	149	272	264	57	356	87
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	93	8	19	82	30	39	72	69	15	94	23
Total Analysis Volume [veh/h]	197	374	34	76	327	119	157	286	278	60	375	92
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	29	0	22	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	21	21	5	14	14	10	43	43	5	37	37
g / C, Green / Cycle	0.14	0.24	0.24	0.06	0.16	0.16	0.11	0.47	0.47	0.05	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.12	0.11	0.11	0.04	0.13	0.12	0.09	0.16	0.15	0.04	0.13	0.13
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	235	428	428	100	285	285	193	852	852	90	742	742
d1, Uniform Delay [s]	37.90	29.59	29.50	41.82	36.64	36.26	39.02	14.87	14.79	41.93	17.96	17.81
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.84	0.84	0.81	11.30	5.49	4.01	7.96	1.06	1.02	8.23	1.15	1.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.48	0.47	0.76	0.81	0.75	0.81	0.34	0.33	0.67	0.32	0.31
d, Delay for Lane Group [s/veh]	45.73	30.44	30.30	53.12	42.13	40.27	46.98	15.94	15.81	50.16	19.11	18.88
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	4.68	3.88	3.77	1.96	5.26	4.75	3.77	3.74	3.61	1.50	3.50	3.28
50th-Percentile Queue Length [ft]	116.95	97.03	94.27	48.97	131.53	118.84	94.15	93.51	90.37	37.53	87.51	82.07
95th-Percentile Queue Length [veh]	8.23	6.99	6.79	3.53	9.02	8.33	6.78	6.73	6.51	2.70	6.30	5.91
95th-Percentile Queue Length [ft]	205.63	174.66	169.68	88.15	225.58	208.23	169.48	168.32	162.66	67.55	157.52	147.72

Movement, Approach, & Intersection Results

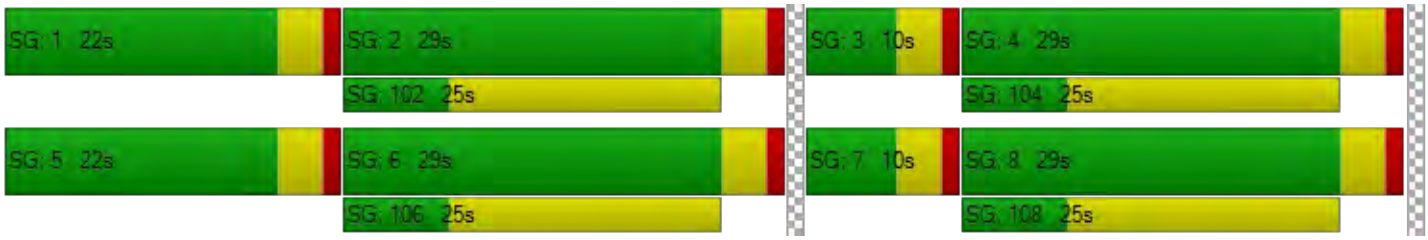
d_M, Delay for Movement [s/veh]	45.73	30.38	30.30	53.12	41.59	40.27	46.98	15.94	15.81	50.16	19.03	18.88
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	35.37			42.97			22.65			22.55		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	30.33											
Intersection LOS	C											
Intersection V/C	0.571											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.547	2.523	2.575	2.479
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	556	556
d_b, Bicycle Delay [s]	23.47	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.059	1.990	2.154	1.994
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.219

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	81	9	9	0	36	2	7	10	114	17	9	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	9	9	0	36	2	7	10	114	17	9	0
Peak Hour Factor	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	3	3	0	13	1	3	4	41	6	3	0
Total Analysis Volume [veh/h]	116	13	13	0	52	3	10	14	163	24	13	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	646	815	691	798	642	807	628	688
Degree of Utilization, x	0.20	0.02	0.08	0.00	0.02	0.22	0.04	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.74	0.05	0.24	0.01	0.05	0.83	0.12	0.06
95th-Percentile Queue Length [ft]	18.49	1.22	6.09	0.28	1.19	20.87	2.98	1.44
Approach Delay [s/veh]	9.43		8.28		8.41		8.45	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.74							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	234	0	0	0	0	0	205	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	234	0	0	0	0	0	205	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	78	0	0	0	0	0	68	0
Total Analysis Volume [veh/h]	0	0	0	0	311	0	0	0	0	0	272	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	67.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			16.00			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	8.53											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.530

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	182	305	318	18	345	0	34	4	35	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	182	305	318	18	345	0	34	4	35	0	0	0
Peak Hour Factor	0.8730	0.8730	0.8730	0.8730	0.8730	0.9500	0.8730	0.8730	0.8730	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	87	91	5	99	0	10	1	10	0	0	0
Total Analysis Volume [veh/h]	208	349	364	21	395	0	39	5	40	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	580	627	696	578	582	449	522	
Degree of Utilization, x	0.53	0.49	0.44	0.36	0.36	0.10	0.08	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.10	2.70	2.26	1.63	1.61	0.32	0.25	
95th-Percentile Queue Length [ft]	77.48	67.43	56.52	40.80	40.32	8.11	6.20	
Approach Delay [s/veh]	13.80			12.35		10.92		0.00
Approach LOS	B			B		B		A
Intersection Delay [s/veh]	13.21							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.710

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	806	385	0	0	526
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	806	385	0	0	526
Peak Hour Factor	0.9500	0.9270	0.9270	0.9500	0.9500	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	217	104	0	0	142
Total Analysis Volume [veh/h]	0	869	415	0	0	567
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.71
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.97
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	1.61
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	40.27
d_A, Approach Delay [s/veh]	0.00		0.00		11.97	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.67					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	20.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.692

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	288	871	863	0	0	298
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	288	871	863	0	0	298
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	76	229	227	0	0	78
Total Analysis Volume [veh/h]	303	917	908	0	0	314
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	45	63	18	0	0	32
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	68	45	19
g / C, Green / Cycle	0.20	0.72	0.47	0.20
(v / s)_i Volume / Saturation Flow Rate	0.18	0.25	0.25	0.17
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	343	2586	1708	356
d1, Uniform Delay [s]	36.85	5.06	17.55	37.06
k, delay calibration	0.11	0.50	0.50	0.12
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.54	0.38	1.19	8.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.35	0.53	0.88
d, Delay for Lane Group [s/veh]	44.38	5.44	18.74	45.15
Lane Group LOS	D	A	B	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	7.42	2.94	6.95	7.76
50th-Percentile Queue Length [ft]	185.60	73.39	173.71	193.96
95th-Percentile Queue Length [veh]	11.89	5.28	11.27	12.33
95th-Percentile Queue Length [ft]	297.31	132.11	281.79	308.16

Movement, Approach, & Intersection Results

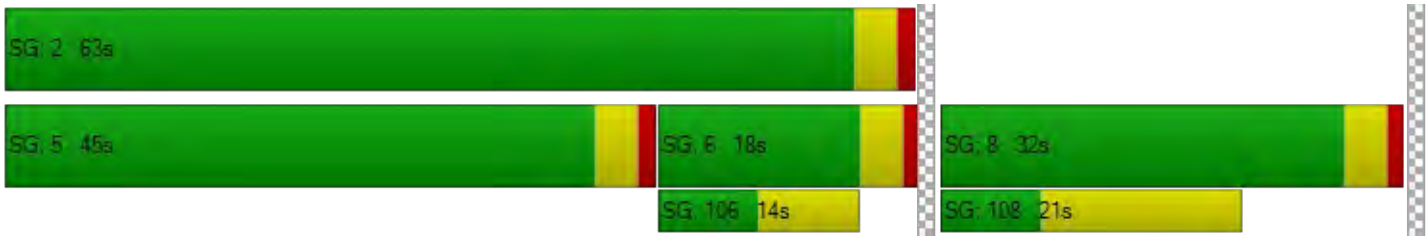
d_M, Delay for Movement [s/veh]	44.38	5.44	18.74	0.00	0.00	45.15
Movement LOS	D	A	B			D
d_A, Approach Delay [s/veh]	15.11		18.74		45.15	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	20.32					
Intersection LOS	C					
Intersection V/C	0.692					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	2.778	2.578	2.018
Crosswalk LOS	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	47.50	47.50	47.50
l_b,int, Bicycle LOS Score for Intersection	5.139	4.882	4.132
Bicycle LOS	F	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	4.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.439

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	1100	37	19	1055	47	12
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1100	37	19	1055	47	12
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	289	10	5	278	12	3
Total Analysis Volume [veh/h]	1158	39	20	1111	49	13
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	51	0	10	61	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	71	71	2	77	5
g / C, Green / Cycle	0.79	0.79	0.03	0.86	0.05
(v / s)_i Volume / Saturation Flow Rate	0.33	0.33	0.01	0.31	0.04
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1414	1414	47	3087	91
d1, Uniform Delay [s]	3.10	3.10	43.09	1.32	41.85
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.93	0.93	6.08	0.33	8.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.42	0.42	0.43	0.36	0.68
d, Delay for Lane Group [s/veh]	4.03	4.03	49.17	1.65	50.38
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	2.56	2.56	0.51	0.68	1.55
50th-Percentile Queue Length [ft]	64.03	64.03	12.83	16.88	38.86
95th-Percentile Queue Length [veh]	4.61	4.61	0.92	1.22	2.80
95th-Percentile Queue Length [ft]	115.25	115.25	23.09	30.39	69.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.03	4.03	49.17	1.65	50.38	50.38
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	4.03		2.49		50.38	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.50					
Intersection LOS	A					
Intersection V/C	0.439					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.705	2.748	1.773
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.120	5.065	4.235
Bicycle LOS	F	F	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	25.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.190

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1082	1	3	1114	42	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1082	1	3	1114	42	37
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	285	0	1	293	11	10
Total Analysis Volume [veh/h]	1139	1	3	1173	44	39
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.19	0.08
d_M, Delay for Movement [s/veh]	0.00	0.00	10.94	0.00	25.00	17.18
Movement LOS	A	A	B	A	C	C
95th-Percentile Queue Length [veh]	0.00	0.00	13.62	6.81	1.09	1.09
95th-Percentile Queue Length [ft]	0.00	0.00	340.43	170.21	27.25	27.25
d_A, Approach Delay [s/veh]	0.00		0.03		21.32	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.75					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	32.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.701

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	151	495	73	130	315	85	150	567	188	155	505	148
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	151	495	73	130	315	85	150	567	188	155	505	148
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	130	19	34	83	22	39	149	49	41	133	39
Total Analysis Volume [veh/h]	159	521	77	137	332	89	158	597	198	163	532	156
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	14	34	0	13	33	0	14	29	0	14	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	18	18	9	17	17	10	37	37	11	37	37
g / C, Green / Cycle	0.11	0.20	0.20	0.10	0.19	0.19	0.11	0.41	0.41	0.12	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.09	0.17	0.16	0.08	0.12	0.11	0.09	0.23	0.21	0.10	0.20	0.18
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	190	361	361	169	339	339	194	729	729	200	735	735
d1, Uniform Delay [s]	39.25	34.70	34.40	39.80	33.79	33.52	38.99	20.73	20.22	38.84	19.70	19.34
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.32	5.46	4.36	9.03	2.02	1.73	7.91	3.21	2.65	7.87	2.30	1.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.85	0.81	0.81	0.64	0.60	0.81	0.57	0.52	0.82	0.49	0.45
d, Delay for Lane Group [s/veh]	48.57	40.16	38.76	48.82	35.82	35.25	46.90	23.94	22.88	46.71	22.00	21.32
Lane Group LOS	D	D	D	D	D	D	D	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.89	6.85	6.42	3.35	4.49	4.18	3.79	7.10	6.30	3.90	5.78	5.22
50th-Percentile Queue Length [ft]	97.16	171.26	160.54	83.86	112.36	104.47	94.68	177.62	157.61	97.50	144.38	130.47
95th-Percentile Queue Length [veh]	7.00	11.14	10.58	6.04	7.97	7.52	6.82	11.48	10.42	7.02	9.72	8.97
95th-Percentile Queue Length [ft]	174.89	278.57	264.43	150.94	199.28	188.05	170.43	286.91	260.55	175.50	242.91	224.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.57	39.58	38.76	48.82	35.62	35.25	46.90	23.62	22.88	46.71	21.78	21.32
Movement LOS	D	D	D	D	D	D	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	41.38			38.80			27.32			26.47		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	32.56											
Intersection LOS	C											
Intersection V/C	0.701											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.582	2.571	2.637	2.623
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	667	644	556	556
d_b, Bicycle Delay [s]	20.00	20.67	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.184	2.020	2.346	2.262
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	19.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1003	186	0	793	631	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1003	186	0	793	631	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	264	49	0	209	166	0
Total Analysis Volume [veh/h]	1056	196	0	835	664	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	34	48	48
g / C, Green / Cycle	0.38	0.38	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.33	0.11	0.23	0.18
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1205	678	1924	1924
d1, Uniform Delay [s]	26.06	19.59	12.67	11.94
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.20	0.23	0.72	0.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.29	0.43	0.35
d, Delay for Lane Group [s/veh]	28.26	19.83	13.39	12.43
Lane Group LOS	C	B	B	B
Critical Lane Group	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	10.36	2.83	4.95	3.70
50th-Percentile Queue Length [ft]	258.90	70.79	123.77	92.40
95th-Percentile Queue Length [veh]	15.63	5.10	8.60	6.65
95th-Percentile Queue Length [ft]	390.85	127.42	215.00	166.33

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	28.26	19.83	0.00	13.39	12.43	0.00
Movement LOS	C	B		B	B	
d_A, Approach Delay [s/veh]	26.94		13.39		12.43	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	19.33					
Intersection LOS	B					
Intersection V/C	0.617					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.347	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.821	4.680
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	42.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.905

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	202	111	59	96	239	280	187	1202	394	233	1518	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	202	111	59	96	239	280	187	1202	394	233	1518	210
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	29	16	25	63	74	49	316	104	61	399	55
Total Analysis Volume [veh/h]	213	117	62	101	252	295	197	1265	415	245	1598	221
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	21	35	0	25	39	0	10	49	0	11	50	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	30	30	9	22	22	10	46	46	19	55	55
g / C, Green / Cycle	0.14	0.25	0.25	0.07	0.19	0.19	0.08	0.38	0.38	0.16	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.13	0.07	0.03	0.06	0.14	0.16	0.06	0.35	0.23	0.14	0.34	0.34
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	238	455	455	126	336	336	256	1378	689	267	1656	828
d1, Uniform Delay [s]	50.74	35.84	34.70	54.72	46.16	47.48	54.13	35.26	29.73	49.80	26.40	26.37
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.13	0.11	0.50	0.50	0.14	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	11.21	0.30	0.13	11.22	3.37	8.72	4.86	11.24	3.88	14.78	2.91	5.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.26	0.14	0.80	0.75	0.88	0.77	0.92	0.60	0.92	0.73	0.73
d, Delay for Lane Group [s/veh]	61.94	36.13	34.84	65.94	49.53	56.20	58.99	46.51	33.60	64.58	29.32	32.01
Lane Group LOS	E	D	C	E	D	E	E	D	C	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	7.02	2.79	1.43	3.40	7.42	9.36	3.09	19.43	10.30	8.31	14.51	15.07
50th-Percentile Queue Length [ft]	175.52	69.84	35.79	84.94	185.38	234.09	77.24	485.75	257.46	207.66	362.64	376.87
95th-Percentile Queue Length [veh]	11.37	5.03	2.58	6.12	11.88	14.38	5.56	26.66	15.56	13.03	20.75	21.44
95th-Percentile Queue Length [ft]	284.16	125.72	64.41	152.89	297.03	359.55	139.03	666.48	389.04	325.83	518.80	536.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	61.94	36.13	34.84	65.94	49.53	56.20	58.99	46.51	33.60	64.58	29.96	32.01
Movement LOS	E	D	C	E	D	E	E	D	C	E	C	C
d_A, Approach Delay [s/veh]	49.95			55.13			44.97			34.29		
Approach LOS	D			E			D			C		
d_I, Intersection Delay [s/veh]	42.26											
Intersection LOS	D											
Intersection V/C	0.905											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.544	3.225	3.034
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	517	583	750	767
d_b, Bicycle Delay [s]	33.00	30.10	23.44	22.82
l_b,int, Bicycle LOS Score for Intersection	2.206	2.094	3.108	2.695
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.464

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	377	94	461	386	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	377	94	461	386	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	99	25	121	102	0	0
Total Analysis Volume [veh/h]	397	99	485	406	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	21	0	69	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	54	54	28	86	
g / C, Green / Cycle	0.60	0.60	0.31	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.14	0.14	0.29	0.11	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1080	1080	528	3440	
d1, Uniform Delay [s]	8.34	8.34	29.89	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.50	0.50	6.93	0.07	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.23	0.23	0.92	0.12	
d, Delay for Lane Group [s/veh]	8.83	8.83	36.82	0.17	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	2.19	2.19	10.75	0.03	
50th-Percentile Queue Length [ft]	54.85	54.85	268.65	0.84	
95th-Percentile Queue Length [veh]	3.95	3.95	16.12	0.06	
95th-Percentile Queue Length [ft]	98.73	98.73	403.05	1.51	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.83	8.83	36.82	0.17	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	8.83		20.12		0.00	
Approach LOS	A		C		A	
d_I, Intersection Delay [s/veh]	16.08					
Intersection LOS	B					
Intersection V/C	0.464					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.992	
Crosswalk LOS	F	F	A	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0	
d_b, Bicycle Delay [s]	45.00	45.00	45.00	
l_b,int, Bicycle LOS Score for Intersection	4.542	4.867	4.132	
Bicycle LOS	E	E	D	

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.720

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	297	3	183	10	0	27	24	1396	0	0	1632	19
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	297	3	183	10	0	27	24	1396	0	0	1632	19
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	78	1	48	3	0	7	6	367	0	0	429	5
Total Analysis Volume [veh/h]	313	3	193	11	0	28	25	1469	0	0	1718	20
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	27	0	10	0	0	10	58	0	0	48	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	13	4	3	66	59	59
g / C, Green / Cycle	0.14	0.14	0.04	0.03	0.69	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.10	0.11	0.02	0.01	0.41	0.48	0.48
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	447	251	71	53	2493	1114	1114
d1, Uniform Delay [s]	39.04	39.52	44.72	45.30	7.60	13.35	13.35
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.01	5.20	6.50	6.24	1.03	5.42	5.42
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.78	0.55	0.47	0.59	0.78	0.78
d, Delay for Lane Group [s/veh]	41.04	44.73	51.22	51.54	8.63	18.77	18.77
Lane Group LOS	D	D	D	D	A	B	B
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	3.57	4.73	1.02	0.67	6.82	13.68	13.68
50th-Percentile Queue Length [ft]	89.20	118.24	25.59	16.72	170.59	341.93	341.93
95th-Percentile Queue Length [veh]	6.42	8.30	1.84	1.20	11.11	19.74	19.74
95th-Percentile Queue Length [ft]	160.56	207.41	46.07	30.10	277.69	493.56	493.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.04	44.73	44.73	51.22	0.00	51.22	51.54	8.63	0.00	0.00	18.77	18.77
Movement LOS	D	D	D	D		D	D	A			B	B
d_A, Approach Delay [s/veh]	42.46			51.22			9.35			18.77		
Approach LOS	D			D			A			B		
d_I, Intersection Delay [s/veh]	18.57											
Intersection LOS	B											
Intersection V/C	0.720											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.108	1.760	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	484	0	1137	926
d_b, Bicycle Delay [s]	27.28	47.50	8.85	13.69
l_b,int, Bicycle LOS Score for Intersection	2.399	4.197	2.792	2.993
Bicycle LOS	B	D	C	C

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	37.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.949

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	244	221	72	227	157	787	680	595	161	96	679	192
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	244	221	72	227	157	787	680	595	161	96	679	192
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	58	19	60	41	207	179	157	42	25	179	51
Total Analysis Volume [veh/h]	257	233	76	239	165	828	716	626	169	101	715	202
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	35	0	16	41	41	30	47	0	22	39	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	20	20	36	26	63	33	63	63	9	39	39
g / C, Green / Cycle	0.30	0.17	0.17	0.30	0.22	0.53	0.28	0.53	0.53	0.07	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.15	0.09	0.08	0.14	0.05	0.46	0.22	0.23	0.22	0.06	0.26	0.24
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	538	301	301	464	781	948	885	945	945	126	581	581
d1, Uniform Delay [s]	34.59	45.71	45.40	34.16	38.58	24.88	40.45	17.49	17.23	54.69	37.43	36.45
k, delay calibration	0.15	0.11	0.11	0.13	0.11	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.90	1.46	1.26	1.06	0.13	10.95	1.82	1.44	1.31	11.04	12.25	8.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.53	0.50	0.51	0.21	0.87	0.81	0.43	0.41	0.80	0.82	0.76
d, Delay for Lane Group [s/veh]	35.49	47.17	46.67	35.22	38.71	35.83	42.27	18.92	18.55	65.73	49.68	45.44
Lane Group LOS	D	D	D	D	D	D	D	B	B	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.33	4.50	4.15	5.82	2.02	22.63	10.01	7.19	6.72	3.39	14.73	12.95
50th-Percentile Queue Length [ft]	158.15	112.38	103.72	145.58	50.58	565.83	250.16	179.83	168.00	84.79	368.33	323.65
95th-Percentile Queue Length [veh]	10.45	7.97	7.47	9.78	3.64	30.44	15.19	11.59	10.97	6.11	21.03	18.85
95th-Percentile Queue Length [ft]	261.27	199.31	186.70	244.51	91.04	760.89	379.86	289.79	274.29	152.63	525.70	471.17

Movement, Approach, & Intersection Results

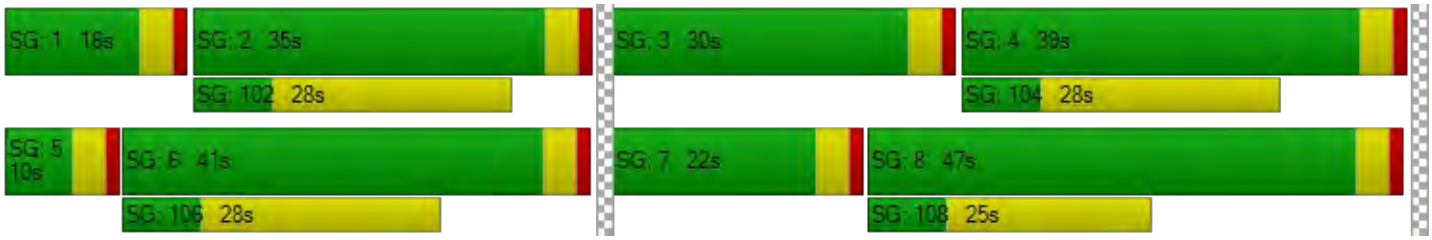
d_M, Delay for Movement [s/veh]	35.49	47.02	46.67	35.22	38.71	35.83	42.27	18.79	18.55	65.73	48.26	45.44
Movement LOS	D	D	D	D	D	D	D	B	B	E	D	D
d_A, Approach Delay [s/veh]	41.74			36.10			29.89			49.44		
Approach LOS	D			D			C			D		
d_I, Intersection Delay [s/veh]	37.81											
Intersection LOS	D											
Intersection V/C	0.949											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.509	2.854	3.168	2.758
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	517	617	717	583
d_b, Bicycle Delay [s]	33.00	28.70	24.70	30.10
l_b,int, Bicycle LOS Score for Intersection	2.027	2.576	2.806	2.399
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	23.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.566

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	200	80	171	43	54	61	67	705	181	114	517	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	80	171	43	54	61	67	705	181	114	517	39
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	21	45	11	14	16	18	186	48	30	136	10
Total Analysis Volume [veh/h]	211	84	180	45	57	64	71	742	191	120	544	41
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	19	35	0	13	29	0	10	32	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	11	11	4	7	7	5	50	50	8	54	54
g / C, Green / Cycle	0.09	0.13	0.13	0.05	0.08	0.08	0.06	0.56	0.56	0.09	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.07	0.05	0.10	0.03	0.03	0.04	0.04	0.27	0.25	0.07	0.16	0.16
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	290	229	229	79	149	149	96	1005	1005	154	1066	1066
d1, Uniform Delay [s]	39.91	36.01	38.15	42.12	39.16	39.31	41.90	12.02	11.72	40.15	8.97	8.93
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.46	0.98	5.84	6.35	1.60	1.94	10.59	1.65	1.44	8.35	0.65	0.63
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.73	0.37	0.79	0.57	0.38	0.43	0.74	0.48	0.45	0.78	0.28	0.27
d, Delay for Lane Group [s/veh]	43.36	36.99	43.99	48.47	40.75	41.25	52.49	13.66	13.16	48.49	9.61	9.55
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.39	1.73	4.17	1.11	1.25	1.41	1.82	5.83	5.27	2.92	2.77	2.69
50th-Percentile Queue Length [ft]	59.63	43.34	104.13	27.74	31.21	35.32	45.48	145.74	131.84	73.11	69.21	67.32
95th-Percentile Queue Length [veh]	4.29	3.12	7.50	2.00	2.25	2.54	3.27	9.79	9.04	5.26	4.98	4.85
95th-Percentile Queue Length [ft]	107.34	78.00	187.44	49.93	56.17	63.58	81.86	244.73	225.99	131.60	124.57	121.18

Movement, Approach, & Intersection Results

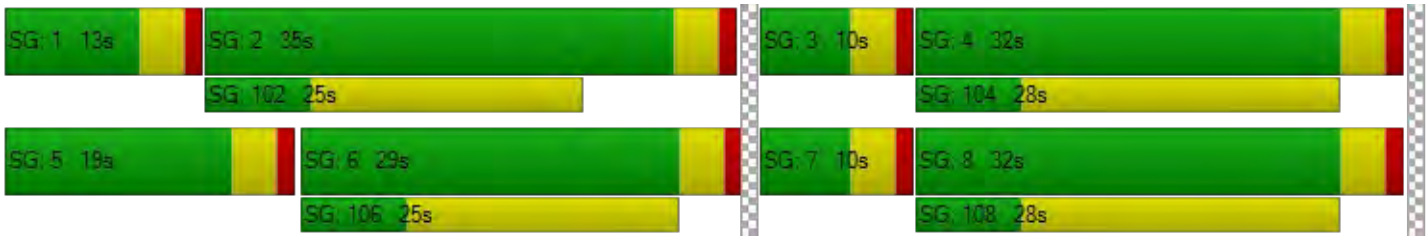
d_M, Delay for Movement [s/veh]	43.36	36.99	43.99	48.47	40.75	41.25	52.49	13.49	13.16	48.49	9.58	9.55
Movement LOS	D	D	D	D	D	D	D	B	B	D	A	A
d_A, Approach Delay [s/veh]	42.47			43.04			16.18			16.21		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	23.40											
Intersection LOS	C											
Intersection V/C	0.566											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.589	2.219	2.655	2.625
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	556	622	622
d_b, Bicycle Delay [s]	19.34	23.47	21.36	21.36
l_b,int, Bicycle LOS Score for Intersection	2.343	1.697	2.388	2.141
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	30.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.534

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	172	397	52	68	338	87	86	345	216	49	227	65
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	172	397	52	68	338	87	86	345	216	49	227	65
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	45	104	14	18	89	23	23	91	57	13	60	17
Total Analysis Volume [veh/h]	181	418	55	72	356	92	91	363	227	52	239	68
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	29	0	22	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	21	21	5	14	14	6	44	44	4	42	42
g / C, Green / Cycle	0.13	0.23	0.23	0.06	0.16	0.16	0.07	0.49	0.49	0.05	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.11	0.13	0.13	0.04	0.13	0.12	0.05	0.17	0.15	0.03	0.09	0.08
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	218	413	413	97	284	284	119	876	876	84	840	840
d1, Uniform Delay [s]	38.34	30.91	30.74	41.88	36.66	36.37	41.23	14.39	14.05	42.01	14.06	14.00
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.85	1.31	1.20	10.70	5.48	4.29	9.90	1.14	0.95	7.11	0.49	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.58	0.56	0.74	0.81	0.77	0.77	0.36	0.32	0.62	0.19	0.18
d, Delay for Lane Group [s/veh]	46.19	32.21	31.94	52.58	42.14	40.65	51.13	15.53	14.99	49.12	14.56	14.47
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.31	4.71	4.51	1.85	5.24	4.84	2.29	4.04	3.48	1.29	1.91	1.81
50th-Percentile Queue Length [ft]	107.83	117.83	112.81	46.16	131.03	121.12	57.21	101.04	86.92	32.21	47.76	45.34
95th-Percentile Queue Length [veh]	7.72	8.27	8.00	3.32	9.00	8.45	4.12	7.27	6.26	2.32	3.44	3.26
95th-Percentile Queue Length [ft]	192.98	206.83	199.90	83.08	224.89	211.36	102.97	181.87	156.46	57.98	85.96	81.62

Movement, Approach, & Intersection Results

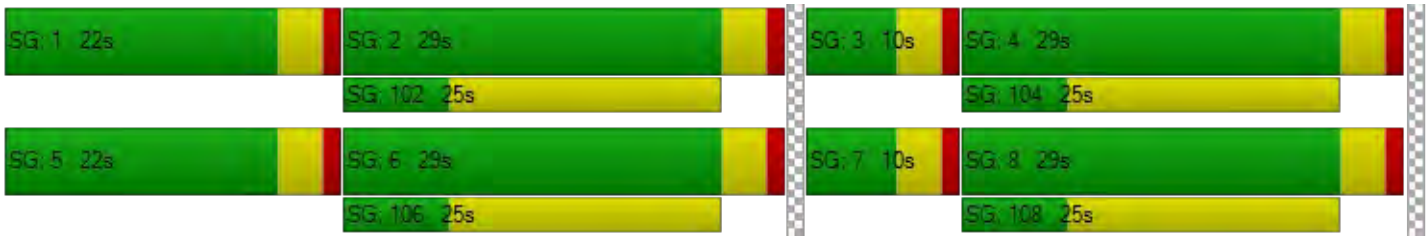
d_M, Delay for Movement [s/veh]	46.19	32.10	31.94	52.58	41.62	40.65	51.13	15.46	14.99	49.12	14.52	14.47
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	35.98			42.96			20.07			19.52		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	30.06											
Intersection LOS	C											
Intersection V/C	0.534											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.551	2.513	2.532	2.465
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	556	556
d_b, Bicycle Delay [s]	23.47	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.099	1.989	2.121	1.856
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	155	11	2	2	22	5	4	4	120	5	3	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	155	11	2	2	22	5	4	4	120	5	3	1
Peak Hour Factor	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	4	1	1	8	2	1	1	44	2	1	0
Total Analysis Volume [veh/h]	227	16	3	3	32	7	6	6	176	7	4	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	651	825	674	785	614	770	595	666
Degree of Utilization, x	0.37	0.00	0.05	0.01	0.01	0.24	0.01	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.73	0.01	0.16	0.03	0.03	0.92	0.04	0.02
95th-Percentile Queue Length [ft]	43.25	0.27	4.10	0.68	0.74	22.94	0.89	0.57
Approach Delay [s/veh]	11.44		8.16		8.81		8.54	
Approach LOS	B		A		A		A	
Intersection Delay [s/veh]	10.08							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	17.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.469

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	196	0	0	0	0	0	301	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	196	0	0	0	0	0	301	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	64	0	0	0	0	0	98	0
Total Analysis Volume [veh/h]	0	0	0	0	255	0	0	0	0	0	392	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	17.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	61.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			17.33			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	6.83											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	24.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.853

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	320	547	443	31	379	0	31	7	42	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	547	443	31	379	0	31	7	42	0	0	0
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9500	0.9230	0.9230	0.9230	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	87	148	120	8	103	0	8	2	11	0	0	0
Total Analysis Volume [veh/h]	347	593	480	34	411	0	34	8	46	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	555	589	665	515	521	398	451	
Degree of Utilization, x	0.85	0.80	0.71	0.43	0.43	0.11	0.10	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	9.15	7.91	5.93	2.15	2.12	0.37	0.32	
95th-Percentile Queue Length [ft]	228.87	197.71	148.31	53.86	52.95	9.24	8.07	
Approach Delay [s/veh]	28.42			14.79		12.21		0.00
Approach LOS	D			B		B		A
Intersection Delay [s/veh]	24.58							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.971

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	1309	416	0	0	692
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1309	416	0	0	692
Peak Hour Factor	0.9500	0.9180	0.9180	0.9500	0.9500	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	356	113	0	0	188
Total Analysis Volume [veh/h]	0	1426	453	0	0	754
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.97
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.93
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	2.69
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	67.17
d_A, Approach Delay [s/veh]	0.00		0.00		13.93	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.99					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.623

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	151	1352	1130	0	0	199
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	151	1352	1130	0	0	199
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	40	356	297	0	0	52
Total Analysis Volume [veh/h]	159	1423	1189	0	0	209
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	16	59	43	0	0	31
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	69	55	13
g / C, Green / Cycle	0.11	0.77	0.61	0.14
(v / s)_i Volume / Saturation Flow Rate	0.09	0.40	0.33	0.12
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	192	2776	2209	252
d1, Uniform Delay [s]	39.08	3.90	10.03	37.67
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.77	0.68	0.95	6.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.51	0.54	0.83
d, Delay for Lane Group [s/veh]	47.85	4.58	10.98	44.53
Lane Group LOS	D	A	B	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	3.85	3.60	6.29	4.88
50th-Percentile Queue Length [ft]	96.35	89.93	157.30	122.12
95th-Percentile Queue Length [veh]	6.94	6.47	10.41	8.51
95th-Percentile Queue Length [ft]	173.44	161.87	260.14	212.73

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.85	4.58	10.98	0.00	0.00	44.53
Movement LOS	D	A	B			D
d_A, Approach Delay [s/veh]	8.93		10.98		44.53	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	12.24					
Intersection LOS	B					
Intersection V/C	0.623					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.880	2.767	1.894
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.438	5.113	4.132
Bicycle LOS	F	F	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	4.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.533

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	1438	24	17	1248	24	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1438	24	17	1248	24	14
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	378	6	4	328	6	4
Total Analysis Volume [veh/h]	1514	25	18	1314	25	15
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	51	0	10	61	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	72	72	2	78	4
g / C, Green / Cycle	0.80	0.80	0.02	0.87	0.04
(v / s)_i Volume / Saturation Flow Rate	0.43	0.43	0.01	0.37	0.02
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1436	1436	43	3124	74
d1, Uniform Delay [s]	3.21	3.21	43.22	1.24	42.20
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.44	1.44	6.27	0.42	6.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.54	0.54	0.42	0.42	0.54
d, Delay for Lane Group [s/veh]	4.65	4.65	49.49	1.66	48.28
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	3.45	3.45	0.47	0.60	0.99
50th-Percentile Queue Length [ft]	86.17	86.17	11.66	15.06	24.68
95th-Percentile Queue Length [veh]	6.20	6.20	0.84	1.08	1.78
95th-Percentile Queue Length [ft]	155.11	155.11	20.99	27.11	44.42

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.65	4.65	49.49	1.66	48.28	48.28
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	4.65		2.30		48.28	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.17					
Intersection LOS	A					
Intersection V/C	0.533					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.832	2.857	1.755
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.402	5.231	4.198
Bicycle LOS	F	F	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	29.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1463	0	0	1277	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1463	0	0	1277	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	385	0	0	336	0	0
Total Analysis Volume [veh/h]	1540	0	0	1344	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	13.42	0.00	29.46	15.49
Movement LOS	A	A	B	A	D	C
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		22.48	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	31.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.569

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	154	345	74	110	242	78	102	453	142	160	494	125
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	154	345	74	110	242	78	102	453	142	160	494	125
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	91	19	29	64	21	27	119	37	42	130	33
Total Analysis Volume [veh/h]	162	363	78	116	255	82	107	477	149	168	520	132
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	35	0	21	34	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	15	15	8	12	12	8	45	45	11	49	49
g / C, Green / Cycle	0.12	0.15	0.15	0.09	0.12	0.12	0.08	0.47	0.47	0.12	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.10	0.13	0.12	0.07	0.10	0.09	0.06	0.18	0.17	0.10	0.19	0.17
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	197	278	278	147	225	225	137	847	847	205	918	918
d1, Uniform Delay [s]	41.12	38.92	38.63	42.62	40.31	40.06	42.89	16.28	16.01	40.84	14.05	13.83
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.34	5.75	4.54	9.08	5.54	4.41	9.09	1.32	1.16	7.89	1.13	1.02
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.81	0.77	0.79	0.77	0.73	0.78	0.38	0.35	0.82	0.37	0.34
d, Delay for Lane Group [s/veh]	49.46	44.67	43.17	51.70	45.85	44.47	51.99	17.60	17.18	48.73	15.18	14.85
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.12	5.48	5.09	3.02	4.24	3.91	2.79	4.70	4.27	4.24	4.45	4.08
50th-Percentile Queue Length [ft]	103.09	137.10	127.32	75.43	105.91	97.78	69.78	117.61	106.69	106.08	111.19	101.97
95th-Percentile Queue Length [veh]	7.42	9.32	8.79	5.43	7.61	7.04	5.02	8.26	7.66	7.62	7.91	7.34
95th-Percentile Queue Length [ft]	185.56	233.11	219.85	135.77	190.29	176.01	125.61	206.54	191.39	190.54	197.66	183.55

Movement, Approach, & Intersection Results

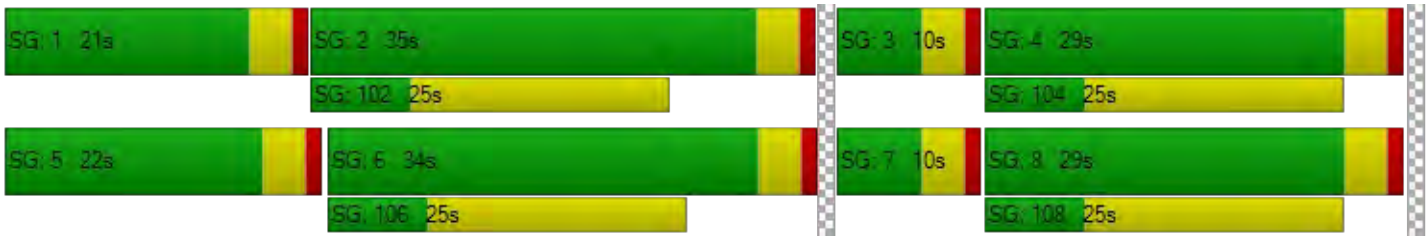
d_M, Delay for Movement [s/veh]	49.46	44.11	43.17	51.70	45.41	44.47	51.99	17.46	17.18	48.73	15.07	14.85
Movement LOS	D	D	D	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	45.42			46.85			22.44			21.93		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	31.83											
Intersection LOS	C											
Intersection V/C	0.569											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	2.531	2.508	2.594	2.593
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	653	632	526	526
d_b, Bicycle Delay [s]	21.56	22.24	25.79	25.79
l_b,int, Bicycle LOS Score for Intersection	2.057	1.933	2.164	2.236
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	20.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.665

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1255	161	0	637	661	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1255	161	0	637	661	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	330	42	0	168	174	0
Total Analysis Volume [veh/h]	1321	169	0	671	696	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	42	42	40	40
g / C, Green / Cycle	0.46	0.46	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.41	0.09	0.19	0.19
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1476	830	1619	1619
d1, Uniform Delay [s]	22.21	14.39	16.71	16.85
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.15	0.12	0.78	0.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.20	0.41	0.43
d, Delay for Lane Group [s/veh]	24.36	14.51	17.49	17.69
Lane Group LOS	C	B	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	12.32	2.00	4.66	4.88
50th-Percentile Queue Length [ft]	308.04	49.94	116.45	121.91
95th-Percentile Queue Length [veh]	18.08	3.60	8.20	8.50
95th-Percentile Queue Length [ft]	451.96	89.89	204.94	212.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.36	14.51	0.00	17.49	17.69	0.00
Movement LOS	C	B		B	B	
d_A, Approach Delay [s/veh]	23.25		17.49		17.69	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	20.54					
Intersection LOS	C					
Intersection V/C	0.665					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.424	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.686	4.707
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	52.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.999

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	175	77	60	112	183	272	195	1510	245	254	1539	223
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	175	77	60	112	183	272	195	1510	245	254	1539	223
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	46	20	16	29	48	72	51	397	64	67	405	59
Total Analysis Volume [veh/h]	184	81	63	118	193	286	205	1589	258	267	1620	235
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	16	36	0	19	39	0	13	48	0	17	52	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	24	24	10	22	22	10	50	50	21	60	60
g / C, Green / Cycle	0.10	0.20	0.20	0.08	0.18	0.18	0.08	0.41	0.41	0.17	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.11	0.05	0.04	0.07	0.11	0.16	0.06	0.44	0.14	0.16	0.34	0.34
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	171	354	354	144	326	326	266	1488	744	292	1808	904
d1, Uniform Delay [s]	54.00	40.55	40.13	54.06	45.12	47.89	53.91	35.21	24.11	48.83	22.67	22.64
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.12	0.11	0.50	0.50	0.18	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	54.65	0.33	0.24	10.90	1.72	8.45	4.68	43.73	1.28	16.30	2.13	4.17
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.08	0.23	0.18	0.82	0.59	0.88	0.77	1.07	0.35	0.91	0.68	0.68
d, Delay for Lane Group [s/veh]	108.64	40.88	40.37	64.96	46.85	56.34	58.59	78.95	25.39	65.13	24.81	26.81
Lane Group LOS	F	D	D	E	D	E	E	F	C	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	7.75	2.06	1.58	3.94	5.44	9.07	3.21	30.21	5.29	9.15	13.46	13.91
50th-Percentile Queue Length [ft]	193.66	51.48	39.59	98.53	135.94	226.79	80.13	755.34	132.27	228.66	336.39	347.79
95th-Percentile Queue Length [veh]	12.66	3.71	2.85	7.09	9.26	14.01	5.77	41.16	9.06	14.11	19.47	20.03
95th-Percentile Queue Length [ft]	316.47	92.66	71.27	177.35	231.55	350.27	144.23	1028.94	226.57	352.65	486.78	500.72

Movement, Approach, & Intersection Results

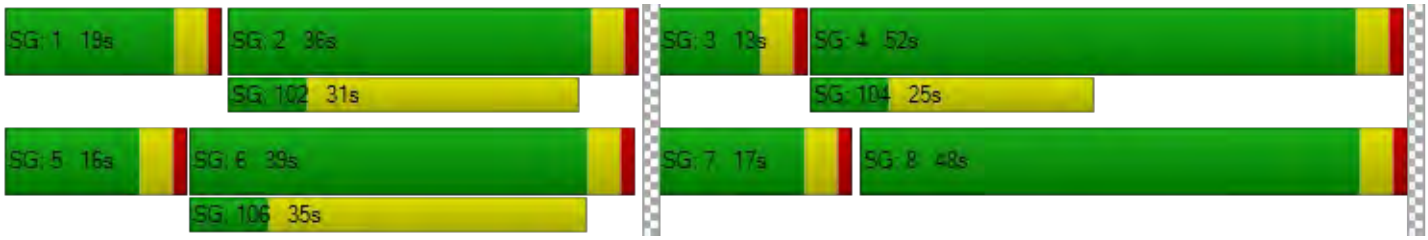
d_M, Delay for Movement [s/veh]	108.64	40.88	40.37	64.96	46.85	56.34	58.59	78.95	25.39	65.13	25.28	26.81
Movement LOS	F	D	D	E	D	E	E	F	C	E	C	C
d_A, Approach Delay [s/veh]	78.80			54.97			70.18			30.46		
Approach LOS	E			D			E			C		
d_I, Intersection Delay [s/veh]	52.42											
Intersection LOS	D											
Intersection V/C	0.999											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.532	3.244	3.099
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	583	733	800
d_b, Bicycle Delay [s]	32.27	30.10	24.07	21.60
l_b,int, Bicycle LOS Score for Intersection	2.101	2.052	3.253	2.727
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	17.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.395

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	299	69	408	304	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	299	69	408	304	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	18	107	80	0	0
Total Analysis Volume [veh/h]	315	73	429	320	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	57	57	25	86	
g / C, Green / Cycle	0.63	0.63	0.28	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.25	0.09	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1140	1140	472	3440	
d1, Uniform Delay [s]	6.77	6.77	31.39	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.32	0.32	7.02	0.05	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.17	0.17	0.91	0.09	
d, Delay for Lane Group [s/veh]	7.10	7.10	38.41	0.15	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	1.47	1.47	9.62	0.03	
50th-Percentile Queue Length [ft]	36.71	36.71	240.55	0.64	
95th-Percentile Queue Length [veh]	2.64	2.64	14.71	0.05	
95th-Percentile Queue Length [ft]	66.08	66.08	367.74	1.15	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.10	7.10	38.41	0.15	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	7.10		22.06		0.00	
Approach LOS	A		C		A	
d_I, Intersection Delay [s/veh]	16.96					
Intersection LOS	B					
Intersection V/C	0.395					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.912	
Crosswalk LOS	F	F	A	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0	
d_b, Bicycle Delay [s]	45.00	45.00	45.00	
l_b,int, Bicycle LOS Score for Intersection	4.453	4.750	4.132	
Bicycle LOS	E	E	D	

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	30.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.832

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	271	5	296	17	0	60	32	1610	0	0	1701	25
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	271	5	296	17	0	60	32	1610	0	0	1701	25
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	71	1	78	4	0	16	8	424	0	0	448	7
Total Analysis Volume [veh/h]	285	5	312	18	0	63	34	1695	0	0	1791	26
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	38	0	10	0	0	10	72	0	0	62	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	24	7	4	77	69	69
g / C, Green / Cycle	0.20	0.20	0.06	0.03	0.64	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.09	0.18	0.05	0.02	0.47	0.50	0.50
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	640	360	103	58	2303	1030	1030
d1, Uniform Delay [s]	42.17	46.63	55.64	57.12	14.72	22.18	22.18
k, delay calibration	0.11	0.18	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.49	10.84	12.51	8.99	2.14	10.86	10.86
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.45	0.88	0.79	0.58	0.74	0.88	0.88
d, Delay for Lane Group [s/veh]	42.66	57.47	68.15	66.12	16.87	33.04	33.04
Lane Group LOS	D	E	E	E	B	C	C
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	3.76	10.24	2.78	1.16	15.29	23.96	23.96
50th-Percentile Queue Length [ft]	94.12	255.94	69.40	29.06	382.28	598.89	598.89
95th-Percentile Queue Length [veh]	6.78	15.49	5.00	2.09	21.70	31.98	31.98
95th-Percentile Queue Length [ft]	169.42	387.13	124.93	52.31	542.60	799.56	799.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	42.66	57.47	57.47	68.15	0.00	68.15	66.12	16.87	0.00	0.00	33.04	33.04
Movement LOS	D	E	E	E		E	E	B			C	C
d_A, Approach Delay [s/veh]	50.46			68.15			17.83			33.04		
Approach LOS	D			E			B			C		
d_I, Intersection Delay [s/veh]	29.97											
Intersection LOS	C											
Intersection V/C	0.832											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.150	1.800	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	567	0	1133	967
d_b, Bicycle Delay [s]	30.82	60.00	11.27	16.02
l_b,int, Bicycle LOS Score for Intersection	2.553	4.266	2.986	3.059
Bicycle LOS	B	E	C	C

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	41.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.061

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	253	168	49	166	127	954	1057	590	134	69	511	213
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	253	168	49	166	127	954	1057	590	134	69	511	213
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	44	13	44	33	251	278	155	35	18	134	56
Total Analysis Volume [veh/h]	266	177	52	175	134	1004	1113	621	141	73	538	224
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	46	53	0	25	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	38	28	28	38	28	74	42	63	63	7	28	28
g / C, Green / Cycle	0.32	0.23	0.23	0.32	0.23	0.62	0.35	0.53	0.53	0.05	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.16	0.07	0.06	0.10	0.04	0.56	0.35	0.21	0.21	0.04	0.22	0.20
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	574	419	419	533	839	1112	1124	952	952	93	418	418
d1, Uniform Delay [s]	33.24	37.77	37.62	31.26	36.66	19.83	38.71	16.90	16.86	56.03	45.48	44.26
k, delay calibration	0.18	0.11	0.11	0.11	0.11	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.95	0.36	0.33	0.36	0.09	11.85	10.34	1.26	1.25	13.50	34.59	20.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.28	0.26	0.33	0.16	0.90	0.99	0.40	0.40	0.79	0.96	0.87
d, Delay for Lane Group [s/veh]	34.19	38.13	37.95	31.62	36.75	31.68	49.05	18.17	18.11	69.54	80.07	64.86
Lane Group LOS	C	D	D	C	D	C	D	B	B	E	F	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.43	2.91	2.72	3.93	1.59	26.07	17.62	6.57	6.49	2.53	15.70	12.66
50th-Percentile Queue Length [ft]	160.66	72.63	68.05	98.37	39.71	651.80	440.45	164.16	162.23	63.30	392.55	316.57
95th-Percentile Queue Length [veh]	10.58	5.23	4.90	7.08	2.86	34.45	24.50	10.77	10.67	4.56	22.20	18.50
95th-Percentile Queue Length [ft]	264.59	130.74	122.49	177.06	71.48	861.14	612.54	269.22	266.67	113.94	555.02	462.47

Movement, Approach, & Intersection Results

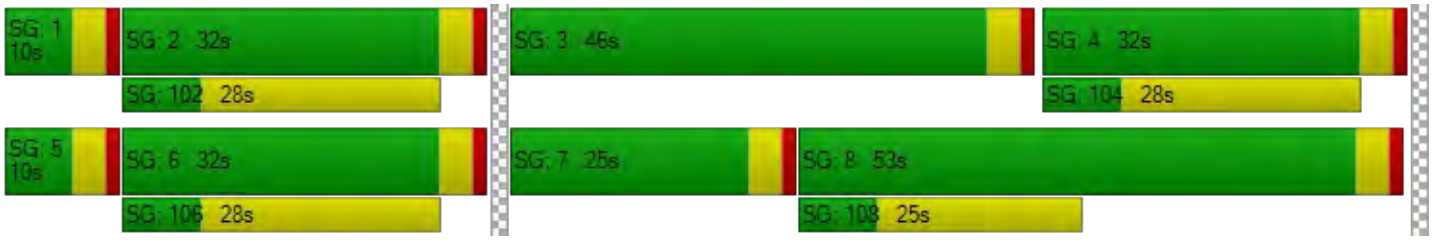
d_M, Delay for Movement [s/veh]	34.19	38.07	37.95	31.62	36.75	31.68	49.05	18.15	18.11	69.54	76.18	64.86
Movement LOS	C	D	D	C	D	C	D	B	B	E	E	E
d_A, Approach Delay [s/veh]	35.97			32.19			36.49			72.56		
Approach LOS	D			C			D			E		
d_I, Intersection Delay [s/veh]	41.85											
Intersection LOS	D											
Intersection V/C	1.061											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.478	2.926	3.242	2.704
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	467	467	817	467
d_b, Bicycle Delay [s]	35.27	35.27	21.00	35.27
l_b,int, Bicycle LOS Score for Intersection	1.968	2.643	3.106	2.248
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.432

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	194	60	114	29	54	34	37	493	142	118	536	37
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	194	60	114	29	54	34	37	493	142	118	536	37
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	16	30	8	14	9	10	130	37	31	141	10
Total Analysis Volume [veh/h]	204	63	120	31	57	36	39	519	149	124	564	39
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	11	29	0	10	32	0	17	39	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	10	10	3	5	5	4	53	53	8	57	57
g / C, Green / Cycle	0.08	0.11	0.11	0.04	0.06	0.06	0.04	0.58	0.58	0.09	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.06	0.04	0.07	0.02	0.03	0.03	0.02	0.19	0.18	0.07	0.17	0.17
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	274	197	197	64	110	110	73	1049	1049	158	1140	1140
d1, Uniform Delay [s]	40.28	37.07	38.33	42.56	40.81	40.78	42.29	9.72	9.56	40.00	7.30	7.27
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.03	0.93	3.04	5.70	2.63	2.49	6.05	0.84	0.76	8.19	0.58	0.56
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.32	0.61	0.49	0.43	0.42	0.54	0.33	0.31	0.78	0.27	0.26
d, Delay for Lane Group [s/veh]	44.30	38.00	41.36	48.26	43.44	43.26	48.34	10.56	10.32	48.19	7.88	7.83
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	A	A
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.33	1.32	2.66	0.77	1.08	1.04	0.96	3.47	3.17	3.01	2.48	2.41
50th-Percentile Queue Length [ft]	58.34	32.96	66.56	19.27	27.03	26.10	24.09	86.73	79.22	75.29	61.95	60.36
95th-Percentile Queue Length [veh]	4.20	2.37	4.79	1.39	1.95	1.88	1.73	6.24	5.70	5.42	4.46	4.35
95th-Percentile Queue Length [ft]	105.01	59.32	119.80	34.68	48.65	46.98	43.36	156.12	142.59	135.52	111.50	108.65

Movement, Approach, & Intersection Results

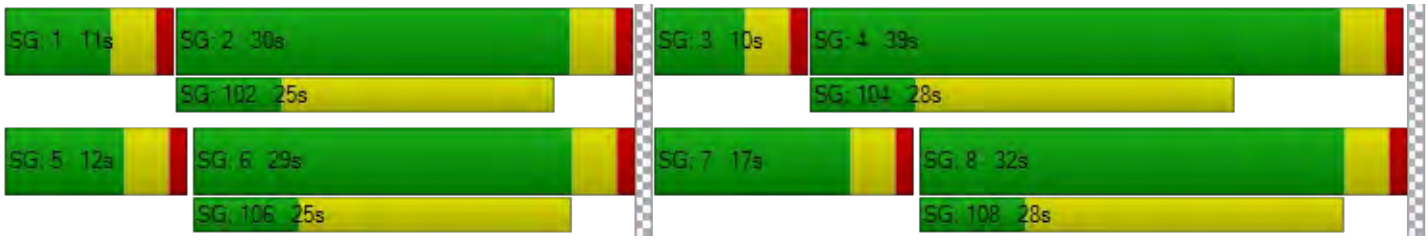
d_M, Delay for Movement [s/veh]	44.30	38.00	41.36	48.26	43.41	43.26	48.34	10.48	10.32	48.19	7.86	7.83
Movement LOS	D	D	D	D	D	D	D	B	B	D	A	A
d_A, Approach Delay [s/veh]	42.37			44.58			12.53			14.73		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	21.33											
Intersection LOS	C											
Intersection V/C	0.432											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.569	2.195	2.594	2.572
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	556	622	778
d_b, Bicycle Delay [s]	22.76	23.47	21.36	16.81
l_b,int, Bicycle LOS Score for Intersection	2.198	1.662	2.143	2.159
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	29.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.420

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	121	329	41	34	298	77	70	247	173	46	182	40
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	121	329	41	34	298	77	70	247	173	46	182	40
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	87	11	9	78	20	18	65	46	12	48	11
Total Analysis Volume [veh/h]	127	346	43	36	314	81	74	260	182	48	192	42
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	21	40	0	11	30	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	18	18	4	13	13	5	49	49	4	48	48
g / C, Green / Cycle	0.09	0.19	0.19	0.04	0.14	0.14	0.06	0.54	0.54	0.05	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.07	0.11	0.11	0.02	0.11	0.11	0.04	0.13	0.12	0.03	0.07	0.06
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	160	352	352	70	256	256	97	969	969	81	952	952
d1, Uniform Delay [s]	39.97	32.79	32.67	42.37	37.40	37.17	41.89	11.03	10.86	42.07	10.71	10.69
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.47	1.41	1.31	5.82	5.48	4.47	11.39	0.59	0.51	6.69	0.27	0.26
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.56	0.54	0.52	0.79	0.75	0.76	0.24	0.22	0.59	0.12	0.12
d, Delay for Lane Group [s/veh]	48.44	34.20	33.98	48.19	42.88	41.64	53.29	11.62	11.37	48.76	10.98	10.95
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.09	3.97	3.83	0.89	4.63	4.33	1.91	2.47	2.17	1.19	1.20	1.16
50th-Percentile Queue Length [ft]	77.35	99.16	95.73	22.25	115.78	108.21	47.79	61.82	54.27	29.65	29.98	28.99
95th-Percentile Queue Length [veh]	5.57	7.14	6.89	1.60	8.16	7.74	3.44	4.45	3.91	2.13	2.16	2.09
95th-Percentile Queue Length [ft]	139.24	178.49	172.31	40.04	204.01	193.51	86.02	111.28	97.68	53.37	53.97	52.18

Movement, Approach, & Intersection Results

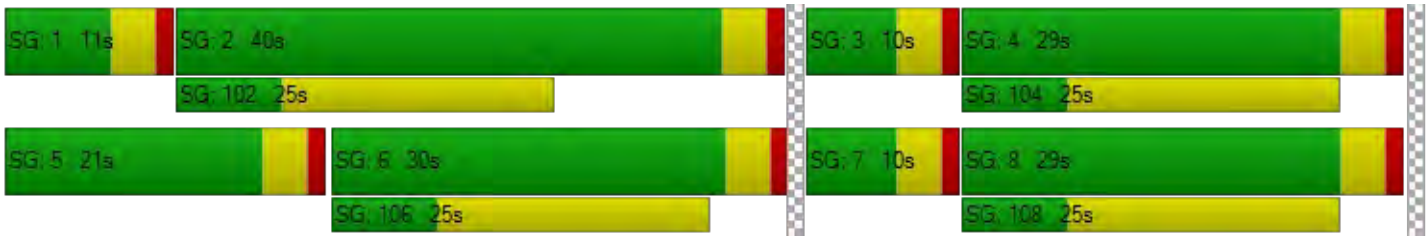
d_M, Delay for Movement [s/veh]	48.44	34.11	33.98	48.19	42.44	41.64	53.29	11.60	11.37	48.76	10.97	10.95
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.62			42.77			17.50			17.40		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.67											
Intersection LOS	C											
Intersection V/C	0.420											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.506	2.473	2.478	2.420
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	578	556	556
d_b, Bicycle Delay [s]	16.20	22.76	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	1.985	1.915	1.985	1.792
Bicycle LOS	A	A	A	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX D-III

YEAR 2020 WITH PROJECT (PHASE 1) WITH MITIGATION TRAFFIC CONDITIONS

APPENDIX E

YEAR 2022 TRAFFIC CONDITIONS INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX E-I

YEAR 2022 WITHOUT PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.228

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	96	37	17	0	15	4	2	9	63	2	13	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	37	17	0	15	4	2	9	63	2	13	1
Peak Hour Factor	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	11	5	0	4	1	1	3	19	1	4	0
Total Analysis Volume [veh/h]	115	44	20	0	18	5	2	11	75	2	16	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	696	876	729	849	646	808	639	708
Degree of Utilization, x	0.23	0.02	0.02	0.01	0.00	0.11	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.88	0.07	0.08	0.02	0.01	0.36	0.01	0.07
95th-Percentile Queue Length [ft]	21.91	1.75	1.90	0.44	0.23	8.91	0.24	1.84
Approach Delay [s/veh]	9.12		7.59		7.70		7.96	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.53							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.124

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	90	0	0	0	0	0	119	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	90	0	0	0	0	0	119	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	24	0	0	0	0	0	31	0
Total Analysis Volume [veh/h]	0	0	0	0	95	0	0	0	0	0	125	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	10.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	10.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10.37			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.48											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.345

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	138	282	205	9	160	0	31	5	13	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	282	205	9	160	0	31	5	13	0	0	0
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	76	55	2	43	0	8	1	4	0	0	0
Total Analysis Volume [veh/h]	149	305	221	10	173	0	33	5	14	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	658	700	810	629	634	527	629	
Degree of Utilization, x	0.35	0.32	0.27	0.15	0.14	0.07	0.02	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.54	1.41	1.11	0.51	0.50	0.23	0.07	
95th-Percentile Queue Length [ft]	38.45	35.19	27.73	12.69	12.55	5.81	1.71	
Approach Delay [s/veh]	10.06			9.37		9.66		0.00
Approach LOS	B			A		A		A
Intersection Delay [s/veh]	9.90							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.210

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	625	172	0	0	189
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	625	172	0	0	189
Peak Hour Factor	0.9500	0.9520	0.9520	0.9500	0.9500	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	164	45	0	0	50
Total Analysis Volume [veh/h]	0	657	181	0	0	199
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.21
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.24
Movement LOS		A	A			A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.35
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	8.75
d_A, Approach Delay [s/veh]	0.00		0.00		9.24	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.77					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	17.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.424

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	196	659	378	0	0	233
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	196	659	378	0	0	233
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	173	99	0	0	61
Total Analysis Volume [veh/h]	206	694	398	0	0	245
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	29	47	18	0	0	43
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	67	51	15
g / C, Green / Cycle	0.14	0.75	0.56	0.16
(v / s)_i Volume / Saturation Flow Rate	0.12	0.19	0.11	0.14
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	245	2698	2020	291
d1, Uniform Delay [s]	37.54	3.50	9.75	36.63
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.64	0.23	0.22	6.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.26	0.20	0.84
d, Delay for Lane Group [s/veh]	45.18	3.73	9.97	43.15
Lane Group LOS	D	A	A	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	4.86	1.54	1.87	5.66
50th-Percentile Queue Length [ft]	121.56	38.43	46.72	141.41
95th-Percentile Queue Length [veh]	8.48	2.77	3.36	9.56
95th-Percentile Queue Length [ft]	211.97	69.18	84.10	238.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.18	3.73	9.97	0.00	0.00	43.15
Movement LOS	D	A	A			D
d_A, Approach Delay [s/veh]	13.22		9.97		43.15	
Approach LOS	B		A		D	
d_I, Intersection Delay [s/veh]	17.13					
Intersection LOS	B					
Intersection V/C	0.424					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.600	2.397	1.934
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.875	4.461	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.446

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	683	255	15	647	153	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	683	255	15	647	153	13
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	180	67	4	170	40	3
Total Analysis Volume [veh/h]	719	268	16	681	161	14
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	18	0	10	28	62	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	65	65	2	71	11
g / C, Green / Cycle	0.72	0.72	0.02	0.79	0.13
(v / s)_i Volume / Saturation Flow Rate	0.27	0.27	0.01	0.19	0.10
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1291	1291	40	2827	214
d1, Uniform Delay [s]	4.95	4.95	43.36	2.56	38.34
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.86	0.86	6.53	0.20	7.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.38	0.38	0.40	0.24	0.82
d, Delay for Lane Group [s/veh]	5.81	5.81	49.90	2.77	45.77
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	3.14	3.14	0.42	1.12	4.14
50th-Percentile Queue Length [ft]	78.41	78.41	10.50	28.05	103.61
95th-Percentile Queue Length [veh]	5.65	5.65	0.76	2.02	7.46
95th-Percentile Queue Length [ft]	141.13	141.13	18.90	50.49	186.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.81	5.81	49.90	2.77	45.77	45.77
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	5.81		3.85		45.77	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.84					
Intersection LOS	A					
Intersection V/C	0.446					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.576	2.578	1.938
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.947	4.707	4.421
Bicycle LOS	E	E	E

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	19.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.012

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	964	106	23	793	3	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	964	106	23	793	3	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	254	28	6	209	1	1
Total Analysis Volume [veh/h]	1015	112	24	835	3	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.04	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	11.09	0.00	19.81	12.87
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	5.58	2.79	0.05	0.05
95th-Percentile Queue Length [ft]	0.00	0.00	139.59	69.80	1.25	1.25
d_A, Approach Delay [s/veh]	0.00		0.31		17.04	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.18					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	31.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.512

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	125	422	37	104	477	59	40	280	95	114	370	82
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	125	422	37	104	477	59	40	280	95	114	370	82
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	111	10	27	126	16	11	74	25	30	97	22
Total Analysis Volume [veh/h]	132	444	39	109	502	62	42	295	100	120	389	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	33	0	18	36	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	18	18	7	17	17	4	40	40	8	44	44
g / C, Green / Cycle	0.10	0.21	0.21	0.08	0.19	0.19	0.04	0.45	0.45	0.09	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.08	0.14	0.13	0.06	0.16	0.15	0.02	0.11	0.11	0.07	0.14	0.13
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	164	370	370	139	344	344	76	801	801	153	883	883
d1, Uniform Delay [s]	39.90	32.93	32.80	40.61	35.12	34.89	42.21	15.65	15.53	40.18	13.54	13.43
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.81	2.02	1.88	9.17	5.34	4.48	6.20	0.76	0.70	8.55	0.78	0.72
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.66	0.64	0.78	0.84	0.81	0.55	0.25	0.24	0.79	0.28	0.26
d, Delay for Lane Group [s/veh]	48.71	34.95	34.69	49.78	40.46	39.37	48.41	16.42	16.24	48.73	14.32	14.15
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.23	5.02	4.87	2.70	6.44	6.12	1.04	2.69	2.50	2.93	2.96	2.78
50th-Percentile Queue Length [ft]	80.67	125.49	121.77	67.42	161.05	152.94	25.91	67.19	62.60	73.32	74.08	69.54
95th-Percentile Queue Length [veh]	5.81	8.69	8.49	4.85	10.60	10.17	1.87	4.84	4.51	5.28	5.33	5.01
95th-Percentile Queue Length [ft]	145.21	217.35	212.25	121.35	265.12	254.35	46.65	120.94	112.69	131.97	133.35	125.17

Movement, Approach, & Intersection Results

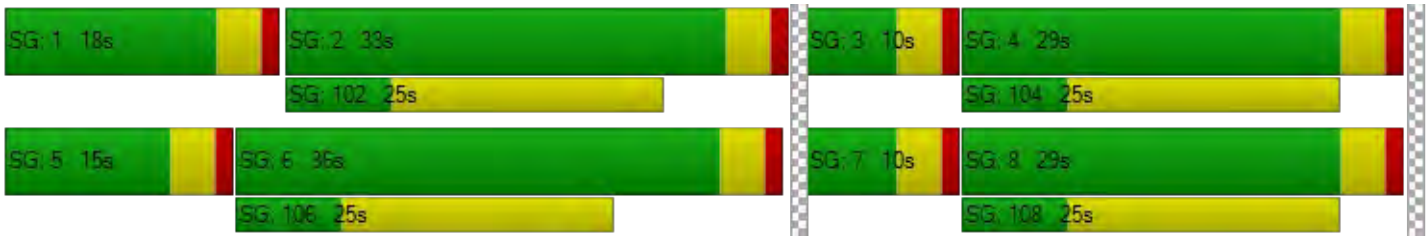
d_M, Delay for Movement [s/veh]	48.71	34.83	34.69	49.78	39.99	39.37	48.41	16.36	16.24	48.73	14.25	14.15
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.80			41.52			19.41			21.19		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	31.16											
Intersection LOS	C											
Intersection V/C	0.512											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.560	2.542	2.498	2.502
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	711	556	556
d_b, Bicycle Delay [s]	20.67	18.69	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.067	2.115	1.920	2.050
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	20.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.517

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1012	223	0	370	473	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1012	223	0	370	473	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	266	59	0	97	124	0
Total Analysis Volume [veh/h]	1065	235	0	389	498	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	34	48	48
g / C, Green / Cycle	0.38	0.38	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.33	0.13	0.11	0.14
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1218	685	1909	1909
d1, Uniform Delay [s]	25.83	19.82	11.11	11.50
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.14	0.30	0.24	0.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.34	0.20	0.26
d, Delay for Lane Group [s/veh]	27.97	20.12	11.35	11.83
Lane Group LOS	C	C	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	10.40	3.45	2.00	2.65
50th-Percentile Queue Length [ft]	259.91	86.36	49.89	66.20
95th-Percentile Queue Length [veh]	15.68	6.22	3.59	4.77
95th-Percentile Queue Length [ft]	392.10	155.44	89.80	119.16

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.97	20.12	0.00	11.35	11.83	0.00
Movement LOS	C	C		B	B	
d_A, Approach Delay [s/veh]	26.55		11.35		11.83	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	20.49					
Intersection LOS	C					
Intersection V/C	0.517					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.362	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.453	4.543
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	56.0
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.984

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	318	209	92	66	423	382	113	929	252	221	1072	198
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	318	209	92	66	423	382	113	929	252	221	1072	198
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	55	24	17	111	101	30	244	66	58	282	52
Total Analysis Volume [veh/h]	335	220	97	69	445	402	119	978	265	233	1128	208
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	27	48	0	21	42	0	10	36	0	15	41	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	49	49	6	32	32	6	32	32	16	42	42
g / C, Green / Cycle	0.19	0.41	0.41	0.05	0.27	0.27	0.05	0.27	0.27	0.14	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.20	0.12	0.05	0.04	0.25	0.22	0.04	0.27	0.15	0.14	0.25	0.24
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	326	736	736	90	486	486	174	969	484	231	1262	631
d1, Uniform Delay [s]	48.54	23.91	22.18	56.14	42.52	41.21	55.77	43.90	37.63	51.90	33.79	33.45
k, delay calibration	0.30	0.11	0.11	0.11	0.30	0.24	0.11	0.50	0.50	0.12	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	45.33	0.23	0.08	12.56	16.74	7.84	4.64	31.33	4.40	31.13	3.46	6.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.03	0.30	0.13	0.77	0.92	0.83	0.68	1.01	0.55	1.01	0.71	0.69
d, Delay for Lane Group [s/veh]	93.87	24.14	22.26	68.70	59.26	49.05	60.41	75.23	42.03	83.04	37.25	39.57
Lane Group LOS	F	C	C	E	E	D	E	F	D	F	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	13.83	4.26	1.74	2.38	14.95	12.17	1.88	18.47	7.28	8.92	11.85	11.87
50th-Percentile Queue Length [ft]	345.67	106.52	43.51	59.51	373.73	304.24	47.11	461.75	181.94	223.02	296.35	296.64
95th-Percentile Queue Length [veh]	20.21	7.65	3.13	4.28	21.29	17.89	3.39	25.67	11.70	13.87	17.50	17.51
95th-Percentile Queue Length [ft]	505.18	191.14	78.32	107.11	532.26	447.27	84.80	641.85	292.55	346.86	437.51	437.86

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	93.87	24.14	22.26	68.70	59.26	49.05	60.41	75.23	42.03	83.04	37.72	39.57
Movement LOS	F	C	C	E	E	D	E	F	D	F	D	D
d_A, Approach Delay [s/veh]	59.69			55.49			67.48			44.69		
Approach LOS	E			E			E			D		
d_I, Intersection Delay [s/veh]	55.96											
Intersection LOS	E											
Intersection V/C	0.984											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.599	3.133	2.908
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	733	633	533	617
d_b, Bicycle Delay [s]	24.07	28.02	32.27	28.70
l_b,int, Bicycle LOS Score for Intersection	2.635	2.315	2.683	2.423
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	12.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	617	111	366	530	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	617	111	366	530	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	162	29	96	139	0	0
Total Analysis Volume [veh/h]	649	117	385	558	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	59	59	23	86	
g / C, Green / Cycle	0.66	0.66	0.25	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.21	0.21	0.23	0.16	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1187	1187	428	3440	
d1, Uniform Delay [s]	6.62	6.62	32.57	0.11	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.72	0.72	7.09	0.10	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.32	0.32	0.90	0.16	
d, Delay for Lane Group [s/veh]	7.34	7.34	39.66	0.21	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	2.98	2.98	8.72	0.05	
50th-Percentile Queue Length [ft]	74.41	74.41	217.89	1.21	
95th-Percentile Queue Length [veh]	5.36	5.36	13.56	0.09	
95th-Percentile Queue Length [ft]	133.94	133.94	338.93	2.18	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.34	7.34	39.66	0.21	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	7.34		16.32		0.00	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	12.29					
Intersection LOS	B					
Intersection V/C	0.482					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.912
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.764	4.910	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	15.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.532

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	389	4	197	2	0	1	10	1075	0	0	1109	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	389	4	197	2	0	1	10	1075	0	0	1109	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	102	1	52	1	0	0	3	283	0	0	292	1
Total Analysis Volume [veh/h]	409	4	207	2	0	1	11	1132	0	0	1167	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	52	0	10	0	0	10	28	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	0	1	63	57	57
g / C, Green / Cycle	0.17	0.17	0.01	0.02	0.70	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.13	0.12	0.00	0.01	0.31	0.32	0.32
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	530	298	9	28	2505	1142	1142
d1, Uniform Delay [s]	35.96	35.53	44.63	43.84	6.08	8.90	8.90
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.43	3.09	18.60	8.40	0.59	1.64	1.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.71	0.32	0.39	0.45	0.51	0.51
d, Delay for Lane Group [s/veh]	38.39	38.63	63.23	52.23	6.67	10.54	10.54
Lane Group LOS	D	D	E	D	A	B	B
Critical Lane Group	Yes	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	4.40	4.56	0.11	0.31	4.10	5.91	5.91
50th-Percentile Queue Length [ft]	109.95	113.93	2.86	7.67	102.38	147.86	147.86
95th-Percentile Queue Length [veh]	7.84	8.06	0.21	0.55	7.37	9.90	9.90
95th-Percentile Queue Length [ft]	195.93	201.46	5.15	13.80	184.29	247.56	247.56

Movement, Approach, & Intersection Results

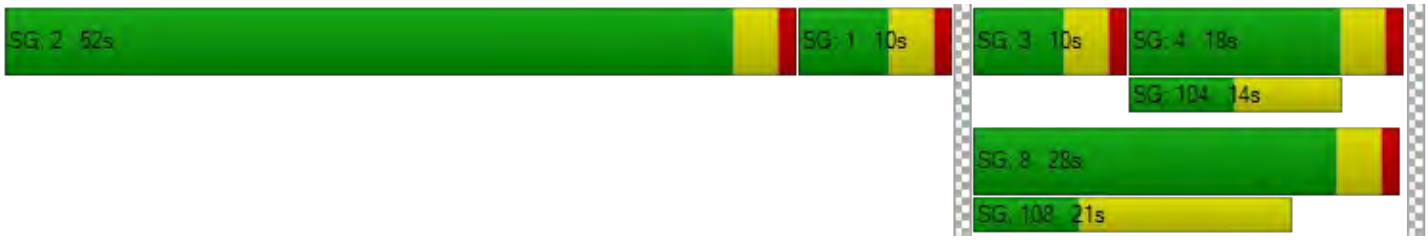
d_M, Delay for Movement [s/veh]	38.39	38.63	38.63	63.23	0.00	63.23	52.23	6.67	0.00	0.00	10.54	10.54
Movement LOS	D	D	D	E		E	D	A			B	B
d_A, Approach Delay [s/veh]	38.47			63.23			7.11			10.54		
Approach LOS	D			E			A			B		
d_I, Intersection Delay [s/veh]	15.16											
Intersection LOS	B											
Intersection V/C	0.532											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.141	1.724	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	0	533	311
d_b, Bicycle Delay [s]	9.80	45.00	24.20	32.09
l_b,int, Bicycle LOS Score for Intersection	2.583	4.137	2.503	2.524
Bicycle LOS	B	D	B	B

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	29.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.742

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	269	286	46	129	237	408	624	471	132	44	376	112
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	269	286	46	129	237	408	624	471	132	44	376	112
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	71	75	12	34	62	107	164	124	35	12	99	29
Total Analysis Volume [veh/h]	283	301	48	136	249	429	657	496	139	46	396	118
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	26	48	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	13	13	23	13	42	25	61	61	4	40	40
g / C, Green / Cycle	0.23	0.13	0.13	0.23	0.13	0.42	0.25	0.61	0.61	0.04	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.17	0.10	0.09	0.08	0.07	0.24	0.21	0.18	0.17	0.03	0.15	0.14
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	391	234	234	339	468	749	788	1089	1089	75	725	725
d1, Uniform Delay [s]	35.53	42.05	41.86	32.19	40.70	22.39	35.79	9.56	9.42	47.01	20.94	20.71
k, delay calibration	0.12	0.11	0.11	0.11	0.11	0.20	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.92	5.05	4.32	0.77	0.94	1.27	2.40	0.71	0.65	7.79	1.43	1.29
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.76	0.73	0.40	0.53	0.57	0.83	0.30	0.28	0.61	0.37	0.34
d, Delay for Lane Group [s/veh]	38.45	47.10	46.18	32.96	41.64	23.67	38.19	10.27	10.06	54.80	22.36	21.99
Lane Group LOS	D	D	D	C	D	C	D	B	B	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.60	4.54	4.30	2.81	2.91	7.78	7.73	3.46	3.18	1.28	4.55	4.21
50th-Percentile Queue Length [ft]	165.08	113.56	107.52	70.23	72.76	194.51	193.22	86.40	79.39	32.08	113.86	105.21
95th-Percentile Queue Length [veh]	10.82	8.04	7.70	5.06	5.24	12.35	12.29	6.22	5.72	2.31	8.05	7.57
95th-Percentile Queue Length [ft]	270.43	200.94	192.54	126.41	130.97	308.87	307.21	155.52	142.91	57.74	201.36	189.31

Movement, Approach, & Intersection Results

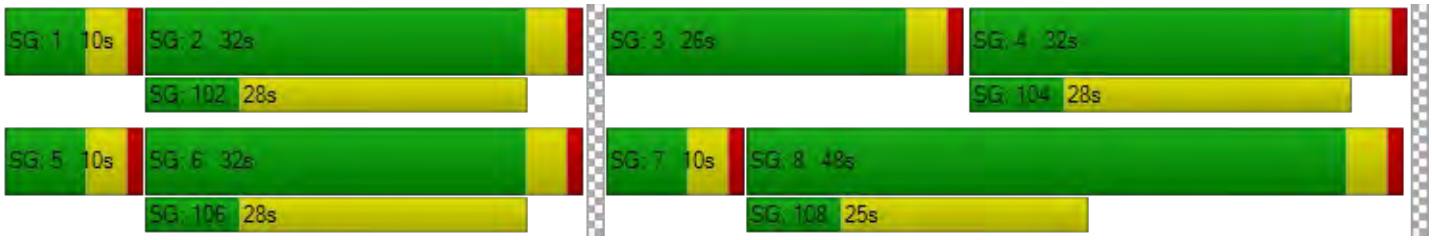
d_M, Delay for Movement [s/veh]	38.45	46.72	46.18	32.96	41.64	23.67	38.19	10.20	10.06	54.80	22.24	21.99
Movement LOS	D	D	D	C	D	C	D	B	B	D	C	C
d_A, Approach Delay [s/veh]	42.98			30.72			24.42			24.86		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	29.60											
Intersection LOS	C											
Intersection V/C	0.742											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	39.61	39.61	39.61	39.61
l_p,int, Pedestrian LOS Score for Intersection	2.513	2.765	3.007	2.575
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	560	560	880	560
d_b, Bicycle Delay [s]	25.92	25.92	15.68	25.92
l_b,int, Bicycle LOS Score for Intersection	2.081	2.231	2.626	2.022
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	27.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.402

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	126	128	75	52	143	142	134	288	108	48	355	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	126	128	75	52	143	142	134	288	108	48	355	55
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	34	20	14	38	37	35	76	28	13	93	14
Total Analysis Volume [veh/h]	133	135	79	55	151	149	141	303	114	51	374	58
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	29	0	10	29	0	19	39	0	12	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	11	11	5	10	10	9	54	54	4	49	49
g / C, Green / Cycle	0.06	0.13	0.13	0.05	0.11	0.11	0.10	0.60	0.60	0.05	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.04	0.08	0.04	0.03	0.08	0.08	0.08	0.12	0.11	0.03	0.12	0.12
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	209	226	226	87	201	201	177	1074	1074	84	975	975
d1, Uniform Delay [s]	41.10	37.26	36.05	41.95	38.85	38.80	39.45	8.34	8.26	42.02	10.80	10.75
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.20	2.51	0.92	7.38	5.60	5.33	7.86	0.42	0.38	6.99	0.54	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.64	0.60	0.35	0.63	0.75	0.74	0.80	0.20	0.19	0.61	0.23	0.22
d, Delay for Lane Group [s/veh]	44.30	39.77	36.97	49.34	44.45	44.13	47.31	8.77	8.64	49.02	11.34	11.26
Lane Group LOS	D	D	D	D	D	D	D	A	A	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	1.52	2.93	1.63	1.36	3.50	3.44	3.39	1.90	1.73	1.26	2.29	2.20
50th-Percentile Queue Length [ft]	37.91	73.27	40.70	34.12	87.58	86.05	84.80	47.38	43.31	31.56	57.22	54.95
95th-Percentile Queue Length [veh]	2.73	5.28	2.93	2.46	6.31	6.20	6.11	3.41	3.12	2.27	4.12	3.96
95th-Percentile Queue Length [ft]	68.24	131.89	73.25	61.42	157.64	154.90	152.63	85.29	77.96	56.82	103.00	98.91

Movement, Approach, & Intersection Results

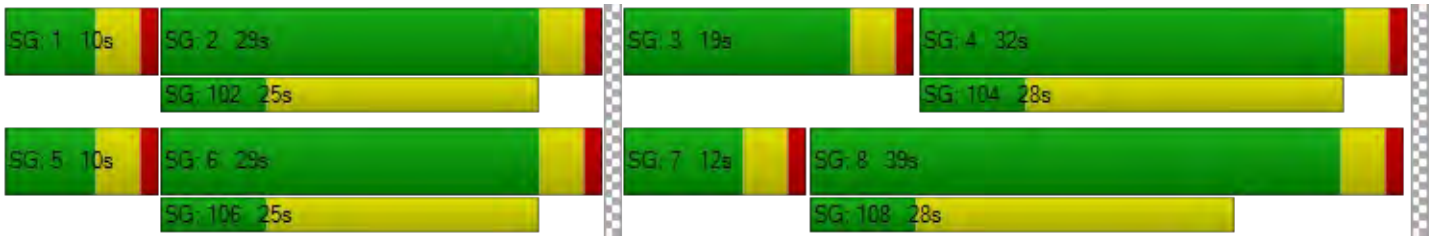
d_M, Delay for Movement [s/veh]	44.30	39.77	36.97	49.34	44.45	44.13	47.31	8.73	8.64	49.02	11.31	11.26
Movement LOS	D	D	D	D	D	D	D	A	A	D	B	B
d_A, Approach Delay [s/veh]	40.87			45.07			18.46			15.28		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.46											
Intersection LOS	C											
Intersection V/C	0.402											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.560	2.299	2.536	2.479
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	778	622
d_b, Bicycle Delay [s]	23.47	23.47	16.81	21.36
l_b,int, Bicycle LOS Score for Intersection	2.132	1.852	2.020	1.958
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	30.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.593

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	194	368	33	75	322	118	155	283	274	59	370	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	194	368	33	75	322	118	155	283	274	59	370	90
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	97	9	20	85	31	41	74	72	16	97	24
Total Analysis Volume [veh/h]	204	387	35	79	339	124	163	298	288	62	389	95
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	29	0	22	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	22	22	5	15	15	11	42	42	5	36	36
g / C, Green / Cycle	0.14	0.24	0.24	0.06	0.16	0.16	0.12	0.46	0.46	0.05	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.12	0.12	0.12	0.05	0.13	0.12	0.10	0.17	0.16	0.04	0.14	0.13
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	242	441	441	104	294	294	199	834	834	91	719	719
d1, Uniform Delay [s]	37.71	29.18	29.08	41.70	36.40	36.00	38.86	15.57	15.47	41.92	18.87	18.70
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.85	0.83	0.79	10.97	5.49	3.95	7.95	1.20	1.13	8.58	1.32	1.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.48	0.47	0.76	0.82	0.76	0.82	0.36	0.35	0.68	0.35	0.33
d, Delay for Lane Group [s/veh]	45.55	30.01	29.87	52.67	41.89	39.95	46.81	16.76	16.60	50.50	20.18	19.91
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	4.84	3.99	3.87	2.02	5.46	4.91	3.90	4.03	3.87	1.56	3.76	3.52
50th-Percentile Queue Length [ft]	120.96	99.68	96.79	50.62	136.44	122.84	97.61	100.77	96.67	38.91	93.99	87.99
95th-Percentile Queue Length [veh]	8.45	7.18	6.97	3.64	9.29	8.55	7.03	7.26	6.96	2.80	6.77	6.33
95th-Percentile Queue Length [ft]	211.14	179.42	174.22	91.12	232.22	213.72	175.69	181.38	174.00	70.04	169.17	158.37

Movement, Approach, & Intersection Results

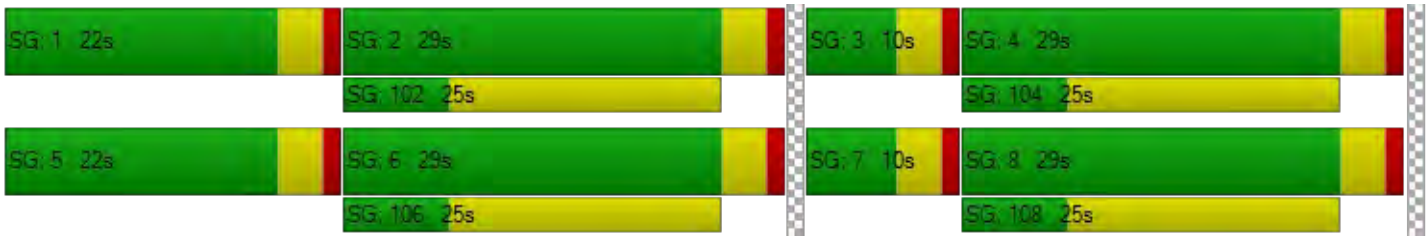
d_M, Delay for Movement [s/veh]	45.55	29.94	29.87	52.67	41.33	39.95	46.81	16.76	16.60	50.50	20.09	19.91
Movement LOS	D	C	C	D	D	D	D	B	B	D	C	B
d_A, Approach Delay [s/veh]	35.03			42.67			23.24			23.51		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	30.57											
Intersection LOS	C											
Intersection V/C	0.593											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.556	2.531	2.585	2.486
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	556	556
d_b, Bicycle Delay [s]	23.47	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.076	2.007	2.178	2.010
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.219

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	81	9	9	0	36	2	7	10	114	17	9	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	9	9	0	36	2	7	10	114	17	9	0
Peak Hour Factor	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	3	3	0	13	1	3	4	41	6	3	0
Total Analysis Volume [veh/h]	116	13	13	0	52	3	10	14	163	24	13	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	646	815	691	798	642	807	628	688
Degree of Utilization, x	0.20	0.02	0.08	0.00	0.02	0.22	0.04	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.74	0.05	0.24	0.01	0.05	0.83	0.12	0.06
95th-Percentile Queue Length [ft]	18.49	1.22	6.09	0.28	1.19	20.87	2.98	1.44
Approach Delay [s/veh]	9.43		8.28		8.41		8.45	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.74							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	234	0	0	0	0	0	205	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	234	0	0	0	0	0	205	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	78	0	0	0	0	0	68	0
Total Analysis Volume [veh/h]	0	0	0	0	311	0	0	0	0	0	272	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	67.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			16.00			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	8.53											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.530

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	182	305	318	18	345	0	34	4	35	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	182	305	318	18	345	0	34	4	35	0	0	0
Peak Hour Factor	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	87	91	5	99	0	10	1	10	0	0	0
Total Analysis Volume [veh/h]	208	349	364	21	395	0	39	5	40	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	580	627	696	578	582	449	522	
Degree of Utilization, x	0.53	0.49	0.44	0.36	0.36	0.10	0.08	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.10	2.70	2.26	1.63	1.61	0.32	0.25	
95th-Percentile Queue Length [ft]	77.48	67.43	56.52	40.80	40.32	8.11	6.20	
Approach Delay [s/veh]	13.80			12.35		10.92		0.00
Approach LOS	B			B		B		A
Intersection Delay [s/veh]	13.21							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.710

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	806	385	0	0	526
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	806	385	0	0	526
Peak Hour Factor	0.9500	0.9270	0.9270	0.9500	0.9500	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	217	104	0	0	142
Total Analysis Volume [veh/h]	0	869	415	0	0	567
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.71
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.97
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	1.61
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	40.27
d_A, Approach Delay [s/veh]	0.00		0.00		11.97	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.67					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	21.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.715

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	299	892	884	0	0	309
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	299	892	884	0	0	309
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	235	233	0	0	81
Total Analysis Volume [veh/h]	315	939	931	0	0	325
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	45	63	18	0	0	32
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	68	44	19
g / C, Green / Cycle	0.21	0.71	0.46	0.20
(v / s)_i Volume / Saturation Flow Rate	0.19	0.26	0.26	0.18
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	355	2564	1661	366
d1, Uniform Delay [s]	36.51	5.32	18.60	36.78
k, delay calibration	0.11	0.50	0.50	0.14
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.52	0.41	1.37	8.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.37	0.56	0.89
d, Delay for Lane Group [s/veh]	44.03	5.73	19.97	45.71
Lane Group LOS	D	A	B	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	7.70	3.13	7.43	8.10
50th-Percentile Queue Length [ft]	192.53	78.37	185.72	202.59
95th-Percentile Queue Length [veh]	12.25	5.64	11.90	12.77
95th-Percentile Queue Length [ft]	306.31	141.06	297.47	319.30

Movement, Approach, & Intersection Results

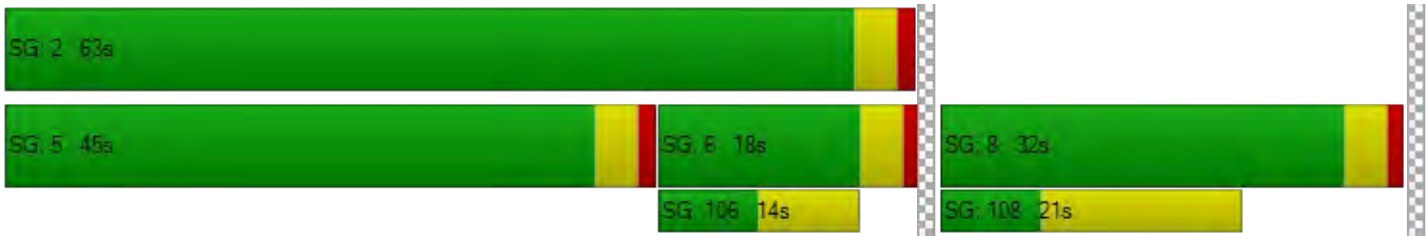
d_M, Delay for Movement [s/veh]	44.03	5.73	19.97	0.00	0.00	45.71
Movement LOS	D	A	B			D
d_A, Approach Delay [s/veh]	15.35		19.97		45.71	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	20.99					
Intersection LOS	C					
Intersection V/C	0.715					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	2.792	2.589	2.029
Crosswalk LOS	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	47.50	47.50	47.50
l_b,int, Bicycle LOS Score for Intersection	5.167	4.900	4.132
Bicycle LOS	F	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	4.6
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.452

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	1130	38	19	1084	48	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1130	38	19	1084	48	13
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	297	10	5	285	13	3
Total Analysis Volume [veh/h]	1189	40	20	1141	51	14
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	51	0	10	61	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	71	71	2	77	5
g / C, Green / Cycle	0.79	0.79	0.03	0.86	0.05
(v / s)_i Volume / Saturation Flow Rate	0.34	0.34	0.01	0.32	0.04
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1412	1412	47	3083	93
d1, Uniform Delay [s]	3.17	3.17	43.09	1.36	41.83
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.98	0.98	6.08	0.34	9.11
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.44	0.44	0.43	0.37	0.70
d, Delay for Lane Group [s/veh]	4.15	4.15	49.17	1.70	50.95
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	2.69	2.69	0.51	0.72	1.64
50th-Percentile Queue Length [ft]	67.30	67.30	12.83	18.10	40.97
95th-Percentile Queue Length [veh]	4.85	4.85	0.92	1.30	2.95
95th-Percentile Queue Length [ft]	121.15	121.15	23.09	32.58	73.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.15	4.15	49.17	1.70	50.95	50.95
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	4.15		2.52		50.95	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.62					
Intersection LOS	A					
Intersection V/C	0.452					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.721	2.760	1.775
Crosswalk LOS	B	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.146	5.090	4.240
Bicycle LOS	F	F	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	26.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.206

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1111	1	3	1144	44	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1111	1	3	1144	44	39
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	292	0	1	301	12	10
Total Analysis Volume [veh/h]	1169	1	3	1204	46	41
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.21	0.09
d_M, Delay for Movement [s/veh]	0.00	0.00	11.10	0.00	26.23	18.02
Movement LOS	A	A	B	A	D	C
95th-Percentile Queue Length [veh]	0.00	0.00	15.73	7.86	1.21	1.21
95th-Percentile Queue Length [ft]	0.00	0.00	393.20	196.60	30.20	30.20
d_A, Approach Delay [s/veh]	0.00		0.03		22.36	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.80					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	33.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.728

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	156	514	76	135	327	88	156	589	195	161	525	154
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	156	514	76	135	327	88	156	589	195	161	525	154
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	135	20	36	86	23	41	155	51	42	138	41
Total Analysis Volume [veh/h]	164	541	80	142	344	93	164	620	205	169	553	162
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	19	38	0	13	32	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	19	19	9	17	17	11	35	35	11	36	36
g / C, Green / Cycle	0.12	0.21	0.21	0.10	0.19	0.19	0.12	0.39	0.39	0.12	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.10	0.18	0.17	0.08	0.13	0.12	0.10	0.24	0.22	0.10	0.21	0.19
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	200	375	375	171	345	345	201	706	706	206	712	712
d1, Uniform Delay [s]	38.87	34.31	34.00	39.79	33.68	33.39	38.82	21.87	21.31	38.68	20.76	20.36
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.15	5.30	4.21	9.79	2.10	1.77	7.93	3.89	3.17	7.90	2.73	2.33
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.85	0.81	0.83	0.65	0.61	0.82	0.61	0.56	0.82	0.52	0.48
d, Delay for Lane Group [s/veh]	47.03	39.61	38.21	49.58	35.78	35.16	46.76	25.76	24.48	46.58	23.49	22.69
Lane Group LOS	D	D	D	D	D	D	D	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.94	7.08	6.63	3.51	4.67	4.33	3.93	7.72	6.83	4.04	6.26	5.64
50th-Percentile Queue Length [ft]	98.51	176.94	165.70	87.68	116.78	108.29	98.16	193.02	170.78	100.99	156.52	141.08
95th-Percentile Queue Length [veh]	7.09	11.44	10.85	6.31	8.22	7.74	7.07	12.28	11.12	7.27	10.36	9.54
95th-Percentile Queue Length [ft]	177.31	286.01	271.26	157.82	205.39	193.62	176.69	306.95	277.94	181.78	259.11	238.48

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.03	39.03	38.21	49.58	35.57	35.16	46.76	25.37	24.48	46.58	23.22	22.69
Movement LOS	D	D	D	D	D	D	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	40.62			38.94			28.73			27.59		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	33.13											
Intersection LOS	C											
Intersection V/C	0.728											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.592	2.581	2.650	2.636
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	756	622	556	556
d_b, Bicycle Delay [s]	17.42	21.36	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.207	2.037	2.376	2.289
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	19.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.638

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1036	193	0	823	656	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1036	193	0	823	656	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	273	51	0	217	173	0
Total Analysis Volume [veh/h]	1091	203	0	866	691	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	35	35	47	47
g / C, Green / Cycle	0.39	0.39	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.34	0.11	0.24	0.19
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1242	699	1882	1882
d1, Uniform Delay [s]	25.52	18.95	13.47	12.66
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.18	0.23	0.81	0.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.29	0.46	0.37
d, Delay for Lane Group [s/veh]	27.69	19.18	14.28	13.21
Lane Group LOS	C	B	B	B
Critical Lane Group	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	10.63	2.88	5.37	4.01
50th-Percentile Queue Length [ft]	265.64	71.94	134.25	100.31
95th-Percentile Queue Length [veh]	15.97	5.18	9.17	7.22
95th-Percentile Queue Length [ft]	399.29	129.50	229.26	180.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.69	19.18	0.00	14.28	13.21	0.00
Movement LOS	C	B		B	B	
d_A, Approach Delay [s/veh]	26.36		14.28		13.21	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	19.50					
Intersection LOS	B					
Intersection V/C	0.638					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.360	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.847	4.702
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	45.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.934

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	210	115	61	99	250	290	193	1241	412	238	1572	220
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	115	61	99	250	290	193	1241	412	238	1572	220
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	30	16	26	66	76	51	327	108	63	414	58
Total Analysis Volume [veh/h]	221	121	64	104	263	305	203	1306	434	251	1655	232
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	36	0	23	39	0	12	45	0	16	49	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	30	30	9	23	23	10	45	45	20	55	55
g / C, Green / Cycle	0.13	0.25	0.25	0.08	0.19	0.19	0.08	0.38	0.38	0.16	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.13	0.07	0.04	0.06	0.15	0.17	0.06	0.36	0.24	0.15	0.35	0.35
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	228	450	450	130	347	347	264	1359	679	277	1647	824
d1, Uniform Delay [s]	51.76	36.21	35.02	54.54	45.85	47.14	53.99	36.54	30.68	49.41	27.17	27.16
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.15	0.11	0.50	0.50	0.15	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	21.25	0.32	0.14	10.55	3.41	9.65	4.69	16.77	4.56	14.33	3.42	6.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.97	0.27	0.14	0.80	0.76	0.88	0.77	0.96	0.64	0.91	0.76	0.76
d, Delay for Lane Group [s/veh]	73.01	36.53	35.17	65.09	49.26	56.78	58.68	53.30	35.24	63.73	30.59	33.80
Lane Group LOS	E	D	D	E	D	E	E	D	D	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	7.95	2.91	1.49	3.48	7.74	9.76	3.18	21.49	11.09	8.47	15.46	16.19
50th-Percentile Queue Length [ft]	198.80	72.75	37.16	86.90	193.40	244.01	79.42	537.19	277.17	211.73	386.60	404.65
95th-Percentile Queue Length [veh]	12.58	5.24	2.68	6.26	12.30	14.88	5.72	29.09	16.55	13.24	21.91	22.78
95th-Percentile Queue Length [ft]	314.41	130.95	66.88	156.41	307.44	372.11	142.95	727.25	413.68	331.05	547.84	569.60

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	73.01	36.53	35.17	65.09	49.26	56.78	58.68	53.30	35.24	63.73	31.36	33.80
Movement LOS	E	D	D	E	D	E	E	D	D	E	C	C
d_A, Approach Delay [s/veh]	56.17			55.12			49.83			35.43		
Approach LOS	E			E			D			D		
d_I, Intersection Delay [s/veh]	45.05											
Intersection LOS	D											
Intersection V/C	0.934											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.553	3.242	3.054
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	583	683	750
d_b, Bicycle Delay [s]	32.27	30.10	26.00	23.44
l_b,int, Bicycle LOS Score for Intersection	2.230	2.114	3.163	2.736
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.483

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	390	98	481	400	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	390	98	481	400	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	103	26	127	105	0	0
Total Analysis Volume [veh/h]	411	103	506	421	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	19	0	71	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	53	53	29	86	
g / C, Green / Cycle	0.59	0.59	0.32	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.14	0.14	0.30	0.12	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1058	1058	550	3440	
d1, Uniform Delay [s]	8.91	8.91	29.33	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.54	0.54	6.90	0.07	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.24	0.24	0.92	0.12	
d, Delay for Lane Group [s/veh]	9.46	9.46	36.23	0.17	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	2.39	2.39	11.16	0.03	
50th-Percentile Queue Length [ft]	59.63	59.63	278.94	0.87	
95th-Percentile Queue Length [veh]	4.29	4.29	16.64	0.06	
95th-Percentile Queue Length [ft]	107.33	107.33	415.90	1.57	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.46	9.46	36.23	0.17	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	9.46		19.85		0.00	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	16.15					
Intersection LOS	B					
Intersection V/C	0.483					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.017	
Crosswalk LOS	F	F	B	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0	
d_b, Bicycle Delay [s]	45.00	45.00	45.00	
l_b,int, Bicycle LOS Score for Intersection	4.556	4.897	4.132	
Bicycle LOS	E	E	D	

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	19.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.732

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	312	3	187	10	0	28	25	1441	0	0	1683	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	312	3	187	10	0	28	25	1441	0	0	1683	20
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	82	1	49	3	0	7	7	379	0	0	443	5
Total Analysis Volume [veh/h]	328	3	197	11	0	29	26	1517	0	0	1772	21
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	67	0	10	0	0	10	28	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	4	3	74	67	67
g / C, Green / Cycle	0.14	0.14	0.04	0.03	0.70	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.10	0.11	0.02	0.02	0.42	0.50	0.50
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	453	255	68	53	2536	1144	1144
d1, Uniform Delay [s]	43.15	43.56	49.59	50.10	7.93	13.91	13.91
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.22	5.31	7.90	7.01	1.05	5.40	5.40
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.79	0.59	0.49	0.60	0.78	0.78
d, Delay for Lane Group [s/veh]	45.37	48.87	57.49	57.10	8.98	19.31	19.31
Lane Group LOS	D	D	E	E	A	B	B
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	4.19	5.36	1.18	0.77	7.88	15.53	15.53
50th-Percentile Queue Length [ft]	104.77	134.09	29.46	19.32	196.91	388.18	388.18
95th-Percentile Queue Length [veh]	7.54	9.16	2.12	1.39	12.48	21.99	21.99
95th-Percentile Queue Length [ft]	188.59	229.05	53.03	34.78	311.98	549.74	549.74

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.37	48.87	48.87	57.49	0.00	57.49	57.10	8.98	0.00	0.00	19.31	19.31
Movement LOS	D	D	D	E		E	E	A			B	B
d_A, Approach Delay [s/veh]	46.70			57.49			9.79			19.31		
Approach LOS	D			E			A			B		
d_I, Intersection Delay [s/veh]	19.64											
Intersection LOS	B											
Intersection V/C	0.732											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	42.08	42.08	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.119	1.766	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1200	0	457	267
d_b, Bicycle Delay [s]	8.40	52.50	31.24	39.43
l_b,int, Bicycle LOS Score for Intersection	2.431	4.198	2.833	3.039
Bicycle LOS	B	D	C	C

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	39.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.973

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	253	228	75	235	162	807	696	620	167	100	707	198
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	253	228	75	235	162	807	696	620	167	100	707	198
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	60	20	62	43	212	183	163	44	26	186	52
Total Analysis Volume [veh/h]	266	240	79	247	171	849	733	653	176	105	744	208
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	16	38	38	32	29	0	43	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	37	21	21	37	27	64	33	62	62	9	38	38
g / C, Green / Cycle	0.31	0.17	0.17	0.31	0.22	0.53	0.28	0.52	0.52	0.08	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.16	0.09	0.09	0.15	0.05	0.47	0.23	0.24	0.22	0.06	0.27	0.25
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	545	311	311	469	802	958	883	930	930	131	572	572
d1, Uniform Delay [s]	34.22	45.20	44.88	33.78	38.05	24.87	40.82	18.35	18.09	54.48	38.50	37.46
k, delay calibration	0.18	0.11	0.11	0.14	0.11	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.11	1.41	1.21	1.22	0.13	11.90	2.10	1.61	1.48	10.72	15.88	11.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.53	0.49	0.53	0.21	0.89	0.83	0.46	0.44	0.80	0.86	0.80
d, Delay for Lane Group [s/veh]	35.33	46.61	46.09	35.00	38.18	36.77	42.91	19.96	19.57	65.20	54.38	48.67
Lane Group LOS	D	D	D	C	D	D	D	B	B	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.55	4.62	4.25	6.01	2.08	23.58	10.35	7.76	7.28	3.51	16.06	13.98
50th-Percentile Queue Length [ft]	163.81	115.46	106.32	150.25	52.04	589.61	258.86	193.91	182.08	87.77	401.41	349.43
95th-Percentile Queue Length [veh]	10.75	8.14	7.63	10.03	3.75	31.55	15.63	12.32	11.71	6.32	22.63	20.11
95th-Percentile Queue Length [ft]	268.76	203.57	190.87	250.76	93.68	788.72	390.79	308.09	292.73	157.98	565.70	502.72

Movement, Approach, & Intersection Results

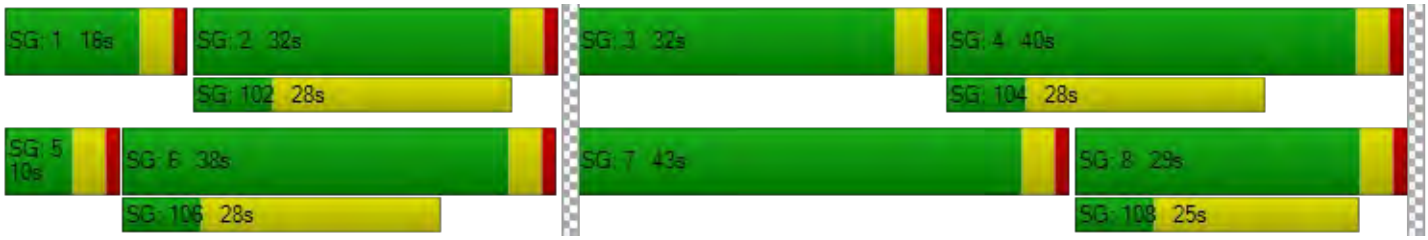
d_M, Delay for Movement [s/veh]	35.33	46.45	46.09	35.00	38.18	36.77	42.91	19.83	19.57	65.20	52.47	48.67
Movement LOS	D	D	D	C	D	D	D	B	B	E	D	D
d_A, Approach Delay [s/veh]	41.34			36.62			30.63			52.99		
Approach LOS	D			D			C			D		
d_I, Intersection Delay [s/veh]	39.01											
Intersection LOS	D											
Intersection V/C	0.973											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.516	2.864	3.199	2.777
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	467	567	417	600
d_b, Bicycle Delay [s]	35.27	30.82	37.60	29.40
l_b,int, Bicycle LOS Score for Intersection	2.042	2.605	2.848	2.432
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	23.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.589

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	207	83	177	45	56	64	69	736	188	119	541	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	207	83	177	45	56	64	69	736	188	119	541	41
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	22	47	12	15	17	18	194	49	31	142	11
Total Analysis Volume [veh/h]	218	87	186	47	59	67	73	775	198	125	569	43
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	36	0	10	34	0	12	32	0	12	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	12	12	4	8	8	5	50	50	8	53	53
g / C, Green / Cycle	0.09	0.13	0.13	0.05	0.09	0.09	0.06	0.55	0.55	0.09	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.07	0.05	0.10	0.03	0.03	0.04	0.04	0.28	0.26	0.07	0.17	0.17
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	286	235	235	81	160	160	97	991	991	159	1057	1057
d1, Uniform Delay [s]	40.11	35.80	37.99	42.08	38.71	38.89	41.89	12.64	12.31	39.98	9.27	9.23
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.17	0.97	5.86	6.51	1.42	1.75	11.14	1.86	1.62	8.22	0.70	0.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.37	0.79	0.58	0.37	0.42	0.75	0.51	0.47	0.79	0.29	0.29
d, Delay for Lane Group [s/veh]	44.28	36.76	43.85	48.59	40.13	40.64	53.03	14.50	13.93	48.20	9.98	9.91
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.49	1.79	4.30	1.16	1.28	1.47	1.88	6.34	5.73	3.04	2.97	2.89
50th-Percentile Queue Length [ft]	62.37	44.73	107.49	28.99	31.98	36.63	47.02	158.39	143.16	75.91	74.36	72.28
95th-Percentile Queue Length [veh]	4.49	3.22	7.70	2.09	2.30	2.64	3.39	10.46	9.65	5.47	5.35	5.20
95th-Percentile Queue Length [ft]	112.27	80.52	192.51	52.18	57.57	65.93	84.64	261.59	241.27	136.63	133.85	130.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.28	36.76	43.85	48.59	40.13	40.64	53.03	14.30	13.93	48.20	9.94	9.91
Movement LOS	D	D	D	D	D	D	D	B	B	D	A	A
d_A, Approach Delay [s/veh]	42.79			42.63			16.93			16.43		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	23.79											
Intersection LOS	C											
Intersection V/C	0.589											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.594	2.222	2.670	2.640
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	711	667	622	622
d_b, Bicycle Delay [s]	18.69	20.00	21.36	21.36
l_b,int, Bicycle LOS Score for Intersection	2.370	1.702	2.423	2.168
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	30.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.553

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	178	412	54	70	350	90	89	358	224	51	235	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	178	412	54	70	350	90	89	358	224	51	235	67
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	108	14	18	92	24	23	94	59	13	62	18
Total Analysis Volume [veh/h]	187	434	57	74	368	95	94	377	236	54	247	71
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	29	0	22	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	21	21	5	15	15	6	43	43	5	41	41
g / C, Green / Cycle	0.13	0.24	0.24	0.06	0.16	0.16	0.07	0.48	0.48	0.05	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.11	0.14	0.13	0.04	0.13	0.12	0.06	0.18	0.16	0.03	0.09	0.09
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	224	427	427	98	292	292	122	860	860	86	821	821
d1, Uniform Delay [s]	38.17	30.48	30.31	41.88	36.45	36.14	41.12	15.03	14.64	41.98	14.66	14.59
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.84	1.28	1.18	11.26	5.48	4.25	9.72	1.27	1.05	7.35	0.54	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.59	0.56	0.76	0.81	0.77	0.77	0.38	0.33	0.63	0.20	0.19
d, Delay for Lane Group [s/veh]	46.01	31.77	31.48	53.13	41.93	40.39	50.83	16.30	15.69	49.33	15.20	15.10
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.45	4.86	4.65	1.91	5.41	4.99	2.36	4.34	3.72	1.34	2.04	1.93
50th-Percentile Queue Length [ft]	111.25	121.58	116.30	47.71	135.27	124.79	58.88	108.54	92.99	33.51	50.93	48.26
95th-Percentile Queue Length [veh]	7.91	8.48	8.19	3.44	9.23	8.66	4.24	7.76	6.70	2.41	3.67	3.47
95th-Percentile Queue Length [ft]	197.73	212.00	204.73	85.88	230.64	216.39	105.98	193.97	167.38	60.32	91.67	86.86

Movement, Approach, & Intersection Results

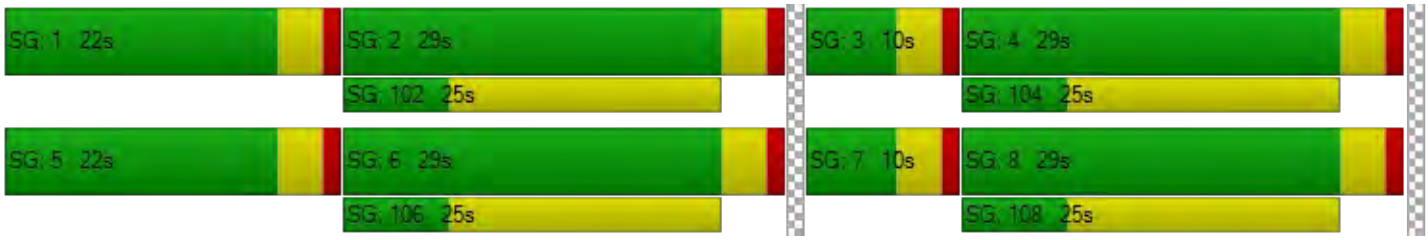
d_M, Delay for Movement [s/veh]	46.01	31.65	31.48	53.13	41.39	40.39	50.83	16.21	15.69	49.33	15.17	15.10
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	35.59			42.83			20.64			20.11		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	30.17											
Intersection LOS	C											
Intersection V/C	0.553											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.560	2.521	2.540	2.471
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	556	556
d_b, Bicycle Delay [s]	23.47	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.119	2.003	2.143	1.867
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	155	11	2	2	22	5	4	4	120	5	3	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	155	11	2	2	22	5	4	4	120	5	3	1
Peak Hour Factor	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	4	1	1	8	2	1	1	44	2	1	0
Total Analysis Volume [veh/h]	227	16	3	3	32	7	6	6	176	7	4	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	651	825	674	785	614	770	595	666
Degree of Utilization, x	0.37	0.00	0.05	0.01	0.01	0.24	0.01	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.73	0.01	0.16	0.03	0.03	0.92	0.04	0.02
95th-Percentile Queue Length [ft]	43.25	0.27	4.10	0.68	0.74	22.94	0.89	0.57
Approach Delay [s/veh]	11.44		8.16		8.81		8.54	
Approach LOS	B		A		A		A	
Intersection Delay [s/veh]	10.08							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	17.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.469

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration					↑						↑↑	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	196	0	0	0	0	0	301	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	196	0	0	0	0	0	301	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	64	0	0	0	0	0	98	0
Total Analysis Volume [veh/h]	0	0	0	0	255	0	0	0	0	0	392	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	17.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	61.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			17.33			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	6.83											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	24.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.853

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	320	547	443	31	379	0	31	7	42	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	547	443	31	379	0	31	7	42	0	0	0
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	87	148	120	8	103	0	8	2	11	0	0	0
Total Analysis Volume [veh/h]	347	593	480	34	411	0	34	8	46	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	555	589	665	515	521	398	451	
Degree of Utilization, x	0.85	0.80	0.71	0.43	0.43	0.11	0.10	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	9.15	7.91	5.93	2.15	2.12	0.37	0.32	
95th-Percentile Queue Length [ft]	228.87	197.71	148.31	53.86	52.95	9.24	8.07	
Approach Delay [s/veh]	28.42			14.79		12.21		0.00
Approach LOS	D			B		B		A
Intersection Delay [s/veh]	24.58							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.971

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	1309	416	0	0	692
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1309	416	0	0	692
Peak Hour Factor	0.9500	0.9180	0.9180	0.9500	0.9500	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	356	113	0	0	188
Total Analysis Volume [veh/h]	0	1426	453	0	0	754
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.97
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.93
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	2.69
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	67.17
d_A, Approach Delay [s/veh]	0.00		0.00		13.93	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.99					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.641

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	156	1385	1156	0	0	207
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	156	1385	1156	0	0	207
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	364	304	0	0	54
Total Analysis Volume [veh/h]	164	1458	1217	0	0	218
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	38	59	21	0	0	31
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	69	54	13
g / C, Green / Cycle	0.12	0.77	0.60	0.14
(v / s)_i Volume / Saturation Flow Rate	0.10	0.41	0.34	0.12
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	202	2757	2170	261
d1, Uniform Delay [s]	38.70	4.15	10.73	37.43
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.65	0.73	1.05	6.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.53	0.56	0.83
d, Delay for Lane Group [s/veh]	46.35	4.88	11.79	44.27
Lane Group LOS	D	A	B	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	3.91	3.91	6.79	5.08
50th-Percentile Queue Length [ft]	97.67	97.76	169.65	127.12
95th-Percentile Queue Length [veh]	7.03	7.04	11.06	8.78
95th-Percentile Queue Length [ft]	175.81	175.97	276.45	219.58

Movement, Approach, & Intersection Results

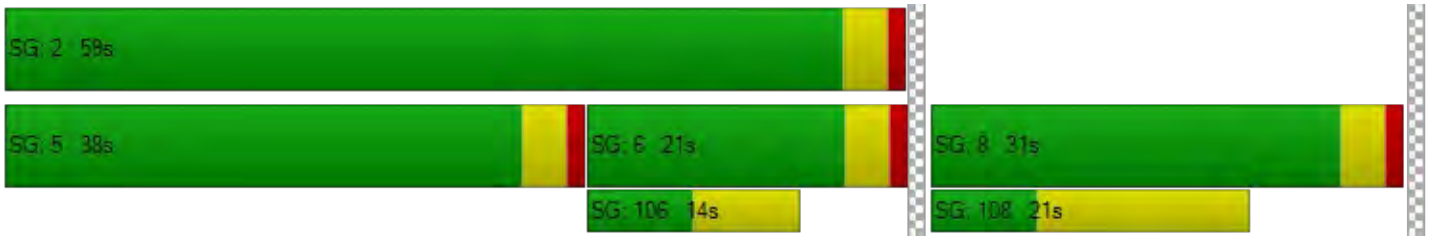
d_M, Delay for Movement [s/veh]	46.35	4.88	11.79	0.00	0.00	44.27
Movement LOS	D	A	B			D
d_A, Approach Delay [s/veh]	9.07		11.79		44.27	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	12.66					
Intersection LOS	B					
Intersection V/C	0.641					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.895	2.783	1.901
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.471	5.136	4.132
Bicycle LOS	F	F	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	4.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.546

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	1474	25	18	1279	25	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1474	25	18	1279	25	14
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	388	7	5	337	7	4
Total Analysis Volume [veh/h]	1552	26	19	1346	26	15
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	51	0	10	61	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	72	72	2	78	4
g / C, Green / Cycle	0.80	0.80	0.03	0.87	0.04
(v / s)_i Volume / Saturation Flow Rate	0.44	0.44	0.01	0.37	0.02
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1433	1433	45	3122	75
d1, Uniform Delay [s]	3.33	3.33	43.15	1.27	42.17
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.53	1.53	6.17	0.44	6.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.55	0.55	0.42	0.43	0.55
d, Delay for Lane Group [s/veh]	4.85	4.85	49.32	1.70	48.32
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	3.67	3.67	0.49	0.64	1.01
50th-Percentile Queue Length [ft]	91.73	91.73	12.24	16.07	25.29
95th-Percentile Queue Length [veh]	6.60	6.60	0.88	1.16	1.82
95th-Percentile Queue Length [ft]	165.12	165.12	22.04	28.93	45.51

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.85	4.85	49.32	1.70	48.32	48.32
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	4.85		2.37		48.32	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.31					
Intersection LOS	A					
Intersection V/C	0.546					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.850	2.871	1.756
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.434	5.259	4.200
Bicycle LOS	F	F	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	30.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1500	0	0	1309	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1500	0	0	1309	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	395	0	0	344	0	0
Total Analysis Volume [veh/h]	1579	0	0	1378	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	13.72	0.00	30.66	15.80
Movement LOS	A	A	B	A	D	C
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		23.23	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	32.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.592

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	160	358	77	114	251	81	105	470	147	166	512	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	358	77	114	251	81	105	470	147	166	512	130
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	94	20	30	66	21	28	124	39	44	135	34
Total Analysis Volume [veh/h]	168	377	81	120	264	85	111	495	155	175	539	137
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	21	35	0	21	35	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	15	15	8	12	12	8	44	44	12	48	48
g / C, Green / Cycle	0.12	0.16	0.16	0.09	0.13	0.13	0.08	0.46	0.46	0.12	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.10	0.13	0.12	0.07	0.10	0.09	0.07	0.19	0.17	0.10	0.19	0.18
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	203	287	287	151	233	233	142	825	825	212	899	899
d1, Uniform Delay [s]	40.96	38.66	38.36	42.48	40.07	39.80	42.75	17.18	16.88	40.63	14.78	14.54
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.39	5.73	4.49	8.97	5.40	4.28	8.95	1.50	1.32	7.85	1.27	1.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.82	0.78	0.79	0.77	0.73	0.78	0.41	0.38	0.82	0.39	0.36
d, Delay for Lane Group [s/veh]	49.35	44.40	42.84	51.45	45.48	44.08	51.70	18.68	18.20	48.48	16.05	15.68
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.27	5.69	5.27	3.11	4.37	4.03	2.89	5.08	4.60	4.41	4.79	4.38
50th-Percentile Queue Length [ft]	106.85	142.18	131.78	77.83	109.35	100.75	72.16	127.06	114.96	110.29	119.69	109.57
95th-Percentile Queue Length [veh]	7.66	9.60	9.04	5.60	7.80	7.25	5.20	8.78	8.12	7.86	8.38	7.82
95th-Percentile Queue Length [ft]	191.61	239.95	225.91	140.09	195.10	181.36	129.89	219.50	202.88	196.40	209.41	195.40

Movement, Approach, & Intersection Results

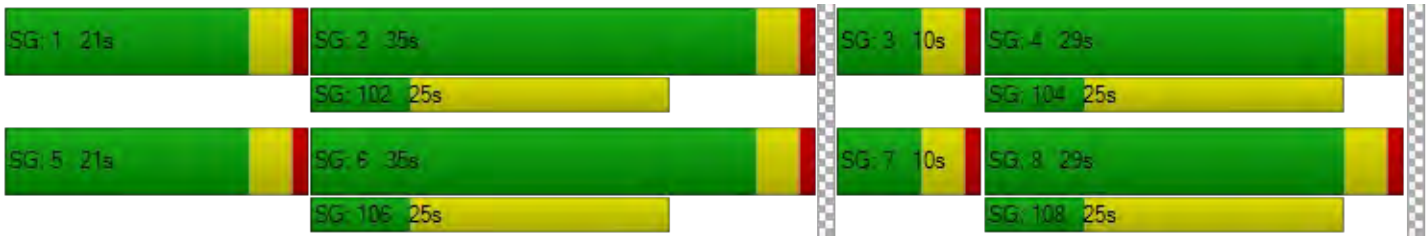
d_M, Delay for Movement [s/veh]	49.35	43.81	42.84	51.45	45.03	44.08	51.70	18.53	18.20	48.48	15.92	15.68
Movement LOS	D	D	D	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	45.17			46.50			23.30			22.58		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	32.15											
Intersection LOS	C											
Intersection V/C	0.592											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	2.540	2.515	2.605	2.604
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	653	653	526	526
d_b, Bicycle Delay [s]	21.56	21.56	25.79	25.79
l_b,int, Bicycle LOS Score for Intersection	2.076	1.947	2.187	2.262
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	20.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.688

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1295	167	0	661	686	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1295	167	0	661	686	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	341	44	0	174	181	0
Total Analysis Volume [veh/h]	1363	176	0	696	722	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	43	43	39	39
g / C, Green / Cycle	0.48	0.48	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.43	0.10	0.19	0.20
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1519	854	1571	1571
d1, Uniform Delay [s]	21.60	13.74	17.69	17.85
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.14	0.12	0.91	0.97
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.21	0.44	0.46
d, Delay for Lane Group [s/veh]	23.74	13.86	18.60	18.82
Lane Group LOS	C	B	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	12.59	2.02	5.03	5.27
50th-Percentile Queue Length [ft]	314.80	50.57	125.79	131.78
95th-Percentile Queue Length [veh]	18.41	3.64	8.71	9.04
95th-Percentile Queue Length [ft]	460.29	91.03	217.76	225.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.74	13.86	0.00	18.60	18.82	0.00
Movement LOS	C	B		B	B	
d_A, Approach Delay [s/veh]	22.61		18.60		18.82	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	20.74					
Intersection LOS	C					
Intersection V/C	0.688					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.440	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.707	4.728
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	60.7
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.031

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	182	79	61	115	191	281	201	1558	257	259	1592	233
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	182	79	61	115	191	281	201	1558	257	259	1592	233
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	21	16	30	50	74	53	410	68	68	419	61
Total Analysis Volume [veh/h]	192	83	64	121	201	296	212	1640	271	273	1676	245
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	16	36	0	19	39	0	13	49	0	16	52	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	24	24	10	22	22	10	49	49	21	59	59
g / C, Green / Cycle	0.10	0.20	0.20	0.09	0.19	0.19	0.09	0.40	0.40	0.18	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.11	0.05	0.04	0.07	0.11	0.16	0.07	0.46	0.15	0.16	0.36	0.36
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	170	361	361	146	335	335	273	1458	729	298	1781	891
d1, Uniform Delay [s]	54.00	40.22	39.78	53.96	44.73	47.55	53.78	35.71	25.01	48.66	23.77	23.77
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.14	0.11	0.50	0.50	0.19	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	72.77	0.32	0.23	11.06	1.72	9.26	4.75	65.65	1.45	17.26	2.53	4.97
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.13	0.23	0.18	0.83	0.60	0.88	0.78	1.12	0.37	0.92	0.72	0.72
d, Delay for Lane Group [s/veh]	126.77	40.54	40.01	65.02	46.44	56.82	58.53	101.36	26.46	65.92	26.30	28.74
Lane Group LOS	F	D	D	E	D	E	E	F	C	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	8.58	2.10	1.60	4.04	5.65	9.45	3.31	34.09	5.71	9.43	14.49	15.09
50th-Percentile Queue Length [ft]	214.57	52.52	40.02	101.09	141.14	236.29	82.87	852.19	142.69	235.64	362.25	377.34
95th-Percentile Queue Length [veh]	13.99	3.78	2.88	7.28	9.54	14.49	5.97	47.43	9.63	14.46	20.73	21.46
95th-Percentile Queue Length [ft]	349.84	94.53	72.04	181.96	238.55	362.33	149.16	1185.87	240.64	361.51	518.31	536.62

Movement, Approach, & Intersection Results

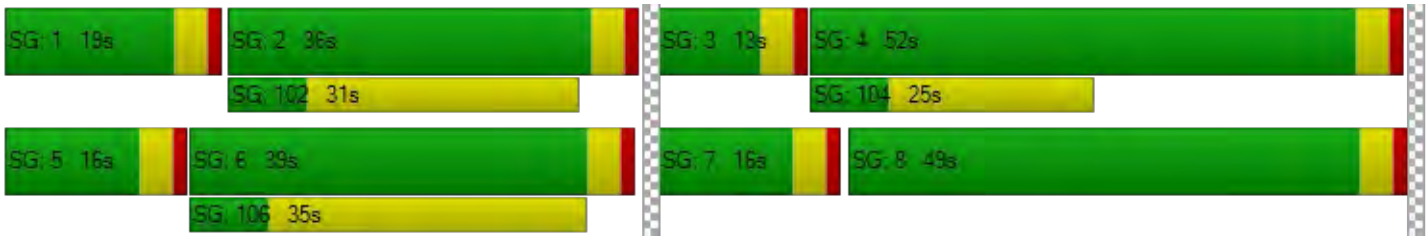
d_M, Delay for Movement [s/veh]	126.77	40.54	40.01	65.02	46.44	56.82	58.53	101.36	26.46	65.92	26.88	28.74
Movement LOS	F	D	D	E	D	E	E	F	C	E	C	C
d_A, Approach Delay [s/veh]	89.28			55.05			87.52			31.94		
Approach LOS	F			E			F			C		
d_I, Intersection Delay [s/veh]	60.71											
Intersection LOS	E											
Intersection V/C	1.031											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.539	3.262	3.120
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	583	750	800
d_b, Bicycle Delay [s]	32.27	30.10	23.44	21.60
l_b,int, Bicycle LOS Score for Intersection	2.119	2.069	3.311	2.766
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	17.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.412

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	309	72	427	313	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	309	72	427	313	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	81	19	112	82	0	0
Total Analysis Volume [veh/h]	325	76	449	329	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	56	56	26	86	
g / C, Green / Cycle	0.62	0.62	0.29	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.26	0.09	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1119	1119	492	3440	
d1, Uniform Delay [s]	7.25	7.25	30.85	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.35	0.35	6.98	0.06	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.18	0.18	0.91	0.10	
d, Delay for Lane Group [s/veh]	7.60	7.60	37.84	0.15	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	1.59	1.59	10.03	0.03	
50th-Percentile Queue Length [ft]	39.83	39.83	250.69	0.66	
95th-Percentile Queue Length [veh]	2.87	2.87	15.22	0.05	
95th-Percentile Queue Length [ft]	71.70	71.70	380.52	1.19	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.60	7.60	37.84	0.15	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	7.60		21.90		0.00	
Approach LOS	A		C		A	
d_I, Intersection Delay [s/veh]	17.04					
Intersection LOS	B					
Intersection V/C	0.412					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.935	
Crosswalk LOS	F	F	A	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0	
d_b, Bicycle Delay [s]	45.00	45.00	45.00	
l_b,int, Bicycle LOS Score for Intersection	4.463	4.774	4.132	
Bicycle LOS	E	E	D	

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	30.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.855

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	288	6	302	18	0	63	33	1659	0	0	1750	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	288	6	302	18	0	63	33	1659	0	0	1750	26
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	76	2	79	5	0	17	9	437	0	0	461	7
Total Analysis Volume [veh/h]	303	6	318	19	0	66	35	1746	0	0	1842	27
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	27	0	11	0	0	10	82	0	0	72	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	23	7	4	78	70	70
g / C, Green / Cycle	0.19	0.19	0.06	0.03	0.65	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.09	0.18	0.05	0.02	0.49	0.52	0.52
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	614	345	96	59	2346	1050	1050
d1, Uniform Delay [s]	43.32	47.83	56.27	57.13	14.16	21.67	21.67
k, delay calibration	0.11	0.25	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.61	21.75	21.71	9.08	2.19	11.27	11.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.94	0.88	0.59	0.74	0.89	0.89
d, Delay for Lane Group [s/veh]	43.94	69.58	77.98	66.21	16.35	32.94	32.94
Lane Group LOS	D	E	E	E	B	C	C
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	4.08	11.60	3.14	1.20	15.55	24.71	24.71
50th-Percentile Queue Length [ft]	102.01	289.94	78.38	29.92	388.85	617.63	617.63
95th-Percentile Queue Length [veh]	7.34	17.18	5.64	2.15	22.02	32.86	32.86
95th-Percentile Queue Length [ft]	183.62	429.56	141.09	53.85	550.55	821.41	821.41

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.94	69.58	69.58	77.98	0.00	77.98	66.21	16.35	0.00	0.00	32.94	32.94
Movement LOS	D	E	E	E		E	E	B			C	C
d_A, Approach Delay [s/veh]	57.19			77.98			17.33			32.94		
Approach LOS	E			E			B			C		
d_I, Intersection Delay [s/veh]	30.93											
Intersection LOS	C											
Intersection V/C	0.855											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.158	1.803	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	383	0	1300	1133
d_b, Bicycle Delay [s]	39.20	60.00	7.35	11.27
l_b,int, Bicycle LOS Score for Intersection	2.594	4.273	3.029	3.102
Bicycle LOS	B	E	C	C

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	45.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.081

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	262	174	51	171	131	977	1081	614	139	72	533	219
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	262	174	51	171	131	977	1081	614	139	72	533	219
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	46	13	45	34	257	284	162	37	19	140	58
Total Analysis Volume [veh/h]	276	183	54	180	138	1028	1138	646	146	76	561	231
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	46	29	0	49	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	38	28	28	38	28	74	42	63	63	7	28	28
g / C, Green / Cycle	0.32	0.23	0.23	0.32	0.23	0.62	0.35	0.53	0.53	0.06	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.16	0.07	0.06	0.11	0.04	0.57	0.36	0.22	0.22	0.04	0.23	0.21
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	573	419	419	530	839	1112	1124	948	948	97	418	418
d1, Uniform Delay [s]	33.48	37.87	37.70	31.36	36.70	20.44	38.92	17.25	17.24	55.83	46.00	44.70
k, delay calibration	0.19	0.11	0.11	0.11	0.11	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.12	0.38	0.35	0.38	0.09	14.03	15.55	1.36	1.35	12.71	42.92	24.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.29	0.27	0.34	0.16	0.92	1.01	0.42	0.42	0.78	1.00	0.90
d, Delay for Lane Group [s/veh]	34.60	38.25	38.05	31.74	36.79	34.47	54.47	18.61	18.60	68.54	88.92	69.51
Lane Group LOS	C	D	D	C	D	C	F	B	B	E	F	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.74	3.02	2.82	4.06	1.64	27.99	18.69	6.92	6.90	2.61	17.27	13.66
50th-Percentile Queue Length [ft]	168.39	75.43	70.53	101.54	40.94	699.86	467.14	172.95	172.48	65.35	431.69	341.55
95th-Percentile Queue Length [veh]	10.99	5.43	5.08	7.31	2.95	36.67	25.99	11.23	11.21	4.71	24.08	19.72
95th-Percentile Queue Length [ft]	274.80	135.78	126.96	182.77	73.70	916.79	649.68	280.79	280.17	117.63	602.06	493.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.60	38.18	38.05	31.74	36.79	34.47	54.47	18.61	18.60	68.54	83.91	69.51
Movement LOS	C	D	D	C	D	C	F	B	B	E	F	E
d_A, Approach Delay [s/veh]	36.24			34.35			39.75			78.73		
Approach LOS	D			C			D			E		
d_I, Intersection Delay [s/veh]	45.07											
Intersection LOS	D											
Intersection V/C	1.081											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.484	2.938	3.274	2.718
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	467	467	417	467
d_b, Bicycle Delay [s]	35.27	35.27	37.60	35.27
l_b,int, Bicycle LOS Score for Intersection	1.983	2.670	3.152	2.276
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	21.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.449

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	200	63	119	30	56	35	39	518	146	122	562	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	200	63	119	30	56	35	39	518	146	122	562	39
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	17	31	8	15	9	10	136	38	32	148	10
Total Analysis Volume [veh/h]	211	66	125	32	59	37	41	545	154	128	592	41
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	11	29	0	10	32	0	17	39	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	10	10	3	6	6	4	52	52	9	57	57
g / C, Green / Cycle	0.09	0.11	0.11	0.04	0.06	0.06	0.04	0.58	0.58	0.10	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.07	0.04	0.07	0.02	0.03	0.03	0.02	0.20	0.19	0.08	0.18	0.17
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	280	200	200	65	111	111	75	1040	1040	163	1133	1133
d1, Uniform Delay [s]	40.19	36.99	38.29	42.52	40.81	40.77	42.24	10.07	9.90	39.87	7.53	7.49
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.08	0.96	3.18	5.71	2.72	2.57	6.17	0.92	0.83	8.09	0.62	0.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.33	0.63	0.49	0.44	0.43	0.55	0.35	0.32	0.79	0.28	0.28
d, Delay for Lane Group [s/veh]	44.27	37.94	41.47	48.23	43.53	43.34	48.40	11.00	10.72	47.95	8.15	8.10
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	A	A
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.41	1.38	2.78	0.79	1.12	1.08	1.01	3.74	3.41	3.10	2.67	2.60
50th-Percentile Queue Length [ft]	60.34	34.50	69.47	19.86	27.94	26.95	25.31	93.45	85.21	77.51	66.70	64.95
95th-Percentile Queue Length [veh]	4.34	2.48	5.00	1.43	2.01	1.94	1.82	6.73	6.13	5.58	4.80	4.68
95th-Percentile Queue Length [ft]	108.62	62.11	125.05	35.75	50.30	48.52	45.56	168.21	153.37	139.53	120.07	116.90

Movement, Approach, & Intersection Results

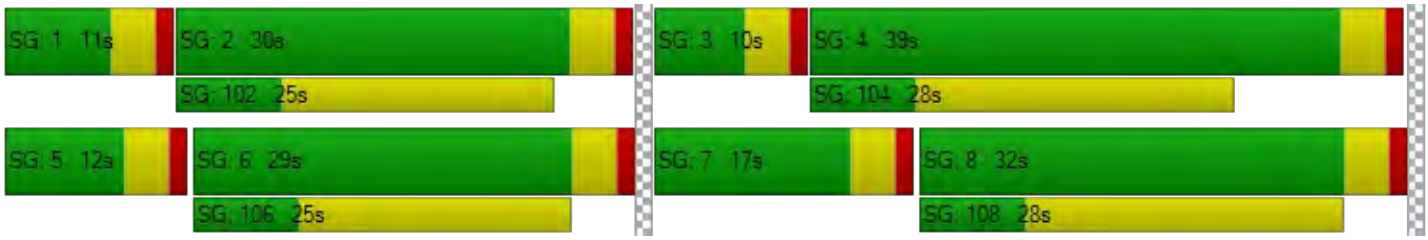
d_M, Delay for Movement [s/veh]	44.27	37.94	41.47	48.23	43.50	43.34	48.40	10.91	10.72	47.95	8.13	8.10
Movement LOS	D	D	D	D	D	D	D	B	B	D	A	A
d_A, Approach Delay [s/veh]	42.36			44.64			12.95			14.82		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	21.47											
Intersection LOS	C											
Intersection V/C	0.449											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.573	2.198	2.607	2.585
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	556	622	778
d_b, Bicycle Delay [s]	22.76	23.47	21.36	16.81
l_b,int, Bicycle LOS Score for Intersection	2.223	1.665	2.170	2.187
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	29.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.434

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	125	340	43	35	308	80	73	256	179	47	189	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	125	340	43	35	308	80	73	256	179	47	189	42
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	89	11	9	81	21	19	67	47	12	50	11
Total Analysis Volume [veh/h]	132	358	45	37	324	84	77	269	188	49	199	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	40	0	11	31	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	18	18	4	13	13	5	48	48	4	47	47
g / C, Green / Cycle	0.10	0.20	0.20	0.04	0.15	0.15	0.06	0.53	0.53	0.05	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.08	0.11	0.11	0.02	0.12	0.11	0.05	0.13	0.12	0.03	0.07	0.07
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	166	363	363	71	263	263	101	956	956	82	935	935
d1, Uniform Delay [s]	39.82	32.41	32.29	42.34	37.22	36.97	41.77	11.46	11.27	42.06	11.17	11.14
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.42	1.37	1.28	5.86	5.47	4.43	11.08	0.64	0.55	6.78	0.29	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.56	0.55	0.52	0.80	0.76	0.76	0.25	0.23	0.60	0.13	0.13
d, Delay for Lane Group [s/veh]	48.24	33.79	33.57	48.20	42.68	41.40	52.85	12.10	11.82	48.84	11.46	11.43
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.21	4.09	3.94	0.91	4.78	4.46	1.98	2.63	2.30	1.21	1.28	1.24
50th-Percentile Queue Length [ft]	80.23	102.20	98.54	22.85	119.49	111.43	49.45	65.76	57.52	30.29	32.05	30.95
95th-Percentile Queue Length [veh]	5.78	7.36	7.09	1.65	8.36	7.92	3.56	4.73	4.14	2.18	2.31	2.23
95th-Percentile Queue Length [ft]	144.42	183.97	177.37	41.13	209.12	197.99	89.02	118.36	103.54	54.52	57.70	55.71

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	48.24	33.69	33.57	48.20	42.23	41.40	52.85	12.07	11.82	48.84	11.45	11.43
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.27			42.57			17.86			17.72		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.68											
Intersection LOS	C											
Intersection V/C	0.434											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.513	2.480	2.484	2.425
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	600	556	556
d_b, Bicycle Delay [s]	16.20	22.05	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.001	1.927	2.000	1.801
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX E-II

YEAR 2022 WITH PROJECT (PHASE 2) TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.259

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	113	37	17	0	15	4	2	9	73	2	13	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	113	37	17	0	15	4	2	9	73	2	13	1
Peak Hour Factor	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	11	5	0	4	1	1	3	22	1	4	0
Total Analysis Volume [veh/h]	135	44	20	0	18	5	2	11	87	2	16	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	690	870	721	838	639	799	631	697
Degree of Utilization, x	0.26	0.02	0.02	0.01	0.00	0.12	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.03	0.07	0.08	0.02	0.01	0.42	0.01	0.07
95th-Percentile Queue Length [ft]	25.85	1.76	1.92	0.45	0.24	10.44	0.24	1.87
Approach Delay [s/veh]	9.45		7.65		7.85		8.03	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.78							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.142

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	100	0	0	0	0	0	146	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	100	0	0	0	0	0	146	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	26	0	0	0	0	0	38	0
Total Analysis Volume [veh/h]	0	0	0	0	105	0	0	0	0	0	154	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	10.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	12.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10.69			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.33											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	190	323	228	9	182	0	34	5	14	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	323	228	9	182	0	34	5	14	0	0	0
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9500	0.9260	0.9260	0.9260	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	87	62	2	49	0	9	1	4	0	0	0
Total Analysis Volume [veh/h]	205	349	246	10	197	0	37	5	15	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	640	686	791	606	611	503	596	
Degree of Utilization, x	0.43	0.40	0.31	0.17	0.17	0.08	0.03	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.18	1.96	1.33	0.61	0.61	0.27	0.08	
95th-Percentile Queue Length [ft]	54.55	48.96	33.18	15.30	15.15	6.81	1.94	
Approach Delay [s/veh]	11.17			9.83		10.09		0.00
Approach LOS	B			A		B		A
Intersection Delay [s/veh]	10.85							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.259

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	742	195	0	0	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	742	195	0	0	230
Peak Hour Factor	0.9500	0.9520	0.9520	0.9500	0.9500	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	195	51	0	0	60
Total Analysis Volume [veh/h]	0	779	205	0	0	242
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.26
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.43
Movement LOS		A	A			A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.45
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	11.13
d_A, Approach Delay [s/veh]	0.00		0.00		9.43	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.86					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.446

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	196	776	442	0	0	233
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	196	776	442	0	0	233
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	204	116	0	0	61
Total Analysis Volume [veh/h]	206	817	465	0	0	245
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	29	47	18	0	0	43
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	67	51	15
g / C, Green / Cycle	0.14	0.75	0.56	0.16
(v / s)_i Volume / Saturation Flow Rate	0.12	0.23	0.13	0.14
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	245	2698	2020	291
d1, Uniform Delay [s]	37.54	3.65	9.96	36.63
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.64	0.29	0.27	6.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.30	0.23	0.84
d, Delay for Lane Group [s/veh]	45.18	3.94	10.22	43.15
Lane Group LOS	D	A	B	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	4.86	1.89	2.23	5.66
50th-Percentile Queue Length [ft]	121.56	47.30	55.79	141.41
95th-Percentile Queue Length [veh]	8.48	3.41	4.02	9.56
95th-Percentile Queue Length [ft]	211.97	85.13	100.43	238.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.18	3.94	10.22	0.00	0.00	43.15
Movement LOS	D	A	B			D
d_A, Approach Delay [s/veh]	12.25		10.22		43.15	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	16.07					
Intersection LOS	B					
Intersection V/C	0.446					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.637	2.443	1.934
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.976	4.516	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.487

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	798	255	16	710	153	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	798	255	16	710	153	15
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	210	67	4	187	40	4
Total Analysis Volume [veh/h]	840	268	17	747	161	16
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	18	0	10	28	62	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	64	64	2	71	11
g / C, Green / Cycle	0.72	0.72	0.02	0.78	0.13
(v / s)_i Volume / Saturation Flow Rate	0.31	0.31	0.01	0.21	0.10
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1287	1287	41	2822	216
d1, Uniform Delay [s]	5.28	5.28	43.29	2.65	38.28
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.05	1.05	6.39	0.23	7.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.43	0.41	0.26	0.82
d, Delay for Lane Group [s/veh]	6.33	6.33	49.68	2.88	45.69
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	3.75	3.75	0.44	1.27	4.19
50th-Percentile Queue Length [ft]	93.81	93.81	11.08	31.87	104.72
95th-Percentile Queue Length [veh]	6.75	6.75	0.80	2.29	7.54
95th-Percentile Queue Length [ft]	168.86	168.86	19.94	57.37	188.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.33	6.33	49.68	2.88	45.69	45.69
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	6.33		3.92		45.69	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.83					
Intersection LOS	A					
Intersection V/C	0.487					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.622	2.615	1.940
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.047	4.763	4.424
Bicycle LOS	F	E	E

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	22.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.014

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1079	106	23	856	3	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1079	106	23	856	3	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	284	28	6	225	1	1
Total Analysis Volume [veh/h]	1136	112	24	901	3	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.04	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	11.80	0.00	22.22	13.67
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	8.66	4.33	0.06	0.06
95th-Percentile Queue Length [ft]	0.00	0.00	216.46	108.23	1.43	1.43
d_A, Approach Delay [s/veh]	0.00		0.31		18.80	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.17					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	31.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.516

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	125	422	37	104	477	59	40	292	95	114	376	82
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	125	422	37	104	477	59	40	292	95	114	376	82
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	111	10	27	126	16	11	77	25	30	99	22
Total Analysis Volume [veh/h]	132	444	39	109	502	62	42	307	100	120	396	86
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	30	0	21	36	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	18	18	7	17	17	4	40	40	8	44	44
g / C, Green / Cycle	0.10	0.20	0.20	0.08	0.19	0.19	0.04	0.45	0.45	0.09	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.08	0.14	0.13	0.06	0.16	0.15	0.02	0.12	0.11	0.07	0.14	0.13
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	164	369	369	140	344	344	76	801	801	153	883	883
d1, Uniform Delay [s]	39.90	32.95	32.83	40.58	35.12	34.89	42.21	15.71	15.59	40.18	13.57	13.46
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.81	2.03	1.89	9.01	5.34	4.48	6.20	0.79	0.73	8.55	0.79	0.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.66	0.65	0.78	0.84	0.81	0.55	0.26	0.25	0.79	0.28	0.27
d, Delay for Lane Group [s/veh]	48.71	34.99	34.72	49.59	40.46	39.37	48.41	16.51	16.32	48.73	14.36	14.19
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.23	5.02	4.87	2.69	6.44	6.12	1.04	2.78	2.59	2.93	3.01	2.83
50th-Percentile Queue Length [ft]	80.67	125.57	121.84	67.27	161.05	152.94	25.91	69.50	64.79	73.32	75.34	70.75
95th-Percentile Queue Length [veh]	5.81	8.70	8.49	4.84	10.60	10.17	1.87	5.00	4.66	5.28	5.42	5.09
95th-Percentile Queue Length [ft]	145.21	217.45	212.35	121.09	265.12	254.35	46.65	125.11	116.62	131.97	135.62	127.35

Movement, Approach, & Intersection Results

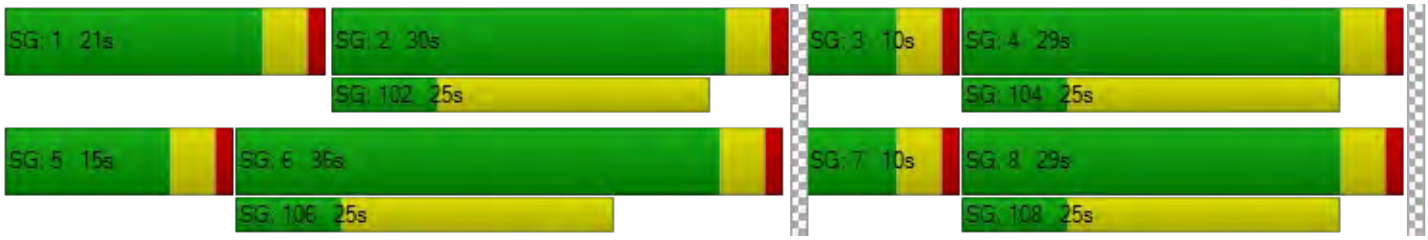
d_M, Delay for Movement [s/veh]	48.71	34.87	34.72	49.59	39.99	39.37	48.41	16.45	16.32	48.73	14.30	14.19
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.83			41.49			19.41			21.15		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	31.05											
Intersection LOS	C											
Intersection V/C	0.516											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.560	2.542	2.502	2.505
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	711	556	556
d_b, Bicycle Delay [s]	22.76	18.69	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.067	2.115	1.930	2.056
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	20.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.536

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1059	223	0	382	479	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1059	223	0	382	479	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	279	59	0	101	126	0
Total Analysis Volume [veh/h]	1115	235	0	402	504	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	36	46	46
g / C, Green / Cycle	0.40	0.40	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.35	0.13	0.11	0.14
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1270	714	1851	1851
d1, Uniform Delay [s]	25.08	18.79	11.94	12.33
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.12	0.27	0.27	0.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.33	0.22	0.27
d, Delay for Lane Group [s/veh]	27.20	19.06	12.21	12.69
Lane Group LOS	C	B	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	10.78	3.34	2.17	2.81
50th-Percentile Queue Length [ft]	269.60	83.53	54.14	70.20
95th-Percentile Queue Length [veh]	16.17	6.01	3.90	5.05
95th-Percentile Queue Length [ft]	404.24	150.35	97.45	126.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.20	19.06	0.00	12.21	12.69	0.00
Movement LOS	C	B		B	B	
d_A, Approach Delay [s/veh]	25.78		12.21		12.69	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	20.44					
Intersection LOS	C					
Intersection V/C	0.536					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.378	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.464	4.548
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	61.3
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.032

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	318	209	98	70	423	382	113	988	252	240	1104	200
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	318	209	98	70	423	382	113	988	252	240	1104	200
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	55	26	18	111	101	30	260	66	63	291	53
Total Analysis Volume [veh/h]	335	220	103	74	445	402	119	1040	265	253	1162	211
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	24	35	0	28	39	0	10	33	0	14	37	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	44	44	6	30	30	6	29	29	15	38	38
g / C, Green / Cycle	0.18	0.40	0.40	0.06	0.27	0.27	0.05	0.26	0.26	0.14	0.35	0.35
(v / s)_i Volume / Saturation Flow Rate	0.20	0.12	0.06	0.04	0.25	0.22	0.04	0.29	0.15	0.15	0.26	0.25
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	309	715	715	95	489	489	175	957	478	230	1248	624
d1, Uniform Delay [s]	45.02	22.78	21.21	51.26	38.80	37.61	51.08	40.40	34.79	47.57	31.60	31.28
k, delay calibration	0.25	0.11	0.11	0.11	0.29	0.24	0.11	0.50	0.50	0.12	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	60.62	0.24	0.09	12.56	15.83	7.43	4.62	55.69	4.57	59.38	3.98	6.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.08	0.31	0.14	0.78	0.91	0.82	0.68	1.09	0.55	1.10	0.74	0.72
d, Delay for Lane Group [s/veh]	105.64	23.02	21.30	63.81	54.63	45.04	55.70	96.10	39.36	106.95	35.57	38.27
Lane Group LOS	F	C	C	E	D	D	E	F	D	F	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	13.57	3.94	1.72	2.34	13.61	11.04	1.72	20.16	6.69	10.07	11.31	11.42
50th-Percentile Queue Length [ft]	339.23	98.54	42.89	58.55	340.20	276.07	42.99	503.94	167.30	251.65	282.65	285.42
95th-Percentile Queue Length [veh]	20.41	7.10	3.09	4.22	19.66	16.49	3.10	28.92	10.93	15.90	16.82	16.96
95th-Percentile Queue Length [ft]	510.30	177.38	77.20	105.39	491.44	412.31	77.39	723.12	273.36	397.43	420.51	423.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	105.64	23.02	21.30	63.81	54.63	45.04	55.70	96.10	39.36	106.95	36.13	38.27
Movement LOS	F	C	C	E	D	D	E	F	D	F	D	D
d_A, Approach Delay [s/veh]	64.81			51.18			82.16			47.43		
Approach LOS	E			D			F			D		
d_I, Intersection Delay [s/veh]	61.33											
Intersection LOS	E											
Intersection V/C	1.032											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	44.55	44.55	44.55
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.596	3.140	2.924
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	564	636	527	600
d_b, Bicycle Delay [s]	28.37	25.57	29.82	26.95
l_b,int, Bicycle LOS Score for Intersection	2.645	2.319	2.734	2.454
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.495

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	623	111	382	533	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	623	111	382	533	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	164	29	101	140	0	0
Total Analysis Volume [veh/h]	656	117	402	561	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	58	58	24	86	
g / C, Green / Cycle	0.65	0.65	0.26	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.21	0.21	0.24	0.16	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1169	1169	445	3440	
d1, Uniform Delay [s]	7.04	7.04	32.12	0.11	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.76	0.76	7.06	0.10	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.33	0.33	0.90	0.16	
d, Delay for Lane Group [s/veh]	7.80	7.80	39.18	0.21	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	3.14	3.14	9.07	0.05	
50th-Percentile Queue Length [ft]	78.53	78.53	226.71	1.22	
95th-Percentile Queue Length [veh]	5.65	5.65	14.01	0.09	
95th-Percentile Queue Length [ft]	141.35	141.35	350.17	2.19	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.80	7.80	39.18	0.21	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	7.80		16.48		0.00	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	12.61					
Intersection LOS	B					
Intersection V/C	0.495					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.929
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.770	4.927	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	15.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.557

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	389	4	226	2	0	1	10	1143	0	0	1162	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	389	4	226	2	0	1	10	1143	0	0	1162	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	102	1	59	1	0	0	3	301	0	0	306	1
Total Analysis Volume [veh/h]	409	4	238	2	0	1	11	1203	0	0	1223	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	52	0	10	0	0	10	28	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	16	16	0	1	62	57	57
g / C, Green / Cycle	0.17	0.17	0.01	0.02	0.69	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.13	0.13	0.00	0.01	0.33	0.34	0.34
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	553	311	9	28	2478	1129	1129
d1, Uniform Delay [s]	35.34	35.61	44.63	43.84	6.57	9.48	9.48
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.96	4.20	18.60	8.40	0.68	1.87	1.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.78	0.32	0.39	0.49	0.54	0.54
d, Delay for Lane Group [s/veh]	37.30	39.81	63.23	52.23	7.25	11.35	11.35
Lane Group LOS	D	D	E	D	A	B	B
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	4.33	5.34	0.11	0.31	4.66	6.54	6.54
50th-Percentile Queue Length [ft]	108.18	133.58	2.86	7.67	116.40	163.57	163.57
95th-Percentile Queue Length [veh]	7.74	9.13	0.21	0.55	8.19	10.74	10.74
95th-Percentile Queue Length [ft]	193.47	228.35	5.15	13.80	204.87	268.44	268.44

Movement, Approach, & Intersection Results

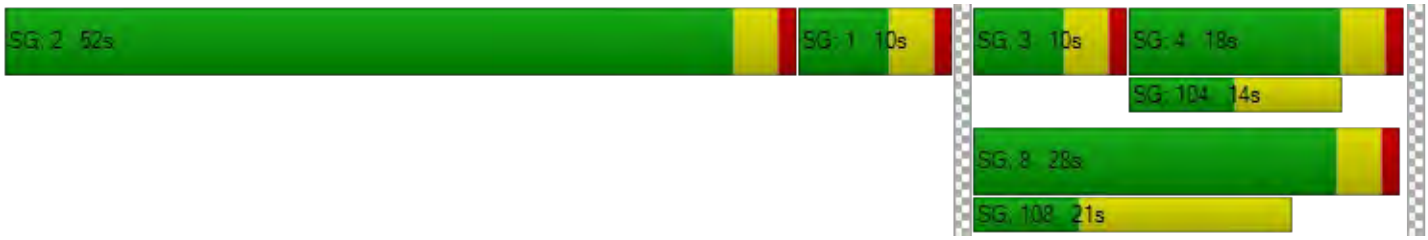
d_M, Delay for Movement [s/veh]	37.30	39.81	39.81	63.23	0.00	63.23	52.23	7.25	0.00	0.00	11.35	11.35
Movement LOS	D	D	D	E		E	D	A			B	B
d_A, Approach Delay [s/veh]	38.23			63.23			7.66			11.35		
Approach LOS	D			E			A			B		
d_I, Intersection Delay [s/veh]	15.61											
Intersection LOS	B											
Intersection V/C	0.557											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.151	1.724	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	0	533	311
d_b, Bicycle Delay [s]	9.80	45.00	24.20	32.09
l_b,int, Bicycle LOS Score for Intersection	2.634	4.137	2.561	2.570
Bicycle LOS	B	D	B	B

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	31.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.771

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	269	292	46	135	240	461	721	471	132	44	376	124
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	269	292	46	135	240	461	721	471	132	44	376	124
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	71	77	12	36	63	121	190	124	35	12	99	33
Total Analysis Volume [veh/h]	283	307	48	142	253	485	759	496	139	46	396	131
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	31	53	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	14	14	24	14	47	29	65	65	4	40	40
g / C, Green / Cycle	0.23	0.13	0.13	0.23	0.13	0.45	0.28	0.62	0.62	0.04	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.17	0.10	0.10	0.08	0.07	0.27	0.24	0.18	0.17	0.03	0.15	0.14
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	376	234	234	322	469	804	891	1110	1110	73	686	686
d1, Uniform Delay [s]	37.76	44.22	44.01	34.34	42.77	22.03	35.88	9.45	9.32	49.47	23.72	23.43
k, delay calibration	0.14	0.11	0.11	0.11	0.11	0.23	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.06	5.38	4.58	0.95	0.97	1.56	2.43	0.68	0.62	8.52	1.72	1.53
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.77	0.74	0.44	0.54	0.60	0.85	0.30	0.28	0.63	0.40	0.37
d, Delay for Lane Group [s/veh]	41.82	49.60	48.59	35.29	43.74	23.60	38.31	10.13	9.94	57.99	25.44	24.96
Lane Group LOS	D	D	D	D	D	C	D	B	A	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	7.12	4.89	4.63	3.14	3.13	9.15	9.34	3.52	3.26	1.36	5.21	4.78
50th-Percentile Queue Length [ft]	177.95	122.14	115.67	78.49	78.13	228.77	233.39	88.06	81.54	33.95	130.31	119.41
95th-Percentile Queue Length [veh]	11.49	8.51	8.15	5.65	5.63	14.11	14.35	6.34	5.87	2.44	8.96	8.36
95th-Percentile Queue Length [ft]	287.34	212.77	203.86	141.28	140.64	352.80	358.66	158.51	146.77	61.11	223.92	209.01

Movement, Approach, & Intersection Results

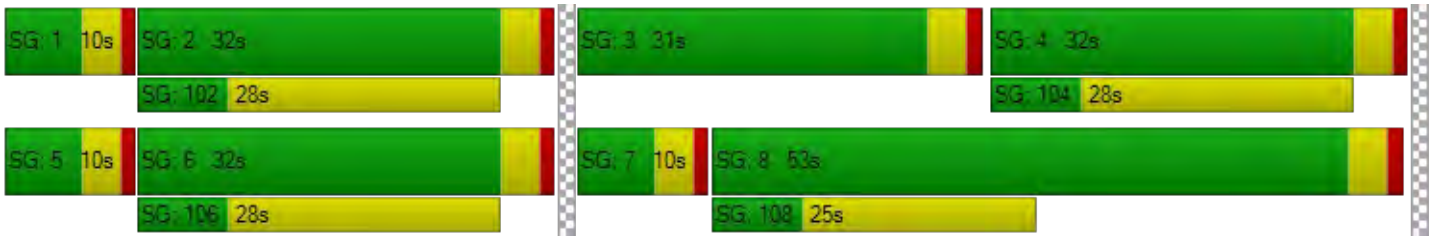
d_M, Delay for Movement [s/veh]	41.82	49.19	48.59	35.29	43.74	23.60	38.31	10.06	9.94	57.99	25.29	24.96
Movement LOS	D	D	D	D	D	C	D	B	A	E	C	C
d_A, Approach Delay [s/veh]	45.87			31.27			25.43			27.84		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	31.04											
Intersection LOS	C											
Intersection V/C	0.771											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	42.08	42.08	42.08	42.08
l_p,int, Pedestrian LOS Score for Intersection	2.517	2.798	3.046	2.583
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	533	933	533
d_b, Bicycle Delay [s]	28.23	28.23	14.93	28.23
l_b,int, Bicycle LOS Score for Intersection	2.086	2.286	2.710	2.032
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	27.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.406

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	132	128	75	52	143	142	134	291	111	48	361	55
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	132	128	75	52	143	142	134	291	111	48	361	55
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	34	20	14	38	37	35	77	29	13	95	14
Total Analysis Volume [veh/h]	139	135	79	55	151	149	141	306	117	51	380	58
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	29	0	10	29	0	19	39	0	12	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	11	11	5	10	10	9	54	54	4	49	49
g / C, Green / Cycle	0.07	0.13	0.13	0.05	0.11	0.11	0.10	0.60	0.60	0.05	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.04	0.08	0.04	0.03	0.08	0.08	0.08	0.12	0.11	0.03	0.12	0.12
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	210	227	227	87	201	201	177	1073	1073	84	974	974
d1, Uniform Delay [s]	41.15	37.23	36.02	41.95	38.85	38.80	39.45	8.37	8.29	42.02	10.84	10.78
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.54	2.48	0.91	7.38	5.60	5.33	7.86	0.43	0.39	6.99	0.55	0.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.66	0.60	0.35	0.63	0.75	0.74	0.80	0.20	0.19	0.61	0.23	0.22
d, Delay for Lane Group [s/veh]	44.70	39.72	36.93	49.34	44.45	44.13	47.31	8.81	8.68	49.02	11.38	11.31
Lane Group LOS	D	D	D	D	D	D	D	A	A	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	1.59	2.93	1.63	1.36	3.50	3.44	3.39	1.93	1.76	1.26	2.33	2.24
50th-Percentile Queue Length [ft]	39.84	73.22	40.67	34.12	87.58	86.06	84.80	48.26	44.03	31.56	58.18	55.88
95th-Percentile Queue Length [veh]	2.87	5.27	2.93	2.46	6.31	6.20	6.11	3.47	3.17	2.27	4.19	4.02
95th-Percentile Queue Length [ft]	71.71	131.79	73.21	61.42	157.64	154.90	152.63	86.86	79.25	56.82	104.73	100.58

Movement, Approach, & Intersection Results

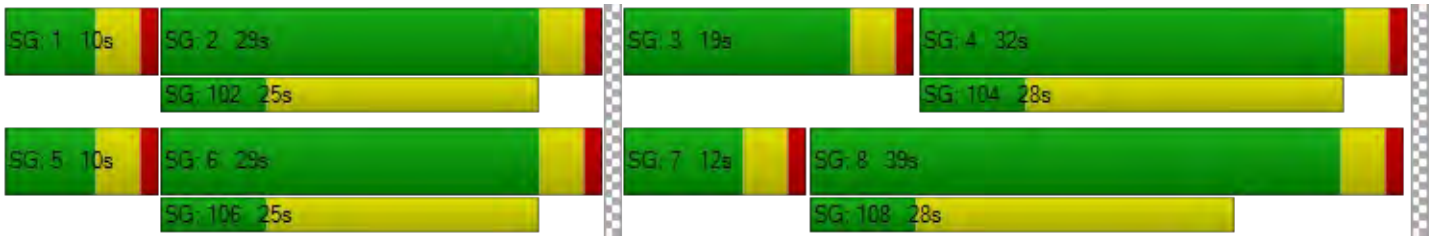
d_M, Delay for Movement [s/veh]	44.70	39.72	36.93	49.34	44.45	44.13	47.31	8.77	8.68	49.02	11.35	11.31
Movement LOS	D	D	D	D	D	D	D	A	A	D	B	B
d_A, Approach Delay [s/veh]	41.05			45.07			18.39			15.27		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.45											
Intersection LOS	C											
Intersection V/C	0.406											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.562	2.299	2.540	2.481
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	778	622
d_b, Bicycle Delay [s]	23.47	23.47	16.81	21.36
l_b,int, Bicycle LOS Score for Intersection	2.142	1.852	2.025	1.963
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	30.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.594

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	194	374	33	75	325	118	155	283	274	59	370	90
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	194	374	33	75	325	118	155	283	274	59	370	90
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	98	9	20	86	31	41	74	72	16	97	24
Total Analysis Volume [veh/h]	204	394	35	79	342	124	163	298	288	62	389	95
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	29	0	22	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	22	22	5	15	15	11	42	42	5	36	36
g / C, Green / Cycle	0.14	0.25	0.25	0.06	0.16	0.16	0.12	0.46	0.46	0.05	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.12	0.12	0.12	0.05	0.13	0.12	0.10	0.17	0.16	0.04	0.14	0.13
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	242	442	442	104	296	296	199	832	832	91	718	718
d1, Uniform Delay [s]	37.71	29.17	29.07	41.70	36.36	35.95	38.86	15.62	15.52	41.92	18.92	18.76
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.85	0.85	0.81	10.97	5.49	3.95	7.96	1.20	1.14	8.58	1.33	1.22
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.49	0.48	0.76	0.82	0.76	0.82	0.36	0.35	0.68	0.35	0.33
d, Delay for Lane Group [s/veh]	45.55	30.02	29.88	52.67	41.85	39.91	46.81	16.82	16.66	50.50	20.25	19.98
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	C	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	4.84	4.06	3.94	2.02	5.49	4.94	3.90	4.04	3.87	1.56	3.77	3.53
50th-Percentile Queue Length [ft]	120.96	101.43	98.51	50.62	137.26	123.60	97.61	100.99	96.87	38.91	94.16	88.15
95th-Percentile Queue Length [veh]	8.45	7.30	7.09	3.64	9.33	8.59	7.03	7.27	6.97	2.80	6.78	6.35
95th-Percentile Queue Length [ft]	211.14	182.57	177.31	91.12	233.33	214.76	175.70	181.77	174.37	70.04	169.50	158.67

Movement, Approach, & Intersection Results

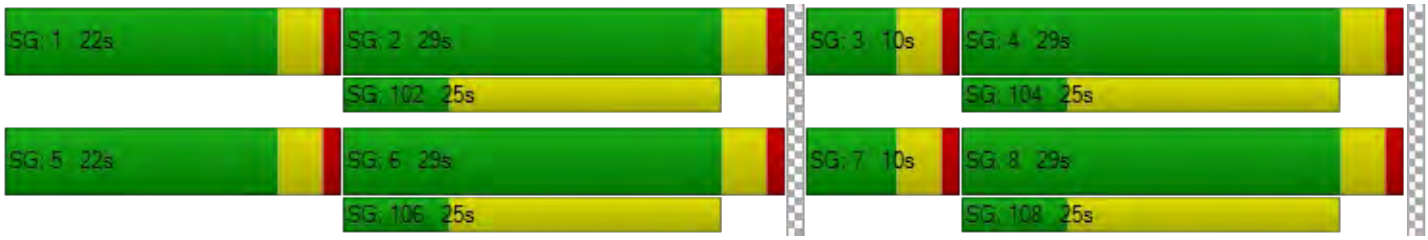
d_M, Delay for Movement [s/veh]	45.55	29.96	29.88	52.67	41.28	39.91	46.81	16.82	16.66	50.50	20.15	19.98
Movement LOS	D	C	C	D	D	D	D	B	B	D	C	B
d_A, Approach Delay [s/veh]	34.98			42.62			23.28			23.56		
Approach LOS	C			D			C			C		
d_I, Intersection Delay [s/veh]	30.60											
Intersection LOS	C											
Intersection V/C	0.594											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.558	2.533	2.585	2.486
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	556	556
d_b, Bicycle Delay [s]	23.47	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.082	2.009	2.178	2.010
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.243

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	97	9	9	0	36	2	7	10	125	17	9	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	9	9	0	36	2	7	10	125	17	9	0
Peak Hour Factor	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	3	3	0	13	1	3	4	45	6	3	0
Total Analysis Volume [veh/h]	139	13	13	0	52	3	10	14	179	24	13	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	640	806	681	785	634	794	617	675
Degree of Utilization, x	0.24	0.02	0.08	0.00	0.02	0.24	0.04	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.92	0.05	0.25	0.01	0.05	0.95	0.12	0.06
95th-Percentile Queue Length [ft]	23.01	1.23	6.19	0.29	1.20	23.76	3.03	1.47
Approach Delay [s/veh]	9.84		8.37		8.67		8.55	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	9.04							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	17.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.534

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	245	0	0	0	0	0	230	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	245	0	0	0	0	0	230	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	81	0	0	0	0	0	76	0
Total Analysis Volume [veh/h]	0	0	0	0	325	0	0	0	0	0	305	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	17.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	3.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	78.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			17.49			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	9.03											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	230	342	339	18	372	0	37	4	37	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	230	342	339	18	372	0	37	4	37	0	0	0
Peak Hour Factor	0.8730	0.8730	0.8730	0.8730	0.8730	0.9500	0.8730	0.8730	0.8730	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	98	97	5	107	0	11	1	11	0	0	0
Total Analysis Volume [veh/h]	263	392	388	21	426	0	42	5	42	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	564	608	679	559	563	430	497	
Degree of Utilization, x	0.62	0.57	0.51	0.40	0.40	0.11	0.08	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.18	3.61	2.94	1.91	1.89	0.37	0.28	
95th-Percentile Queue Length [ft]	104.55	90.30	73.52	47.80	47.27	9.14	6.89	
Approach Delay [s/veh]	16.17			13.30		11.40		0.00
Approach LOS	C			B		B		A
Intersection Delay [s/veh]	15.09							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.794

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	912	414	0	0	574
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	912	414	0	0	574
Peak Hour Factor	0.9500	0.9270	0.9270	0.9500	0.9500	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	246	112	0	0	155
Total Analysis Volume [veh/h]	0	984	447	0	0	619
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.79
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.62
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	1.91
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	47.79
d_A, Approach Delay [s/veh]	0.00		0.00		12.62	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.81					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	20.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.746

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	299	998	961	0	0	309
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	299	998	961	0	0	309
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	79	263	253	0	0	81
Total Analysis Volume [veh/h]	315	1051	1012	0	0	325
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	41	59	18	0	0	31
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	64	41	18
g / C, Green / Cycle	0.21	0.71	0.45	0.20
(v / s)_i Volume / Saturation Flow Rate	0.19	0.29	0.28	0.18
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	357	2542	1626	369
d1, Uniform Delay [s]	34.49	5.49	18.83	34.73
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.18	0.50	1.80	7.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.41	0.62	0.88
d, Delay for Lane Group [s/veh]	41.67	5.99	20.63	42.00
Lane Group LOS	D	A	C	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	7.24	3.48	8.02	7.49
50th-Percentile Queue Length [ft]	180.93	87.12	200.53	187.20
95th-Percentile Queue Length [veh]	11.65	6.27	12.67	11.98
95th-Percentile Queue Length [ft]	291.22	156.82	316.65	299.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.67	5.99	20.63	0.00	0.00	42.00
Movement LOS	D	A	C			D
d_A, Approach Delay [s/veh]	14.22		20.63		42.00	
Approach LOS	B		C		D	
d_I, Intersection Delay [s/veh]	19.96					
Intersection LOS	B					
Intersection V/C	0.746					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.826	2.633	2.026
Crosswalk LOS	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.259	4.967	4.132
Bicycle LOS	F	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	4.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	1234	38	21	1159	48	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1234	38	21	1159	48	15
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	325	10	6	305	13	4
Total Analysis Volume [veh/h]	1299	40	22	1220	51	16
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	51	0	10	61	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	70	70	3	77	5
g / C, Green / Cycle	0.78	0.78	0.03	0.86	0.05
(v / s)_i Volume / Saturation Flow Rate	0.37	0.37	0.01	0.34	0.04
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1408	1408	50	3081	94
d1, Uniform Delay [s]	3.41	3.41	42.97	1.42	41.83
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.15	1.15	5.95	0.38	9.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.48	0.44	0.40	0.71
d, Delay for Lane Group [s/veh]	4.56	4.56	48.91	1.80	51.37
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	3.16	3.16	0.56	0.82	1.70
50th-Percentile Queue Length [ft]	78.96	78.96	13.99	20.41	42.42
95th-Percentile Queue Length [veh]	5.69	5.69	1.01	1.47	3.05
95th-Percentile Queue Length [ft]	142.13	142.13	25.19	36.73	76.36

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.56	4.56	48.91	1.80	51.37	51.37
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	4.56		2.63		51.37	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.84					
Intersection LOS	A					
Intersection V/C	0.490					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.767	2.798	1.777
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.237	5.157	4.243
Bicycle LOS	F	F	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	30.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.235

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1215	1	3	1219	44	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1215	1	3	1219	44	39
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	320	0	1	321	12	10
Total Analysis Volume [veh/h]	1279	1	3	1283	46	41
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					Yes	
Number of Storage Spaces in Median	0		0		2	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.23	0.10
d_M, Delay for Movement [s/veh]	0.00	0.00	11.73	0.00	30.08	20.33
Movement LOS	A	A	B	A	D	C
95th-Percentile Queue Length [veh]	0.00	0.00	23.41	11.71	1.41	1.41
95th-Percentile Queue Length [ft]	0.00	0.00	585.32	292.66	35.14	35.14
d_A, Approach Delay [s/veh]	0.00		0.03		25.48	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	0.85					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	33.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.732

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	156	514	76	135	327	88	156	600	195	161	533	154
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	156	514	76	135	327	88	156	600	195	161	533	154
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	135	20	36	86	23	41	158	51	42	140	41
Total Analysis Volume [veh/h]	164	541	80	142	344	93	164	632	205	169	561	162
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	18	34	0	13	29	0	14	29	0	14	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	19	19	9	17	17	11	36	36	11	36	36
g / C, Green / Cycle	0.12	0.21	0.21	0.10	0.19	0.19	0.12	0.39	0.39	0.12	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.10	0.18	0.17	0.08	0.13	0.12	0.10	0.24	0.22	0.10	0.21	0.19
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	199	373	373	171	344	344	201	708	708	206	714	714
d1, Uniform Delay [s]	38.90	34.39	34.08	39.79	33.74	33.45	38.82	21.91	21.34	38.67	20.76	20.35
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.25	5.47	4.33	9.79	2.13	1.80	7.90	4.00	3.25	7.87	2.77	2.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.85	0.81	0.83	0.66	0.62	0.82	0.62	0.57	0.82	0.53	0.49
d, Delay for Lane Group [s/veh]	47.14	39.86	38.41	49.58	35.87	35.25	46.71	25.90	24.60	46.54	23.53	22.72
Lane Group LOS	D	D	D	D	D	D	D	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.95	7.10	6.65	3.51	4.68	4.34	3.92	7.86	6.96	4.04	6.34	5.72
50th-Percentile Queue Length [ft]	98.64	177.53	166.16	87.68	116.94	108.43	98.11	196.47	174.00	100.94	158.46	142.92
95th-Percentile Queue Length [veh]	7.10	11.47	10.87	6.31	8.22	7.75	7.06	12.46	11.29	7.27	10.47	9.64
95th-Percentile Queue Length [ft]	177.56	286.79	271.86	157.82	205.61	193.81	176.61	311.41	282.17	181.70	261.68	240.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.14	39.26	38.41	49.58	35.66	35.25	46.71	25.50	24.60	46.54	23.26	22.72
Movement LOS	D	D	D	D	D	D	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	40.82			39.01			28.79			27.57		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	33.17											
Intersection LOS	C											
Intersection V/C	0.732											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.592	2.581	2.654	2.640
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	667	556	556	556
d_b, Bicycle Delay [s]	20.00	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.207	2.037	2.385	2.296
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	19.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.657

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1078	193	0	834	664	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1078	193	0	834	664	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	284	51	0	219	175	0
Total Analysis Volume [veh/h]	1135	203	0	878	699	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	36	46	46
g / C, Green / Cycle	0.40	0.40	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.35	0.11	0.24	0.19
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1288	724	1831	1831
d1, Uniform Delay [s]	24.86	18.08	14.35	13.46
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.16	0.21	0.90	0.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.28	0.48	0.38
d, Delay for Lane Group [s/veh]	27.02	18.29	15.25	14.07
Lane Group LOS	C	B	B	B
Critical Lane Group	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	10.96	2.79	5.69	4.23
50th-Percentile Queue Length [ft]	274.08	69.85	142.22	105.80
95th-Percentile Queue Length [veh]	16.39	5.03	9.60	7.61
95th-Percentile Queue Length [ft]	409.83	125.73	240.00	190.15

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.02	18.29	0.00	15.25	14.07	0.00
Movement LOS	C	B		B	B	
d_A, Approach Delay [s/veh]	25.69		15.25		14.07	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	19.76					
Intersection LOS	B					
Intersection V/C	0.657					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.375	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.857	4.709
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	49.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.969

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	210	115	66	102	250	290	193	1294	412	261	1611	222
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	115	66	102	250	290	193	1294	412	261	1611	222
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	30	17	27	66	76	51	341	108	69	424	58
Total Analysis Volume [veh/h]	221	121	69	107	263	305	203	1362	434	275	1696	234
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	19	36	0	22	39	0	12	43	0	19	50	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	29	29	9	23	23	10	45	45	21	56	56
g / C, Green / Cycle	0.13	0.24	0.24	0.08	0.19	0.19	0.08	0.37	0.37	0.18	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.13	0.07	0.04	0.06	0.15	0.17	0.06	0.38	0.24	0.16	0.36	0.36
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	214	432	432	134	347	347	264	1335	668	302	1677	839
d1, Uniform Delay [s]	52.50	37.20	36.08	54.42	45.85	47.14	53.99	37.78	31.32	48.49	26.66	26.70
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.15	0.11	0.50	0.50	0.19	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	37.43	0.35	0.17	10.52	3.42	9.66	4.69	29.73	4.86	16.73	3.41	6.70
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.03	0.28	0.16	0.80	0.76	0.88	0.77	1.02	0.65	0.91	0.77	0.77
d, Delay for Lane Group [s/veh]	89.94	37.55	36.25	64.95	49.27	56.80	58.68	67.52	36.17	65.22	30.07	33.40
Lane Group LOS	F	D	D	E	D	E	E	F	D	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	8.66	2.96	1.63	3.57	7.74	9.76	3.18	24.72	11.25	9.45	15.69	16.53
50th-Percentile Queue Length [ft]	216.42	73.91	40.81	89.31	193.41	244.05	79.42	618.00	281.17	236.26	392.29	413.16
95th-Percentile Queue Length [veh]	13.67	5.32	2.94	6.43	12.30	14.89	5.72	33.34	16.75	14.49	22.19	23.19
95th-Percentile Queue Length [ft]	341.77	133.03	73.46	160.75	307.44	372.15	142.95	833.57	418.67	362.30	554.70	579.83

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	89.94	37.55	36.25	64.95	49.27	56.80	58.68	67.52	36.17	65.22	30.87	33.40
Movement LOS	F	D	D	E	D	E	E	F	D	E	C	C
d_A, Approach Delay [s/veh]	65.50			55.16			59.81			35.43		
Approach LOS	E			E			E			D		
d_I, Intersection Delay [s/veh]	49.50											
Intersection LOS	D											
Intersection V/C	0.969											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.554	3.254	3.075
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	583	650	767
d_b, Bicycle Delay [s]	32.27	30.10	27.34	22.82
l_b,int, Bicycle LOS Score for Intersection	2.238	2.116	3.209	2.772
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	16.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.498

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	395	98	500	404	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	395	98	500	404	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	104	26	132	106	0	0
Total Analysis Volume [veh/h]	416	103	526	425	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	21	0	69	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	52	52	30	86	
g / C, Green / Cycle	0.58	0.58	0.34	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.14	0.14	0.31	0.12	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1037	1037	570	3440	
d1, Uniform Delay [s]	9.45	9.45	28.80	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.58	0.58	6.87	0.07	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.25	0.25	0.92	0.12	
d, Delay for Lane Group [s/veh]	10.03	10.03	35.67	0.17	
Lane Group LOS	B	B	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	2.51	2.51	11.55	0.04	
50th-Percentile Queue Length [ft]	62.66	62.66	288.63	0.88	
95th-Percentile Queue Length [veh]	4.51	4.51	17.12	0.06	
95th-Percentile Queue Length [ft]	112.79	112.79	427.94	1.59	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.03	10.03	35.67	0.17	0.00	0.00
Movement LOS	B	B	D	A		
d_A, Approach Delay [s/veh]	10.03		19.80		0.00	
Approach LOS	B		B		A	
d_I, Intersection Delay [s/veh]	16.35					
Intersection LOS	B					
Intersection V/C	0.498					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.036
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.561	4.917	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	21.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.766

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	312	3	214	10	0	28	25	1502	0	0	1747	20
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	312	3	214	10	0	28	25	1502	0	0	1747	20
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	82	1	56	3	0	7	7	395	0	0	460	5
Total Analysis Volume [veh/h]	328	3	225	11	0	29	26	1581	0	0	1839	21
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	36	0	10	0	0	10	64	0	0	54	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	17	4	3	77	69	69
g / C, Green / Cycle	0.15	0.15	0.04	0.03	0.70	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.10	0.13	0.02	0.02	0.44	0.52	0.52
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	495	278	66	52	2511	1135	1135
d1, Uniform Delay [s]	43.82	45.03	52.04	52.54	8.99	15.53	15.53
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.53	5.91	8.52	7.39	1.21	6.64	6.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.66	0.82	0.60	0.50	0.63	0.82	0.82
d, Delay for Lane Group [s/veh]	45.35	50.94	60.57	59.93	10.20	22.17	22.17
Lane Group LOS	D	D	E	E	B	C	C
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	4.30	6.45	1.24	0.81	9.38	18.23	18.23
50th-Percentile Queue Length [ft]	107.51	161.26	31.06	20.31	234.43	455.75	455.75
95th-Percentile Queue Length [veh]	7.70	10.62	2.24	1.46	14.40	25.23	25.23
95th-Percentile Queue Length [ft]	192.53	265.39	55.90	36.56	359.98	630.80	630.80

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.35	50.94	50.94	60.57	0.00	60.57	59.93	10.20	0.00	0.00	22.17	22.17
Movement LOS	D	D	D	E		E	E	B			C	C
d_A, Approach Delay [s/veh]	47.64			60.57			11.00			22.17		
Approach LOS	D			E			B			C		
d_I, Intersection Delay [s/veh]	21.62											
Intersection LOS	C											
Intersection V/C	0.766											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	44.55	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.130	1.768	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	582	0	1091	909
d_b, Bicycle Delay [s]	27.65	55.00	11.36	16.36
l_b,int, Bicycle LOS Score for Intersection	2.477	4.198	2.885	3.094
Bicycle LOS	B	D	C	C

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	41.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.021

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	253	233	75	243	166	871	784	620	167	100	707	209
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	253	233	75	243	166	871	784	620	167	100	707	209
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	67	61	20	64	44	229	206	163	44	26	186	55
Total Analysis Volume [veh/h]	266	245	79	256	175	917	825	653	176	105	744	220
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	38	29	0	49	40	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	38	28	28	38	28	65	34	61	61	9	37	37
g / C, Green / Cycle	0.32	0.23	0.23	0.32	0.23	0.55	0.28	0.51	0.51	0.08	0.30	0.30
(v / s)_i Volume / Saturation Flow Rate	0.16	0.09	0.09	0.15	0.05	0.51	0.26	0.23	0.23	0.06	0.28	0.26
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	554	418	418	486	836	982	896	913	913	131	548	548
d1, Uniform Delay [s]	33.31	39.01	38.73	33.08	37.18	25.27	41.93	19.03	18.81	54.49	40.23	39.07
k, delay calibration	0.18	0.11	0.11	0.16	0.11	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.05	0.62	0.55	1.30	0.12	16.63	4.50	1.68	1.57	10.77	22.27	14.73
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.40	0.37	0.53	0.21	0.93	0.92	0.46	0.45	0.80	0.91	0.84
d, Delay for Lane Group [s/veh]	34.36	39.63	39.28	34.38	37.30	41.90	46.43	20.71	20.38	65.26	62.50	53.80
Lane Group LOS	C	D	D	C	D	D	D	C	C	E	E	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.44	4.27	3.94	6.18	2.10	27.48	12.31	7.91	7.52	3.51	17.49	14.88
50th-Percentile Queue Length [ft]	161.02	106.85	98.58	154.42	52.53	686.95	307.78	197.67	187.90	87.81	437.18	372.11
95th-Percentile Queue Length [veh]	10.60	7.66	7.10	10.25	3.78	36.07	18.07	12.52	12.01	6.32	24.35	21.21
95th-Percentile Queue Length [ft]	265.08	191.61	177.44	256.32	94.56	901.87	451.64	312.96	300.30	158.05	608.64	530.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.36	39.52	39.28	34.38	37.30	41.90	46.43	20.60	20.38	65.26	59.66	53.80
Movement LOS	C	D	D	C	D	D	D	C	C	E	E	D
d_A, Approach Delay [s/veh]	37.16			39.88			33.46			59.01		
Approach LOS	D			D			C			E		
d_I, Intersection Delay [s/veh]	41.64											
Intersection LOS	D											
Intersection V/C	1.021											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.518	2.895	3.225	2.877
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	467	467	417	600
d_b, Bicycle Delay [s]	35.27	35.27	37.60	29.40
l_b,int, Bicycle LOS Score for Intersection	2.046	2.672	2.924	2.442
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	23.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.592

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	212	83	177	45	56	64	69	740	192	119	546	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	212	83	177	45	56	64	69	740	192	119	546	41
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	56	22	47	12	15	17	18	195	51	31	144	11
Total Analysis Volume [veh/h]	223	87	186	47	59	67	73	779	202	125	575	43
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	19	35	0	13	29	0	10	32	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	12	12	4	7	7	5	50	50	8	53	53
g / C, Green / Cycle	0.09	0.13	0.13	0.05	0.08	0.08	0.06	0.55	0.55	0.09	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.07	0.05	0.10	0.03	0.03	0.04	0.04	0.28	0.26	0.07	0.17	0.17
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	303	236	236	81	151	151	97	991	991	159	1057	1057
d1, Uniform Delay [s]	39.72	35.79	37.98	42.08	39.15	39.33	41.89	12.69	12.35	39.98	9.30	9.25
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.48	0.96	5.83	6.51	1.66	2.05	11.14	1.89	1.65	8.22	0.71	0.69
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.37	0.79	0.58	0.39	0.45	0.75	0.51	0.48	0.79	0.30	0.29
d, Delay for Lane Group [s/veh]	43.20	36.75	43.82	48.59	40.80	41.38	53.03	14.58	14.00	48.20	10.01	9.94
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	B	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.52	1.79	4.30	1.16	1.29	1.48	1.88	6.42	5.79	3.04	3.01	2.93
50th-Percentile Queue Length [ft]	62.94	44.72	107.45	28.99	32.33	37.05	47.02	160.41	144.77	75.91	75.27	73.17
95th-Percentile Queue Length [veh]	4.53	3.22	7.70	2.09	2.33	2.67	3.39	10.57	9.74	5.47	5.42	5.27
95th-Percentile Queue Length [ft]	113.30	80.50	192.45	52.18	58.19	66.70	84.64	264.26	243.43	136.63	135.49	131.71

Movement, Approach, & Intersection Results

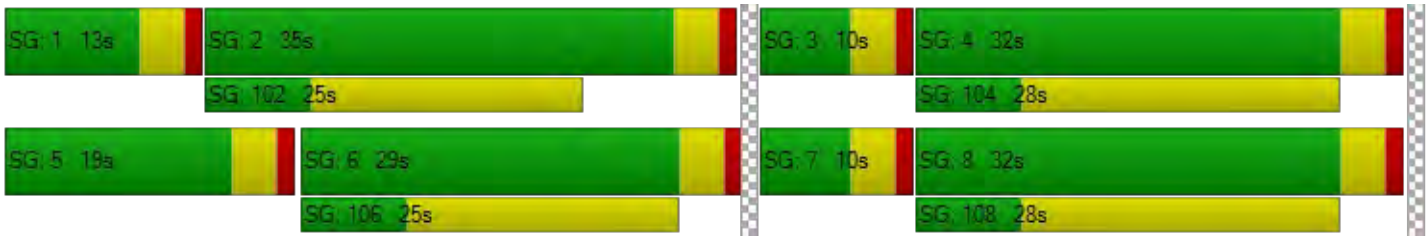
d_M, Delay for Movement [s/veh]	43.20	36.75	43.82	48.59	40.80	41.38	53.03	14.38	14.00	48.20	9.98	9.94
Movement LOS	D	D	D	D	D	D	D	B	B	D	A	A
d_A, Approach Delay [s/veh]	42.30			43.14			16.98			16.41		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	23.74											
Intersection LOS	C											
Intersection V/C	0.592											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.596	2.222	2.674	2.642
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	556	622	622
d_b, Bicycle Delay [s]	19.34	23.47	21.36	21.36
l_b,int, Bicycle LOS Score for Intersection	2.378	1.702	2.429	2.173
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	30.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.555

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	178	417	54	70	354	90	89	358	224	51	235	67
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	178	417	54	70	354	90	89	358	224	51	235	67
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	47	110	14	18	93	24	23	94	59	13	62	18
Total Analysis Volume [veh/h]	187	439	57	74	373	95	94	377	236	54	247	71
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	29	0	22	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	21	21	5	15	15	6	43	43	5	41	41
g / C, Green / Cycle	0.13	0.24	0.24	0.06	0.16	0.16	0.07	0.48	0.48	0.05	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.11	0.14	0.14	0.04	0.13	0.13	0.06	0.18	0.16	0.03	0.09	0.09
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	224	429	429	98	295	295	122	857	857	86	819	819
d1, Uniform Delay [s]	38.17	30.42	30.24	41.88	36.38	36.07	41.12	15.11	14.72	41.98	14.74	14.67
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.84	1.29	1.18	11.26	5.48	4.24	9.72	1.28	1.06	7.35	0.55	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.59	0.57	0.76	0.82	0.77	0.77	0.38	0.34	0.63	0.20	0.19
d, Delay for Lane Group [s/veh]	46.01	31.70	31.42	53.13	41.86	40.31	50.84	16.39	15.78	49.33	15.28	15.18
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.45	4.91	4.70	1.91	5.47	5.04	2.36	4.36	3.73	1.34	2.04	1.94
50th-Percentile Queue Length [ft]	111.25	122.73	117.42	47.71	136.64	126.07	58.88	108.94	93.33	33.51	51.10	48.42
95th-Percentile Queue Length [veh]	7.91	8.54	8.25	3.44	9.30	8.73	4.24	7.78	6.72	2.41	3.68	3.49
95th-Percentile Queue Length [ft]	197.73	213.57	206.27	85.88	232.49	218.15	105.99	194.53	168.00	60.32	91.99	87.16

Movement, Approach, & Intersection Results

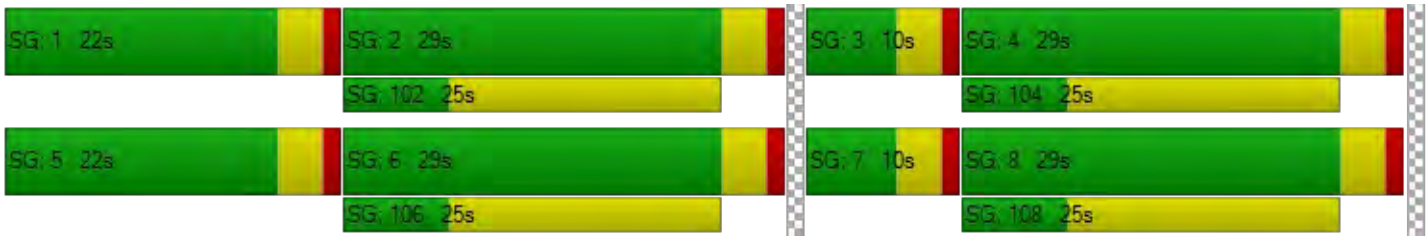
d_M, Delay for Movement [s/veh]	46.01	31.58	31.42	53.13	41.31	40.31	50.84	16.31	15.78	49.33	15.25	15.18
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	35.52			42.75			20.72			20.18		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	30.20											
Intersection LOS	C											
Intersection V/C	0.555											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.562	2.523	2.540	2.471
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	556	556
d_b, Bicycle Delay [s]	23.47	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.123	2.007	2.143	1.867
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.406

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	168	11	2	2	22	5	4	4	128	5	3	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	168	11	2	2	22	5	4	4	128	5	3	1
Peak Hour Factor	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	4	1	1	8	2	1	1	47	2	1	0
Total Analysis Volume [veh/h]	246	16	3	3	32	7	6	6	188	7	4	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	646	818	667	774	609	761	587	656
Degree of Utilization, x	0.41	0.00	0.05	0.01	0.01	0.26	0.01	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.97	0.01	0.17	0.03	0.03	1.01	0.04	0.02
95th-Percentile Queue Length [ft]	49.16	0.28	4.15	0.68	0.75	25.33	0.90	0.58
Approach Delay [s/veh]	11.97		8.23		9.04		8.62	
Approach LOS	B		A		A		A	
Intersection Delay [s/veh]	10.46							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.506

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	204	0	0	0	0	0	321	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	204	0	0	0	0	0	321	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	66	0	0	0	0	0	104	0
Total Analysis Volume [veh/h]	0	0	0	0	266	0	0	0	0	0	418	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	18.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	70.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			18.64			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	7.25											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	30.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.930

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	359	577	460	31	398	0	34	7	43	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	359	577	460	31	398	0	34	7	43	0	0	0
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9500	0.9230	0.9230	0.9230	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	156	125	8	108	0	9	2	12	0	0	0
Total Analysis Volume [veh/h]	389	625	498	34	431	0	37	8	47	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	545	579	653	505	511	384	434	
Degree of Utilization, x	0.93	0.88	0.76	0.46	0.46	0.12	0.11	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	11.60	10.00	7.06	2.39	2.35	0.40	0.35	
95th-Percentile Queue Length [ft]	290.03	249.93	176.47	59.71	58.74	10.11	8.83	
Approach Delay [s/veh]	36.68			15.63		12.66		0.00
Approach LOS	E			C		B		A
Intersection Delay [s/veh]	30.88							
Intersection LOS	D							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.998

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	1396	435	0	0	726
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1396	435	0	0	726
Peak Hour Factor	0.9500	0.9180	0.9180	0.9500	0.9500	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	380	118	0	0	198
Total Analysis Volume [veh/h]	0	1521	474	0	0	791
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.00	1.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.98
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	2.83
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	70.72
d_A, Approach Delay [s/veh]	0.00		0.00		13.98	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.97					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	12.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.659

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	156	1472	1209	0	0	207
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	156	1472	1209	0	0	207
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	387	318	0	0	54
Total Analysis Volume [veh/h]	164	1549	1273	0	0	218
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	19	37	18	0	0	53
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	69	54	13
g / C, Green / Cycle	0.12	0.77	0.60	0.15
(v / s)_i Volume / Saturation Flow Rate	0.10	0.43	0.35	0.12
s, saturation flow rate [veh/h]	1700	3600	3600	1800
c, Capacity [veh/h]	198	2753	2173	263
d1, Uniform Delay [s]	38.88	4.37	10.94	37.33
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.42	0.84	1.16	6.53
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.56	0.59	0.83
d, Delay for Lane Group [s/veh]	47.30	5.21	12.11	43.87
Lane Group LOS	D	A	B	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	3.95	4.39	7.26	5.06
50th-Percentile Queue Length [ft]	98.78	109.69	181.46	126.48
95th-Percentile Queue Length [veh]	7.11	7.82	11.68	8.75
95th-Percentile Queue Length [ft]	177.80	195.57	291.92	218.70

Movement, Approach, & Intersection Results

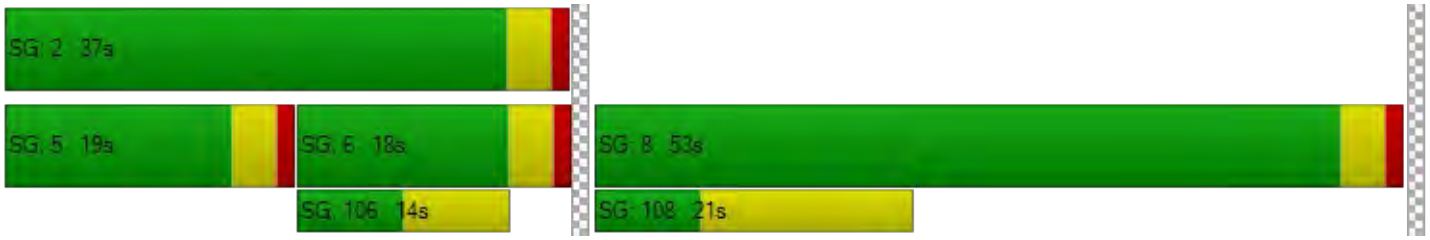
d_M, Delay for Movement [s/veh]	47.30	5.21	12.11	0.00	0.00	43.87
Movement LOS	D	A	B			D
d_A, Approach Delay [s/veh]	9.24		12.11		43.87	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	12.73					
Intersection LOS	B					
Intersection V/C	0.659					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.924	2.818	1.901
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.546	5.183	4.132
Bicycle LOS	F	F	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	4.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.572

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	1559	25	19	1331	25	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1559	25	19	1331	25	16
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	410	7	5	350	7	4
Total Analysis Volume [veh/h]	1641	26	20	1401	26	17
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	56	0	10	66	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	76	76	2	83	4
g / C, Green / Cycle	0.80	0.80	0.03	0.87	0.04
(v / s)_i Volume / Saturation Flow Rate	0.46	0.46	0.01	0.39	0.03
s, saturation flow rate [veh/h]	1800	1800	1700	3600	1700
c, Capacity [veh/h]	1447	1447	45	3141	74
d1, Uniform Delay [s]	3.41	3.41	45.56	1.27	44.60
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.68	1.68	6.72	0.46	7.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.58	0.58	0.44	0.45	0.58
d, Delay for Lane Group [s/veh]	5.08	5.08	52.28	1.73	51.69
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	4.21	4.21	0.55	0.75	1.13
50th-Percentile Queue Length [ft]	105.27	105.27	13.65	18.68	28.30
95th-Percentile Queue Length [veh]	7.58	7.58	0.98	1.34	2.04
95th-Percentile Queue Length [ft]	189.40	189.40	24.56	33.62	50.95

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.08	5.08	52.28	1.73	51.69	51.69
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	5.08		2.44		51.69	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.52					
Intersection LOS	A					
Intersection V/C	0.572					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	2.888	2.903	1.761
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	47.50	47.50	47.50
l_b,int, Bicycle LOS Score for Intersection	5.508	5.305	4.203
Bicycle LOS	F	F	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	33.6
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1585	0	0	1361	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1585	0	0	1361	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	417	0	0	358	0	0
Total Analysis Volume [veh/h]	1668	0	0	1433	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	14.44	0.00	33.56	16.56
Movement LOS	A	A	B	A	D	C
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		25.06	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	32.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.595

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	160	358	77	114	251	81	105	479	147	166	517	130
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	160	358	77	114	251	81	105	479	147	166	517	130
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	42	94	20	30	66	21	28	126	39	44	136	34
Total Analysis Volume [veh/h]	168	377	81	120	264	85	111	504	155	175	544	137
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	35	0	21	34	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	15	15	8	12	12	8	44	44	12	48	48
g / C, Green / Cycle	0.12	0.16	0.16	0.09	0.13	0.13	0.08	0.46	0.46	0.12	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.10	0.13	0.12	0.07	0.10	0.09	0.07	0.19	0.18	0.10	0.20	0.18
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	203	287	287	151	232	232	142	825	825	212	899	899
d1, Uniform Delay [s]	40.94	38.66	38.36	42.48	40.09	39.82	42.75	17.23	16.93	40.63	14.81	14.57
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.31	5.73	4.49	8.97	5.44	4.30	8.95	1.54	1.35	7.85	1.28	1.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.82	0.78	0.79	0.77	0.73	0.78	0.42	0.38	0.82	0.39	0.37
d, Delay for Lane Group [s/veh]	49.25	44.40	42.84	51.45	45.53	44.12	51.70	18.77	18.28	48.48	16.09	15.72
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.27	5.69	5.27	3.11	4.38	4.03	2.89	5.17	4.68	4.41	4.83	4.42
50th-Percentile Queue Length [ft]	106.73	142.18	131.78	77.83	109.43	100.81	72.16	129.23	116.99	110.29	120.79	110.61
95th-Percentile Queue Length [veh]	7.66	9.60	9.04	5.60	7.81	7.26	5.20	8.90	8.23	7.86	8.44	7.87
95th-Percentile Queue Length [ft]	191.45	239.95	225.91	140.09	195.20	181.46	129.89	222.45	205.68	196.40	210.91	196.85

Movement, Approach, & Intersection Results

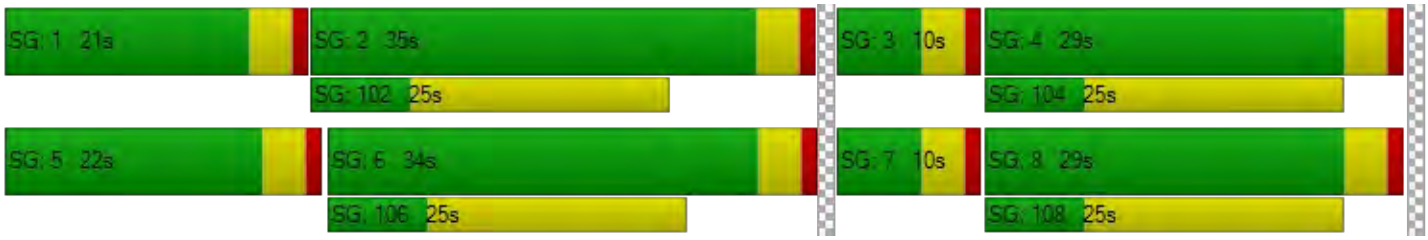
d_M, Delay for Movement [s/veh]	49.25	43.81	42.84	51.45	45.09	44.12	51.70	18.61	18.28	48.48	15.96	15.72
Movement LOS	D	D	D	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	45.15			46.54			23.31			22.57		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	32.11											
Intersection LOS	C											
Intersection V/C	0.595											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	2.540	2.515	2.608	2.607
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	653	632	526	526
d_b, Bicycle Delay [s]	21.56	22.24	25.79	25.79
l_b,int, Bicycle LOS Score for Intersection	2.076	1.947	2.195	2.266
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	20.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.702

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1330	167	0	670	691	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1330	167	0	670	691	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	350	44	0	176	182	0
Total Analysis Volume [veh/h]	1400	176	0	705	727	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	44	44	38	38
g / C, Green / Cycle	0.49	0.49	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.44	0.10	0.20	0.20
s, saturation flow rate [veh/h]	3200	1800	3600	3600
c, Capacity [veh/h]	1556	875	1529	1529
d1, Uniform Delay [s]	21.08	13.14	18.48	18.62
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.14	0.11	1.00	1.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.90	0.20	0.46	0.48
d, Delay for Lane Group [s/veh]	23.23	13.26	19.48	19.68
Lane Group LOS	C	B	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	12.83	1.97	5.25	5.46
50th-Percentile Queue Length [ft]	320.73	49.14	131.27	136.51
95th-Percentile Queue Length [veh]	18.70	3.54	9.01	9.29
95th-Percentile Queue Length [ft]	467.58	88.45	225.22	232.32

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.23	13.26	0.00	19.48	19.68	0.00
Movement LOS	C	B		B	B	
d_A, Approach Delay [s/veh]	22.11		19.48		19.68	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	20.91					
Intersection LOS	C					
Intersection V/C	0.702					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.452	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.714	4.732
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	62.2
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.057

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	182	79	65	118	191	281	201	1602	257	275	1619	235
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	182	79	65	118	191	281	201	1602	257	275	1619	235
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	21	17	31	50	74	53	422	68	72	426	62
Total Analysis Volume [veh/h]	192	83	68	124	201	296	212	1686	271	289	1704	247
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	35	0	21	39	0	10	54	0	10	54	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	25	25	11	22	22	10	50	50	19	58	58
g / C, Green / Cycle	0.11	0.21	0.21	0.09	0.19	0.19	0.08	0.42	0.42	0.15	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.11	0.05	0.04	0.07	0.11	0.16	0.07	0.47	0.15	0.17	0.36	0.36
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	184	372	372	150	335	335	271	1505	753	262	1755	877
d1, Uniform Delay [s]	53.50	39.60	39.25	53.83	44.73	47.55	53.85	34.92	23.92	50.77	24.67	24.71
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.13	0.11	0.50	0.50	0.22	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	42.28	0.30	0.23	11.00	1.72	9.26	4.93	63.58	1.34	68.44	2.86	5.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.04	0.22	0.18	0.83	0.60	0.88	0.78	1.12	0.36	1.10	0.74	0.74
d, Delay for Lane Group [s/veh]	95.78	39.90	39.49	64.83	46.45	56.81	58.77	98.49	25.26	119.21	27.53	30.35
Lane Group LOS	F	D	D	E	D	E	E	F	C	F	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	7.71	2.08	1.69	4.14	5.65	9.45	3.32	34.67	5.56	12.80	15.14	15.87
50th-Percentile Queue Length [ft]	192.77	52.03	42.23	103.45	141.14	236.25	83.05	866.83	138.89	320.03	378.43	396.81
95th-Percentile Queue Length [veh]	12.47	3.75	3.04	7.45	9.54	14.49	5.98	48.08	9.42	19.55	21.52	22.41
95th-Percentile Queue Length [ft]	311.65	93.66	76.02	186.21	238.55	362.29	149.49	1202.07	235.52	488.69	537.95	560.15

Movement, Approach, & Intersection Results

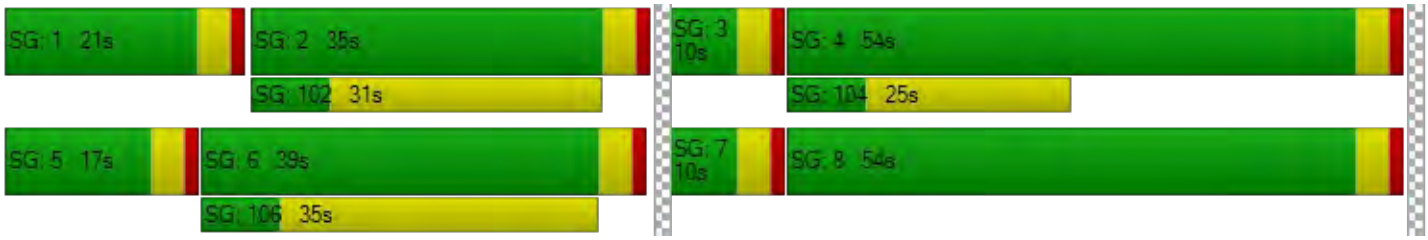
d_M, Delay for Movement [s/veh]	95.78	39.90	39.49	64.83	46.45	56.81	58.77	98.49	25.26	119.21	28.20	30.35
Movement LOS	F	D	D	E	D	E	E	F	C	F	C	C
d_A, Approach Delay [s/veh]	71.10			55.06			85.46			40.18		
Approach LOS	E			E			F			D		
d_I, Intersection Delay [s/veh]	62.15											
Intersection LOS	E											
Intersection V/C	1.057											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
I_p,int, Pedestrian LOS Score for Intersection	0.000	2.540	3.271	3.136
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	517	583	833	833
d_b, Bicycle Delay [s]	33.00	30.10	20.42	20.42
I_b,int, Bicycle LOS Score for Intersection	2.126	2.072	3.349	2.792
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	17.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.422

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	313	72	440	316	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	313	72	440	316	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	82	19	116	83	0	0
Total Analysis Volume [veh/h]	329	76	463	333	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	55	55	27	86	
g / C, Green / Cycle	0.61	0.61	0.30	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.27	0.09	
s, saturation flow rate [veh/h]	1800	1800	1700	3600	
c, Capacity [veh/h]	1104	1104	506	3440	
d1, Uniform Delay [s]	7.58	7.58	30.48	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.37	0.37	6.96	0.06	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.18	0.18	0.91	0.10	
d, Delay for Lane Group [s/veh]	7.95	7.95	37.44	0.15	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	1.66	1.66	10.31	0.03	
50th-Percentile Queue Length [ft]	41.51	41.51	257.71	0.67	
95th-Percentile Queue Length [veh]	2.99	2.99	15.57	0.05	
95th-Percentile Queue Length [ft]	74.72	74.72	389.35	1.21	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.95	7.95	37.44	0.15	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	7.95		21.84		0.00	
Approach LOS	A		C		A	
d_I, Intersection Delay [s/veh]	17.16					
Intersection LOS	B					
Intersection V/C	0.422					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.948
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.467	4.789	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	35.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.884

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	288	6	324	18	0	63	33	1709	0	0	1794	26
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	288	6	324	18	0	63	33	1709	0	0	1794	26
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	76	2	85	5	0	17	9	450	0	0	472	7
Total Analysis Volume [veh/h]	303	6	341	19	0	66	35	1799	0	0	1888	27
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	29	0	11	0	0	10	80	0	0	70	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	25	25	7	4	76	68	68
g / C, Green / Cycle	0.21	0.21	0.06	0.03	0.63	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.09	0.19	0.05	0.02	0.50	0.53	0.53
s, saturation flow rate [veh/h]	3200	1800	1700	1700	3600	1800	1800
c, Capacity [veh/h]	663	373	99	59	2285	1020	1020
d1, Uniform Delay [s]	41.69	46.76	56.09	57.15	16.02	24.09	24.09
k, delay calibration	0.11	0.28	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.49	21.58	18.68	9.19	2.83	16.78	16.78
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.46	0.93	0.86	0.59	0.79	0.94	0.94
d, Delay for Lane Group [s/veh]	42.19	68.34	74.77	66.34	18.85	40.86	40.86
Lane Group LOS	D	E	E	E	B	D	D
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	3.99	12.37	3.06	1.20	17.64	28.43	28.43
50th-Percentile Queue Length [ft]	99.71	309.13	76.59	29.95	440.94	710.73	710.73
95th-Percentile Queue Length [veh]	7.18	18.13	5.51	2.16	24.53	37.17	37.17
95th-Percentile Queue Length [ft]	179.48	453.31	137.87	53.91	613.13	929.34	929.34

Movement, Approach, & Intersection Results

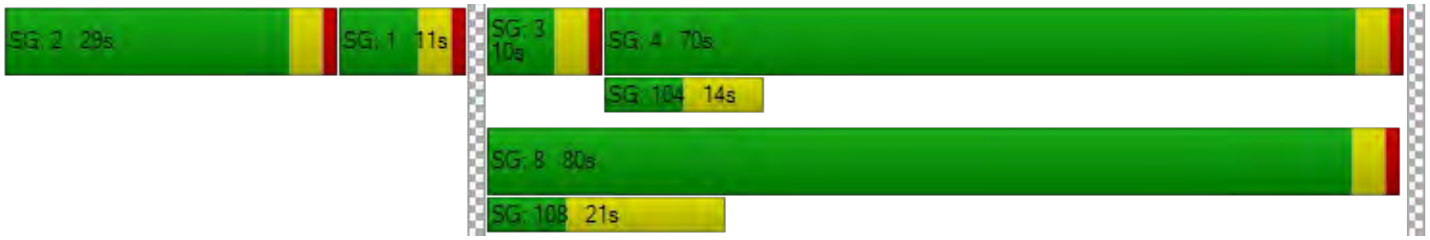
d_M, Delay for Movement [s/veh]	42.19	68.34	68.34	74.77	0.00	74.77	66.34	18.85	0.00	0.00	40.86	40.86
Movement LOS	D	E	E	E		E	E	B			D	D
d_A, Approach Delay [s/veh]	56.15			74.77			19.76			40.86		
Approach LOS	E			E			B			D		
d_I, Intersection Delay [s/veh]	35.09											
Intersection LOS	D											
Intersection V/C	0.884											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	0.00
I_p,int, Pedestrian LOS Score for Intersection	2.165	1.803	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	0	1267	1100
d_b, Bicycle Delay [s]	37.60	60.00	8.07	12.15
I_b,int, Bicycle LOS Score for Intersection	2.632	4.273	3.073	3.139
Bicycle LOS	B	E	C	C

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	53.5
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.111

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	262	178	51	176	134	1021	1153	614	139	72	533	228
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	262	178	51	176	134	1021	1153	614	139	72	533	228
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	47	13	46	35	269	303	162	37	19	140	60
Total Analysis Volume [veh/h]	276	187	54	185	141	1075	1214	646	146	76	561	240
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	46	61	0	17	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	38	28	28	38	28	74	42	63	63	7	28	28
g / C, Green / Cycle	0.32	0.23	0.23	0.32	0.23	0.62	0.35	0.53	0.53	0.06	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.16	0.07	0.06	0.11	0.04	0.60	0.38	0.22	0.22	0.04	0.23	0.21
s, saturation flow rate [veh/h]	1700	1800	1800	1700	3600	1800	3200	1800	1800	1700	1800	1800
c, Capacity [veh/h]	572	419	419	528	839	1112	1125	949	949	96	418	418
d1, Uniform Delay [s]	33.48	37.91	37.75	31.47	36.74	21.76	38.92	17.19	17.19	55.92	46.07	44.82
k, delay calibration	0.19	0.11	0.11	0.11	0.11	0.50	0.12	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.13	0.39	0.36	0.40	0.09	20.09	40.45	1.35	1.35	13.54	46.12	26.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.30	0.28	0.35	0.17	0.97	1.08	0.42	0.42	0.79	1.01	0.91
d, Delay for Lane Group [s/veh]	34.61	38.30	38.10	31.86	36.83	41.85	79.37	18.55	18.55	69.46	92.19	70.90
Lane Group LOS	C	D	D	C	D	D	F	B	B	E	F	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.74	3.07	2.87	4.19	1.67	32.55	22.58	6.89	6.89	2.63	17.71	13.94
50th-Percentile Queue Length [ft]	168.41	76.78	71.84	104.73	41.87	813.76	564.41	172.37	172.37	65.84	442.75	348.56
95th-Percentile Queue Length [veh]	10.99	5.53	5.17	7.54	3.01	41.91	31.96	11.20	11.20	4.74	24.73	20.07
95th-Percentile Queue Length [ft]	274.82	138.20	129.32	188.51	75.37	1047.68	798.92	280.03	280.03	118.50	618.35	501.65

Movement, Approach, & Intersection Results

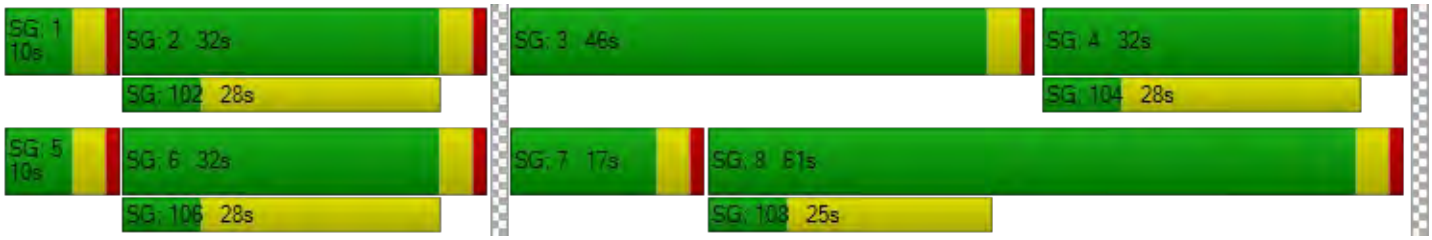
d_M, Delay for Movement [s/veh]	34.61	38.24	38.10	31.86	36.83	41.85	79.37	18.55	18.55	69.46	86.89	70.90
Movement LOS	C	D	D	C	D	D	F	B	B	E	F	E
d_A, Approach Delay [s/veh]	36.29			40.03			55.35			81.01		
Approach LOS	D			D			E			F		
d_I, Intersection Delay [s/veh]	53.51											
Intersection LOS	D											
Intersection V/C	1.111											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.485	2.961	3.294	2.723
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	467	467	950	467
d_b, Bicycle Delay [s]	35.27	35.27	16.54	35.27
l_b,int, Bicycle LOS Score for Intersection	1.986	2.715	3.215	2.283
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	21.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.453

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	204	63	119	30	56	35	39	521	149	122	566	39
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	204	63	119	30	56	35	39	521	149	122	566	39
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	17	31	8	15	9	10	137	39	32	149	10
Total Analysis Volume [veh/h]	215	66	125	32	59	37	41	548	157	128	596	41
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	11	29	0	10	32	0	17	39	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	10	10	3	6	6	4	52	52	9	57	57
g / C, Green / Cycle	0.09	0.11	0.11	0.04	0.06	0.06	0.04	0.58	0.58	0.10	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.07	0.04	0.07	0.02	0.03	0.03	0.02	0.20	0.19	0.08	0.18	0.18
s, saturation flow rate [veh/h]	3200	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	284	202	202	65	111	111	75	1038	1038	163	1131	1131
d1, Uniform Delay [s]	40.14	36.89	38.19	42.52	40.81	40.77	42.24	10.15	9.97	39.87	7.58	7.55
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.12	0.93	3.07	5.71	2.72	2.57	6.17	0.94	0.84	8.09	0.63	0.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.33	0.62	0.49	0.44	0.43	0.55	0.35	0.33	0.79	0.28	0.28
d, Delay for Lane Group [s/veh]	44.27	37.82	41.26	48.23	43.53	43.34	48.41	11.09	10.81	47.96	8.22	8.16
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	A	A
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.46	1.38	2.77	0.79	1.12	1.08	1.01	3.80	3.46	3.10	2.70	2.63
50th-Percentile Queue Length [ft]	61.50	34.43	69.26	19.86	27.94	26.95	25.31	94.88	86.39	77.52	67.52	65.74
95th-Percentile Queue Length [veh]	4.43	2.48	4.99	1.43	2.01	1.94	1.82	6.83	6.22	5.58	4.86	4.73
95th-Percentile Queue Length [ft]	110.69	61.98	124.67	35.75	50.30	48.52	45.56	170.79	155.49	139.53	121.53	118.34

Movement, Approach, & Intersection Results

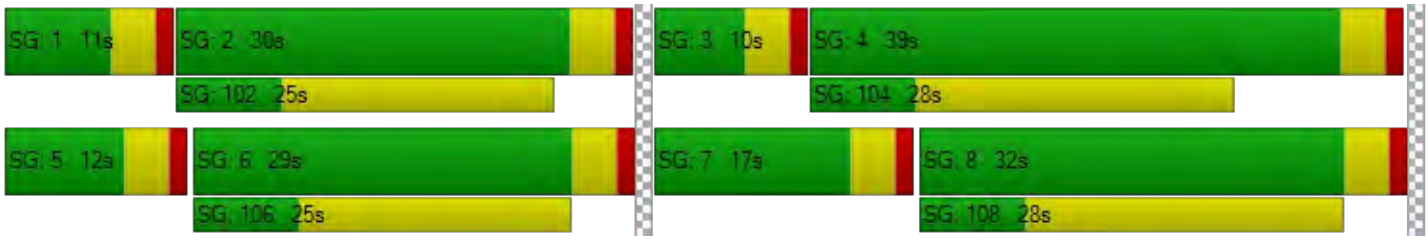
d_M, Delay for Movement [s/veh]	44.27	37.82	41.26	48.23	43.50	43.34	48.41	11.00	10.81	47.96	8.19	8.16
Movement LOS	D	D	D	D	D	D	D	B	B	D	A	A
d_A, Approach Delay [s/veh]	42.29			44.64			13.01			14.84		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	21.49											
Intersection LOS	C											
Intersection V/C	0.453											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.574	2.198	2.610	2.586
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	556	622	778
d_b, Bicycle Delay [s]	22.76	23.47	21.36	16.81
l_b,int, Bicycle LOS Score for Intersection	2.230	1.665	2.175	2.191
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	29.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.435

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	125	344	43	35	311	80	73	256	179	47	189	42
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	125	344	43	35	311	80	73	256	179	47	189	42
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	91	11	9	82	21	19	67	47	12	50	11
Total Analysis Volume [veh/h]	132	362	45	37	327	84	77	269	188	49	199	44
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	40	0	11	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	18	18	4	13	13	5	48	48	4	47	47
g / C, Green / Cycle	0.10	0.20	0.20	0.04	0.15	0.15	0.06	0.53	0.53	0.05	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.08	0.11	0.11	0.02	0.12	0.11	0.05	0.13	0.12	0.03	0.07	0.07
s, saturation flow rate [veh/h]	1700	1800	1800	1700	1800	1800	1700	1800	1800	1700	1800	1800
c, Capacity [veh/h]	166	365	365	71	264	264	101	954	954	82	933	933
d1, Uniform Delay [s]	39.80	32.36	32.23	42.34	37.17	36.93	41.77	11.52	11.32	42.06	11.22	11.20
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.31	1.38	1.29	5.86	5.47	4.42	11.08	0.64	0.55	6.78	0.29	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.57	0.55	0.52	0.80	0.76	0.76	0.25	0.23	0.60	0.13	0.13
d, Delay for Lane Group [s/veh]	48.11	33.74	33.52	48.20	42.64	41.35	52.85	12.16	11.87	48.84	11.52	11.48
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.20	4.13	3.98	0.91	4.81	4.49	1.98	2.64	2.31	1.21	1.29	1.24
50th-Percentile Queue Length [ft]	80.11	103.17	99.48	22.85	120.31	112.21	49.46	65.97	57.71	30.29	32.15	31.04
95th-Percentile Queue Length [veh]	5.77	7.43	7.16	1.65	8.41	7.96	3.56	4.75	4.15	2.18	2.31	2.24
95th-Percentile Queue Length [ft]	144.19	185.70	179.06	41.13	210.26	199.07	89.02	118.74	103.87	54.52	57.87	55.88

Movement, Approach, & Intersection Results

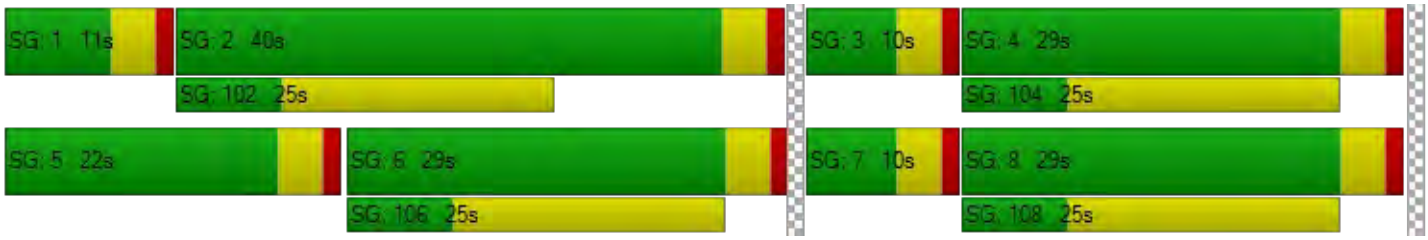
d_M, Delay for Movement [s/veh]	48.11	33.65	33.52	48.20	42.18	41.35	52.85	12.13	11.87	48.84	11.50	11.48
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.18			42.52			17.91			17.77		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.70											
Intersection LOS	C											
Intersection V/C	0.435											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.514	2.481	2.484	2.425
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	556	556	556
d_b, Bicycle Delay [s]	16.20	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.004	1.929	2.000	1.801
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX E-III

YEAR 2022 WITH PROJECT (PHASE 2) WITH MITIGATION TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	45.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.917

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	318	209	98	70	423	382	113	988	252	240	1104	200
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	318	209	98	70	423	382	113	988	252	240	1104	200
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	55	26	18	111	101	30	260	66	63	291	53
Total Analysis Volume [veh/h]	335	220	103	74	445	402	119	1040	265	253	1162	211
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	43	0	15	41	0	11	40	0	17	46	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	23	21	31	31	6	36	36	19	49	49
g / C, Green / Cycle	0.11	0.20	0.19	0.27	0.27	0.05	0.31	0.31	0.16	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.10	0.18	0.04	0.25	0.22	0.04	0.29	0.15	0.15	0.26	0.25
s, saturation flow rate [veh/h]	3200	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	365	359	314	487	487	176	1130	565	277	1518	759
d1, Uniform Delay [s]	50.48	44.95	40.01	40.72	39.47	53.40	38.13	31.80	47.40	25.92	25.66
k, delay calibration	0.11	0.11	0.11	0.29	0.24	0.11	0.50	0.50	0.14	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	9.49	8.37	0.38	16.26	7.58	4.45	13.44	2.78	13.79	1.83	3.37
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.90	0.24	0.91	0.83	0.68	0.92	0.47	0.91	0.61	0.59
d, Delay for Lane Group [s/veh]	59.98	53.32	40.39	56.98	47.05	57.85	51.57	34.58	61.19	27.75	29.03
Lane Group LOS	E	D	D	E	D	E	D	C	E	C	C
Critical Lane Group	Yes	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	5.24	9.78	1.83	14.27	11.60	1.80	16.04	6.36	8.16	10.08	10.03
50th-Percentile Queue Length [ft]	131.08	244.41	45.64	356.85	289.97	44.97	400.98	158.93	203.93	251.90	250.63
95th-Percentile Queue Length [veh]	9.00	14.90	3.29	20.47	17.18	3.24	22.61	10.49	12.84	15.28	15.22
95th-Percentile Queue Length [ft]	224.96	372.61	82.16	511.75	429.60	80.94	565.18	262.30	321.03	382.05	380.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.98	53.32	53.32	40.39	56.98	47.05	57.85	51.57	34.58	61.19	28.01	29.03
Movement LOS	E	D	D	D	E	D	E	D	C	E	C	C
d_A, Approach Delay [s/veh]	56.71			51.31			48.93			33.30		
Approach LOS	E			D			D			C		
d_I, Intersection Delay [s/veh]	45.02											
Intersection LOS	D											
Intersection V/C	0.917											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	47.03	47.03	47.03
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.598	3.142	2.927
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	678	643	626	730
d_b, Bicycle Delay [s]	25.11	26.45	27.13	23.17
l_b,int, Bicycle LOS Score for Intersection	2.645	2.319	2.734	2.454
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	39.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.898

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	210	115	66	102	250	290	193	1294	412	261	1611	222
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	210	115	66	102	250	290	193	1294	412	261	1611	222
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	55	30	17	27	66	76	51	341	108	69	424	58
Total Analysis Volume [veh/h]	221	121	69	107	263	305	203	1362	434	275	1696	234
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	38	0	18	43	0	17	38	0	26	47	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	15	17	23	23	10	50	50	22	62	62
g / C, Green / Cycle	0.08	0.12	0.14	0.19	0.19	0.08	0.42	0.42	0.18	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.07	0.11	0.06	0.15	0.17	0.06	0.38	0.24	0.16	0.36	0.36
s, saturation flow rate [veh/h]	3200	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	242	222	247	347	347	266	1505	753	306	1853	927
d1, Uniform Delay [s]	55.10	51.55	46.82	45.78	47.07	53.87	32.70	26.79	48.16	21.98	22.01
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	12.72	8.99	1.20	3.38	7.12	4.49	9.34	3.20	9.37	2.16	4.30
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.85	0.43	0.76	0.88	0.76	0.90	0.58	0.90	0.69	0.70
d, Delay for Lane Group [s/veh]	67.82	60.54	48.03	49.16	54.18	58.37	42.04	29.99	57.53	24.14	26.32
Lane Group LOS	E	E	D	D	D	E	D	C	E	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.74	6.15	3.01	7.73	9.51	3.17	20.03	10.11	8.82	13.83	14.44
50th-Percentile Queue Length [ft]	93.62	153.79	75.22	193.16	237.74	79.17	500.72	252.67	220.53	345.63	360.91
95th-Percentile Queue Length [veh]	6.74	10.22	5.42	12.28	14.57	5.70	27.37	15.32	13.69	19.92	20.67
95th-Percentile Queue Length [ft]	168.52	255.48	135.40	307.12	364.18	142.51	684.20	383.01	342.30	498.07	516.69

Movement, Approach, & Intersection Results

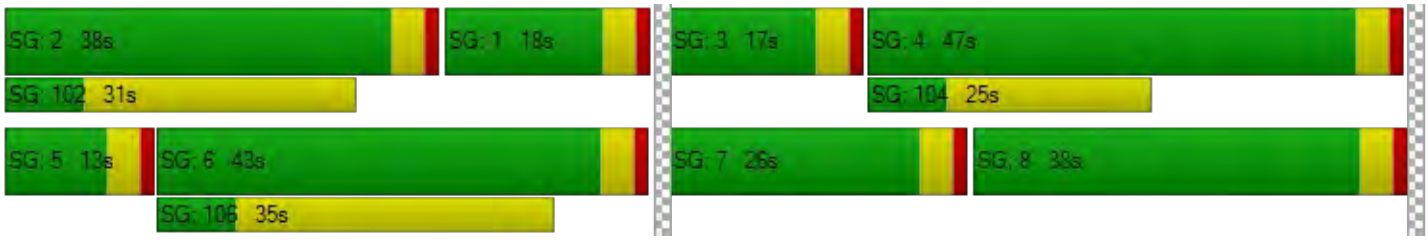
d_M, Delay for Movement [s/veh]	67.82	60.54	60.54	48.03	49.16	54.18	58.37	42.04	29.99	57.53	24.67	26.32
Movement LOS	E	E	E	D	D	D	E	D	C	E	C	C
d_A, Approach Delay [s/veh]	64.46			51.25			41.08			28.94		
Approach LOS	E			D			D			C		
d_I, Intersection Delay [s/veh]	39.14											
Intersection LOS	D											
Intersection V/C	0.898											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.554	3.254	3.075
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	567	650	567	717
d_b, Bicycle Delay [s]	30.82	27.34	30.82	24.70
l_b,int, Bicycle LOS Score for Intersection	2.238	2.116	3.209	2.772
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	47.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.996

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	182	79	65	118	191	281	201	1602	257	275	1619	235
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	182	79	65	118	191	281	201	1602	257	275	1619	235
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	48	21	17	31	50	74	53	422	68	72	426	62
Total Analysis Volume [veh/h]	192	83	68	124	201	296	212	1686	271	289	1704	247
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	11	35	0	15	39	0	12	58	0	12	58	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	7	12	17	22	22	10	54	54	21	64	64
g / C, Green / Cycle	0.06	0.10	0.14	0.19	0.19	0.08	0.45	0.45	0.17	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.06	0.08	0.07	0.11	0.16	0.07	0.47	0.15	0.17	0.36	0.36
s, saturation flow rate [veh/h]	3200	1800	1700	1800	1800	3200	3600	1800	1700	3600	1800
c, Capacity [veh/h]	187	182	244	335	335	272	1625	812	290	1934	967
d1, Uniform Delay [s]	56.50	52.95	47.45	44.73	47.56	53.80	32.93	21.27	49.70	20.12	20.15
k, delay calibration	0.11	0.11	0.11	0.11	0.13	0.11	0.50	0.50	0.22	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	37.90	9.42	1.63	1.72	9.26	4.83	32.81	1.11	33.56	1.88	3.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.03	0.83	0.51	0.60	0.88	0.78	1.04	0.33	1.00	0.67	0.67
d, Delay for Lane Group [s/veh]	94.40	62.37	49.08	46.45	56.82	58.63	65.73	22.38	83.26	22.00	23.90
Lane Group LOS	F	E	D	D	E	E	F	C	F	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.81	4.94	3.54	5.65	9.45	3.32	30.24	5.17	11.32	13.26	13.81
50th-Percentile Queue Length [ft]	95.27	123.49	88.56	141.14	236.26	82.93	755.95	129.28	282.98	331.57	345.36
95th-Percentile Queue Length [veh]	6.86	8.58	6.38	9.54	14.49	5.97	40.40	8.90	16.84	19.24	19.91
95th-Percentile Queue Length [ft]	171.49	214.62	159.41	238.56	362.30	149.28	1010.03	222.52	420.92	480.88	497.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	94.40	62.37	62.37	49.08	46.45	56.82	58.63	65.73	22.38	83.26	22.45	23.90
Movement LOS	F	E	E	D	D	E	E	F	C	F	C	C
d_A, Approach Delay [s/veh]	80.30			51.92			59.62			30.46		
Approach LOS	F			D			E			C		
d_I, Intersection Delay [s/veh]	47.89											
Intersection LOS	D											
Intersection V/C	0.996											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.540	3.271	3.136
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	517	583	900	900
d_b, Bicycle Delay [s]	33.00	30.10	18.15	18.15
l_b,int, Bicycle LOS Score for Intersection	2.126	2.072	3.349	2.792
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX F

YEAR 2040 TRAFFIC CONDITIONS INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX F-I

YEAR 2040 WITHOUT PROJECT TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.155

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	56	37	17	0	15	4	2	9	36	2	13	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	56	37	17	0	15	4	2	9	36	2	13	1
Peak Hour Factor	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	17	11	5	0	4	1	1	3	11	1	4	0
Total Analysis Volume [veh/h]	67	44	20	0	18	5	2	11	43	2	16	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	715	894	748	875	662	823	659	732
Degree of Utilization, x	0.16	0.02	0.02	0.01	0.00	0.07	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.55	0.07	0.07	0.02	0.01	0.21	0.01	0.07
95th-Percentile Queue Length [ft]	13.67	1.72	1.85	0.43	0.23	5.25	0.23	1.78
Approach Delay [s/veh]	8.37		7.46		7.41		7.78	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.00							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	9.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.079

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	63	0	0	0	0	0	57	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	63	0	0	0	0	0	57	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	17	0	0	0	0	0	15	0
Total Analysis Volume [veh/h]	0	0	0	0	66	0	0	0	0	0	60	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	9.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					A						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	6.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			9.71			0.00			0.00		
Approach LOS	A			A			A			A		
d_I, Intersection Delay [s/veh]	5.08											
Intersection LOS	A											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	8.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.141

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	19	190	1	9	96	18	22	5	9	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	190	1	9	96	18	22	5	9	0	0	0
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	51	0	2	26	5	6	1	2	0	0	0
Total Analysis Volume [veh/h]	21	205	1	10	104	19	24	5	10	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	664	732	733	696	708	821	614	734	
Degree of Utilization, x	0.03	0.14	0.14	0.08	0.08	0.02	0.04	0.02	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.10	0.49	0.49	0.27	0.26	0.07	0.12	0.06	
95th-Percentile Queue Length [ft]	2.45	12.21	12.19	6.67	6.55	1.78	3.04	1.56	
Approach Delay [s/veh]	8.41			8.13			8.38		0.00
Approach LOS	A			A			A		A
Intersection Delay [s/veh]	8.31								
Intersection LOS	A								

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.078

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	361	104	0	0	74
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	361	104	0	0	74
Peak Hour Factor	0.9500	0.9520	0.9520	0.9500	0.9500	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	95	27	0	0	19
Total Analysis Volume [veh/h]	0	379	109	0	0	78
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.00	0.08
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	8.74
Movement LOS		A	A			A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.12
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	3.04
d_A, Approach Delay [s/veh]	0.00		0.00		8.74	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.20					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	20.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.359

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	205	487	204	0	0	243
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	205	487	204	0	0	243
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	128	54	0	0	64
Total Analysis Volume [veh/h]	216	513	215	0	0	256
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	29	47	18	0	0	43
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	68	51	14
g / C, Green / Cycle	0.14	0.75	0.56	0.16
(v / s)_i Volume / Saturation Flow Rate	0.12	0.14	0.06	0.13
s, saturation flow rate [veh/h]	1800	3800	3800	1900
c, Capacity [veh/h]	258	2852	2139	305
d1, Uniform Delay [s]	37.56	3.24	9.12	36.65
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.11	0.14	0.09	6.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.18	0.10	0.84
d, Delay for Lane Group [s/veh]	44.67	3.38	9.22	42.75
Lane Group LOS	D	A	A	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	5.06	1.05	0.94	5.87
50th-Percentile Queue Length [ft]	126.54	26.22	23.59	146.86
95th-Percentile Queue Length [veh]	8.75	1.89	1.70	9.85
95th-Percentile Queue Length [ft]	218.79	47.19	42.47	246.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.67	3.38	9.22	0.00	0.00	42.75
Movement LOS	D	A	A			D
d_A, Approach Delay [s/veh]	15.61		9.22		42.75	
Approach LOS	B		A		D	
d_I, Intersection Delay [s/veh]	20.26					
Intersection LOS	C					
Intersection V/C	0.359					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.533	2.308	1.944
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.734	4.310	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.347

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	443	266	11	489	160	8
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	443	266	11	489	160	8
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	117	70	3	129	42	2
Total Analysis Volume [veh/h]	466	280	12	515	168	8
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	18	0	10	28	62	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	66	66	2	71	11
g / C, Green / Cycle	0.73	0.73	0.02	0.79	0.12
(v / s)_i Volume / Saturation Flow Rate	0.20	0.20	0.01	0.14	0.10
s, saturation flow rate [veh/h]	1900	1900	1800	3800	1800
c, Capacity [veh/h]	1381	1381	33	3002	218
d1, Uniform Delay [s]	4.17	4.17	43.66	2.30	38.55
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.48	0.48	6.39	0.12	6.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.27	0.27	0.36	0.17	0.81
d, Delay for Lane Group [s/veh]	4.65	4.65	50.05	2.42	45.48
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	2.00	2.00	0.32	0.75	4.15
50th-Percentile Queue Length [ft]	50.08	50.08	8.03	18.86	103.64
95th-Percentile Queue Length [veh]	3.61	3.61	0.58	1.36	7.46
95th-Percentile Queue Length [ft]	90.15	90.15	14.45	33.95	186.56

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.65	4.65	50.05	2.42	45.48	45.48
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	4.65		3.50		45.48	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	9.19					
Intersection LOS	A					
Intersection V/C	0.347					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.479	2.495	1.943
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.748	4.567	4.423
Bicycle LOS	E	E	E

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.009

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	737	111	24	642	3	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	737	111	24	642	3	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	194	29	6	169	1	1
Total Analysis Volume [veh/h]	776	117	25	676	3	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.03	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	9.93	0.00	16.08	11.55
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	2.48	1.24	0.04	0.04
95th-Percentile Queue Length [ft]	0.00	0.00	61.92	30.96	0.97	0.97
d_A, Approach Delay [s/veh]	0.00		0.35		14.27	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	0.20					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	31.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.497

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	131	441	39	109	498	62	42	269	99	119	372	86
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	131	441	39	109	498	62	42	269	99	119	372	86
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	116	10	29	131	16	11	71	26	31	98	23
Total Analysis Volume [veh/h]	138	464	41	115	524	65	44	283	104	125	392	91
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	31	0	20	36	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	18	18	7	17	17	4	40	40	8	44	44
g / C, Green / Cycle	0.10	0.20	0.20	0.08	0.19	0.19	0.05	0.45	0.45	0.09	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.13	0.06	0.16	0.15	0.02	0.11	0.10	0.07	0.13	0.12
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	173	386	386	149	361	361	82	849	849	161	932	932
d1, Uniform Delay [s]	39.89	33.06	32.94	40.52	35.13	34.90	42.09	15.41	15.30	40.17	13.45	13.34
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.10	1.94	1.81	8.18	4.96	4.15	5.31	0.65	0.60	7.79	0.70	0.65
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.66	0.65	0.77	0.83	0.80	0.54	0.24	0.22	0.78	0.27	0.25
d, Delay for Lane Group [s/veh]	47.99	35.01	34.75	48.71	40.09	39.05	47.41	16.06	15.89	47.96	14.15	13.99
Lane Group LOS	D	D	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.34	5.25	5.09	2.81	6.69	6.35	1.07	2.59	2.41	3.02	2.99	2.80
50th-Percentile Queue Length [ft]	83.53	131.27	127.27	70.15	167.29	158.81	26.73	64.80	60.20	75.58	74.69	69.90
95th-Percentile Queue Length [veh]	6.01	9.01	8.79	5.05	10.93	10.49	1.92	4.67	4.33	5.44	5.38	5.03
95th-Percentile Queue Length [ft]	150.36	225.22	219.78	126.27	273.35	262.14	48.11	116.63	108.36	136.05	134.43	125.83

Movement, Approach, & Intersection Results

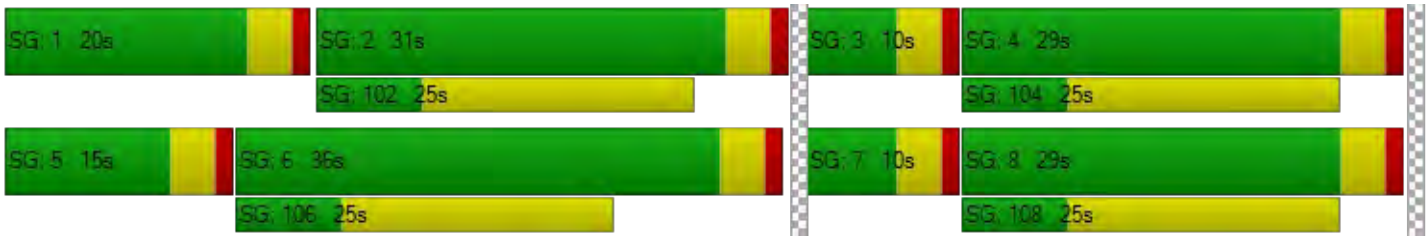
d_M, Delay for Movement [s/veh]	47.99	34.89	34.75	48.71	39.65	39.05	47.41	16.01	15.89	47.96	14.09	13.99
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.69			41.07			19.19			21.04		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	31.10											
Intersection LOS	C											
Intersection V/C	0.497											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.572	2.553	2.499	2.504
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	711	556	556
d_b, Bicycle Delay [s]	22.05	18.69	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.090	2.140	1.915	2.061
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	20.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.467

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	947	233	0	363	479	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	947	233	0	363	479	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	249	61	0	96	126	0
Total Analysis Volume [veh/h]	997	245	0	382	504	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	31	31	51	51
g / C, Green / Cycle	0.34	0.34	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.29	0.13	0.10	0.13
s, saturation flow rate [veh/h]	3400	1900	3800	3800
c, Capacity [veh/h]	1162	649	2163	2163
d1, Uniform Delay [s]	27.54	22.34	9.27	9.61
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.96	0.36	0.18	0.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.38	0.18	0.23
d, Delay for Lane Group [s/veh]	29.50	22.71	9.45	9.86
Lane Group LOS	C	C	A	A
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	9.87	3.87	1.73	2.37
50th-Percentile Queue Length [ft]	246.70	96.85	43.22	59.19
95th-Percentile Queue Length [veh]	15.02	6.97	3.11	4.26
95th-Percentile Queue Length [ft]	375.50	174.34	77.79	106.55

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.50	22.71	0.00	9.45	9.86	0.00
Movement LOS	C	C		A	A	
d_A, Approach Delay [s/veh]	28.16		9.45		9.86	
Approach LOS	C		A		A	
d_I, Intersection Delay [s/veh]	20.47					
Intersection LOS	C					
Intersection V/C	0.467					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.343	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.448	4.548
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	49.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.910

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	350	218	113	61	446	399	118	833	285	182	1028	206
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	350	218	113	61	446	399	118	833	285	182	1028	206
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	57	30	16	117	105	31	219	75	48	271	54
Total Analysis Volume [veh/h]	368	229	119	64	469	420	124	877	300	192	1082	217
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	36	55	0	20	39	0	10	29	0	16	35	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	27	54	54	6	33	33	6	30	30	15	38	38
g / C, Green / Cycle	0.22	0.45	0.45	0.05	0.27	0.27	0.05	0.25	0.25	0.12	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.20	0.12	0.06	0.04	0.25	0.22	0.04	0.23	0.16	0.11	0.23	0.22
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	3400	3800	1900	1800	3800	1900
c, Capacity [veh/h]	399	848	848	84	516	516	182	952	476	222	1216	608
d1, Uniform Delay [s]	45.74	20.93	19.64	56.55	42.27	40.87	55.80	43.85	40.05	51.67	36.09	35.69
k, delay calibration	0.28	0.11	0.11	0.11	0.26	0.21	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	19.57	0.17	0.07	12.94	13.72	5.89	4.40	15.46	6.22	9.77	3.72	6.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.92	0.27	0.14	0.76	0.91	0.81	0.68	0.92	0.63	0.87	0.72	0.69
d, Delay for Lane Group [s/veh]	65.31	21.10	19.71	69.48	55.99	46.76	60.21	59.31	46.28	61.43	39.81	42.12
Lane Group LOS	E	C	B	E	E	D	E	E	D	E	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	12.84	4.10	1.99	2.22	15.29	12.38	1.96	14.64	8.69	6.27	11.89	11.82
50th-Percentile Queue Length [ft]	321.08	102.38	49.87	55.54	382.34	309.58	48.93	365.98	217.34	156.66	297.37	295.47
95th-Percentile Queue Length [veh]	18.72	7.37	3.59	4.00	21.71	18.15	3.52	20.91	13.53	10.37	17.55	17.46
95th-Percentile Queue Length [ft]	468.02	184.28	89.76	99.97	542.68	453.86	88.07	522.85	338.23	259.29	438.78	436.42

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	65.31	21.10	19.71	69.48	55.99	46.76	60.21	59.31	46.28	61.43	40.25	42.12
Movement LOS	E	C	B	E	E	D	E	E	D	E	D	D
d_A, Approach Delay [s/veh]	43.59			52.83			56.39			43.25		
Approach LOS	D			D			E			D		
d_I, Intersection Delay [s/veh]	49.18											
Intersection LOS	D											
Intersection V/C	0.910											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.611	3.126	2.881
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	850	583	417	517
d_b, Bicycle Delay [s]	19.84	30.10	37.60	33.00
l_b,int, Bicycle LOS Score for Intersection	2.741	2.346	2.633	2.380
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	11.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.447

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	631	116	342	555	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	631	116	342	555	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	166	31	90	146	0	0
Total Analysis Volume [veh/h]	664	122	360	584	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	62	62	20	86	
g / C, Green / Cycle	0.69	0.69	0.23	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.21	0.21	0.20	0.15	
s, saturation flow rate [veh/h]	1900	1900	1800	3800	
c, Capacity [veh/h]	1303	1303	406	3631	
d1, Uniform Delay [s]	5.60	5.60	33.74	0.11	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.60	0.60	6.69	0.09	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.30	0.30	0.89	0.16	
d, Delay for Lane Group [s/veh]	6.20	6.20	40.43	0.20	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	2.68	2.68	8.17	0.05	
50th-Percentile Queue Length [ft]	67.00	67.00	204.18	1.20	
95th-Percentile Queue Length [veh]	4.82	4.82	12.85	0.09	
95th-Percentile Queue Length [ft]	120.60	120.60	321.34	2.16	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.20	6.20	40.43	0.20	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	6.20		15.54		0.00	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	11.30					
Intersection LOS	B					
Intersection V/C	0.447					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.893	
Crosswalk LOS	F	F	A	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0	
d_b, Bicycle Delay [s]	45.00	45.00	45.00	
l_b,int, Bicycle LOS Score for Intersection	4.781	4.911	4.132	
Bicycle LOS	E	E	D	

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	14.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.478

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	415	4	137	2	0	1	10	963	0	0	1000	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	415	4	137	2	0	1	10	963	0	0	1000	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	109	1	36	1	0	0	3	253	0	0	263	1
Total Analysis Volume [veh/h]	437	4	144	2	0	1	11	1014	0	0	1053	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	52	0	10	0	0	10	28	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	0	1	63	57	57
g / C, Green / Cycle	0.16	0.16	0.01	0.02	0.70	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.13	0.08	0.00	0.01	0.27	0.28	0.28
s, saturation flow rate [veh/h]	3400	1900	1800	1800	3800	1900	1900
c, Capacity [veh/h]	562	314	10	30	2645	1206	1206
d1, Uniform Delay [s]	36.02	34.04	44.63	43.82	5.68	8.31	8.31
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.37	1.10	16.31	7.27	0.42	1.15	1.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.47	0.30	0.37	0.38	0.44	0.44
d, Delay for Lane Group [s/veh]	38.38	35.14	60.93	51.09	6.10	9.46	9.46
Lane Group LOS	D	D	E	D	A	A	A
Critical Lane Group	Yes	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	4.70	2.99	0.11	0.30	3.41	4.93	4.93
50th-Percentile Queue Length [ft]	117.46	74.63	2.77	7.53	85.20	123.31	123.31
95th-Percentile Queue Length [veh]	8.25	5.37	0.20	0.54	6.13	8.57	8.57
95th-Percentile Queue Length [ft]	206.33	134.34	4.99	13.55	153.37	214.36	214.36

Movement, Approach, & Intersection Results

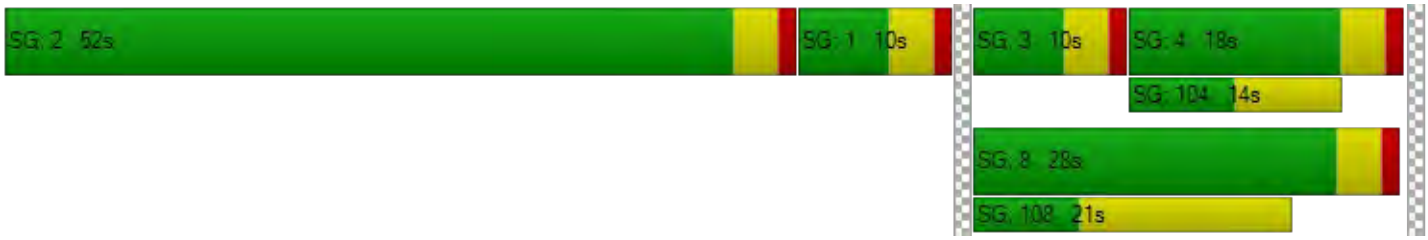
d_M, Delay for Movement [s/veh]	38.38	35.14	35.14	60.93	0.00	60.93	51.09	6.10	0.00	0.00	9.46	9.46
Movement LOS	D	D	D	E		E	D	A			A	A
d_A, Approach Delay [s/veh]	37.56			60.93			6.58			9.46		
Approach LOS	D			E			A			A		
d_I, Intersection Delay [s/veh]	14.58											
Intersection LOS	B											
Intersection V/C	0.478											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.130	1.724	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	0	533	311
d_b, Bicycle Delay [s]	9.80	45.00	24.20	32.09
l_b,int, Bicycle LOS Score for Intersection	2.525	4.137	2.405	2.430
Bicycle LOS	B	D	B	B

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	26.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.610

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	281	285	48	131	238	268	423	512	138	46	397	91
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	281	285	48	131	238	268	423	512	138	46	397	91
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	74	75	13	34	63	71	111	135	36	12	104	24
Total Analysis Volume [veh/h]	296	300	51	138	251	282	445	539	145	48	418	96
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	16	38	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	22	12	12	22	12	31	15	52	52	4	41	41
g / C, Green / Cycle	0.24	0.13	0.13	0.24	0.13	0.34	0.17	0.58	0.58	0.05	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.16	0.09	0.09	0.08	0.07	0.15	0.13	0.19	0.17	0.03	0.14	0.13
s, saturation flow rate [veh/h]	1800	1900	1900	1800	3800	1900	3400	1900	1900	1800	1900	1900
c, Capacity [veh/h]	449	247	247	396	494	653	576	1097	1097	86	865	865
d1, Uniform Delay [s]	31.01	37.68	37.51	28.06	36.54	22.79	35.78	9.91	9.75	42.01	15.53	15.40
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.66	4.05	3.48	0.52	0.81	0.45	2.24	0.78	0.70	5.57	0.91	0.84
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.66	0.73	0.69	0.35	0.51	0.43	0.77	0.32	0.30	0.56	0.31	0.29
d, Delay for Lane Group [s/veh]	32.67	41.73	40.99	28.58	37.35	23.24	38.02	10.69	10.45	47.57	16.44	16.24
Lane Group LOS	C	D	D	C	D	C	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	5.91	4.02	3.80	2.46	2.59	4.57	4.76	3.58	3.27	1.17	3.51	3.29
50th-Percentile Queue Length [ft]	147.82	100.59	95.04	61.62	64.87	114.19	119.05	89.46	81.75	29.16	87.65	82.25
95th-Percentile Queue Length [veh]	9.90	7.24	6.84	4.44	4.67	8.07	8.34	6.44	5.89	2.10	6.31	5.92
95th-Percentile Queue Length [ft]	247.51	181.06	171.07	110.92	116.77	201.82	208.52	161.02	147.16	52.49	157.77	148.06

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.67	41.44	40.99	28.58	37.35	23.24	38.02	10.61	10.45	47.57	16.37	16.24
Movement LOS	C	D	D	C	D	C	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.39			29.62			21.39			19.01		
Approach LOS	D			C			C			B		
d_I, Intersection Delay [s/veh]	26.22											
Intersection LOS	C											
Intersection V/C	0.610											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.512	2.698	2.932	2.581
Crosswalk LOS	B	B	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	622	756	622
d_b, Bicycle Delay [s]	21.36	21.36	17.42	21.36
l_b,int, Bicycle LOS Score for Intersection	2.093	2.113	2.491	2.023
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	27.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.389

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	120	134	78	54	149	148	140	300	114	50	365	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	120	134	78	54	149	148	140	300	114	50	365	57
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	32	35	21	14	39	39	37	79	30	13	96	15
Total Analysis Volume [veh/h]	126	141	82	57	157	156	147	316	120	53	384	60
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	29	0	10	29	0	19	39	0	12	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	11	11	5	10	10	9	54	54	4	49	49
g / C, Green / Cycle	0.06	0.12	0.12	0.05	0.11	0.11	0.10	0.60	0.60	0.05	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.04	0.07	0.04	0.03	0.08	0.08	0.08	0.12	0.11	0.03	0.12	0.11
s, saturation flow rate [veh/h]	3400	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	220	235	235	93	210	210	186	1134	1134	90	1033	1033
d1, Uniform Delay [s]	40.95	37.41	36.19	41.85	38.87	38.85	39.45	8.32	8.23	41.92	10.67	10.62
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.32	2.46	0.89	6.27	5.21	5.09	7.22	0.40	0.36	5.96	0.49	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.60	0.35	0.61	0.75	0.74	0.79	0.20	0.18	0.59	0.22	0.21
d, Delay for Lane Group [s/veh]	43.27	39.86	37.08	48.13	44.08	43.94	46.67	8.71	8.59	47.89	11.16	11.08
Lane Group LOS	D	D	D	D	D	D	D	A	A	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	1.41	3.06	1.69	1.39	3.62	3.59	3.51	1.97	1.80	1.29	2.32	2.23
50th-Percentile Queue Length [ft]	35.36	76.56	42.27	34.77	90.53	89.78	87.63	49.30	44.94	32.27	58.08	55.73
95th-Percentile Queue Length [veh]	2.55	5.51	3.04	2.50	6.52	6.46	6.31	3.55	3.24	2.32	4.18	4.01
95th-Percentile Queue Length [ft]	63.65	137.80	76.09	62.58	162.96	161.61	157.73	88.75	80.89	58.08	104.55	100.31

Movement, Approach, & Intersection Results

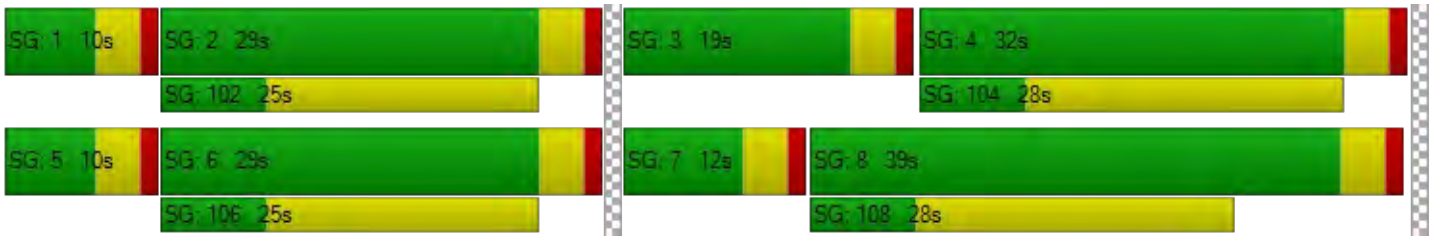
d_M, Delay for Movement [s/veh]	43.27	39.86	37.08	48.13	44.08	43.94	46.67	8.68	8.59	47.89	11.13	11.08
Movement LOS	D	D	D	D	D	D	D	A	A	D	B	B
d_A, Approach Delay [s/veh]	40.44			44.65			18.24			15.04		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.09											
Intersection LOS	C											
Intersection V/C	0.389											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.563	2.306	2.543	2.485
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	778	622
d_b, Bicycle Delay [s]	23.47	23.47	16.81	21.36
l_b,int, Bicycle LOS Score for Intersection	2.135	1.865	2.041	1.970
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	30.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.584

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	203	371	34	78	327	123	162	296	286	62	387	94
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	203	371	34	78	327	123	162	296	286	62	387	94
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	98	9	21	86	32	43	78	75	16	102	25
Total Analysis Volume [veh/h]	214	391	36	82	344	129	171	312	301	65	407	99
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	29	0	22	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	22	22	5	14	14	11	42	42	5	37	37
g / C, Green / Cycle	0.14	0.24	0.24	0.06	0.16	0.16	0.12	0.47	0.47	0.05	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.12	0.11	0.11	0.05	0.13	0.12	0.10	0.16	0.16	0.04	0.14	0.13
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	255	457	457	109	304	304	211	887	887	98	768	768
d1, Uniform Delay [s]	37.73	29.35	29.26	41.67	36.55	36.14	38.84	15.34	15.24	41.81	18.54	18.38
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.33	0.76	0.73	9.76	5.12	3.68	7.33	1.10	1.04	7.37	1.20	1.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.47	0.46	0.75	0.81	0.75	0.81	0.35	0.34	0.66	0.34	0.32
d, Delay for Lane Group [s/veh]	45.05	30.12	29.98	51.43	41.67	39.82	46.18	16.44	16.28	49.18	19.74	19.48
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	5.04	4.04	3.92	2.07	5.56	5.00	4.06	4.16	3.98	1.60	3.87	3.62
50th-Percentile Queue Length [ft]	125.99	100.88	97.89	51.74	138.90	124.88	101.51	104.06	99.62	40.08	96.79	90.49
95th-Percentile Queue Length [veh]	8.72	7.26	7.05	3.73	9.42	8.66	7.31	7.49	7.17	2.89	6.97	6.52
95th-Percentile Queue Length [ft]	218.03	181.58	176.20	93.13	235.55	216.51	182.72	187.30	179.32	72.14	174.23	162.88

Movement, Approach, & Intersection Results

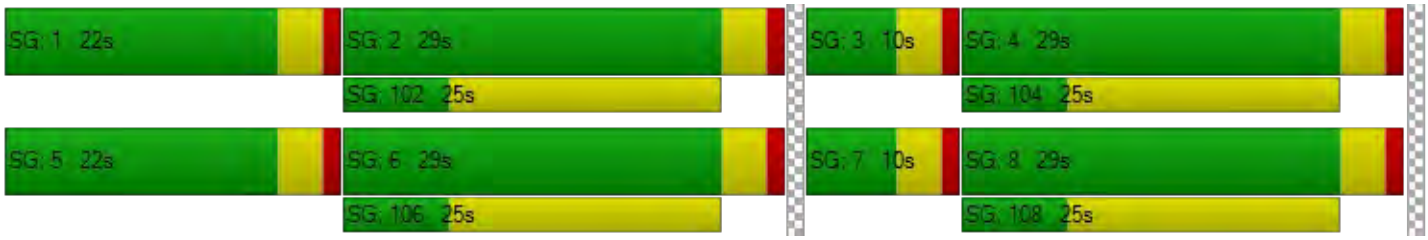
d_M, Delay for Movement [s/veh]	45.05	30.06	29.98	51.43	41.14	39.82	46.18	16.44	16.28	49.18	19.65	19.48
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	35.06			42.35			22.86			22.98		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	30.19											
Intersection LOS	C											
Intersection V/C	0.584											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.563	2.536	2.598	2.495
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	556	556
d_b, Bicycle Delay [s]	23.47	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.088	2.017	2.206	2.031
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.131

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	33	9	9	0	36	2	7	10	67	17	9	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	33	9	9	0	36	2	7	10	67	17	9	0
Peak Hour Factor	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	12	3	3	0	13	1	3	4	24	6	3	0
Total Analysis Volume [veh/h]	47	13	13	0	52	3	10	14	96	24	13	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	675	848	725	845	667	841	660	727
Degree of Utilization, x	0.09	0.02	0.07	0.00	0.01	0.13	0.04	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.29	0.05	0.23	0.01	0.05	0.45	0.11	0.05
95th-Percentile Queue Length [ft]	7.30	1.17	5.78	0.27	1.14	11.24	2.83	1.37
Approach Delay [s/veh]	8.28		7.99		7.67		8.14	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	7.95							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.341

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	187	0	0	0	0	0	125	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	187	0	0	0	0	0	125	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	62	0	0	0	0	0	42	0
Total Analysis Volume [veh/h]	0	0	0	0	248	0	0	0	0	0	166	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	1.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	37.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			12.50			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	7.49											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	9.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.216

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	38	193	1	18	236	21	18	4	29	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	38	193	1	18	236	21	18	4	29	0	0	0
Peak Hour Factor	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	55	0	5	68	6	5	1	8	0	0	0
Total Analysis Volume [veh/h]	44	221	1	21	270	24	21	5	33	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	617	675	675	675	684	789	567	683	
Degree of Utilization, x	0.07	0.16	0.16	0.22	0.21	0.03	0.04	0.06	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.23	0.59	0.59	0.81	0.80	0.09	0.12	0.18	
95th-Percentile Queue Length [ft]	5.74	14.66	14.64	20.37	20.03	2.35	2.88	4.41	
Approach Delay [s/veh]	9.07			9.28			8.65		0.00
Approach LOS	A			A			A		A
Intersection Delay [s/veh]	9.13								
Intersection LOS	A								

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	10.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.407

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	485	270	0	0	330
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	485	270	0	0	330
Peak Hour Factor	0.9500	0.9270	0.9270	0.9500	0.9500	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	131	73	0	0	89
Total Analysis Volume [veh/h]	0	523	291	0	0	356
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.41
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.16
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.76
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	18.98
d_A, Approach Delay [s/veh]	0.00		0.00		10.16	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.09					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	21.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.608

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	312	597	599	0	0	323
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	312	597	599	0	0	323
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	82	157	158	0	0	85
Total Analysis Volume [veh/h]	328	628	631	0	0	340
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	37	55	18	0	0	35
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	64	41	18
g / C, Green / Cycle	0.21	0.71	0.46	0.20
(v / s)_i Volume / Saturation Flow Rate	0.18	0.17	0.17	0.18
s, saturation flow rate [veh/h]	1800	3800	3800	1900
c, Capacity [veh/h]	373	2684	1728	389
d1, Uniform Delay [s]	34.62	4.65	16.05	34.67
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.81	0.20	0.60	6.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.23	0.37	0.87
d, Delay for Lane Group [s/veh]	41.43	4.86	16.64	40.87
Lane Group LOS	D	A	B	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	7.50	1.75	4.21	7.71
50th-Percentile Queue Length [ft]	187.59	43.83	105.17	192.81
95th-Percentile Queue Length [veh]	12.00	3.16	7.57	12.27
95th-Percentile Queue Length [ft]	299.90	78.89	189.26	306.67

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.43	4.86	16.64	0.00	0.00	40.87
Movement LOS	D	A	B			D
d_A, Approach Delay [s/veh]	17.41		16.64		40.87	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	21.30					
Intersection LOS	C					
Intersection V/C	0.608					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.675	2.437	2.040
Crosswalk LOS	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.921	4.653	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	4.1
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.333

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	852	40	14	814	50	7
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	852	40	14	814	50	7
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	224	11	4	214	13	2
Total Analysis Volume [veh/h]	897	42	15	857	53	7
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	51	0	10	61	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	71	71	2	77	5
g / C, Green / Cycle	0.79	0.79	0.02	0.86	0.05
(v / s)_i Volume / Saturation Flow Rate	0.25	0.25	0.01	0.23	0.03
s, saturation flow rate [veh/h]	1900	1900	1800	3800	1800
c, Capacity [veh/h]	1504	1504	40	3261	95
d1, Uniform Delay [s]	2.60	2.60	43.42	1.17	41.77
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.54	0.54	5.79	0.20	6.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.31	0.31	0.38	0.26	0.63
d, Delay for Lane Group [s/veh]	3.14	3.14	49.20	1.37	48.44
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	1.66	1.66	0.39	0.45	1.47
50th-Percentile Queue Length [ft]	41.46	41.46	9.76	11.19	36.71
95th-Percentile Queue Length [veh]	2.99	2.99	0.70	0.81	2.64
95th-Percentile Queue Length [ft]	74.63	74.63	17.57	20.13	66.08

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	3.14	3.14	49.20	1.37	48.44	48.44
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	3.14		2.19		48.44	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.15					
Intersection LOS	A					
Intersection V/C	0.333					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.581	2.646	1.771
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.907	4.852	4.231
Bicycle LOS	E	E	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	19.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.151

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	832	1	3	877	46	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	832	1	3	877	46	41
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	219	0	1	231	12	11
Total Analysis Volume [veh/h]	876	1	3	923	48	43
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.15	0.08
d_M, Delay for Movement [s/veh]	0.00	0.00	9.72	0.00	18.98	13.99
Movement LOS	A	A	A	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	4.14	2.07	0.86	0.86
95th-Percentile Queue Length [ft]	0.00	0.00	103.39	51.70	21.59	21.59
d_A, Approach Delay [s/veh]	0.00		0.03		16.62	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.81					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	32.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.711

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	163	537	79	141	342	92	163	590	204	168	523	161
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	537	79	141	342	92	163	590	204	168	523	161
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	141	21	37	90	24	43	155	54	44	138	42
Total Analysis Volume [veh/h]	172	565	83	148	360	97	172	621	215	177	551	169
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	33	0	13	31	0	15	29	0	15	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	18	18	9	17	17	11	36	36	11	36	36
g / C, Green / Cycle	0.12	0.21	0.21	0.10	0.19	0.19	0.12	0.40	0.40	0.12	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.10	0.17	0.17	0.08	0.12	0.12	0.10	0.23	0.21	0.10	0.20	0.18
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	208	391	391	181	362	362	212	752	752	217	757	757
d1, Uniform Delay [s]	38.98	34.45	34.14	39.73	33.72	33.42	38.81	21.39	20.85	38.67	20.33	19.94
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.03	5.13	4.07	8.64	1.98	1.67	7.29	3.27	2.68	7.27	2.31	1.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.85	0.81	0.82	0.65	0.61	0.81	0.58	0.53	0.82	0.50	0.46
d, Delay for Lane Group [s/veh]	47.02	39.58	38.21	48.37	35.69	35.09	46.10	24.66	23.53	45.94	22.63	21.92
Lane Group LOS	D	D	D	D	D	D	D	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.13	7.38	6.91	3.60	4.88	4.52	4.08	7.62	6.73	4.19	6.16	5.54
50th-Percentile Queue Length [ft]	103.19	184.41	172.69	90.01	121.91	112.90	102.03	190.39	168.27	104.85	153.91	138.47
95th-Percentile Queue Length [veh]	7.43	11.83	11.22	6.48	8.50	8.00	7.35	12.14	10.99	7.55	10.23	9.40
95th-Percentile Queue Length [ft]	185.74	295.76	280.44	162.02	212.45	200.03	183.66	303.54	274.64	188.73	255.64	234.96

Movement, Approach, & Intersection Results

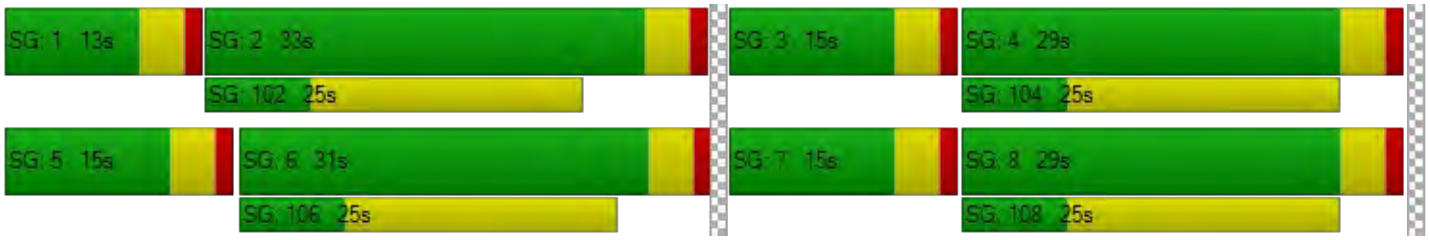
d_M, Delay for Movement [s/veh]	47.02	39.01	38.21	48.37	35.48	35.09	46.10	24.33	23.53	45.94	22.41	21.92
Movement LOS	D	D	D	D	D	D	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	40.61			38.57			27.87			26.96		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	32.71											
Intersection LOS	C											
Intersection V/C	0.711											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.606	2.594	2.656	2.640
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	600	556	556
d_b, Bicycle Delay [s]	20.67	22.05	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.236	2.059	2.391	2.300
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	18.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	949	202	0	835	660	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	949	202	0	835	660	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	250	53	0	220	174	0
Total Analysis Volume [veh/h]	999	213	0	879	695	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	31	31	51	51
g / C, Green / Cycle	0.34	0.34	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.29	0.11	0.23	0.18
s, saturation flow rate [veh/h]	3400	1900	3800	3800
c, Capacity [veh/h]	1161	649	2164	2164
d1, Uniform Delay [s]	27.59	21.94	10.82	10.18
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.01	0.29	0.57	0.39
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.86	0.33	0.41	0.32
d, Delay for Lane Group [s/veh]	29.60	22.24	11.39	10.58
Lane Group LOS	C	C	B	B
Critical Lane Group	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	9.91	3.30	4.68	3.47
50th-Percentile Queue Length [ft]	247.71	82.59	116.89	86.72
95th-Percentile Queue Length [veh]	15.07	5.95	8.22	6.24
95th-Percentile Queue Length [ft]	376.77	148.66	205.54	156.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.60	22.24	0.00	11.39	10.58	0.00
Movement LOS	C	C		B	B	
d_A, Approach Delay [s/veh]	28.30		11.39		10.58	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	18.55					
Intersection LOS	B					
Intersection V/C	0.576					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.334	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.858	4.706
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	45.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.889

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	308	120	76	93	269	303	202	1129	439	188	1487	227
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	308	120	76	93	269	303	202	1129	439	188	1487	227
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	81	32	20	24	71	80	53	297	116	49	391	60
Total Analysis Volume [veh/h]	324	126	80	98	283	319	213	1188	462	198	1565	239
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	42	44	0	37	39	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	39	39	8	23	23	10	42	42	15	47	47
g / C, Green / Cycle	0.20	0.32	0.32	0.07	0.19	0.19	0.08	0.35	0.35	0.13	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.18	0.07	0.04	0.05	0.15	0.17	0.06	0.31	0.24	0.11	0.32	0.31
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	3400	3800	1900	1800	3800	1900
c, Capacity [veh/h]	358	611	611	125	366	366	282	1320	660	230	1490	745
d1, Uniform Delay [s]	47.01	29.57	28.82	54.95	45.95	47.00	53.85	37.20	33.78	51.30	32.50	32.35
k, delay calibration	0.14	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	10.81	0.16	0.10	10.06	3.48	6.43	4.07	10.03	6.09	9.09	4.86	8.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.21	0.13	0.78	0.77	0.87	0.75	0.90	0.70	0.86	0.81	0.80
d, Delay for Lane Group [s/veh]	57.83	29.74	28.92	65.01	49.44	53.43	57.92	47.23	39.87	60.39	37.36	41.23
Lane Group LOS	E	C	C	E	D	D	E	D	D	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	10.49	2.69	1.66	3.27	8.35	9.87	3.31	18.14	12.63	6.41	16.36	16.97
50th-Percentile Queue Length [ft]	262.34	67.26	41.60	81.69	208.65	246.69	82.67	453.46	315.74	160.24	408.90	424.20
95th-Percentile Queue Length [veh]	15.81	4.84	2.99	5.88	13.08	15.02	5.95	25.12	18.46	10.56	22.99	23.72
95th-Percentile Queue Length [ft]	395.15	121.06	74.87	147.04	327.10	375.48	148.80	628.08	461.44	264.04	574.71	593.09

Movement, Approach, & Intersection Results

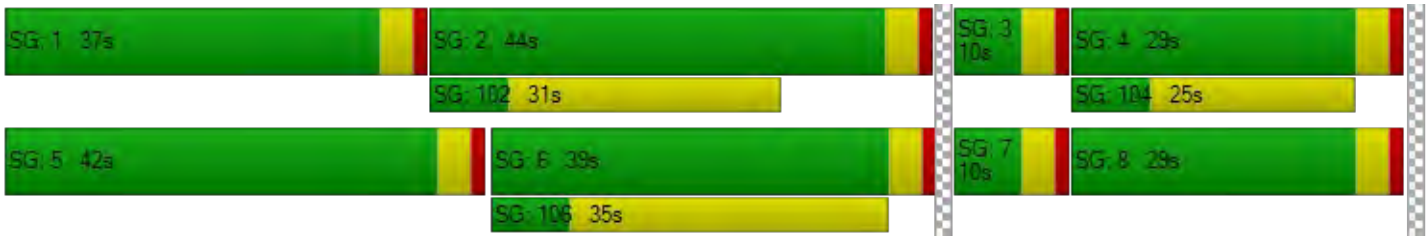
d_M, Delay for Movement [s/veh]	57.83	29.74	28.92	65.01	49.44	53.43	57.92	47.23	39.87	60.39	38.25	41.23
Movement LOS	E	C	C	E	D	D	E	D	D	E	D	D
d_A, Approach Delay [s/veh]	46.78			53.44			46.63			40.79		
Approach LOS	D			D			D			D		
d_I, Intersection Delay [s/veh]	45.29											
Intersection LOS	D											
Intersection V/C	0.889											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.563	3.235	3.014
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	667	583	417	417
d_b, Bicycle Delay [s]	26.67	30.10	37.60	37.60
l_b,int, Bicycle LOS Score for Intersection	2.434	2.137	3.097	2.661
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	14.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.456

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	479	102	436	401	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	479	102	436	401	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	126	27	115	106	0	0
Total Analysis Volume [veh/h]	504	107	459	422	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	57	57	25	86	
g / C, Green / Cycle	0.63	0.63	0.28	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.26	0.11	
s, saturation flow rate [veh/h]	1900	1900	1800	3800	
c, Capacity [veh/h]	1197	1197	506	3631	
d1, Uniform Delay [s]	7.33	7.33	31.21	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.51	0.51	6.53	0.07	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.26	0.26	0.91	0.12	
d, Delay for Lane Group [s/veh]	7.85	7.85	37.74	0.17	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	2.49	2.49	10.21	0.03	
50th-Percentile Queue Length [ft]	62.20	62.20	255.24	0.82	
95th-Percentile Queue Length [veh]	4.48	4.48	15.45	0.06	
95th-Percentile Queue Length [ft]	111.96	111.96	386.25	1.48	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.85	7.85	37.74	0.17	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	7.85		19.74		0.00	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	14.87					
Intersection LOS	B					
Intersection V/C	0.456					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.975
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.636	4.859	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	16.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.648

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	340	3	112	10	0	29	26	1311	0	0	1489	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	340	3	112	10	0	29	26	1311	0	0	1489	21
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	1	29	3	0	8	7	345	0	0	392	6
Total Analysis Volume [veh/h]	358	3	118	11	0	31	27	1380	0	0	1567	22
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	30	0	10	0	0	10	50	0	0	40	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	12	4	3	62	55	55
g / C, Green / Cycle	0.14	0.14	0.04	0.03	0.68	0.61	0.61
(v / s)_i Volume / Saturation Flow Rate	0.11	0.06	0.02	0.02	0.36	0.42	0.42
s, saturation flow rate [veh/h]	3400	1900	1800	1800	3800	1900	1900
c, Capacity [veh/h]	471	263	80	61	2598	1151	1151
d1, Uniform Delay [s]	37.40	35.74	42.14	42.73	7.08	12.06	12.06
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.56	1.25	5.18	4.98	0.78	3.41	3.41
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.46	0.52	0.44	0.53	0.69	0.69
d, Delay for Lane Group [s/veh]	39.96	36.99	47.32	47.71	7.86	15.46	15.46
Lane Group LOS	D	D	D	D	A	B	B
Critical Lane Group	Yes	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	3.91	2.51	1.02	0.67	5.70	10.58	10.58
50th-Percentile Queue Length [ft]	97.65	62.66	25.51	16.71	142.57	264.40	264.40
95th-Percentile Queue Length [veh]	7.03	4.51	1.84	1.20	9.62	15.91	15.91
95th-Percentile Queue Length [ft]	175.77	112.79	45.92	30.07	240.48	397.74	397.74

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	39.96	36.99	36.99	47.32	0.00	47.32	47.71	7.86	0.00	0.00	15.46	15.46
Movement LOS	D	D	D	D		D	D	A			B	B
d_A, Approach Delay [s/veh]	39.21			47.32			8.63			15.46		
Approach LOS	D			D			A			B		
d_I, Intersection Delay [s/veh]	16.34											
Intersection LOS	B											
Intersection V/C	0.648											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.095	1.760	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	0	1022	800
d_b, Bicycle Delay [s]	22.76	45.00	10.76	16.20
l_b,int, Bicycle LOS Score for Intersection	2.350	4.202	2.720	2.871
Bicycle LOS	B	D	B	C

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	27.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.871

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	264	222	78	216	153	574	449	656	175	105	768	178
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	264	222	78	216	153	574	449	656	175	105	768	178
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	58	21	57	40	151	118	173	46	28	202	47
Total Analysis Volume [veh/h]	278	234	82	227	161	604	473	691	184	111	808	187
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	16	29	0	19	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	14	14	24	14	38	20	47	47	7	34	34
g / C, Green / Cycle	0.26	0.15	0.15	0.26	0.15	0.42	0.22	0.52	0.52	0.08	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.15	0.09	0.08	0.13	0.04	0.32	0.14	0.24	0.22	0.06	0.27	0.25
s, saturation flow rate [veh/h]	1800	1900	1900	1800	3800	1900	3400	1900	1900	1800	1900	1900
c, Capacity [veh/h]	530	287	287	453	573	795	759	994	994	145	724	724
d1, Uniform Delay [s]	28.98	35.58	35.33	28.04	33.95	22.35	31.60	13.44	13.19	40.60	23.69	23.15
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.42	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.81	1.80	1.52	0.86	0.26	5.69	0.84	1.50	1.34	8.02	5.82	4.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.57	0.53	0.50	0.28	0.76	0.62	0.45	0.43	0.76	0.71	0.67
d, Delay for Lane Group [s/veh]	29.79	37.38	36.85	28.90	34.21	28.04	32.44	14.93	14.52	48.62	29.51	27.93
Lane Group LOS	C	D	D	C	C	C	C	B	B	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	5.24	3.44	3.15	4.15	1.57	11.59	4.63	5.75	5.29	2.71	10.04	9.09
50th-Percentile Queue Length [ft]	131.02	86.09	78.82	103.87	39.13	289.66	115.87	143.80	132.18	67.63	251.11	227.16
95th-Percentile Queue Length [veh]	9.00	6.20	5.68	7.48	2.82	17.17	8.17	9.69	9.06	4.87	15.24	14.03
95th-Percentile Queue Length [ft]	224.88	154.97	141.88	186.97	70.44	429.22	204.14	242.13	226.46	121.74	381.05	350.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	29.79	37.22	36.85	28.90	34.21	28.04	32.44	14.79	14.52	48.62	28.94	27.93
Movement LOS	C	D	D	C	C	C	C	B	B	D	C	C
d_A, Approach Delay [s/veh]	33.69			29.24			20.95			30.74		
Approach LOS	C			C			C			C		
d_I, Intersection Delay [s/veh]	27.54											
Intersection LOS	C											
Intersection V/C	0.871											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.504	2.759	3.055	2.766
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	622	556	622
d_b, Bicycle Delay [s]	21.36	21.36	23.47	21.36
l_b,int, Bicycle LOS Score for Intersection	2.050	2.378	2.672	2.472
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	23.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	228	87	185	47	59	67	72	767	180	124	563	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	228	87	185	47	59	67	72	767	180	124	563	43
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	23	49	12	16	18	19	202	47	33	148	11
Total Analysis Volume [veh/h]	240	92	195	49	62	71	76	807	189	131	593	45
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	30	0	12	29	0	16	34	0	14	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	12	12	4	8	8	5	50	50	8	53	53
g / C, Green / Cycle	0.09	0.13	0.13	0.05	0.09	0.09	0.06	0.55	0.55	0.09	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.07	0.05	0.10	0.03	0.03	0.04	0.04	0.27	0.25	0.07	0.17	0.17
s, saturation flow rate [veh/h]	3400	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	316	247	247	87	163	163	104	1046	1046	168	1114	1114
d1, Uniform Delay [s]	39.93	35.85	38.02	41.97	38.96	39.15	41.80	12.49	12.20	39.96	9.30	9.25
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.78	0.93	5.54	5.57	1.46	1.83	9.45	1.65	1.46	7.56	0.66	0.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.37	0.79	0.56	0.38	0.44	0.73	0.49	0.46	0.78	0.29	0.28
d, Delay for Lane Group [s/veh]	43.71	36.78	43.56	47.54	40.42	40.98	51.25	14.15	13.66	47.52	9.96	9.89
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	A	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.73	1.89	4.49	1.19	1.35	1.56	1.92	6.36	5.80	3.15	3.09	3.01
50th-Percentile Queue Length [ft]	68.16	47.27	112.17	29.75	33.71	38.97	47.90	158.92	144.88	78.81	77.35	75.14
95th-Percentile Queue Length [veh]	4.91	3.40	7.96	2.14	2.43	2.81	3.45	10.49	9.74	5.67	5.57	5.41
95th-Percentile Queue Length [ft]	122.69	85.08	199.02	53.55	60.68	70.14	86.22	262.29	243.58	141.86	139.22	135.26

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.71	36.78	43.56	47.54	40.42	40.98	51.25	13.97	13.66	47.52	9.93	9.89
Movement LOS	D	D	D	D	D	D	D	B	B	D	A	A
d_A, Approach Delay [s/veh]	42.44			42.55			16.56			16.33		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	23.69											
Intersection LOS	C											
Intersection V/C	0.576											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.600	2.227	2.685	2.654
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	556	667	622
d_b, Bicycle Delay [s]	22.76	23.47	20.00	21.36
l_b,int, Bicycle LOS Score for Intersection	2.429	1.710	2.444	2.194
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	29.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.543

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	186	414	56	73	349	97	99	374	234	53	249	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	186	414	56	73	349	97	99	374	234	53	249	78
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	109	15	19	92	26	26	98	62	14	66	21
Total Analysis Volume [veh/h]	196	436	59	77	367	102	104	394	246	56	262	82
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	29	0	22	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	21	21	5	14	14	7	44	44	5	41	41
g / C, Green / Cycle	0.13	0.23	0.23	0.06	0.16	0.16	0.08	0.48	0.48	0.05	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.11	0.13	0.13	0.04	0.13	0.12	0.06	0.18	0.16	0.03	0.09	0.09
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	236	439	439	105	300	300	137	916	916	92	869	869
d1, Uniform Delay [s]	38.18	30.76	30.58	41.78	36.65	36.33	40.87	14.73	14.35	41.88	14.62	14.54
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.30	1.19	1.09	9.54	5.11	3.92	8.43	1.16	0.95	6.25	0.53	0.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.58	0.55	0.74	0.81	0.76	0.76	0.37	0.33	0.61	0.20	0.19
d, Delay for Lane Group [s/veh]	45.48	31.95	31.67	51.32	41.75	40.25	49.30	15.89	15.31	48.13	15.15	15.04
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.63	4.91	4.69	1.94	5.47	5.03	2.56	4.46	3.81	1.37	2.20	2.07
50th-Percentile Queue Length [ft]	115.74	122.72	117.25	48.57	136.71	125.64	63.89	111.47	95.27	34.17	55.07	51.82
95th-Percentile Queue Length [veh]	8.16	8.54	8.24	3.50	9.30	8.70	4.60	7.92	6.86	2.46	3.97	3.73
95th-Percentile Queue Length [ft]	203.96	213.56	206.05	87.42	232.59	217.55	115.00	198.04	171.49	61.50	99.13	93.27

Movement, Approach, & Intersection Results

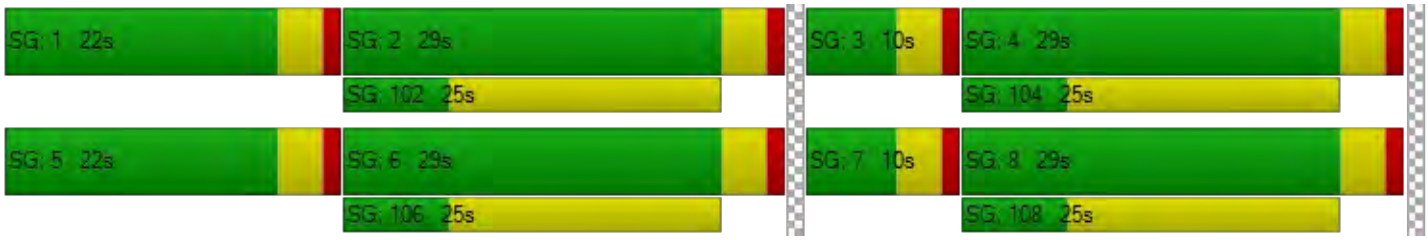
d_M, Delay for Movement [s/veh]	45.48	31.83	31.67	51.32	41.24	40.25	49.30	15.81	15.31	48.13	15.11	15.04
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	35.69			42.48			20.33			19.72		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	29.76											
Intersection LOS	C											
Intersection V/C	0.543											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.565	2.527	2.554	2.481
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	556	556
d_b, Bicycle Delay [s]	23.47	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.130	2.010	2.173	1.890
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.194

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	80	11	2	2	22	5	4	4	54	5	3	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	80	11	2	2	22	5	4	4	54	5	3	1
Peak Hour Factor	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	4	1	1	8	2	1	1	20	2	1	0
Total Analysis Volume [veh/h]	117	16	3	3	32	7	6	6	79	7	4	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	686	876	730	859	652	825	645	729
Degree of Utilization, x	0.19	0.00	0.05	0.01	0.01	0.10	0.01	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.71	0.01	0.15	0.02	0.03	0.34	0.03	0.02
95th-Percentile Queue Length [ft]	17.86	0.26	3.77	0.62	0.70	8.58	0.82	0.52
Approach Delay [s/veh]	9.15		7.72		7.61		8.06	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.39							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.253

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	130	0	0	0	0	0	179	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	130	0	0	0	0	0	179	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	42	0	0	0	0	0	58	0
Total Analysis Volume [veh/h]	0	0	0	0	169	0	0	0	0	0	233	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	12.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	25.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			12.22			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	5.14											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.307

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	95	372	10	31	226	13	9	7	33	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	95	372	10	31	226	13	9	7	33	0	0	0
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	26	101	3	8	61	4	2	2	9	0	0	0
Total Analysis Volume [veh/h]	103	403	11	34	245	14	10	8	36	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	616	674	679	619	632	720	525	620	
Degree of Utilization, x	0.17	0.31	0.31	0.23	0.22	0.02	0.02	0.07	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.60	1.30	1.29	0.86	0.84	0.06	0.06	0.23	
95th-Percentile Queue Length [ft]	14.91	32.53	32.22	21.53	20.97	1.49	1.45	5.71	
Approach Delay [s/veh]	10.23			10.00			9.09		0.00
Approach LOS	B			A			A		A
Intersection Delay [s/veh]	10.08								
Intersection LOS	B								

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.513

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	810	254	0	0	417
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	810	254	0	0	417
Peak Hour Factor	0.9500	0.9180	0.9180	0.9500	0.9500	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	221	69	0	0	114
Total Analysis Volume [veh/h]	0	882	277	0	0	454
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.51
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	10.47
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	1.02
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	25.58
d_A, Approach Delay [s/veh]	0.00		0.00		10.47	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	2.95					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	13.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.488

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	163	926	751	0	0	216
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	926	751	0	0	216
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	244	198	0	0	57
Total Analysis Volume [veh/h]	172	975	791	0	0	227
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	33	51	18	0	0	39
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	69	54	13
g / C, Green / Cycle	0.12	0.77	0.60	0.14
(v / s)_i Volume / Saturation Flow Rate	0.10	0.26	0.21	0.12
s, saturation flow rate [veh/h]	1800	3800	3800	1900
c, Capacity [veh/h]	213	2912	2295	275
d1, Uniform Delay [s]	38.71	3.30	8.92	37.40
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.14	0.31	0.41	6.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.33	0.34	0.83
d, Delay for Lane Group [s/veh]	45.86	3.62	9.34	43.60
Lane Group LOS	D	A	A	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	4.07	2.06	3.63	5.24
50th-Percentile Queue Length [ft]	101.72	51.53	90.81	131.12
95th-Percentile Queue Length [veh]	7.32	3.71	6.54	9.00
95th-Percentile Queue Length [ft]	183.09	92.75	163.46	225.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.86	3.62	9.34	0.00	0.00	43.60
Movement LOS	D	A	A			D
d_A, Approach Delay [s/veh]	9.95		9.34		43.60	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	13.25					
Intersection LOS	B					
Intersection V/C	0.488					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.722	2.561	1.909
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.079	4.785	4.132
Bicycle LOS	F	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	3.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.363

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	1029	26	9	889	26	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1029	26	9	889	26	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	271	7	2	234	7	1
Total Analysis Volume [veh/h]	1083	27	9	936	27	4
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	51	0	10	61	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	73	73	1	79	3
g / C, Green / Cycle	0.82	0.82	0.01	0.87	0.04
(v / s)_i Volume / Saturation Flow Rate	0.29	0.29	0.01	0.25	0.02
s, saturation flow rate [veh/h]	1900	1900	1800	3800	1800
c, Capacity [veh/h]	1548	1548	26	3321	67
d1, Uniform Delay [s]	2.18	2.18	43.93	0.95	42.47
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.65	0.65	7.37	0.21	4.91
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.36	0.34	0.28	0.46
d, Delay for Lane Group [s/veh]	2.83	2.83	51.30	1.16	47.38
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	1.62	1.62	0.25	0.25	0.76
50th-Percentile Queue Length [ft]	40.60	40.60	6.28	6.37	19.01
95th-Percentile Queue Length [veh]	2.92	2.92	0.45	0.46	1.37
95th-Percentile Queue Length [ft]	73.08	73.08	11.30	11.47	34.21

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	2.83	2.83	51.30	1.16	47.38	47.38
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	2.83		1.64		47.38	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	2.95					
Intersection LOS	A					
Intersection V/C	0.363					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.636	2.696	1.747
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.048	4.912	4.184
Bicycle LOS	F	E	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	19.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1056	0	0	921	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1056	0	0	921	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	278	0	0	242	0	0
Total Analysis Volume [veh/h]	1112	0	0	969	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	10.77	0.00	19.58	12.59
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		16.08	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	30.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.576

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	167	374	80	119	262	85	110	448	154	173	497	136
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	167	374	80	119	262	85	110	448	154	173	497	136
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	98	21	31	69	22	29	118	41	46	131	36
Total Analysis Volume [veh/h]	176	394	84	125	276	89	116	472	162	182	523	143
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	32	0	19	34	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	14	14	8	12	12	8	41	41	11	44	44
g / C, Green / Cycle	0.12	0.16	0.16	0.09	0.13	0.13	0.08	0.45	0.45	0.12	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.10	0.13	0.12	0.07	0.10	0.09	0.06	0.17	0.16	0.10	0.18	0.17
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	214	304	304	160	248	248	151	854	854	223	930	930
d1, Uniform Delay [s]	38.82	36.52	36.23	40.22	37.84	37.58	40.45	16.55	16.27	38.49	14.36	14.14
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.77	5.05	3.98	7.99	4.76	3.77	7.92	1.33	1.16	7.07	1.14	1.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.81	0.76	0.78	0.76	0.71	0.77	0.39	0.36	0.81	0.37	0.34
d, Delay for Lane Group [s/veh]	46.59	41.58	40.21	48.21	42.60	41.36	48.36	17.88	17.43	45.55	15.50	15.15
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.20	5.55	5.14	3.03	4.28	3.94	2.82	4.66	4.20	4.29	4.45	4.06
50th-Percentile Queue Length [ft]	105.09	138.64	128.52	75.82	106.96	98.43	70.46	116.52	104.93	107.36	111.34	101.55
95th-Percentile Queue Length [veh]	7.57	9.41	8.86	5.46	7.67	7.09	5.07	8.20	7.55	7.69	7.91	7.31
95th-Percentile Queue Length [ft]	189.15	235.19	221.48	136.47	191.77	177.17	126.84	205.03	188.87	192.33	197.87	182.80

Movement, Approach, & Intersection Results

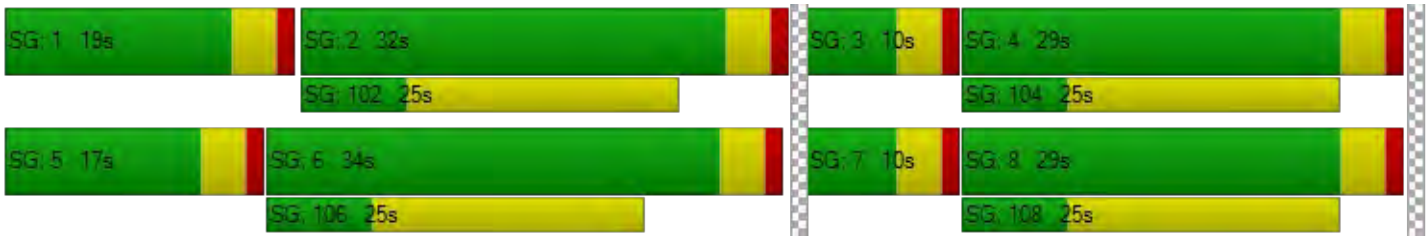
d_M, Delay for Movement [s/veh]	46.59	41.06	40.21	48.21	42.21	41.36	48.36	17.74	17.43	45.55	15.38	15.15
Movement LOS	D	D	D	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	42.44			43.58			22.41			21.82		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	30.79											
Intersection LOS	C											
Intersection V/C	0.576											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.548	2.522	2.599	2.598
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	622	667	556	556
d_b, Bicycle Delay [s]	21.36	20.00	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.099	1.964	2.178	2.259
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	19.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.595

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1144	175	0	647	679	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1144	175	0	647	679	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	301	46	0	170	179	0
Total Analysis Volume [veh/h]	1204	184	0	681	715	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	36	46	46
g / C, Green / Cycle	0.40	0.40	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.35	0.10	0.18	0.19
s, saturation flow rate [veh/h]	3400	1900	3800	3800
c, Capacity [veh/h]	1374	768	1926	1926
d1, Uniform Delay [s]	24.70	17.67	13.30	13.45
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.94	0.16	0.51	0.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.24	0.35	0.37
d, Delay for Lane Group [s/veh]	26.65	17.83	13.81	14.00
Lane Group LOS	C	B	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	11.54	2.48	4.05	4.31
50th-Percentile Queue Length [ft]	288.59	61.91	101.34	107.63
95th-Percentile Queue Length [veh]	17.12	4.46	7.30	7.71
95th-Percentile Queue Length [ft]	427.89	111.43	182.41	192.70

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.65	17.83	0.00	13.81	14.00	0.00
Movement LOS	C	B		B	B	
d_A, Approach Delay [s/veh]	25.48		13.81		14.00	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	19.68					
Intersection LOS	B					
Intersection V/C	0.595					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.391	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.694	4.722
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	42.4
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.906

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	257	83	58	105	209	294	210	1367	278	160	1443	238
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	257	83	58	105	209	294	210	1367	278	160	1443	238
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	22	15	28	55	77	55	360	73	42	380	63
Total Analysis Volume [veh/h]	271	87	61	111	220	309	221	1439	293	168	1519	251
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	24	35	0	28	39	0	19	47	0	10	38	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	20	33	33	9	22	22	10	49	49	13	52	52
g / C, Green / Cycle	0.17	0.27	0.27	0.08	0.19	0.19	0.09	0.41	0.41	0.11	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.15	0.05	0.03	0.06	0.12	0.16	0.07	0.38	0.15	0.09	0.31	0.31
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	3400	3800	1900	1800	3800	1900
c, Capacity [veh/h]	297	519	519	139	352	352	290	1545	773	197	1637	819
d1, Uniform Delay [s]	49.25	33.23	32.76	54.46	45.05	47.57	53.72	34.02	24.99	52.50	28.27	28.07
k, delay calibration	0.16	0.11	0.11	0.11	0.11	0.13	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.50	0.15	0.10	9.88	1.82	8.18	4.14	11.50	1.42	9.91	2.83	5.25
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.91	0.17	0.12	0.80	0.62	0.88	0.76	0.93	0.38	0.85	0.72	0.71
d, Delay for Lane Group [s/veh]	63.75	33.38	32.86	64.34	46.87	55.75	57.86	45.52	26.41	62.41	31.10	33.31
Lane Group LOS	E	C	C	E	D	E	E	D	C	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	9.16	1.97	1.36	3.68	6.22	9.76	3.43	22.03	6.15	5.51	14.51	14.73
50th-Percentile Queue Length [ft]	228.99	49.21	34.00	92.03	155.48	244.00	85.78	550.65	153.86	137.75	362.68	368.31
95th-Percentile Queue Length [veh]	14.12	3.54	2.45	6.63	10.31	14.88	6.18	29.72	10.22	9.36	20.75	21.03
95th-Percentile Queue Length [ft]	353.07	88.57	61.20	165.65	257.73	372.09	154.40	743.07	255.57	233.99	518.84	525.68

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.75	33.38	32.86	64.34	46.87	55.75	57.86	45.52	26.41	62.41	31.59	33.31
Movement LOS	E	C	C	E	D	E	E	D	C	E	C	C
d_A, Approach Delay [s/veh]	52.95			54.19			44.05			34.48		
Approach LOS	D			D			D			C		
d_I, Intersection Delay [s/veh]	42.37											
Intersection LOS	D											
Intersection V/C	0.906											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.547	3.233	3.043
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	517	583	717	567
d_b, Bicycle Delay [s]	33.00	30.10	24.70	30.82
l_b,int, Bicycle LOS Score for Intersection	2.251	2.088	3.171	2.626
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	15.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.353

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	346	75	351	304	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	346	75	351	304	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	91	20	92	80	0	0
Total Analysis Volume [veh/h]	364	79	369	320	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	61	61	21	86	
g / C, Green / Cycle	0.68	0.68	0.23	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.12	0.12	0.21	0.08	
s, saturation flow rate [veh/h]	1900	1900	1800	3800	
c, Capacity [veh/h]	1293	1293	415	3631	
d1, Uniform Delay [s]	5.19	5.19	33.51	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.29	0.29	6.67	0.05	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.17	0.17	0.89	0.09	
d, Delay for Lane Group [s/veh]	5.48	5.48	40.19	0.15	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	1.38	1.38	8.36	0.02	
50th-Percentile Queue Length [ft]	34.55	34.55	208.92	0.60	
95th-Percentile Queue Length [veh]	2.49	2.49	13.10	0.04	
95th-Percentile Queue Length [ft]	62.19	62.19	327.44	1.09	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.48	5.48	40.19	0.15	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	5.48		21.59		0.00	
Approach LOS	A		C		A	
d_I, Intersection Delay [s/veh]	15.28					
Intersection LOS	B					
Intersection V/C	0.353					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.860
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.498	4.701	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	18.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.674

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	318	6	185	19	0	66	34	1432	0	0	1449	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	318	6	185	19	0	66	34	1432	0	0	1449	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	2	49	5	0	17	9	377	0	0	381	7
Total Analysis Volume [veh/h]	335	6	195	20	0	69	36	1507	0	0	1525	29
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	31	0	10	0	0	10	49	0	0	39	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	13	6	4	60	52	52
g / C, Green / Cycle	0.14	0.14	0.07	0.04	0.66	0.58	0.58
(v / s)_i Volume / Saturation Flow Rate	0.10	0.11	0.05	0.02	0.40	0.41	0.41
s, saturation flow rate [veh/h]	3400	1900	1800	1800	3800	1900	1900
c, Capacity [veh/h]	479	267	119	73	2509	1093	1093
d1, Uniform Delay [s]	36.93	37.23	41.39	42.35	8.62	13.76	13.76
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.87	4.24	9.15	5.04	1.07	3.93	3.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.70	0.75	0.75	0.49	0.60	0.71	0.71
d, Delay for Lane Group [s/veh]	38.80	41.47	50.54	47.39	9.69	17.69	17.69
Lane Group LOS	D	D	D	D	A	B	B
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	3.59	4.50	2.22	0.88	7.35	11.32	11.32
50th-Percentile Queue Length [ft]	89.66	112.57	55.53	21.97	183.87	283.08	283.08
95th-Percentile Queue Length [veh]	6.46	7.98	4.00	1.58	11.80	16.84	16.84
95th-Percentile Queue Length [ft]	161.38	199.57	99.96	39.55	295.06	421.04	421.04

Movement, Approach, & Intersection Results

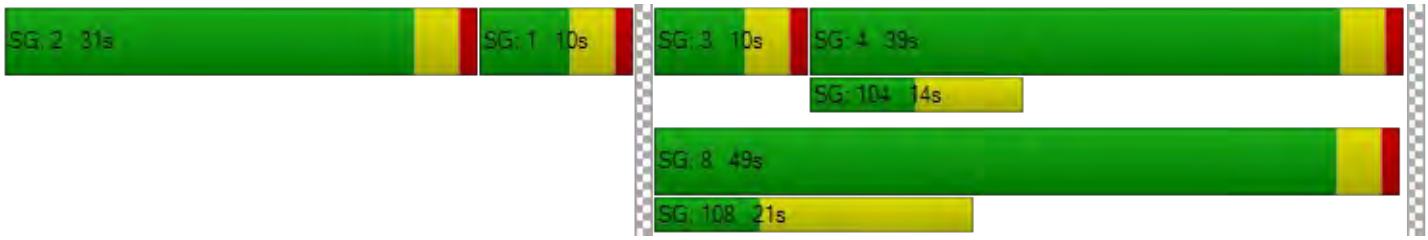
d_M, Delay for Movement [s/veh]	38.80	41.47	41.47	50.54	0.00	50.54	47.39	9.69	0.00	0.00	17.69	17.69
Movement LOS	D	D	D	D		D	D	A			B	B
d_A, Approach Delay [s/veh]	39.80			50.54			10.57			17.69		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	18.71											
Intersection LOS	B											
Intersection V/C	0.674											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.114	1.792	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	0	1000	778
d_b, Bicycle Delay [s]	22.05	45.00	11.25	16.81
l_b,int, Bicycle LOS Score for Intersection	2.444	4.279	2.833	2.842
Bicycle LOS	B	E	C	C

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	30.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.849

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	274	156	53	136	114	642	697	651	145	75	583	183
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	274	156	53	136	114	642	697	651	145	75	583	183
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	41	14	36	30	169	183	171	38	20	153	48
Total Analysis Volume [veh/h]	288	164	56	143	120	676	734	685	153	79	614	193
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	36	30	0	38	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	28	18	18	28	18	51	29	64	64	6	41	41
g / C, Green / Cycle	0.25	0.16	0.16	0.25	0.16	0.46	0.26	0.58	0.58	0.06	0.38	0.38
(v / s)_i Volume / Saturation Flow Rate	0.16	0.06	0.06	0.08	0.03	0.36	0.22	0.22	0.22	0.04	0.22	0.20
s, saturation flow rate [veh/h]	1800	1900	1900	1800	3800	1900	3400	1900	1900	1800	1900	1900
c, Capacity [veh/h]	505	305	305	458	610	874	894	1103	1103	105	714	714
d1, Uniform Delay [s]	36.64	41.26	41.08	33.43	40.05	24.93	38.14	12.49	12.35	51.08	27.55	26.93
k, delay calibration	0.15	0.11	0.11	0.11	0.11	0.41	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.39	0.76	0.68	0.38	0.16	5.51	1.95	1.03	0.96	10.45	3.54	2.94
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.57	0.37	0.35	0.31	0.20	0.77	0.82	0.39	0.37	0.75	0.59	0.54
d, Delay for Lane Group [s/veh]	38.03	42.02	41.76	33.82	40.21	30.44	40.08	13.52	13.32	61.53	31.09	29.87
Lane Group LOS	D	D	D	C	D	C	D	B	B	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	7.05	2.82	2.62	3.15	1.42	15.63	9.43	5.78	5.49	2.45	9.44	8.44
50th-Percentile Queue Length [ft]	176.19	70.55	65.49	78.85	35.61	390.85	235.87	144.50	137.17	61.14	236.07	211.01
95th-Percentile Queue Length [veh]	11.40	5.08	4.72	5.68	2.56	22.12	14.47	9.72	9.33	4.40	14.48	13.21
95th-Percentile Queue Length [ft]	285.04	126.98	117.88	141.93	64.10	552.97	361.80	243.07	233.21	110.05	362.05	330.13

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.03	41.94	41.76	33.82	40.21	30.44	40.08	13.45	13.32	61.53	30.71	29.87
Movement LOS	D	D	D	C	D	C	D	B	B	E	C	C
d_A, Approach Delay [s/veh]	39.70			32.20			25.87			33.27		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	30.87											
Intersection LOS	C											
Intersection V/C	0.849											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	44.55	44.55	44.55
l_p,int, Pedestrian LOS Score for Intersection	2.477	2.792	3.149	2.691
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	509	509	473	509
d_b, Bicycle Delay [s]	30.56	30.56	32.07	30.56
l_b,int, Bicycle LOS Score for Intersection	1.979	2.334	2.857	2.291
Bicycle LOS	A	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	21.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.432

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	203	66	124	31	59	37	41	537	130	127	578	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	203	66	124	31	59	37	41	537	130	127	578	41
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	17	33	8	16	10	11	141	34	33	152	11
Total Analysis Volume [veh/h]	214	69	131	33	62	39	43	565	137	134	608	43
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	12	30	0	11	29	0	10	32	0	17	39	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	10	10	3	6	6	4	52	52	9	57	57
g / C, Green / Cycle	0.08	0.11	0.11	0.04	0.06	0.06	0.04	0.58	0.58	0.10	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.06	0.04	0.07	0.02	0.03	0.03	0.02	0.19	0.18	0.07	0.17	0.17
s, saturation flow rate [veh/h]	3400	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	289	206	206	70	118	118	81	1101	1101	172	1198	1198
d1, Uniform Delay [s]	40.30	37.20	38.50	42.43	40.75	40.71	42.12	9.84	9.70	39.84	7.45	7.42
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.75	0.95	3.24	4.87	2.49	2.35	5.28	0.80	0.73	7.38	0.57	0.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.74	0.34	0.64	0.47	0.43	0.42	0.53	0.33	0.31	0.78	0.27	0.27
d, Delay for Lane Group [s/veh]	44.04	38.15	41.74	47.30	43.24	43.05	47.41	10.64	10.42	47.23	8.02	7.97
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	A	A
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.44	1.45	2.92	0.81	1.17	1.13	1.05	3.65	3.36	3.21	2.71	2.64
50th-Percentile Queue Length [ft]	60.94	36.15	73.01	20.17	29.24	28.16	26.13	91.19	84.11	80.35	67.75	65.92
95th-Percentile Queue Length [veh]	4.39	2.60	5.26	1.45	2.11	2.03	1.88	6.57	6.06	5.78	4.88	4.75
95th-Percentile Queue Length [ft]	109.69	65.08	131.42	36.30	52.63	50.69	47.04	164.15	151.39	144.62	121.94	118.66

Movement, Approach, & Intersection Results

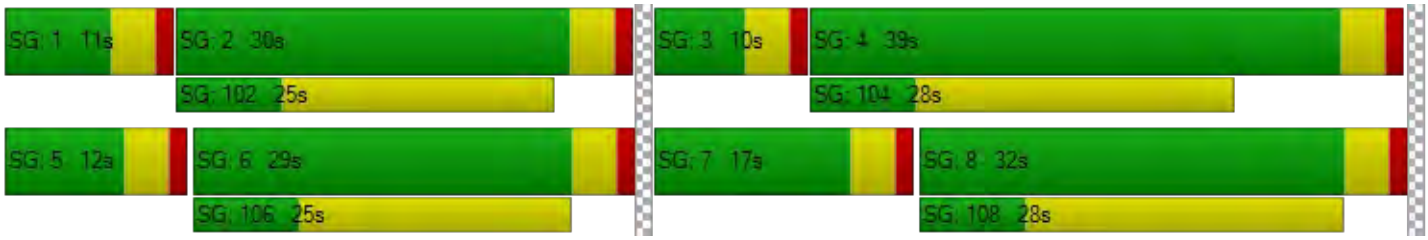
d_M, Delay for Movement [s/veh]	44.04	38.15	41.74	47.30	43.21	43.05	47.41	10.56	10.42	47.23	8.00	7.97
Movement LOS	D	D	D	D	D	D	D	B	B	D	A	A
d_A, Approach Delay [s/veh]	42.33			44.17			12.66			14.69		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	21.37											
Intersection LOS	C											
Intersection V/C	0.432											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.574	2.201	2.613	2.595
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	556	622	778
d_b, Bicycle Delay [s]	22.76	23.47	21.36	16.81
l_b,int, Bicycle LOS Score for Intersection	2.243	1.670	2.174	2.207
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	29.2
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.424

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	131	329	45	38	299	86	81	268	187	49	199	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	131	329	45	38	299	86	81	268	187	49	199	50
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	87	12	10	79	23	21	71	49	13	52	13
Total Analysis Volume [veh/h]	138	346	47	40	315	91	85	282	197	52	209	53
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	39	0	12	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	17	17	4	13	13	6	48	48	4	47	47
g / C, Green / Cycle	0.10	0.19	0.19	0.04	0.14	0.14	0.06	0.54	0.54	0.05	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.08	0.11	0.10	0.02	0.11	0.10	0.05	0.13	0.12	0.03	0.07	0.07
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	175	368	368	78	266	266	114	1018	1018	89	992	992
d1, Uniform Delay [s]	39.79	32.77	32.64	42.19	37.49	37.24	41.54	11.21	11.02	41.94	11.06	11.03
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.61	1.25	1.16	5.06	5.11	4.09	9.40	0.59	0.50	5.88	0.28	0.27
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.54	0.53	0.51	0.79	0.74	0.75	0.25	0.22	0.58	0.13	0.13
d, Delay for Lane Group [s/veh]	47.40	34.02	33.80	47.25	42.59	41.33	50.94	11.80	11.52	47.81	11.35	11.30
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.32	3.99	3.84	0.97	4.75	4.41	2.13	2.71	2.36	1.27	1.37	1.32
50th-Percentile Queue Length [ft]	82.95	99.80	96.04	24.30	118.76	110.25	53.31	67.81	59.07	31.64	34.37	32.96
95th-Percentile Queue Length [veh]	5.97	7.19	6.91	1.75	8.32	7.85	3.84	4.88	4.25	2.28	2.47	2.37
95th-Percentile Queue Length [ft]	149.31	179.65	172.87	43.74	208.12	196.35	95.95	122.06	106.32	56.95	61.86	59.33

Movement, Approach, & Intersection Results

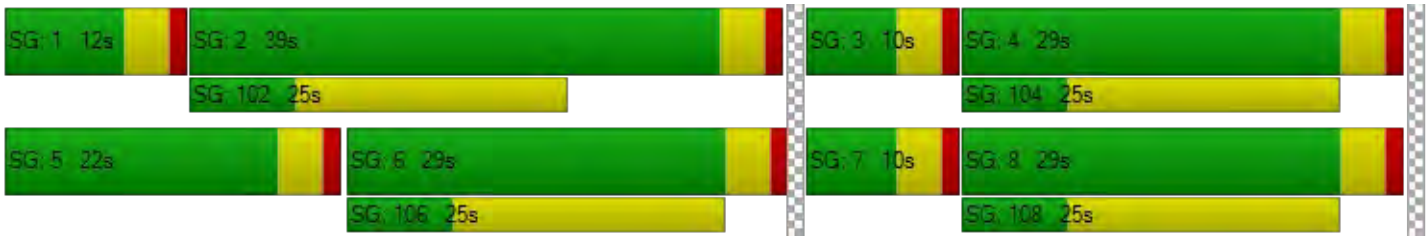
d_M, Delay for Movement [s/veh]	47.40	33.93	33.80	47.25	42.17	41.33	50.94	11.77	11.52	47.81	11.33	11.30
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.42			42.45			17.59			17.37		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.20											
Intersection LOS	C											
Intersection V/C	0.424											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.513	2.481	2.495	2.433
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	778	556	556	556
d_b, Bicycle Delay [s]	16.81	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	1.998	1.928	2.025	1.819
Bicycle LOS	A	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX F-II

YEAR 2040 WITH PROJECT (PHASE 1) TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.228

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	96	37	17	0	15	4	2	9	63	2	13	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	37	17	0	15	4	2	9	63	2	13	1
Peak Hour Factor	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	11	5	0	4	1	1	3	19	1	4	0
Total Analysis Volume [veh/h]	115	44	20	0	18	5	2	11	75	2	16	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	696	876	729	849	646	808	639	708
Degree of Utilization, x	0.23	0.02	0.02	0.01	0.00	0.11	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.88	0.07	0.08	0.02	0.01	0.36	0.01	0.07
95th-Percentile Queue Length [ft]	21.91	1.75	1.90	0.44	0.23	8.91	0.24	1.84
Approach Delay [s/veh]	9.12		7.59		7.70		7.96	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.53							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.124

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	90	0	0	0	0	0	119	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	90	0	0	0	0	0	119	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	24	0	0	0	0	0	31	0
Total Analysis Volume [veh/h]	0	0	0	0	95	0	0	0	0	0	125	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	10.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	10.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10.37			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.48											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.345

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	138	282	205	9	160	0	31	5	13	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	282	205	9	160	0	31	5	13	0	0	0
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	76	55	2	43	0	8	1	4	0	0	0
Total Analysis Volume [veh/h]	149	305	221	10	173	0	33	5	14	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	658	700	810	629	634	527	629	
Degree of Utilization, x	0.35	0.32	0.27	0.15	0.14	0.07	0.02	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.54	1.41	1.11	0.51	0.50	0.23	0.07	
95th-Percentile Queue Length [ft]	38.45	35.19	27.73	12.69	12.55	5.81	1.71	
Approach Delay [s/veh]	10.06			9.37		9.66		0.00
Approach LOS	B			A		A		A
Intersection Delay [s/veh]	9.90							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.210

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	625	172	0	0	189
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	625	172	0	0	189
Peak Hour Factor	0.9500	0.9520	0.9520	0.9500	0.9500	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	164	45	0	0	50
Total Analysis Volume [veh/h]	0	657	181	0	0	199
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.21
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.24
Movement LOS		A	A			A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.35
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	8.75
d_A, Approach Delay [s/veh]	0.00		0.00		9.24	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.77					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	16.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.417

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	205	751	387	0	0	243
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	205	751	387	0	0	243
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	198	102	0	0	64
Total Analysis Volume [veh/h]	216	791	407	0	0	256
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	29	47	18	0	0	43
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	68	51	14
g / C, Green / Cycle	0.14	0.75	0.56	0.16
(v / s)_i Volume / Saturation Flow Rate	0.12	0.21	0.11	0.13
s, saturation flow rate [veh/h]	1800	3800	3800	1900
c, Capacity [veh/h]	258	2852	2139	305
d1, Uniform Delay [s]	37.56	3.54	9.64	36.65
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.11	0.24	0.20	6.09
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.28	0.19	0.84
d, Delay for Lane Group [s/veh]	44.67	3.78	9.84	42.75
Lane Group LOS	D	A	A	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	5.06	1.77	1.89	5.87
50th-Percentile Queue Length [ft]	126.54	44.25	47.26	146.86
95th-Percentile Queue Length [veh]	8.75	3.19	3.40	9.85
95th-Percentile Queue Length [ft]	218.79	79.65	85.07	246.24

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.67	3.78	9.84	0.00	0.00	42.75
Movement LOS	D	A	A			D
d_A, Approach Delay [s/veh]	12.55		9.84		42.75	
Approach LOS	B		A		D	
d_I, Intersection Delay [s/veh]	16.52					
Intersection LOS	B					
Intersection V/C	0.417					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.625	2.423	1.944
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.963	4.468	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.436

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	702	266	15	668	160	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	702	266	15	668	160	13
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	185	70	4	176	42	3
Total Analysis Volume [veh/h]	739	280	16	703	168	14
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	18	0	10	28	62	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	65	65	2	71	11
g / C, Green / Cycle	0.72	0.72	0.02	0.79	0.12
(v / s)_i Volume / Saturation Flow Rate	0.27	0.27	0.01	0.19	0.10
s, saturation flow rate [veh/h]	1900	1900	1800	3800	1800
c, Capacity [veh/h]	1366	1366	42	2989	224
d1, Uniform Delay [s]	4.86	4.86	43.34	2.52	38.38
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.78	0.78	5.64	0.19	6.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.37	0.37	0.38	0.24	0.81
d, Delay for Lane Group [s/veh]	5.65	5.65	48.98	2.70	45.27
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	3.17	3.17	0.41	1.13	4.28
50th-Percentile Queue Length [ft]	79.22	79.22	10.34	28.32	106.97
95th-Percentile Queue Length [veh]	5.70	5.70	0.74	2.04	7.67
95th-Percentile Queue Length [ft]	142.59	142.59	18.61	50.98	191.77

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	5.65	5.65	48.98	2.70	45.27	45.27
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	5.65		3.73		45.27	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.68					
Intersection LOS	A					
Intersection V/C	0.436					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.591	2.586	1.947
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.973	4.726	4.433
Bicycle LOS	E	E	E

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	20.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.013

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	996	111	24	821	3	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	996	111	24	821	3	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	262	29	6	216	1	1
Total Analysis Volume [veh/h]	1048	117	25	864	3	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.04	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	11.31	0.00	20.54	13.11
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	6.56	3.28	0.05	0.05
95th-Percentile Queue Length [ft]	0.00	0.00	163.94	81.97	1.31	1.31
d_A, Approach Delay [s/veh]	0.00		0.32		17.57	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.18					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	30.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.507

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	131	441	39	109	498	62	42	295	99	119	390	86
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	131	441	39	109	498	62	42	295	99	119	390	86
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	116	10	29	131	16	11	78	26	31	103	23
Total Analysis Volume [veh/h]	138	464	41	115	524	65	44	311	104	125	411	91
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	30	0	21	36	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	18	18	7	17	17	4	40	40	8	44	44
g / C, Green / Cycle	0.10	0.20	0.20	0.08	0.19	0.19	0.05	0.45	0.45	0.09	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.13	0.06	0.16	0.15	0.02	0.11	0.11	0.07	0.14	0.13
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	173	386	386	149	361	361	82	849	849	161	932	932
d1, Uniform Delay [s]	39.89	33.07	32.94	40.51	35.13	34.90	42.09	15.54	15.42	40.17	13.53	13.42
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.10	1.95	1.81	8.13	4.96	4.15	5.31	0.71	0.66	7.79	0.74	0.68
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.66	0.65	0.77	0.83	0.80	0.54	0.25	0.24	0.78	0.28	0.26
d, Delay for Lane Group [s/veh]	47.99	35.02	34.76	48.65	40.09	39.05	47.41	16.25	16.07	47.96	14.27	14.10
Lane Group LOS	D	D	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.34	5.25	5.09	2.80	6.69	6.35	1.07	2.80	2.61	3.02	3.12	2.93
50th-Percentile Queue Length [ft]	83.53	131.29	127.30	70.11	167.29	158.81	26.73	70.07	65.18	75.58	78.07	73.15
95th-Percentile Queue Length [veh]	6.01	9.01	8.79	5.05	10.93	10.49	1.92	5.05	4.69	5.44	5.62	5.27
95th-Percentile Queue Length [ft]	150.36	225.25	219.81	126.19	273.35	262.14	48.11	126.13	117.33	136.05	140.53	131.66

Movement, Approach, & Intersection Results

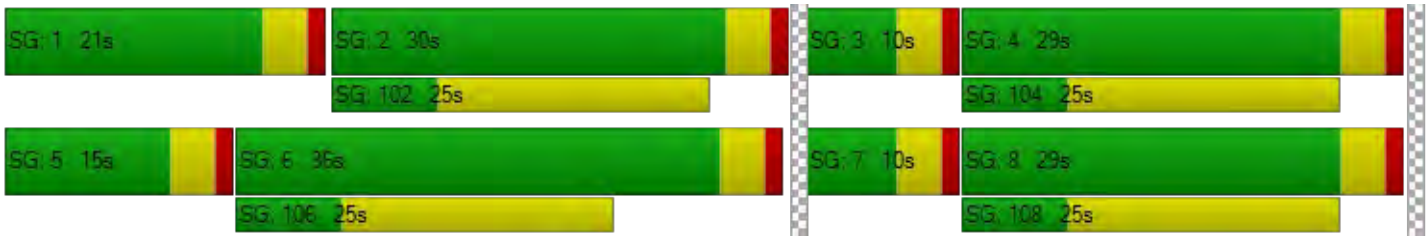
d_M, Delay for Movement [s/veh]	47.99	34.90	34.76	48.65	39.65	39.05	47.41	16.20	16.07	47.96	14.20	14.10
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.70			41.06			19.16			20.92		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	30.85											
Intersection LOS	C											
Intersection V/C	0.507											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.572	2.553	2.509	2.513
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	578	711	556	556
d_b, Bicycle Delay [s]	22.76	18.69	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.090	2.140	1.938	2.077
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	20.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.509

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1053	233	0	389	497	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1053	233	0	389	497	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	277	61	0	102	131	0
Total Analysis Volume [veh/h]	1108	245	0	409	523	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	34	34	48	48
g / C, Green / Cycle	0.38	0.38	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.33	0.13	0.11	0.14
s, saturation flow rate [veh/h]	3400	1900	3800	3800
c, Capacity [veh/h]	1279	715	2032	2032
d1, Uniform Delay [s]	25.93	20.06	10.90	11.27
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.91	0.28	0.22	0.31
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.34	0.20	0.26
d, Delay for Lane Group [s/veh]	27.83	20.35	11.12	11.58
Lane Group LOS	C	C	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	10.76	3.62	2.07	2.74
50th-Percentile Queue Length [ft]	269.01	90.58	51.70	68.49
95th-Percentile Queue Length [veh]	16.14	6.52	3.72	4.93
95th-Percentile Queue Length [ft]	403.51	163.04	93.06	123.28

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.83	20.35	0.00	11.12	11.58	0.00
Movement LOS	C	C		B	B	
d_A, Approach Delay [s/veh]	26.48		11.12		11.58	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	20.32					
Intersection LOS	C					
Intersection V/C	0.509					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.379	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.470	4.564
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	57.0
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.995

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	350	218	126	69	446	399	118	965	285	237	1120	211
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	350	218	126	69	446	399	118	965	285	237	1120	211
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	57	33	18	117	105	31	254	75	62	295	56
Total Analysis Volume [veh/h]	368	229	133	73	469	420	124	1016	300	249	1179	222
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	27	48	0	24	45	0	10	33	0	10	33	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	48	48	6	31	31	6	29	29	15	38	38
g / C, Green / Cycle	0.20	0.42	0.42	0.05	0.27	0.27	0.05	0.25	0.25	0.13	0.33	0.33
(v / s)_i Volume / Saturation Flow Rate	0.20	0.12	0.07	0.04	0.25	0.22	0.04	0.27	0.16	0.14	0.25	0.24
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	3400	3800	1900	1800	3800	1900
c, Capacity [veh/h]	360	799	799	95	520	520	184	965	482	240	1266	633
d1, Uniform Delay [s]	46.01	21.95	20.75	53.77	40.29	38.96	53.41	42.91	38.02	49.85	34.04	33.69
k, delay calibration	0.29	0.11	0.11	0.11	0.23	0.18	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	41.93	0.20	0.10	11.97	11.78	4.95	4.24	43.93	5.93	37.34	4.03	7.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.02	0.29	0.17	0.77	0.90	0.81	0.67	1.05	0.62	1.04	0.75	0.72
d, Delay for Lane Group [s/veh]	87.95	22.14	20.85	65.74	52.07	43.91	57.66	86.84	43.95	87.19	38.06	40.70
Lane Group LOS	F	C	C	E	D	D	E	F	D	F	D	D
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	14.40	4.11	2.26	2.40	14.36	11.67	1.87	19.45	8.27	9.35	12.27	12.32
50th-Percentile Queue Length [ft]	360.03	102.77	56.39	60.01	358.94	291.87	46.70	486.28	206.66	233.70	306.74	307.97
95th-Percentile Queue Length [veh]	20.87	7.40	4.06	4.32	20.57	17.28	3.36	27.52	12.98	14.60	18.01	18.07
95th-Percentile Queue Length [ft]	521.77	184.98	101.50	108.01	514.30	431.96	84.06	688.07	324.54	365.00	450.35	451.87

Movement, Approach, & Intersection Results

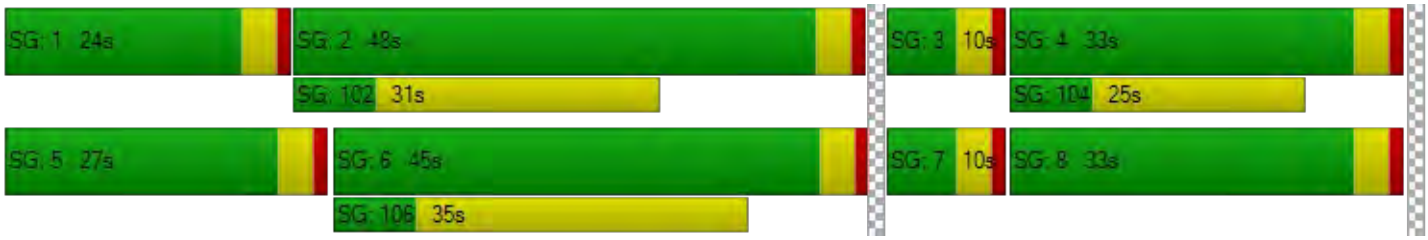
d_M, Delay for Movement [s/veh]	87.95	22.14	20.85	65.74	52.07	43.91	57.66	86.84	43.95	87.19	38.59	40.70
Movement LOS	F	C	C	E	D	D	E	F	D	F	D	D
d_A, Approach Delay [s/veh]	55.08			49.54			75.39			46.21		
Approach LOS	E			D			E			D		
d_I, Intersection Delay [s/veh]	57.02											
Intersection LOS	E											
Intersection V/C	0.995											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	47.03	47.03	47.03
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.611	3.152	2.931
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	765	713	504	504
d_b, Bicycle Delay [s]	21.92	23.81	32.16	32.16
l_b,int, Bicycle LOS Score for Intersection	2.764	2.353	2.748	2.467
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	12.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.480

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	644	116	388	564	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	644	116	388	564	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	169	31	102	148	0	0
Total Analysis Volume [veh/h]	678	122	408	594	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	59	59	23	86	
g / C, Green / Cycle	0.66	0.66	0.25	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.21	0.21	0.23	0.16	
s, saturation flow rate [veh/h]	1900	1900	1800	3800	
c, Capacity [veh/h]	1252	1252	454	3631	
d1, Uniform Delay [s]	6.63	6.63	32.51	0.11	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.67	0.67	6.61	0.10	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.32	0.32	0.90	0.16	
d, Delay for Lane Group [s/veh]	7.31	7.31	39.13	0.20	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	3.10	3.10	9.17	0.05	
50th-Percentile Queue Length [ft]	77.41	77.41	229.24	1.22	
95th-Percentile Queue Length [veh]	5.57	5.57	14.14	0.09	
95th-Percentile Queue Length [ft]	139.33	139.33	353.39	2.20	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.31	7.31	39.13	0.20	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	7.31		16.05		0.00	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	12.17					
Intersection LOS	B					
Intersection V/C	0.480					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.940
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.792	4.959	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.526

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	415	4	203	2	0	1	10	1116	0	0	1152	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	415	4	203	2	0	1	10	1116	0	0	1152	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	109	1	53	1	0	0	3	294	0	0	303	1
Total Analysis Volume [veh/h]	437	4	214	2	0	1	11	1175	0	0	1213	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	52	0	10	0	0	10	28	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	0	1	63	57	57
g / C, Green / Cycle	0.17	0.17	0.01	0.02	0.69	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.13	0.11	0.00	0.01	0.31	0.32	0.32
s, saturation flow rate [veh/h]	3400	1900	1800	1800	3800	1900	1900
c, Capacity [veh/h]	569	318	10	30	2637	1202	1202
d1, Uniform Delay [s]	35.84	35.28	44.63	43.82	6.11	8.93	8.93
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.22	2.62	16.31	7.27	0.55	1.52	1.52
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.69	0.30	0.37	0.45	0.51	0.51
d, Delay for Lane Group [s/veh]	38.05	37.90	60.93	51.09	6.66	10.44	10.44
Lane Group LOS	D	D	E	D	A	B	B
Critical Lane Group	Yes	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	4.68	4.65	0.11	0.30	4.25	6.11	6.11
50th-Percentile Queue Length [ft]	116.89	116.29	2.77	7.53	106.15	152.83	152.83
95th-Percentile Queue Length [veh]	8.22	8.19	0.20	0.54	7.63	10.17	10.17
95th-Percentile Queue Length [ft]	205.54	204.71	4.99	13.55	190.64	254.20	254.20

Movement, Approach, & Intersection Results

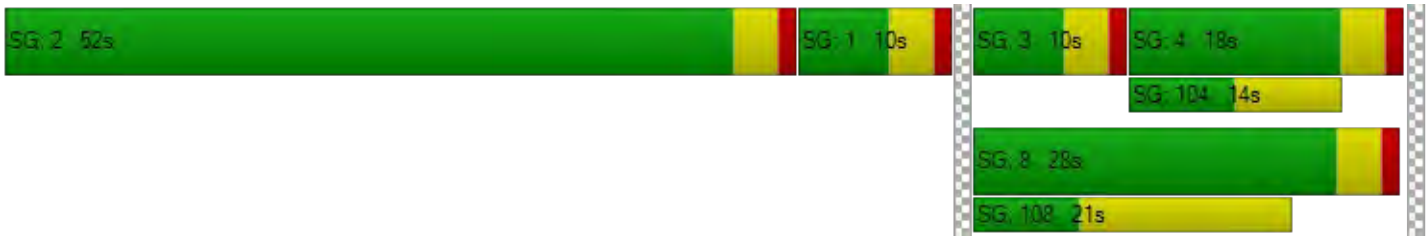
d_M, Delay for Movement [s/veh]	38.05	37.90	37.90	60.93	0.00	60.93	51.09	6.66	0.00	0.00	10.44	10.44
Movement LOS	D	D	D	E		E	D	A			B	B
d_A, Approach Delay [s/veh]	38.00			60.93			7.07			10.44		
Approach LOS	D			E			A			B		
d_I, Intersection Delay [s/veh]	15.08											
Intersection LOS	B											
Intersection V/C	0.526											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.153	1.724	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	0	533	311
d_b, Bicycle Delay [s]	9.80	45.00	24.20	32.09
l_b,int, Bicycle LOS Score for Intersection	2.640	4.137	2.538	2.562
Bicycle LOS	B	D	B	B

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	29.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.734

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	281	298	48	149	247	420	642	512	138	46	397	117
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	281	298	48	149	247	420	642	512	138	46	397	117
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	74	78	13	39	65	111	169	135	36	12	104	31
Total Analysis Volume [veh/h]	296	314	51	157	260	442	676	539	145	48	418	123
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	26	48	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	100	100	100	100	100	100	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	23	13	13	23	13	41	24	61	61	4	41	41
g / C, Green / Cycle	0.23	0.13	0.13	0.23	0.13	0.41	0.24	0.61	0.61	0.04	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.16	0.10	0.09	0.09	0.07	0.23	0.20	0.19	0.17	0.03	0.15	0.14
s, saturation flow rate [veh/h]	1800	1900	1900	1800	3800	1900	3400	1900	1900	1800	1900	1900
c, Capacity [veh/h]	411	247	247	356	494	782	821	1148	1148	81	775	775
d1, Uniform Delay [s]	35.46	42.03	41.83	32.46	40.68	22.61	35.96	9.63	9.50	46.90	20.58	20.35
k, delay calibration	0.12	0.11	0.11	0.11	0.11	0.19	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.63	4.66	3.98	0.86	0.87	1.12	2.15	0.69	0.63	6.66	1.30	1.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.72	0.76	0.72	0.44	0.53	0.57	0.82	0.31	0.29	0.59	0.36	0.34
d, Delay for Lane Group [s/veh]	38.09	46.69	45.80	33.32	41.55	23.73	38.11	10.32	10.13	53.57	21.89	21.53
Lane Group LOS	D	D	D	C	D	C	D	B	B	D	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.86	4.73	4.47	3.27	3.03	8.01	7.92	3.72	3.45	1.32	4.73	4.36
50th-Percentile Queue Length [ft]	171.51	118.18	111.74	81.75	75.83	200.22	198.08	93.12	86.17	32.94	118.18	109.05
95th-Percentile Queue Length [veh]	11.16	8.29	7.94	5.89	5.46	12.65	12.54	6.70	6.20	2.37	8.29	7.79
95th-Percentile Queue Length [ft]	278.89	207.33	198.42	147.15	136.50	316.25	313.49	167.62	155.10	59.30	207.33	194.68

Movement, Approach, & Intersection Results

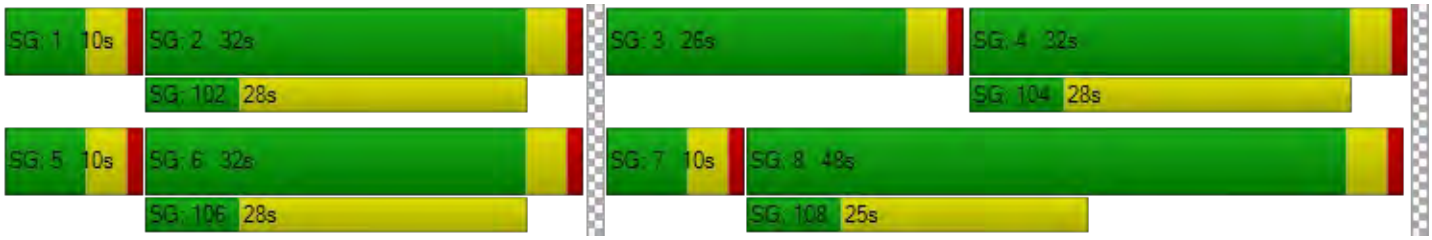
d_M, Delay for Movement [s/veh]	38.09	46.33	45.80	33.32	41.55	23.73	38.11	10.26	10.13	53.57	21.77	21.53
Movement LOS	D	D	D	C	D	C	D	B	B	D	C	C
d_A, Approach Delay [s/veh]	42.60			30.88			24.09			24.31		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	29.33											
Intersection LOS	C											
Intersection V/C	0.734											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	39.61	39.61	39.61	39.61
l_p,int, Pedestrian LOS Score for Intersection	2.522	2.778	3.030	2.599
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	560	560	880	560
d_b, Bicycle Delay [s]	25.92	25.92	15.68	25.92
l_b,int, Bicycle LOS Score for Intersection	2.105	2.268	2.682	2.046
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	27.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.399

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	133	134	78	54	149	148	140	309	123	50	378	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	133	134	78	54	149	148	140	309	123	50	378	57
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	35	21	14	39	39	37	81	32	13	99	15
Total Analysis Volume [veh/h]	140	141	82	57	157	156	147	325	129	53	398	60
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	29	0	10	29	0	19	40	0	11	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	11	11	5	10	10	9	54	54	4	49	49
g / C, Green / Cycle	0.07	0.12	0.12	0.05	0.11	0.11	0.10	0.60	0.60	0.05	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.04	0.07	0.04	0.03	0.08	0.08	0.08	0.12	0.11	0.03	0.12	0.12
s, saturation flow rate [veh/h]	3400	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	223	236	236	93	210	210	186	1133	1133	90	1031	1031
d1, Uniform Delay [s]	41.05	37.34	36.13	41.85	38.87	38.85	39.45	8.40	8.30	41.92	10.75	10.70
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.88	2.40	0.87	6.27	5.21	5.09	7.22	0.42	0.38	5.97	0.51	0.49
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.63	0.60	0.35	0.61	0.75	0.74	0.79	0.21	0.19	0.59	0.23	0.22
d, Delay for Lane Group [s/veh]	43.93	39.74	37.00	48.13	44.08	43.94	46.67	8.82	8.68	47.90	11.26	11.18
Lane Group LOS	D	D	D	D	D	D	D	A	A	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	1.59	3.06	1.69	1.39	3.62	3.59	3.51	2.08	1.88	1.29	2.41	2.32
50th-Percentile Queue Length [ft]	39.67	76.42	42.21	34.77	90.53	89.78	87.63	51.90	47.06	32.27	60.31	57.89
95th-Percentile Queue Length [veh]	2.86	5.50	3.04	2.50	6.52	6.46	6.31	3.74	3.39	2.32	4.34	4.17
95th-Percentile Queue Length [ft]	71.40	137.55	75.98	62.58	162.96	161.61	157.73	93.42	84.71	58.09	108.56	104.20

Movement, Approach, & Intersection Results

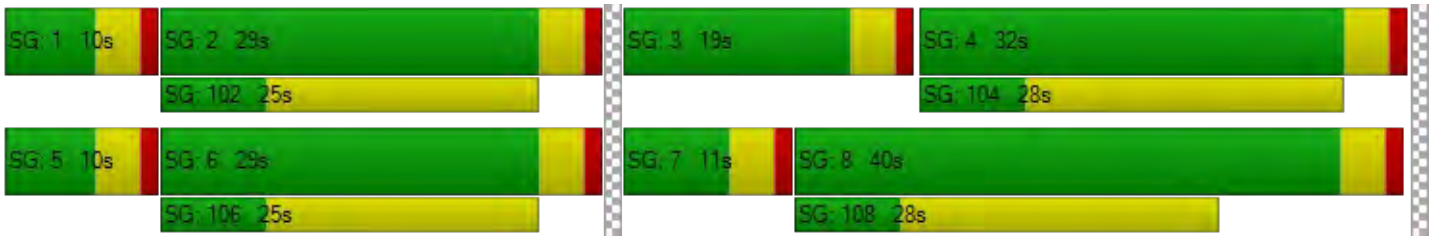
d_M, Delay for Movement [s/veh]	43.93	39.74	37.00	48.13	44.08	43.94	46.67	8.78	8.68	47.90	11.23	11.18
Movement LOS	D	D	D	D	D	D	D	A	A	D	B	B
d_A, Approach Delay [s/veh]	40.74			44.65			18.03			15.03		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	27.00											
Intersection LOS	C											
Intersection V/C	0.399											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.566	2.306	2.552	2.489
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	800	622
d_b, Bicycle Delay [s]	23.47	23.47	16.20	21.36
l_b,int, Bicycle LOS Score for Intersection	2.159	1.865	2.055	1.981
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	30.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.587

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	203	384	34	78	336	123	162	296	286	62	387	94
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	203	384	34	78	336	123	162	296	286	62	387	94
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	101	9	21	88	32	43	78	75	16	102	25
Total Analysis Volume [veh/h]	214	404	36	82	354	129	171	312	301	65	407	99
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	35	0	16	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	22	22	5	15	15	11	42	42	5	36	36
g / C, Green / Cycle	0.14	0.24	0.24	0.06	0.16	0.16	0.12	0.47	0.47	0.05	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.12	0.12	0.11	0.05	0.13	0.12	0.10	0.16	0.16	0.04	0.14	0.13
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	255	463	463	109	309	309	211	881	881	98	763	763
d1, Uniform Delay [s]	37.73	29.22	29.12	41.70	36.42	36.01	38.85	15.51	15.40	41.81	18.71	18.55
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.33	0.78	0.74	10.03	5.11	3.67	7.34	1.11	1.06	7.37	1.22	1.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.48	0.47	0.75	0.81	0.75	0.81	0.35	0.34	0.66	0.34	0.32
d, Delay for Lane Group [s/veh]	45.05	30.00	29.86	51.73	41.53	39.68	46.19	16.62	16.45	49.18	19.93	19.67
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	5.04	4.15	4.03	2.08	5.67	5.10	4.06	4.19	4.01	1.60	3.90	3.64
50th-Percentile Queue Length [ft]	125.99	103.82	100.79	51.92	141.64	127.42	101.53	104.77	100.31	40.08	97.38	91.04
95th-Percentile Queue Length [veh]	8.72	7.48	7.26	3.74	9.57	8.80	7.31	7.54	7.22	2.89	7.01	6.55
95th-Percentile Queue Length [ft]	218.03	186.88	181.43	93.45	239.22	219.98	182.76	188.59	180.55	72.14	175.28	163.87

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.05	29.94	29.86	51.73	40.99	39.68	46.19	16.62	16.45	49.18	19.84	19.67
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	34.88			42.25			23.01			23.15		
Approach LOS	C			D			C			C		
d_I, Intersection Delay [s/veh]	30.28											
Intersection LOS	C											
Intersection V/C	0.587											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.567	2.541	2.598	2.495
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	556	556	556
d_b, Bicycle Delay [s]	19.34	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.099	2.026	2.206	2.031
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.219

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	81	9	9	0	36	2	7	10	114	17	9	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	9	9	0	36	2	7	10	114	17	9	0
Peak Hour Factor	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	3	3	0	13	1	3	4	41	6	3	0
Total Analysis Volume [veh/h]	116	13	13	0	52	3	10	14	163	24	13	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	646	815	691	798	642	807	628	688
Degree of Utilization, x	0.20	0.02	0.08	0.00	0.02	0.22	0.04	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.74	0.05	0.24	0.01	0.05	0.83	0.12	0.06
95th-Percentile Queue Length [ft]	18.49	1.22	6.09	0.28	1.19	20.87	2.98	1.44
Approach Delay [s/veh]	9.43		8.28		8.41		8.45	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.74							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	234	0	0	0	0	0	205	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	234	0	0	0	0	0	205	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	78	0	0	0	0	0	68	0
Total Analysis Volume [veh/h]	0	0	0	0	311	0	0	0	0	0	272	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	67.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			16.00			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	8.53											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.530

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	182	305	318	18	345	0	34	4	35	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	182	305	318	18	345	0	34	4	35	0	0	0
Peak Hour Factor	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	87	91	5	99	0	10	1	10	0	0	0
Total Analysis Volume [veh/h]	208	349	364	21	395	0	39	5	40	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	580	627	696	578	582	449	522	
Degree of Utilization, x	0.53	0.49	0.44	0.36	0.36	0.10	0.08	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.10	2.70	2.26	1.63	1.61	0.32	0.25	
95th-Percentile Queue Length [ft]	77.48	67.43	56.52	40.80	40.32	8.11	6.20	
Approach Delay [s/veh]	13.80			12.35		10.92		0.00
Approach LOS	B			B		B		A
Intersection Delay [s/veh]	13.21							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.710

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	806	385	0	0	526
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	806	385	0	0	526
Peak Hour Factor	0.9500	0.9270	0.9270	0.9500	0.9500	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	217	104	0	0	142
Total Analysis Volume [veh/h]	0	869	415	0	0	567
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.71
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.97
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	1.61
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	40.27
d_A, Approach Delay [s/veh]	0.00		0.00		11.97	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.67					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	19.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.708

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	312	918	910	0	0	323
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	312	918	910	0	0	323
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	82	242	239	0	0	85
Total Analysis Volume [veh/h]	328	966	958	0	0	340
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	41	59	18	0	0	31
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	64	41	18
g / C, Green / Cycle	0.21	0.71	0.46	0.20
(v / s)_i Volume / Saturation Flow Rate	0.18	0.25	0.25	0.18
s, saturation flow rate [veh/h]	1800	3800	3800	1900
c, Capacity [veh/h]	373	2688	1731	387
d1, Uniform Delay [s]	34.59	5.17	17.85	34.76
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.71	0.38	1.28	6.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.36	0.55	0.88
d, Delay for Lane Group [s/veh]	41.30	5.55	19.13	41.37
Lane Group LOS	D	A	B	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	7.49	3.01	7.18	7.76
50th-Percentile Queue Length [ft]	187.26	75.23	179.39	194.10
95th-Percentile Queue Length [veh]	11.98	5.42	11.57	12.33
95th-Percentile Queue Length [ft]	299.48	135.41	289.22	308.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.30	5.55	19.13	0.00	0.00	41.37
Movement LOS	D	A	B			D
d_A, Approach Delay [s/veh]	14.61		19.13		41.37	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	19.79					
Intersection LOS	B					
Intersection V/C	0.708					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.805	2.600	2.040
Crosswalk LOS	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.200	4.923	4.132
Bicycle LOS	F	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	4.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.442

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	1167	40	20	1119	50	13
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1167	40	20	1119	50	13
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	307	11	5	294	13	3
Total Analysis Volume [veh/h]	1228	42	21	1178	53	14
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	51	0	10	61	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	71	71	3	77	5
g / C, Green / Cycle	0.78	0.78	0.03	0.86	0.05
(v / s)_i Volume / Saturation Flow Rate	0.33	0.33	0.01	0.31	0.04
s, saturation flow rate [veh/h]	1900	1900	1800	3800	1800
c, Capacity [veh/h]	1488	1488	51	3252	100
d1, Uniform Delay [s]	3.19	3.19	43.00	1.36	41.73
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.90	0.90	5.16	0.31	7.64
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.43	0.43	0.41	0.36	0.67
d, Delay for Lane Group [s/veh]	4.08	4.08	48.16	1.67	49.37
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	2.77	2.77	0.53	0.75	1.66
50th-Percentile Queue Length [ft]	69.25	69.25	13.22	18.64	41.39
95th-Percentile Queue Length [veh]	4.99	4.99	0.95	1.34	2.98
95th-Percentile Queue Length [ft]	124.65	124.65	23.79	33.55	74.50

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.08	4.08	48.16	1.67	49.37	49.37
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	4.08		2.48		49.37	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.52					
Intersection LOS	A					
Intersection V/C	0.442					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.740	2.775	1.778
Crosswalk LOS	B	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.180	5.122	4.243
Bicycle LOS	F	F	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	27.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.225

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1147	1	3	1182	46	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1147	1	3	1182	46	41
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	302	0	1	311	12	11
Total Analysis Volume [veh/h]	1207	1	3	1244	48	43
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.23	0.10
d_M, Delay for Movement [s/veh]	0.00	0.00	11.31	0.00	27.88	19.13
Movement LOS	A	A	B	A	D	C
95th-Percentile Queue Length [veh]	0.00	0.00	18.75	9.37	1.35	1.35
95th-Percentile Queue Length [ft]	0.00	0.00	468.65	234.32	33.84	33.84
d_A, Approach Delay [s/veh]	0.00		0.03		23.74	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.86					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	32.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.722

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	163	537	79	141	342	92	163	622	204	168	554	161
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	537	79	141	342	92	163	622	204	168	554	161
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	141	21	37	90	24	43	164	54	44	146	42
Total Analysis Volume [veh/h]	172	565	83	148	360	97	172	655	215	177	583	169
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	33	0	13	31	0	15	29	0	15	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	18	18	9	17	17	11	36	36	11	36	36
g / C, Green / Cycle	0.12	0.21	0.21	0.10	0.19	0.19	0.12	0.40	0.40	0.12	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.10	0.17	0.17	0.08	0.12	0.12	0.10	0.24	0.22	0.10	0.21	0.19
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	208	391	391	181	362	362	212	752	752	217	757	757
d1, Uniform Delay [s]	38.98	34.45	34.14	39.73	33.72	33.42	38.81	21.65	21.09	38.67	20.54	20.15
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.03	5.13	4.07	8.64	1.98	1.67	7.29	3.58	2.93	7.27	2.51	2.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.85	0.81	0.82	0.65	0.61	0.81	0.60	0.55	0.82	0.52	0.48
d, Delay for Lane Group [s/veh]	47.02	39.58	38.21	48.37	35.69	35.09	46.10	25.23	24.02	45.94	23.05	22.29
Lane Group LOS	D	D	D	D	D	D	D	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.13	7.38	6.91	3.60	4.88	4.52	4.08	8.03	7.12	4.19	6.50	5.87
50th-Percentile Queue Length [ft]	103.19	184.41	172.69	90.01	121.91	112.90	102.03	200.83	178.04	104.85	162.61	146.67
95th-Percentile Queue Length [veh]	7.43	11.83	11.22	6.48	8.50	8.00	7.35	12.68	11.50	7.55	10.69	9.84
95th-Percentile Queue Length [ft]	185.74	295.76	280.44	162.02	212.45	200.03	183.66	317.04	287.45	188.73	267.18	245.98

Movement, Approach, & Intersection Results

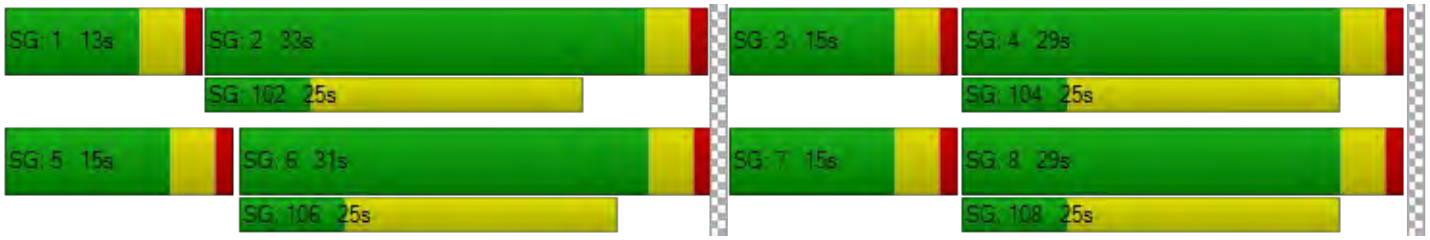
d_M, Delay for Movement [s/veh]	47.02	39.01	38.21	48.37	35.48	35.09	46.10	24.86	24.02	45.94	22.80	22.29
Movement LOS	D	D	D	D	D	D	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	40.61			38.57			28.19			27.12		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	32.75											
Intersection LOS	C											
Intersection V/C	0.722											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.606	2.594	2.669	2.653
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	600	556	556
d_b, Bicycle Delay [s]	20.67	22.05	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.236	2.059	2.419	2.326
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	19.3
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.630

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1077	202	0	867	691	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1077	202	0	867	691	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	283	53	0	228	182	0
Total Analysis Volume [veh/h]	1134	213	0	913	727	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	35	35	47	47
g / C, Green / Cycle	0.38	0.38	0.53	0.53
(v / s)_i Volume / Saturation Flow Rate	0.33	0.11	0.24	0.19
s, saturation flow rate [veh/h]	3400	1900	3800	3800
c, Capacity [veh/h]	1303	728	2005	2005
d1, Uniform Delay [s]	25.63	19.24	13.19	12.39
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.94	0.22	0.75	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.29	0.46	0.36
d, Delay for Lane Group [s/veh]	27.57	19.46	13.94	12.90
Lane Group LOS	C	B	B	B
Critical Lane Group	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	10.99	3.04	5.57	4.15
50th-Percentile Queue Length [ft]	274.73	76.11	139.28	103.84
95th-Percentile Queue Length [veh]	16.43	5.48	9.44	7.48
95th-Percentile Queue Length [ft]	410.65	137.00	236.05	186.92

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.57	19.46	0.00	13.94	12.90	0.00
Movement LOS	C	B		B	B	
d_A, Approach Delay [s/veh]	26.29		13.94		12.90	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	19.25					
Intersection LOS	B					
Intersection V/C	0.630					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.377	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.886	4.732
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	56.4
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.003

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	308	120	92	103	269	303	202	1290	439	281	1643	236
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	308	120	92	103	269	303	202	1290	439	281	1643	236
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	81	32	24	27	71	80	53	339	116	74	432	62
Total Analysis Volume [veh/h]	324	126	97	108	283	319	213	1358	462	296	1729	248
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	25	35	0	29	39	0	10	45	0	11	46	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	21	35	35	9	23	23	10	41	41	19	50	50
g / C, Green / Cycle	0.18	0.29	0.29	0.08	0.19	0.19	0.08	0.34	0.34	0.16	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.18	0.07	0.05	0.06	0.15	0.17	0.06	0.36	0.24	0.16	0.35	0.35
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	3400	3800	1900	1800	3800	1900
c, Capacity [veh/h]	315	553	553	135	364	364	276	1303	652	283	1593	796
d1, Uniform Delay [s]	49.50	32.28	31.76	54.60	46.10	47.15	54.05	39.43	34.23	50.57	30.97	31.05
k, delay calibration	0.25	0.11	0.11	0.11	0.11	0.14	0.11	0.50	0.50	0.20	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	42.93	0.21	0.15	10.22	3.62	8.75	4.57	36.59	6.41	46.28	5.05	9.79
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.03	0.23	0.18	0.80	0.78	0.88	0.77	1.04	0.71	1.05	0.83	0.83
d, Delay for Lane Group [s/veh]	92.43	32.49	31.91	64.82	49.73	55.90	58.63	76.01	40.64	96.85	36.02	40.84
Lane Group LOS	F	C	C	E	D	E	E	F	D	F	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	13.16	2.83	2.14	3.60	8.37	10.11	3.33	25.50	12.78	12.10	17.70	18.87
50th-Percentile Queue Length [ft]	329.00	70.77	53.58	89.88	209.27	252.81	83.20	637.60	319.55	302.54	442.55	471.67
95th-Percentile Queue Length [veh]	19.38	5.10	3.86	6.47	13.12	15.33	5.99	34.76	18.65	18.19	24.60	25.99
95th-Percentile Queue Length [ft]	484.61	127.39	96.44	161.78	327.90	383.19	149.76	869.01	466.13	454.84	615.06	649.75

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	92.43	32.49	31.91	64.82	49.73	55.90	58.63	76.01	40.64	96.85	37.17	40.84
Movement LOS	F	C	C	E	D	E	E	F	D	F	D	D
d_A, Approach Delay [s/veh]	67.89			54.80			66.15			45.35		
Approach LOS	E			D			E			D		
d_I, Intersection Delay [s/veh]	56.37											
Intersection LOS	E											
Intersection V/C	1.003											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.567	3.276	3.090
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	517	583	683	700
d_b, Bicycle Delay [s]	33.00	30.10	26.00	25.35
l_b,int, Bicycle LOS Score for Intersection	2.462	2.145	3.237	2.810
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	15.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.511

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	495	102	514	417	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	495	102	514	417	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	130	27	135	110	0	0
Total Analysis Volume [veh/h]	521	107	541	439	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	19	0	71	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	53	53	29	86	
g / C, Green / Cycle	0.58	0.58	0.33	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.17	0.17	0.30	0.12	
s, saturation flow rate [veh/h]	1900	1900	1800	3800	
c, Capacity [veh/h]	1110	1110	588	3631	
d1, Uniform Delay [s]	9.32	9.32	29.13	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.64	0.64	6.40	0.07	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.28	0.28	0.92	0.12	
d, Delay for Lane Group [s/veh]	9.96	9.96	35.53	0.17	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	3.02	3.02	11.82	0.03	
50th-Percentile Queue Length [ft]	75.58	75.58	295.59	0.86	
95th-Percentile Queue Length [veh]	5.44	5.44	17.46	0.06	
95th-Percentile Queue Length [ft]	136.05	136.05	436.58	1.55	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	9.96	9.96	35.53	0.17	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	9.96		19.69		0.00	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	15.89					
Intersection LOS	B					
Intersection V/C	0.511					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.055	
Crosswalk LOS	F	F	B	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0	
d_b, Bicycle Delay [s]	45.00	45.00	45.00	
l_b,int, Bicycle LOS Score for Intersection	4.651	4.941	4.132	
Bicycle LOS	E	E	D	

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	19.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.718

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	340	3	192	10	0	29	26	1497	0	0	1747	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	340	3	192	10	0	29	26	1497	0	0	1747	21
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	1	51	3	0	8	7	394	0	0	460	6
Total Analysis Volume [veh/h]	358	3	202	11	0	31	27	1576	0	0	1839	22
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	67	0	10	0	0	10	28	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	4	3	74	67	67
g / C, Green / Cycle	0.14	0.14	0.04	0.03	0.71	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.02	0.02	0.41	0.49	0.49
s, saturation flow rate [veh/h]	3400	1900	1800	1800	3800	1900	1900
c, Capacity [veh/h]	474	265	74	57	2681	1208	1208
d1, Uniform Delay [s]	43.50	43.62	49.48	50.00	7.78	13.65	13.65
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.49	4.82	6.78	5.96	0.95	4.77	4.77
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.77	0.57	0.47	0.59	0.77	0.77
d, Delay for Lane Group [s/veh]	45.99	48.45	56.25	55.96	8.73	18.43	18.43
Lane Group LOS	D	D	E	E	A	B	B
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	4.61	5.46	1.22	0.79	8.02	15.68	15.68
50th-Percentile Queue Length [ft]	115.29	136.59	30.46	19.75	200.49	392.06	392.06
95th-Percentile Queue Length [veh]	8.13	9.30	2.19	1.42	12.66	22.18	22.18
95th-Percentile Queue Length [ft]	203.34	232.42	54.82	35.55	316.60	554.43	554.43

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.99	48.45	48.45	56.25	0.00	56.25	55.96	8.73	0.00	0.00	18.43	18.43
Movement LOS	D	D	D	E		E	E	A			B	B
d_A, Approach Delay [s/veh]	46.88			56.25			9.53			18.43		
Approach LOS	D			E			A			B		
d_I, Intersection Delay [s/veh]	19.25											
Intersection LOS	B											
Intersection V/C	0.718											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	42.08	42.08	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.130	1.768	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1200	0	457	267
d_b, Bicycle Delay [s]	8.40	52.50	31.24	39.43
l_b,int, Bicycle LOS Score for Intersection	2.489	4.202	2.882	3.095
Bicycle LOS	B	D	C	C

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	38.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.967

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	264	238	78	247	169	832	715	656	175	105	768	210
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	264	238	78	247	169	832	715	656	175	105	768	210
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	63	21	65	44	219	188	173	46	28	202	55
Total Analysis Volume [veh/h]	278	251	82	260	178	876	753	691	184	111	808	221
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	39	0	10	39	39	30	57	0	14	41	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	26	26	36	26	63	33	63	63	9	39	39
g / C, Green / Cycle	0.30	0.22	0.22	0.30	0.22	0.52	0.27	0.52	0.52	0.08	0.32	0.32
(v / s)_i Volume / Saturation Flow Rate	0.15	0.09	0.08	0.14	0.05	0.46	0.22	0.23	0.23	0.06	0.28	0.26
s, saturation flow rate [veh/h]	1800	1900	1900	1800	3800	1900	3400	1900	1900	1800	1900	1900
c, Capacity [veh/h]	567	416	416	496	833	997	926	990	990	138	618	618
d1, Uniform Delay [s]	34.52	40.25	39.97	34.11	38.39	25.16	40.83	18.01	17.79	54.53	37.99	36.97
k, delay calibration	0.11	0.11	0.11	0.14	0.11	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.67	0.66	0.58	1.12	0.13	10.91	1.80	1.49	1.38	10.43	14.83	10.56
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.41	0.39	0.52	0.21	0.88	0.81	0.45	0.43	0.81	0.86	0.80
d, Delay for Lane Group [s/veh]	35.18	40.92	40.55	35.23	38.52	36.07	42.62	19.49	19.17	64.96	52.82	47.52
Lane Group LOS	D	D	D	D	D	D	D	B	B	E	D	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.80	4.48	4.12	6.35	2.18	24.07	10.56	8.04	7.62	3.70	17.09	14.96
50th-Percentile Queue Length [ft]	170.09	111.91	103.01	158.66	54.42	601.85	264.00	200.96	190.45	92.49	427.37	374.11
95th-Percentile Queue Length [veh]	11.08	7.95	7.42	10.48	3.92	32.12	15.89	12.69	12.14	6.66	23.88	21.31
95th-Percentile Queue Length [ft]	277.03	198.65	185.42	261.94	97.96	803.02	397.24	317.20	303.61	166.48	596.88	532.71

Movement, Approach, & Intersection Results

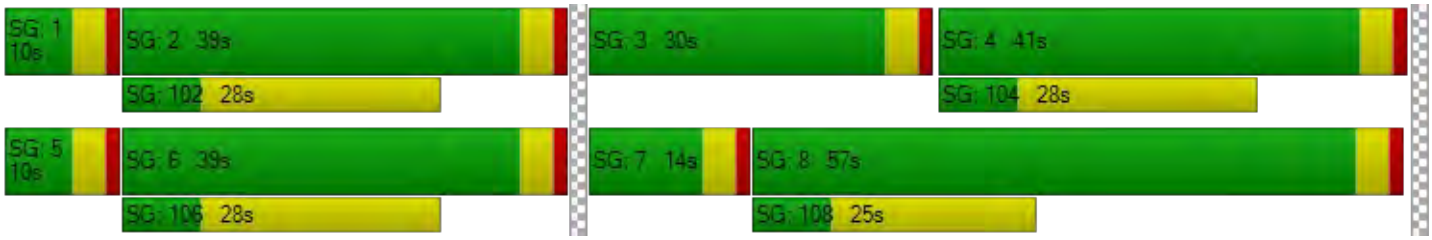
d_M, Delay for Movement [s/veh]	35.18	40.80	40.55	35.23	38.52	36.07	42.62	19.38	19.17	64.96	51.02	47.52
Movement LOS	D	D	D	D	D	D	D	B	B	E	D	D
d_A, Approach Delay [s/veh]	38.21			36.24			30.11			51.70		
Approach LOS	D			D			C			D		
d_I, Intersection Delay [s/veh]	38.12											
Intersection LOS	D											
Intersection V/C	0.967											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.525	2.879	3.232	2.893
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	583	583	883	617
d_b, Bicycle Delay [s]	30.10	30.10	18.70	28.70
l_b,int, Bicycle LOS Score for Intersection	2.064	2.644	2.903	2.500
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	23.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.587

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	244	87	185	47	59	67	72	783	196	124	579	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	244	87	185	47	59	67	72	783	196	124	579	43
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	64	23	49	12	16	18	19	206	52	33	152	11
Total Analysis Volume [veh/h]	257	92	195	49	62	71	76	824	206	131	609	45
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	19	35	0	13	29	0	10	32	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	12	12	4	7	7	5	50	50	8	53	53
g / C, Green / Cycle	0.10	0.13	0.13	0.05	0.08	0.08	0.06	0.55	0.55	0.09	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.08	0.05	0.10	0.03	0.03	0.04	0.04	0.28	0.26	0.07	0.17	0.17
s, saturation flow rate [veh/h]	3400	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	344	248	248	87	148	148	104	1045	1045	168	1113	1113
d1, Uniform Delay [s]	39.41	35.81	37.98	41.97	39.63	39.82	41.80	12.69	12.37	39.95	9.37	9.32
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.26	0.92	5.44	5.57	1.88	2.39	9.45	1.78	1.55	7.50	0.68	0.66
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.37	0.79	0.56	0.42	0.48	0.73	0.51	0.48	0.78	0.30	0.29
d, Delay for Lane Group [s/veh]	42.67	36.73	43.42	47.54	41.51	42.22	51.25	14.47	13.92	47.45	10.05	9.98
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	B	A
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.88	1.89	4.48	1.19	1.37	1.59	1.92	6.69	6.07	3.15	3.19	3.10
50th-Percentile Queue Length [ft]	72.09	47.23	111.98	29.75	34.31	39.72	47.90	167.33	151.70	78.75	79.81	77.56
95th-Percentile Queue Length [veh]	5.19	3.40	7.95	2.14	2.47	2.86	3.45	10.94	10.11	5.67	5.75	5.58
95th-Percentile Queue Length [ft]	129.76	85.02	198.75	53.55	61.75	71.50	86.22	273.40	252.69	141.74	143.66	139.62

Movement, Approach, & Intersection Results

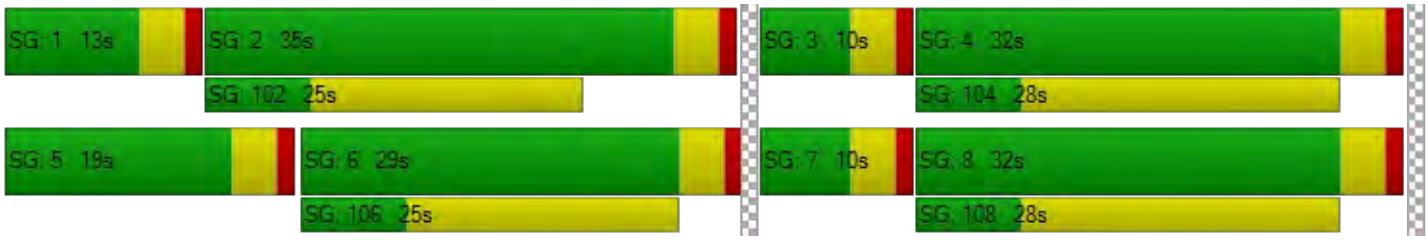
d_M, Delay for Movement [s/veh]	42.67	36.73	43.42	47.54	41.51	42.22	51.25	14.28	13.92	47.45	10.02	9.98
Movement LOS	D	D	D	D	D	D	D	B	B	D	B	A
d_A, Approach Delay [s/veh]	41.93			43.41			16.75			16.26		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	23.69											
Intersection LOS	C											
Intersection V/C	0.587											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.606	2.227	2.698	2.661
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	556	622	622
d_b, Bicycle Delay [s]	19.34	23.47	21.36	21.36
l_b,int, Bicycle LOS Score for Intersection	2.457	1.710	2.472	2.207
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	29.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.548

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	186	430	56	73	365	97	99	374	234	53	249	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	186	430	56	73	365	97	99	374	234	53	249	78
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	113	15	19	96	26	26	98	62	14	66	21
Total Analysis Volume [veh/h]	196	453	59	77	384	102	104	394	246	56	262	82
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	29	0	22	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	21	21	5	15	15	7	43	43	5	41	41
g / C, Green / Cycle	0.13	0.24	0.24	0.06	0.16	0.16	0.08	0.48	0.48	0.05	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.11	0.14	0.13	0.04	0.13	0.12	0.06	0.18	0.16	0.03	0.09	0.09
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	236	448	448	105	309	309	136	907	907	92	861	861
d1, Uniform Delay [s]	38.18	30.54	30.36	41.78	36.42	36.10	40.87	15.00	14.62	41.88	14.88	14.80
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.30	1.20	1.10	9.54	5.10	3.91	8.45	1.19	0.98	6.25	0.54	0.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.58	0.56	0.74	0.81	0.76	0.76	0.38	0.33	0.61	0.21	0.19
d, Delay for Lane Group [s/veh]	45.48	31.74	31.46	51.32	41.52	40.01	49.32	16.19	15.59	48.13	15.42	15.30
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.63	5.06	4.84	1.94	5.65	5.20	2.56	4.51	3.86	1.37	2.23	2.10
50th-Percentile Queue Length [ft]	115.74	126.62	121.07	48.57	141.34	130.00	63.91	112.82	96.42	34.17	55.69	52.40
95th-Percentile Queue Length [veh]	8.16	8.76	8.45	3.50	9.55	8.94	4.60	8.00	6.94	2.46	4.01	3.77
95th-Percentile Queue Length [ft]	203.96	218.89	211.30	87.42	238.83	223.49	115.03	199.91	173.55	61.50	100.24	94.32

Movement, Approach, & Intersection Results

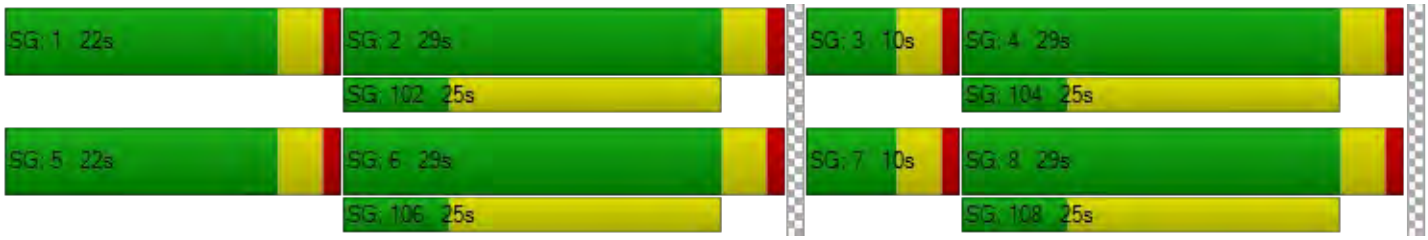
d_M, Delay for Movement [s/veh]	45.48	31.62	31.46	51.32	41.00	40.01	49.32	16.11	15.59	48.13	15.38	15.30
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	35.44			42.23			20.58			19.95		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	29.88											
Intersection LOS	C											
Intersection V/C	0.548											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.571	2.534	2.554	2.481
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	556	556
d_b, Bicycle Delay [s]	23.47	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.144	2.024	2.173	1.890
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	155	11	2	2	22	5	4	4	120	5	3	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	155	11	2	2	22	5	4	4	120	5	3	1
Peak Hour Factor	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	4	1	1	8	2	1	1	44	2	1	0
Total Analysis Volume [veh/h]	227	16	3	3	32	7	6	6	176	7	4	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	651	825	674	785	614	770	595	666
Degree of Utilization, x	0.37	0.00	0.05	0.01	0.01	0.24	0.01	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.73	0.01	0.16	0.03	0.03	0.92	0.04	0.02
95th-Percentile Queue Length [ft]	43.25	0.27	4.10	0.68	0.74	22.94	0.89	0.57
Approach Delay [s/veh]	11.44		8.16		8.81		8.54	
Approach LOS	B		A		A		A	
Intersection Delay [s/veh]	10.08							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	17.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.469

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	196	0	0	0	0	0	301	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	196	0	0	0	0	0	301	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	64	0	0	0	0	0	98	0
Total Analysis Volume [veh/h]	0	0	0	0	255	0	0	0	0	0	392	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	17.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	61.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			17.33			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	6.83											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	24.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.853

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	320	547	443	31	379	0	31	7	42	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	547	443	31	379	0	31	7	42	0	0	0
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	87	148	120	8	103	0	8	2	11	0	0	0
Total Analysis Volume [veh/h]	347	593	480	34	411	0	34	8	46	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	555	589	665	515	521	398	451	
Degree of Utilization, x	0.85	0.80	0.71	0.43	0.43	0.11	0.10	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	9.15	7.91	5.93	2.15	2.12	0.37	0.32	
95th-Percentile Queue Length [ft]	228.87	197.71	148.31	53.86	52.95	9.24	8.07	
Approach Delay [s/veh]	28.42			14.79		12.21		0.00
Approach LOS	D			B		B		A
Intersection Delay [s/veh]	24.58							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.971

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	1309	416	0	0	692
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1309	416	0	0	692
Peak Hour Factor	0.9500	0.9180	0.9180	0.9500	0.9500	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	356	113	0	0	188
Total Analysis Volume [veh/h]	0	1426	453	0	0	754
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.97
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.93
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	2.69
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	67.17
d_A, Approach Delay [s/veh]	0.00		0.00		13.93	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.99					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	12.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.628

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	163	1425	1188	0	0	216
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	1425	1188	0	0	216
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	375	313	0	0	57
Total Analysis Volume [veh/h]	172	1500	1251	0	0	227
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	32	58	26	0	0	32
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	69	54	13
g / C, Green / Cycle	0.12	0.77	0.61	0.14
(v / s)_i Volume / Saturation Flow Rate	0.10	0.39	0.33	0.12
s, saturation flow rate [veh/h]	1800	3800	3800	1900
c, Capacity [veh/h]	213	2915	2297	274
d1, Uniform Delay [s]	38.72	4.04	10.50	37.45
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.17	0.65	0.93	6.35
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.81	0.51	0.54	0.83
d, Delay for Lane Group [s/veh]	45.88	4.69	11.43	43.80
Lane Group LOS	D	A	B	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	4.07	3.90	6.82	5.26
50th-Percentile Queue Length [ft]	101.75	97.57	170.46	131.47
95th-Percentile Queue Length [veh]	7.33	7.03	11.10	9.02
95th-Percentile Queue Length [ft]	183.15	175.63	277.51	225.49

Movement, Approach, & Intersection Results

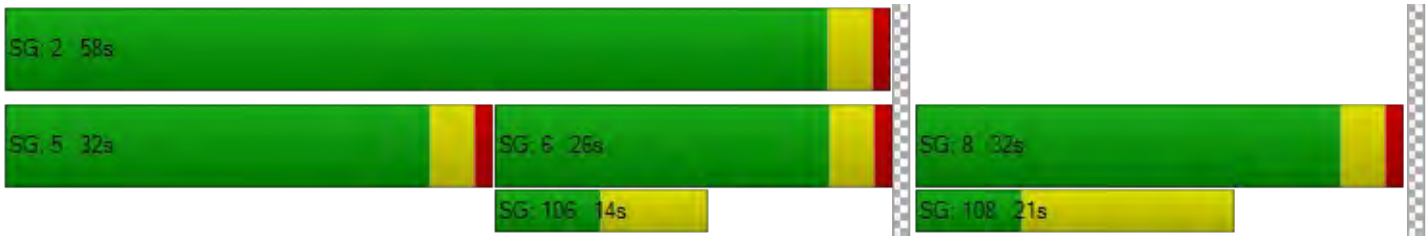
d_M, Delay for Movement [s/veh]	45.88	4.69	11.43	0.00	0.00	43.80
Movement LOS	D	A	B			D
d_A, Approach Delay [s/veh]	8.93		11.43		43.80	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	12.44					
Intersection LOS	B					
Intersection V/C	0.628					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.914	2.801	1.909
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.512	5.164	4.132
Bicycle LOS	F	F	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	4.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.533

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	1518	26	18	1317	26	14
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1518	26	18	1317	26	14
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	399	7	5	347	7	4
Total Analysis Volume [veh/h]	1598	27	19	1386	27	15
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	51	0	10	61	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	72	72	2	78	4
g / C, Green / Cycle	0.80	0.80	0.03	0.87	0.04
(v / s)_i Volume / Saturation Flow Rate	0.43	0.43	0.01	0.36	0.02
s, saturation flow rate [veh/h]	1900	1900	1800	3800	1800
c, Capacity [veh/h]	1512	1512	48	3293	80
d1, Uniform Delay [s]	3.28	3.28	43.13	1.26	42.08
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.37	1.37	5.31	0.40	5.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.54	0.54	0.40	0.42	0.52
d, Delay for Lane Group [s/veh]	4.66	4.66	48.44	1.66	47.30
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	3.69	3.69	0.48	0.66	1.02
50th-Percentile Queue Length [ft]	92.30	92.30	12.07	16.45	25.50
95th-Percentile Queue Length [veh]	6.65	6.65	0.87	1.18	1.84
95th-Percentile Queue Length [ft]	166.14	166.14	21.72	29.61	45.91

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.66	4.66	48.44	1.66	47.30	47.30
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	4.66		2.29		47.30	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.16					
Intersection LOS	A					
Intersection V/C	0.533					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.871	2.888	1.757
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.473	5.292	4.202
Bicycle LOS	F	F	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	32.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1545	0	0	1349	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1545	0	0	1349	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	407	0	0	355	0	0
Total Analysis Volume [veh/h]	1626	0	0	1420	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	14.09	0.00	32.17	16.20
Movement LOS	A	A	B	A	D	C
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		24.19	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	31.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.586

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	167	374	80	119	262	85	110	498	154	173	541	136
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	167	374	80	119	262	85	110	498	154	173	541	136
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	98	21	31	69	22	29	131	41	46	142	36
Total Analysis Volume [veh/h]	176	394	84	125	276	89	116	524	162	182	569	143
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	35	0	21	34	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	15	15	8	12	12	8	44	44	12	48	48
g / C, Green / Cycle	0.12	0.16	0.16	0.09	0.13	0.13	0.08	0.46	0.46	0.12	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.10	0.13	0.12	0.07	0.10	0.09	0.06	0.19	0.17	0.10	0.19	0.18
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	214	301	301	159	244	244	150	877	877	222	953	953
d1, Uniform Delay [s]	40.95	38.68	38.38	42.48	40.13	39.86	42.72	17.00	16.70	40.68	14.68	14.44
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.73	5.34	4.18	8.21	5.16	4.06	8.14	1.40	1.23	7.30	1.19	1.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.81	0.77	0.78	0.77	0.72	0.77	0.41	0.38	0.82	0.39	0.36
d, Delay for Lane Group [s/veh]	48.68	44.02	42.55	50.70	45.29	43.91	50.86	18.40	17.92	47.97	15.87	15.50
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.44	5.91	5.47	3.21	4.56	4.20	2.98	5.31	4.80	4.56	5.00	4.58
50th-Percentile Queue Length [ft]	110.98	147.63	136.82	80.30	114.11	104.94	74.62	132.75	120.03	113.90	125.03	114.47
95th-Percentile Queue Length [veh]	7.89	9.89	9.31	5.78	8.07	7.56	5.37	9.09	8.39	8.06	8.67	8.09
95th-Percentile Queue Length [ft]	197.36	247.27	232.74	144.53	201.70	188.89	134.31	227.22	209.86	201.41	216.73	202.21

Movement, Approach, & Intersection Results

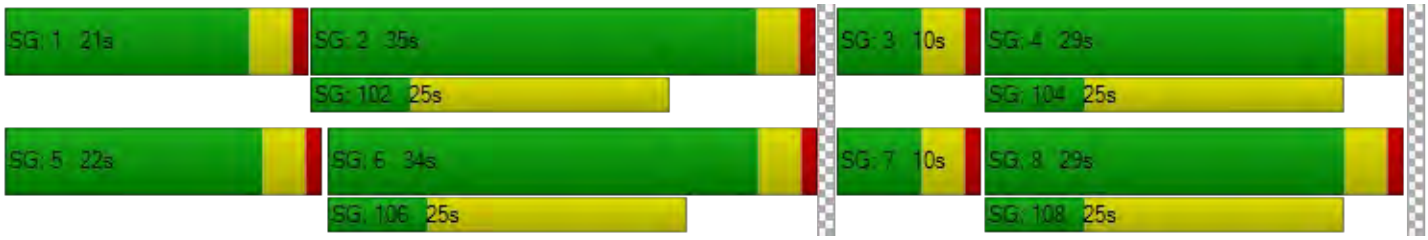
d_M, Delay for Movement [s/veh]	48.68	43.47	42.55	50.70	44.85	43.91	50.86	18.25	17.92	47.97	15.74	15.50
Movement LOS	D	D	D	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	44.75			46.17			22.90			22.26		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	31.75											
Intersection LOS	C											
Intersection V/C	0.586											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	2.551	2.525	2.621	2.619
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	653	632	526	526
d_b, Bicycle Delay [s]	21.56	22.24	25.79	25.79
l_b,int, Bicycle LOS Score for Intersection	2.099	1.964	2.221	2.297
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	20.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.677

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1344	175	0	697	723	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1344	175	0	697	723	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	354	46	0	183	190	0
Total Analysis Volume [veh/h]	1415	184	0	734	761	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	42	42	40	40
g / C, Green / Cycle	0.47	0.47	0.44	0.44
(v / s)_i Volume / Saturation Flow Rate	0.42	0.10	0.19	0.20
s, saturation flow rate [veh/h]	3400	1900	3800	3800
c, Capacity [veh/h]	1592	889	1683	1683
d1, Uniform Delay [s]	21.76	14.07	17.28	17.44
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.89	0.11	0.82	0.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.21	0.44	0.45
d, Delay for Lane Group [s/veh]	23.65	14.18	18.11	18.32
Lane Group LOS	C	B	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	13.00	2.14	5.22	5.46
50th-Percentile Queue Length [ft]	325.11	53.61	130.39	136.49
95th-Percentile Queue Length [veh]	18.92	3.86	8.96	9.29
95th-Percentile Queue Length [ft]	472.96	96.49	224.03	232.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.65	14.18	0.00	18.11	18.32	0.00
Movement LOS	C	B		B	B	
d_A, Approach Delay [s/veh]	22.56		18.11		18.32	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	20.46					
Intersection LOS	C					
Intersection V/C	0.677					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.459	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.738	4.760
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	74.0
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.074

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	257	83	83	120	209	294	210	1617	278	291	1662	251
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	257	83	83	120	209	294	210	1617	278	291	1662	251
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	22	22	32	55	77	55	426	73	77	437	66
Total Analysis Volume [veh/h]	271	87	87	126	220	309	221	1702	293	306	1749	264
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	19	35	0	23	39	0	10	47	0	15	52	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	27	27	10	22	22	10	45	45	22	57	57
g / C, Green / Cycle	0.13	0.22	0.22	0.09	0.19	0.19	0.08	0.37	0.37	0.18	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.15	0.05	0.05	0.07	0.12	0.16	0.07	0.45	0.15	0.17	0.35	0.35
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	3400	3800	1900	1800	3800	1900
c, Capacity [veh/h]	225	427	427	154	352	352	284	1416	708	331	1797	898
d1, Uniform Delay [s]	52.50	37.80	37.80	53.95	45.06	47.58	53.89	37.64	27.92	48.17	25.76	25.83
k, delay calibration	0.16	0.11	0.11	0.11	0.11	0.13	0.11	0.50	0.50	0.22	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	104.67	0.23	0.23	10.10	1.83	8.34	4.55	97.84	1.78	18.67	2.87	5.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.20	0.20	0.20	0.82	0.63	0.88	0.78	1.20	0.41	0.93	0.75	0.75
d, Delay for Lane Group [s/veh]	157.17	38.04	38.04	64.06	46.89	55.93	58.44	135.48	29.70	66.84	28.63	31.54
Lane Group LOS	F	D	D	E	D	E	E	F	C	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	13.31	2.12	2.12	4.17	6.22	9.78	3.45	39.62	6.60	10.68	15.91	16.74
50th-Percentile Queue Length [ft]	332.81	53.03	53.03	104.29	155.50	244.38	86.23	990.38	165.06	266.90	397.80	418.45
95th-Percentile Queue Length [veh]	20.81	3.82	3.82	7.51	10.31	14.90	6.21	56.35	10.82	16.03	22.45	23.45
95th-Percentile Queue Length [ft]	520.25	95.46	95.46	187.73	257.75	372.56	155.21	1408.80	270.41	400.86	561.35	586.19

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	157.17	38.04	38.04	64.06	46.89	55.93	58.44	135.48	29.70	66.84	29.31	31.54
Movement LOS	F	D	D	E	D	E	E	F	C	E	C	C
d_A, Approach Delay [s/veh]	110.59			54.46			113.81			34.52		
Approach LOS	F			D			F			C		
d_I, Intersection Delay [s/veh]	74.03											
Intersection LOS	E											
Intersection V/C	1.074											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.553	3.293	3.155
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	517	583	717	800
d_b, Bicycle Delay [s]	33.00	30.10	24.70	21.60
l_b,int, Bicycle LOS Score for Intersection	2.294	2.100	3.388	2.835
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	16.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.431

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	371	75	460	326	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	371	75	460	326	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	98	20	121	86	0	0
Total Analysis Volume [veh/h]	391	79	484	343	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	55	55	27	86	
g / C, Green / Cycle	0.62	0.62	0.30	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.12	0.12	0.27	0.09	
s, saturation flow rate [veh/h]	1900	1900	1800	3800	
c, Capacity [veh/h]	1171	1171	531	3631	
d1, Uniform Delay [s]	7.57	7.57	30.58	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.39	0.39	6.49	0.05	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.20	0.20	0.91	0.09	
d, Delay for Lane Group [s/veh]	7.95	7.95	37.06	0.15	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	1.93	1.93	10.71	0.03	
50th-Percentile Queue Length [ft]	48.16	48.16	267.74	0.65	
95th-Percentile Queue Length [veh]	3.47	3.47	16.08	0.05	
95th-Percentile Queue Length [ft]	86.68	86.68	401.92	1.17	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.95	7.95	37.06	0.15	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	7.95		21.75		0.00	
Approach LOS	A		C		A	
d_I, Intersection Delay [s/veh]	16.75					
Intersection LOS	B					
Intersection V/C	0.431					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.972
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.520	4.815	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	30.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.837

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	318	6	310	19	0	66	34	1721	0	0	1812	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	318	6	310	19	0	66	34	1721	0	0	1812	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	2	82	5	0	17	9	453	0	0	477	7
Total Analysis Volume [veh/h]	335	6	326	20	0	69	36	1812	0	0	1907	29
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	32	0	10	0	0	10	78	0	0	68	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	24	8	4	77	69	69
g / C, Green / Cycle	0.20	0.20	0.06	0.04	0.64	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.10	0.17	0.05	0.02	0.48	0.51	0.51
s, saturation flow rate [veh/h]	3400	1900	1800	1800	3800	1900	1900
c, Capacity [veh/h]	668	373	113	63	2434	1087	1087
d1, Uniform Delay [s]	42.99	46.96	55.46	57.02	14.82	22.40	22.40
k, delay calibration	0.11	0.23	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.58	13.91	11.28	7.79	2.11	11.01	11.01
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.50	0.89	0.79	0.57	0.74	0.89	0.89
d, Delay for Lane Group [s/veh]	43.57	60.87	66.74	64.82	16.93	33.41	33.41
Lane Group LOS	D	E	E	E	B	C	C
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	4.50	11.06	3.01	1.21	16.45	25.75	25.75
50th-Percentile Queue Length [ft]	112.42	276.55	75.28	30.32	411.18	643.74	643.74
95th-Percentile Queue Length [veh]	7.97	16.52	5.42	2.18	23.10	34.07	34.07
95th-Percentile Queue Length [ft]	199.37	412.91	135.50	54.58	577.46	851.79	851.79

Movement, Approach, & Intersection Results

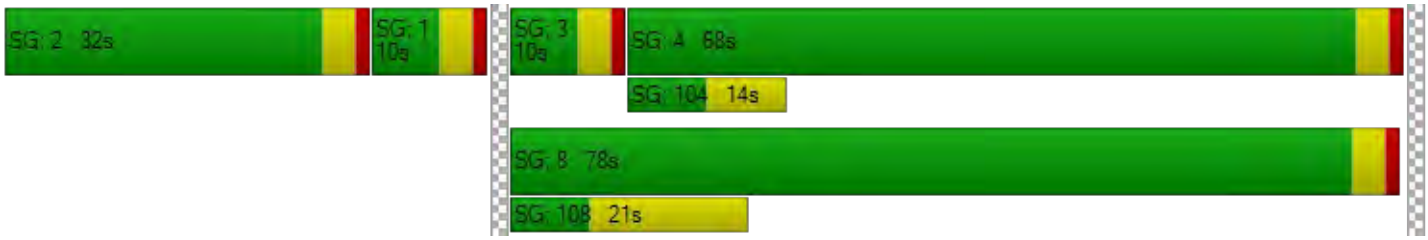
d_M, Delay for Movement [s/veh]	43.57	60.87	60.87	66.74	0.00	66.74	64.82	16.93	0.00	0.00	33.41	33.41
Movement LOS	D	E	E	E		E	E	B			C	C
d_A, Approach Delay [s/veh]	52.18			66.74			17.87			33.41		
Approach LOS	D			E			B			C		
d_I, Intersection Delay [s/veh]	30.49											
Intersection LOS	C											
Intersection V/C	0.837											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.171	1.807	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	467	0	1233	1067
d_b, Bicycle Delay [s]	35.27	60.00	8.82	13.07
l_b,int, Bicycle LOS Score for Intersection	2.660	4.279	3.084	3.157
Bicycle LOS	B	E	C	C

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	43.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.074

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	274	181	53	180	136	1005	1111	651	145	75	583	233
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	274	181	53	180	136	1005	1111	651	145	75	583	233
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	48	14	47	36	264	292	171	38	20	153	61
Total Analysis Volume [veh/h]	288	191	56	189	143	1058	1169	685	153	79	614	245
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	45	59	0	19	33	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	38	28	28	38	28	73	41	63	63	7	29	29
g / C, Green / Cycle	0.32	0.23	0.23	0.32	0.23	0.61	0.34	0.53	0.53	0.06	0.24	0.24
(v / s)_i Volume / Saturation Flow Rate	0.16	0.07	0.06	0.11	0.04	0.56	0.34	0.22	0.22	0.04	0.24	0.21
s, saturation flow rate [veh/h]	1800	1900	1900	1800	3800	1900	3400	1900	1900	1800	1900	1900
c, Capacity [veh/h]	604	443	443	559	885	1158	1166	1002	1002	101	457	457
d1, Uniform Delay [s]	33.38	37.83	37.67	31.33	36.68	20.65	39.42	17.19	17.19	55.90	45.38	44.07
k, delay calibration	0.19	0.11	0.11	0.11	0.11	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.01	0.35	0.32	0.36	0.08	12.46	12.76	1.28	1.28	12.16	38.99	22.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.29	0.27	0.34	0.16	0.91	1.00	0.42	0.42	0.78	0.99	0.89
d, Delay for Lane Group [s/veh]	34.39	38.19	37.99	31.69	36.76	33.12	52.17	18.48	18.48	68.06	84.37	66.43
Lane Group LOS	C	D	D	C	D	C	F	B	B	E	F	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.99	3.14	2.93	4.26	1.70	28.24	18.96	7.28	7.28	2.70	18.21	14.48
50th-Percentile Queue Length [ft]	174.79	78.53	73.33	106.43	42.38	705.94	474.11	181.94	181.94	67.58	455.27	362.07
95th-Percentile Queue Length [veh]	11.33	5.65	5.28	7.64	3.05	36.95	26.15	11.70	11.70	4.87	25.21	20.72
95th-Percentile Queue Length [ft]	283.21	141.36	132.00	191.03	76.29	923.81	653.63	292.55	292.55	121.64	630.23	518.10

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.39	38.12	37.99	31.69	36.76	33.12	52.17	18.48	18.48	68.06	79.61	66.43
Movement LOS	C	D	D	C	D	C	F	B	B	E	E	E
d_A, Approach Delay [s/veh]	36.10			33.30			38.10			75.20		
Approach LOS	D			C			D			E		
d_I, Intersection Delay [s/veh]	43.66											
Intersection LOS	D											
Intersection V/C	1.074											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.491	2.953	3.308	2.745
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	467	467	917	483
d_b, Bicycle Delay [s]	35.27	35.27	17.60	34.50
l_b,int, Bicycle LOS Score for Intersection	2.001	2.706	3.215	2.333
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	21.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.457

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	228	66	124	31	59	37	41	559	152	127	603	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	228	66	124	31	59	37	41	559	152	127	603	41
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	60	17	33	8	16	10	11	147	40	33	159	11
Total Analysis Volume [veh/h]	240	69	131	33	62	39	43	588	160	134	635	43
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	31	0	11	29	0	10	32	0	16	38	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	10	10	3	6	6	4	52	52	9	56	56
g / C, Green / Cycle	0.09	0.12	0.12	0.04	0.06	0.06	0.04	0.57	0.57	0.10	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.07	0.04	0.07	0.02	0.03	0.03	0.02	0.20	0.19	0.07	0.18	0.18
s, saturation flow rate [veh/h]	3400	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	316	221	221	70	119	119	81	1086	1086	172	1182	1182
d1, Uniform Delay [s]	39.93	36.54	37.82	42.43	40.74	40.70	42.12	10.39	10.20	39.85	7.85	7.81
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.78	0.80	2.53	4.87	2.49	2.34	5.28	0.92	0.82	7.39	0.62	0.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.31	0.59	0.47	0.43	0.42	0.53	0.36	0.33	0.78	0.29	0.28
d, Delay for Lane Group [s/veh]	43.71	37.33	40.34	47.30	43.23	43.05	47.40	11.30	11.02	47.24	8.47	8.41
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	A	A
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.73	1.43	2.86	0.81	1.17	1.13	1.05	4.07	3.72	3.21	2.93	2.86
50th-Percentile Queue Length [ft]	68.16	35.66	71.55	20.17	29.23	28.16	26.13	101.84	92.88	80.36	73.35	71.42
95th-Percentile Queue Length [veh]	4.91	2.57	5.15	1.45	2.10	2.03	1.88	7.33	6.69	5.79	5.28	5.14
95th-Percentile Queue Length [ft]	122.69	64.19	128.79	36.30	52.62	50.68	47.03	183.32	167.19	144.65	132.04	128.55

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.71	37.33	40.34	47.30	43.20	43.05	47.40	11.21	11.02	47.24	8.44	8.41
Movement LOS	D	D	D	D	D	D	D	B	B	D	A	A
d_A, Approach Delay [s/veh]	41.71			44.16			13.14			14.84		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	21.46											
Intersection LOS	C											
Intersection V/C	0.457											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.582	2.201	2.632	2.604
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	556	622	756
d_b, Bicycle Delay [s]	22.05	23.47	21.36	17.42
l_b,int, Bicycle LOS Score for Intersection	2.286	1.670	2.212	2.230
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	29.4
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.432

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	131	354	45	38	321	86	81	268	187	49	199	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	131	354	45	38	321	86	81	268	187	49	199	50
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	93	12	10	84	23	21	71	49	13	52	13
Total Analysis Volume [veh/h]	138	373	47	40	338	91	85	282	197	52	209	53
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	40	0	11	31	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	18	18	4	13	13	6	48	48	4	47	47
g / C, Green / Cycle	0.10	0.20	0.20	0.04	0.15	0.15	0.06	0.53	0.53	0.05	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.08	0.11	0.11	0.02	0.12	0.11	0.05	0.13	0.12	0.03	0.07	0.07
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	175	380	380	78	278	278	114	1006	1006	89	981	981
d1, Uniform Delay [s]	39.81	32.52	32.39	42.19	37.18	36.92	41.54	11.51	11.32	41.94	11.35	11.32
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.72	1.31	1.22	5.06	5.09	4.07	9.41	0.60	0.51	5.88	0.29	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.56	0.54	0.51	0.79	0.75	0.75	0.25	0.22	0.58	0.14	0.13
d, Delay for Lane Group [s/veh]	47.53	33.83	33.61	47.25	42.27	40.99	50.96	12.12	11.83	47.81	11.64	11.60
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.32	4.26	4.10	0.97	5.00	4.65	2.13	2.76	2.40	1.27	1.40	1.34
50th-Percentile Queue Length [ft]	83.08	106.53	102.62	24.30	125.09	116.22	53.32	69.01	60.11	31.64	34.95	33.52
95th-Percentile Queue Length [veh]	5.98	7.65	7.39	1.75	8.67	8.18	3.84	4.97	4.33	2.28	2.52	2.41
95th-Percentile Queue Length [ft]	149.54	191.17	184.71	43.74	216.80	204.62	95.97	124.23	108.20	56.95	62.91	60.34

Movement, Approach, & Intersection Results

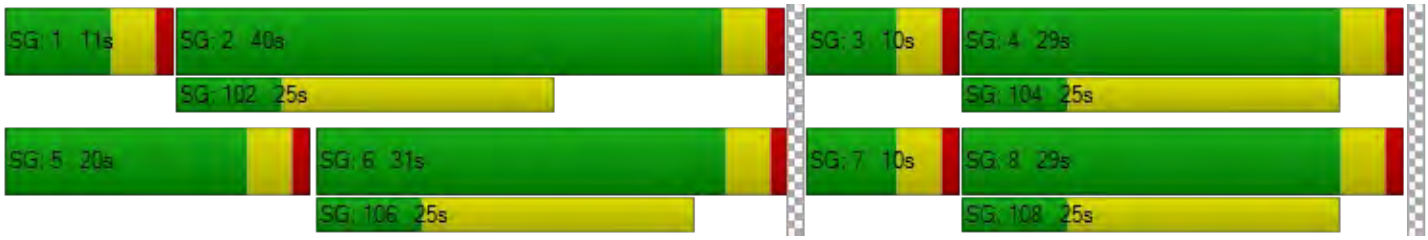
d_M, Delay for Movement [s/veh]	47.53	33.74	33.61	47.25	41.83	40.99	50.96	12.09	11.83	47.81	11.63	11.60
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.14			42.13			17.86			17.61		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.44											
Intersection LOS	C											
Intersection V/C	0.432											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.523	2.490	2.495	2.433
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	600	556	556
d_b, Bicycle Delay [s]	16.20	22.05	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.020	1.947	2.025	1.819
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX F-III

YEAR 2040 WITH PROJECT (PHASE 1) WITH MITIGATION TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	43.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.878

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	350	218	126	69	446	399	118	965	285	237	1120	211
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	350	218	126	69	446	399	118	965	285	237	1120	211
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	57	33	18	117	105	31	254	75	62	295	56
Total Analysis Volume [veh/h]	368	229	133	73	469	420	124	1016	300	249	1179	222
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	19	55	0	10	46	0	10	41	0	14	45	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	25	22	33	33	6	38	38	18	50	50
g / C, Green / Cycle	0.12	0.21	0.19	0.27	0.27	0.05	0.32	0.32	0.15	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.11	0.19	0.04	0.25	0.22	0.04	0.27	0.16	0.14	0.25	0.24
s, saturation flow rate [veh/h]	3400	1900	1800	1900	1900	3400	3800	1900	1800	3800	1900
c, Capacity [veh/h]	422	400	335	518	518	185	1204	602	276	1580	790
d1, Uniform Delay [s]	51.66	46.24	41.46	42.20	40.80	55.75	38.25	33.28	50.00	27.28	27.00
k, delay calibration	0.11	0.11	0.11	0.24	0.19	0.11	0.50	0.50	0.12	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.68	7.80	0.32	12.60	5.32	4.19	7.31	2.93	11.84	1.68	3.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.90	0.22	0.91	0.81	0.67	0.84	0.50	0.90	0.60	0.58
d, Delay for Lane Group [s/veh]	57.34	54.04	41.78	54.79	46.12	59.94	45.56	36.21	61.84	28.96	30.09
Lane Group LOS	E	D	D	D	D	E	D	D	E	C	C
Critical Lane Group	Yes	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	5.77	11.35	1.88	15.12	12.29	1.95	15.01	7.57	8.23	10.77	10.65
50th-Percentile Queue Length [ft]	144.19	283.86	46.91	378.12	307.32	48.81	375.26	189.36	205.85	269.24	266.28
95th-Percentile Queue Length [veh]	9.71	16.88	3.38	21.50	18.04	3.51	21.36	12.09	12.94	16.15	16.00
95th-Percentile Queue Length [ft]	242.65	422.02	84.43	537.57	451.07	87.86	534.11	302.20	323.50	403.80	400.09

Movement, Approach, & Intersection Results

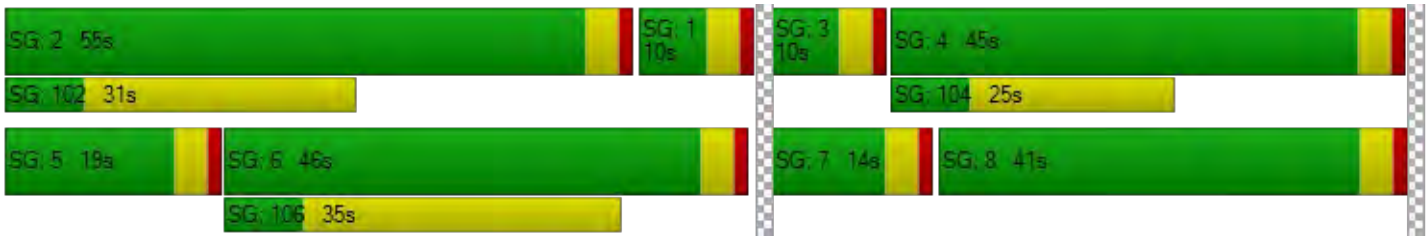
d_M, Delay for Movement [s/veh]	57.34	54.04	54.04	41.78	54.79	46.12	59.94	45.56	36.21	61.84	29.18	30.09
Movement LOS	E	D	D	D	D	D	E	D	D	E	C	C
d_A, Approach Delay [s/veh]	55.70			50.02			44.85			34.23		
Approach LOS	E			D			D			C		
d_I, Intersection Delay [s/veh]	43.88											
Intersection LOS	D											
Intersection V/C	0.878											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.613	3.154	2.933
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	850	700	617	683
d_b, Bicycle Delay [s]	19.84	25.35	28.70	26.00
l_b,int, Bicycle LOS Score for Intersection	2.764	2.353	2.748	2.467
Bicycle LOS	C	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	42.0
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.906

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	308	120	92	103	269	303	202	1290	439	281	1643	236
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	308	120	92	103	269	303	202	1290	439	281	1643	236
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	81	32	24	27	71	80	53	339	116	74	432	62
Total Analysis Volume [veh/h]	324	126	97	108	283	319	213	1358	462	296	1729	248
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	17	43	0	13	39	0	12	48	0	16	52	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	16	20	23	23	10	46	46	22	58	58
g / C, Green / Cycle	0.11	0.14	0.16	0.19	0.19	0.08	0.39	0.39	0.18	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.10	0.12	0.06	0.15	0.17	0.06	0.36	0.24	0.16	0.35	0.35
s, saturation flow rate [veh/h]	3400	1900	1800	1900	1900	3400	3800	1900	1800	3800	1900
c, Capacity [veh/h]	369	258	295	364	364	277	1474	737	322	1844	922
d1, Uniform Delay [s]	52.72	50.77	44.62	46.11	47.16	54.01	35.00	29.72	48.40	24.31	24.37
k, delay calibration	0.11	0.11	0.11	0.11	0.14	0.11	0.50	0.50	0.20	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.79	8.43	0.76	3.62	8.76	4.47	10.95	4.01	17.10	2.39	4.76
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.86	0.37	0.78	0.88	0.77	0.92	0.63	0.92	0.71	0.72
d, Delay for Lane Group [s/veh]	59.51	59.20	45.37	49.73	55.92	58.48	45.95	33.73	65.50	26.70	29.13
Lane Group LOS	E	E	D	D	E	E	D	C	E	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	5.15	7.15	2.93	8.37	10.11	3.32	20.77	11.53	10.20	14.97	15.68
50th-Percentile Queue Length [ft]	128.84	178.86	73.32	209.28	252.85	83.09	519.23	288.13	254.98	374.31	392.04
95th-Percentile Queue Length [veh]	8.88	11.54	5.28	13.12	15.33	5.98	28.24	17.09	15.44	21.32	22.18
95th-Percentile Queue Length [ft]	221.91	288.52	131.98	327.90	383.24	149.56	706.08	427.32	385.91	532.96	554.40

Movement, Approach, & Intersection Results

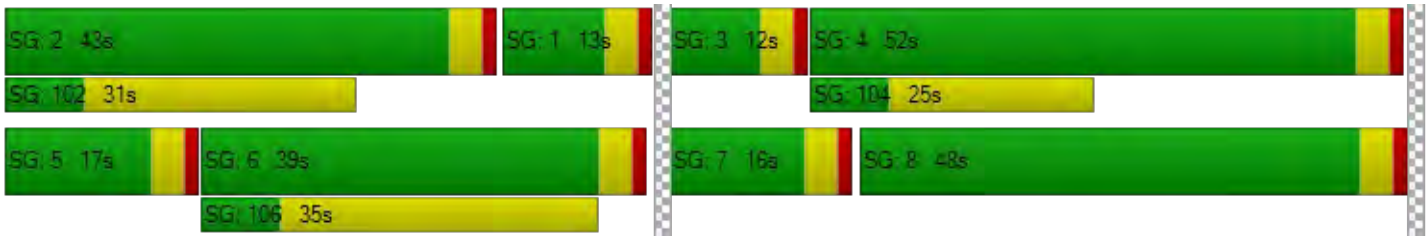
d_M, Delay for Movement [s/veh]	59.51	59.20	59.20	45.37	49.73	55.92	58.48	45.95	33.73	65.50	27.28	29.13
Movement LOS	E	E	E	D	D	E	E	D	C	E	C	C
d_A, Approach Delay [s/veh]	59.39			51.85			44.48			32.46		
Approach LOS	E			D			D			C		
d_I, Intersection Delay [s/veh]	41.98											
Intersection LOS	D											
Intersection V/C	0.906											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.567	3.276	3.090
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	650	583	733	800
d_b, Bicycle Delay [s]	27.34	30.10	24.07	21.60
l_b,int, Bicycle LOS Score for Intersection	2.462	2.145	3.237	2.810
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	48.7
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.999

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	257	83	83	120	209	294	210	1617	278	291	1662	251
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	257	83	83	120	209	294	210	1617	278	291	1662	251
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	22	22	32	55	77	55	426	73	77	437	66
Total Analysis Volume [veh/h]	271	87	87	126	220	309	221	1702	293	306	1749	264
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	115
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	36	0	16	39	0	12	53	0	10	51	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	115	115	115	115	115	115	115	115	115	115	115
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	13	18	21	21	10	49	49	20	59	59
g / C, Green / Cycle	0.08	0.11	0.15	0.19	0.19	0.08	0.43	0.43	0.17	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.08	0.09	0.07	0.12	0.16	0.07	0.45	0.15	0.17	0.35	0.35
s, saturation flow rate [veh/h]	3400	1900	1800	1900	1900	3400	3800	1900	1800	3800	1900
c, Capacity [veh/h]	266	209	278	354	354	289	1624	812	304	1943	972
d1, Uniform Delay [s]	53.00	50.15	44.19	43.07	45.48	51.49	32.93	22.30	47.78	21.20	21.26
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.20	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	30.21	8.38	1.15	1.79	7.03	4.21	36.20	1.25	33.47	2.03	4.06
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.02	0.83	0.45	0.62	0.87	0.76	1.05	0.36	1.01	0.69	0.69
d, Delay for Lane Group [s/veh]	83.21	58.53	45.34	44.86	52.51	55.70	69.13	23.55	81.25	23.23	25.32
Lane Group LOS	F	E	D	D	D	E	F	C	F	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.95	5.38	3.36	5.93	9.22	3.28	30.03	5.63	11.49	13.71	14.36
50th-Percentile Queue Length [ft]	123.83	134.50	83.93	148.17	230.50	82.06	750.78	140.66	287.31	342.79	359.06
95th-Percentile Queue Length [veh]	8.65	9.18	6.04	9.92	14.20	5.91	40.43	9.52	17.10	19.78	20.58
95th-Percentile Queue Length [ft]	216.35	229.59	151.07	247.98	354.99	147.72	1010.75	237.91	427.41	494.61	514.44

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	83.21	58.53	58.53	45.34	44.86	52.51	55.70	69.13	23.55	81.25	23.72	25.32
Movement LOS	F	E	E	D	D	D	E	F	C	F	C	C
d_A, Approach Delay [s/veh]	73.56			48.56			61.77			31.49		
Approach LOS	E			D			E			C		
d_I, Intersection Delay [s/veh]	48.70											
Intersection LOS	D											
Intersection V/C	0.999											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	47.03	47.03	47.03
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.551	3.291	3.153
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	557	609	852	817
d_b, Bicycle Delay [s]	29.95	27.83	18.94	20.10
l_b,int, Bicycle LOS Score for Intersection	2.294	2.100	3.388	2.835
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

APPENDIX F-IV

YEAR 2040 WITH PROJECT (PHASE 2) TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.259

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	113	37	17	0	15	4	2	9	73	2	13	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	113	37	17	0	15	4	2	9	73	2	13	1
Peak Hour Factor	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	11	5	0	4	1	1	3	22	1	4	0
Total Analysis Volume [veh/h]	135	44	20	0	18	5	2	11	87	2	16	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	690	870	721	838	639	799	631	697
Degree of Utilization, x	0.26	0.02	0.02	0.01	0.00	0.12	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.03	0.07	0.08	0.02	0.01	0.42	0.01	0.07
95th-Percentile Queue Length [ft]	25.85	1.76	1.92	0.45	0.24	10.44	0.24	1.87
Approach Delay [s/veh]	9.45		7.65		7.85		8.03	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.78							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.142

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	100	0	0	0	0	0	146	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	100	0	0	0	0	0	146	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	26	0	0	0	0	0	38	0
Total Analysis Volume [veh/h]	0	0	0	0	105	0	0	0	0	0	154	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	10.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	12.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10.69			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.33											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	190	323	228	9	182	0	34	5	14	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	323	228	9	182	0	34	5	14	0	0	0
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	87	62	2	49	0	9	1	4	0	0	0
Total Analysis Volume [veh/h]	205	349	246	10	197	0	37	5	15	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	640	686	791	606	611	503	596	
Degree of Utilization, x	0.43	0.40	0.31	0.17	0.17	0.08	0.03	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.18	1.96	1.33	0.61	0.61	0.27	0.08	
95th-Percentile Queue Length [ft]	54.55	48.96	33.18	15.30	15.15	6.81	1.94	
Approach Delay [s/veh]	11.17			9.83		10.09		0.00
Approach LOS	B			A		B		A
Intersection Delay [s/veh]	10.85							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.259

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	742	195	0	0	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	742	195	0	0	230
Peak Hour Factor	0.9500	0.9520	0.9520	0.9500	0.9500	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	195	51	0	0	60
Total Analysis Volume [veh/h]	0	779	205	0	0	242
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.26
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.43
Movement LOS		A	A			A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.45
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	11.13
d_A, Approach Delay [s/veh]	0.00		0.00		9.43	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.86					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	15.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.438

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	205	868	451	0	0	243
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	205	868	451	0	0	243
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	54	228	119	0	0	64
Total Analysis Volume [veh/h]	216	914	475	0	0	256
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	36	54	18	0	0	36
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	68	51	14
g / C, Green / Cycle	0.14	0.75	0.56	0.16
(v / s)_i Volume / Saturation Flow Rate	0.12	0.24	0.13	0.13
s, saturation flow rate [veh/h]	1800	3800	3800	1900
c, Capacity [veh/h]	259	2853	2138	304
d1, Uniform Delay [s]	37.50	3.68	9.84	36.69
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.91	0.30	0.24	6.21
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.32	0.22	0.84
d, Delay for Lane Group [s/veh]	44.41	3.98	10.08	42.90
Lane Group LOS	D	A	B	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	5.05	2.13	2.25	5.89
50th-Percentile Queue Length [ft]	126.15	53.19	56.36	147.15
95th-Percentile Queue Length [veh]	8.73	3.83	4.06	9.86
95th-Percentile Queue Length [ft]	218.24	95.73	101.44	246.62

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	44.41	3.98	10.08	0.00	0.00	42.90
Movement LOS	D	A	B			D
d_A, Approach Delay [s/veh]	11.71		10.08		42.90	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	15.58					
Intersection LOS	B					
Intersection V/C	0.438					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.662	2.469	1.944
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.065	4.524	4.132
Bicycle LOS	F	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.475

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	816	266	16	731	160	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	816	266	16	731	160	16
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	215	70	4	192	42	4
Total Analysis Volume [veh/h]	859	280	17	769	168	17
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	18	0	10	28	62	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	65	65	2	71	11
g / C, Green / Cycle	0.72	0.72	0.02	0.78	0.13
(v / s)_i Volume / Saturation Flow Rate	0.30	0.30	0.01	0.20	0.10
s, saturation flow rate [veh/h]	1900	1900	1800	3800	1800
c, Capacity [veh/h]	1360	1360	44	2982	228
d1, Uniform Delay [s]	5.19	5.19	43.27	2.62	38.30
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.95	0.95	5.51	0.21	6.87
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.42	0.42	0.39	0.26	0.81
d, Delay for Lane Group [s/veh]	6.14	6.14	48.78	2.83	45.16
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	3.77	3.77	0.44	1.29	4.35
50th-Percentile Queue Length [ft]	94.31	94.31	10.91	32.22	108.63
95th-Percentile Queue Length [veh]	6.79	6.79	0.79	2.32	7.76
95th-Percentile Queue Length [ft]	169.76	169.76	19.65	57.99	194.09

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	6.14	6.14	48.78	2.83	45.16	45.16
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	6.14		3.82		45.16	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	8.70					
Intersection LOS	A					
Intersection V/C	0.475					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.637	2.623	1.949
Crosswalk LOS	B	B	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.072	4.781	4.438
Bicycle LOS	F	E	E

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	23.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.015

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1110	111	24	884	3	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1110	111	24	884	3	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	292	29	6	233	1	1
Total Analysis Volume [veh/h]	1168	117	25	931	3	2
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.05	0.01	0.01	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	12.05	0.00	23.07	13.93
Movement LOS	A	A	B	A	C	B
95th-Percentile Queue Length [veh]	0.00	0.00	10.26	5.13	0.06	0.06
95th-Percentile Queue Length [ft]	0.00	0.00	256.46	128.23	1.50	1.50
d_A, Approach Delay [s/veh]	0.00		0.32		19.41	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.18					
Intersection LOS	C					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	30.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.510

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	131	441	39	109	498	62	42	307	99	119	397	86
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	131	441	39	109	498	62	42	307	99	119	397	86
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	116	10	29	131	16	11	81	26	31	104	23
Total Analysis Volume [veh/h]	138	464	41	115	524	65	44	323	104	125	418	91
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	29	0	22	36	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	18	18	7	17	17	4	40	40	8	44	44
g / C, Green / Cycle	0.10	0.20	0.20	0.08	0.19	0.19	0.05	0.45	0.45	0.09	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.08	0.13	0.13	0.06	0.16	0.15	0.02	0.12	0.11	0.07	0.14	0.13
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	173	386	386	149	361	361	82	849	849	161	932	932
d1, Uniform Delay [s]	39.89	33.08	32.95	40.51	35.13	34.90	42.09	15.60	15.47	40.17	13.56	13.44
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.10	1.95	1.82	8.09	4.96	4.15	5.31	0.74	0.68	7.79	0.75	0.70
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.80	0.66	0.65	0.77	0.83	0.80	0.54	0.26	0.24	0.78	0.28	0.27
d, Delay for Lane Group [s/veh]	47.99	35.03	34.77	48.60	40.09	39.05	47.41	16.34	16.15	47.96	14.31	14.14
Lane Group LOS	D	D	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.34	5.25	5.09	2.80	6.69	6.35	1.07	2.89	2.69	3.02	3.17	2.97
50th-Percentile Queue Length [ft]	83.53	131.32	127.32	70.06	167.29	158.81	26.73	72.36	67.35	75.58	79.33	74.35
95th-Percentile Queue Length [veh]	6.01	9.01	8.79	5.04	10.93	10.49	1.92	5.21	4.85	5.44	5.71	5.35
95th-Percentile Queue Length [ft]	150.36	225.28	219.84	126.11	273.35	262.14	48.11	130.26	121.22	136.05	142.79	133.83

Movement, Approach, & Intersection Results

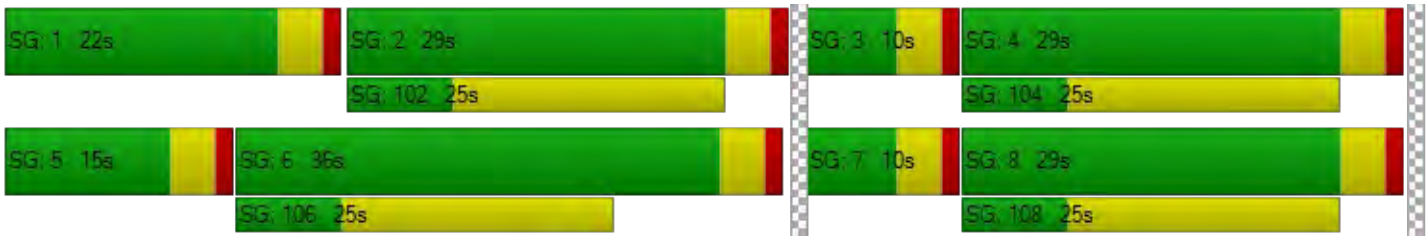
d_M, Delay for Movement [s/veh]	47.99	34.91	34.77	48.60	39.65	39.05	47.41	16.28	16.15	47.96	14.25	14.14
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.71			41.06			19.16			20.88		
Approach LOS	D			D			B			C		
d_I, Intersection Delay [s/veh]	30.76											
Intersection LOS	C											
Intersection V/C	0.510											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.572	2.553	2.512	2.516
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	711	556	556
d_b, Bicycle Delay [s]	23.47	18.69	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.090	2.140	1.948	2.083
Bicycle LOS	B	B	A	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	20.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.527

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1099	233	0	401	504	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1099	233	0	401	504	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	289	61	0	106	133	0
Total Analysis Volume [veh/h]	1157	245	0	422	531	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	35	35	47	47
g / C, Green / Cycle	0.39	0.39	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.34	0.13	0.11	0.14
s, saturation flow rate [veh/h]	3400	1900	3800	3800
c, Capacity [veh/h]	1331	744	1974	1974
d1, Uniform Delay [s]	25.22	19.10	11.66	12.05
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.89	0.26	0.25	0.34
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.33	0.21	0.27
d, Delay for Lane Group [s/veh]	27.11	19.36	11.91	12.38
Lane Group LOS	C	B	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	11.14	3.51	2.23	2.91
50th-Percentile Queue Length [ft]	278.44	87.84	55.86	72.72
95th-Percentile Queue Length [veh]	16.61	6.32	4.02	5.24
95th-Percentile Queue Length [ft]	415.26	158.11	100.54	130.89

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	27.11	19.36	0.00	11.91	12.38	0.00
Movement LOS	C	B		B	B	
d_A, Approach Delay [s/veh]	25.75		11.91		12.38	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	20.26					
Intersection LOS	C					
Intersection V/C	0.527					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.395	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.481	4.570
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	46.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.909

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	350	218	132	72	446	399	118	1024	285	256	1152	213
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	350	218	132	72	446	399	118	1024	285	256	1152	213
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	92	57	35	19	117	105	31	269	75	67	303	56
Total Analysis Volume [veh/h]	368	229	139	76	469	420	124	1078	300	269	1213	224
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	19	51	0	10	42	0	10	41	0	18	49	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	26	22	32	32	6	37	37	20	50	50
g / C, Green / Cycle	0.12	0.21	0.18	0.27	0.27	0.05	0.31	0.31	0.16	0.42	0.42
(v / s)_i Volume / Saturation Flow Rate	0.11	0.19	0.04	0.25	0.22	0.04	0.28	0.16	0.15	0.25	0.25
s, saturation flow rate [veh/h]	3400	1900	1800	1900	1900	3400	3800	1900	1800	3800	1900
c, Capacity [veh/h]	422	406	324	512	512	183	1174	587	295	1593	796
d1, Uniform Delay [s]	51.66	46.05	42.15	42.54	41.13	55.81	40.03	34.05	49.36	27.18	26.92
k, delay calibration	0.11	0.11	0.11	0.30	0.24	0.11	0.50	0.50	0.16	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.68	7.82	0.37	15.95	6.97	4.36	12.75	3.16	14.42	1.73	3.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.91	0.23	0.92	0.82	0.68	0.92	0.51	0.91	0.61	0.59
d, Delay for Lane Group [s/veh]	57.34	53.87	42.52	58.49	48.10	60.17	52.79	37.21	63.79	28.91	30.11
Lane Group LOS	E	D	D	E	D	E	D	D	E	C	C
Critical Lane Group	Yes	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	5.77	11.54	1.97	15.64	12.57	1.96	17.25	7.70	9.09	11.07	10.98
50th-Percentile Queue Length [ft]	144.19	288.45	49.33	390.90	314.13	48.92	431.15	192.38	227.23	276.68	274.49
95th-Percentile Queue Length [veh]	9.71	17.11	3.55	22.12	18.38	3.52	24.06	12.24	14.03	16.52	16.41
95th-Percentile Queue Length [ft]	242.65	427.71	88.80	553.02	459.47	88.06	601.41	306.12	350.84	413.08	410.34

Movement, Approach, & Intersection Results

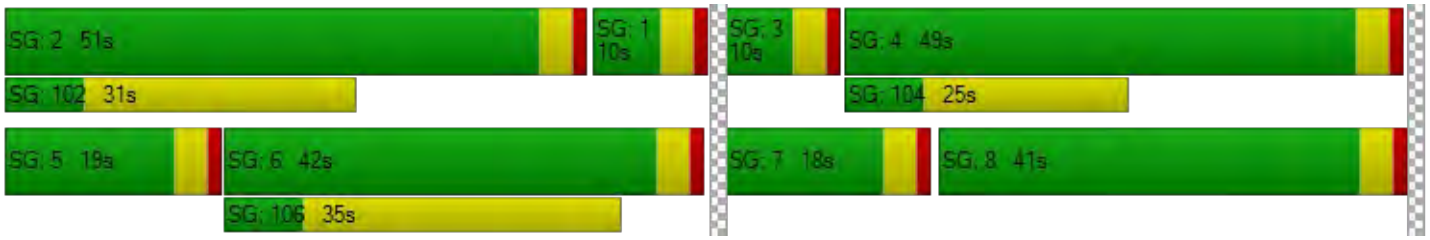
d_M, Delay for Movement [s/veh]	57.34	53.87	53.87	42.52	58.49	48.10	60.17	52.79	37.21	63.79	29.16	30.11
Movement LOS	E	D	D	D	E	D	E	D	D	E	C	C
d_A, Approach Delay [s/veh]	55.60			52.71			50.28			34.74		
Approach LOS	E			D			D			C		
d_I, Intersection Delay [s/veh]	46.16											
Intersection LOS	D											
Intersection V/C	0.909											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.614	3.166	2.954
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	783	633	617	750
d_b, Bicycle Delay [s]	22.20	28.02	28.70	23.44
l_b,int, Bicycle LOS Score for Intersection	2.774	2.356	2.799	2.498
Bicycle LOS	C	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.492

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	650	116	404	567	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	650	116	404	567	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	171	31	106	149	0	0
Total Analysis Volume [veh/h]	684	122	425	597	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	58	58	24	86	
g / C, Green / Cycle	0.65	0.65	0.26	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.21	0.21	0.24	0.16	
s, saturation flow rate [veh/h]	1900	1900	1800	3800	
c, Capacity [veh/h]	1233	1233	471	3631	
d1, Uniform Delay [s]	7.03	7.03	32.08	0.11	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.71	0.71	6.58	0.10	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.33	0.33	0.90	0.16	
d, Delay for Lane Group [s/veh]	7.73	7.73	38.66	0.20	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	3.25	3.25	9.52	0.05	
50th-Percentile Queue Length [ft]	81.34	81.34	237.98	1.23	
95th-Percentile Queue Length [veh]	5.86	5.86	14.58	0.09	
95th-Percentile Queue Length [ft]	146.40	146.40	364.48	2.21	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	7.73	7.73	38.66	0.20	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	7.73		16.20		0.00	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	12.46					
Intersection LOS	B					
Intersection V/C	0.492					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.956
Crosswalk LOS	F	F	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.797	4.976	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	15.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.545

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	415	4	232	2	0	1	10	1184	0	0	1205	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	415	4	232	2	0	1	10	1184	0	0	1205	2
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	109	1	61	1	0	0	3	312	0	0	317	1
Total Analysis Volume [veh/h]	437	4	244	2	0	1	11	1246	0	0	1268	2
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	52	0	10	0	0	10	28	0	0	18	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	15	15	0	1	62	57	57
g / C, Green / Cycle	0.17	0.17	0.01	0.02	0.69	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.13	0.13	0.00	0.01	0.33	0.33	0.33
s, saturation flow rate [veh/h]	3400	1900	1800	1800	3800	1900	1900
c, Capacity [veh/h]	579	323	10	30	2626	1197	1197
d1, Uniform Delay [s]	35.59	35.67	44.63	43.82	6.39	9.26	9.26
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.03	3.82	16.31	7.27	0.62	1.69	1.69
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.77	0.30	0.37	0.47	0.53	0.53
d, Delay for Lane Group [s/veh]	37.63	39.49	60.93	51.09	7.01	10.95	10.95
Lane Group LOS	D	D	E	D	A	B	B
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	4.65	5.44	0.11	0.30	4.70	6.62	6.62
50th-Percentile Queue Length [ft]	116.15	136.06	2.77	7.53	117.51	165.39	165.39
95th-Percentile Queue Length [veh]	8.18	9.27	0.20	0.54	8.26	10.83	10.83
95th-Percentile Queue Length [ft]	204.53	231.71	4.99	13.55	206.40	270.85	270.85

Movement, Approach, & Intersection Results

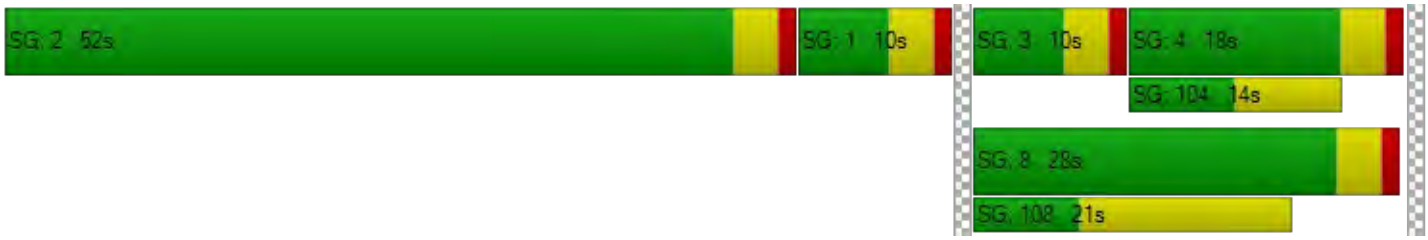
d_M, Delay for Movement [s/veh]	37.63	39.49	39.49	60.93	0.00	60.93	51.09	7.01	0.00	0.00	10.95	10.95
Movement LOS	D	D	D	E		E	D	A			B	B
d_A, Approach Delay [s/veh]	38.30			60.93			7.40			10.95		
Approach LOS	D			E			A			B		
d_I, Intersection Delay [s/veh]	15.43											
Intersection LOS	B											
Intersection V/C	0.545											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.162	1.724	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	1067	0	533	311
d_b, Bicycle Delay [s]	9.80	45.00	24.20	32.09
l_b,int, Bicycle LOS Score for Intersection	2.690	4.137	2.597	2.607
Bicycle LOS	B	D	B	B

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	30.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.760

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	281	304	48	156	250	473	739	512	138	46	397	129
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	281	304	48	156	250	473	739	512	138	46	397	129
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	74	80	13	41	66	124	194	135	36	12	104	34
Total Analysis Volume [veh/h]	296	320	51	164	263	498	778	539	145	48	418	136
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	105
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	31	53	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	105	105	105	105	105	105	105	105	105	105	105	105
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	14	14	24	14	46	29	65	65	5	41	41
g / C, Green / Cycle	0.23	0.13	0.13	0.23	0.13	0.44	0.27	0.62	0.62	0.04	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.16	0.10	0.10	0.09	0.07	0.26	0.23	0.19	0.17	0.03	0.15	0.14
s, saturation flow rate [veh/h]	1800	1900	1900	1800	3800	1900	3400	1900	1900	1800	1900	1900
c, Capacity [veh/h]	395	247	247	338	494	836	925	1170	1170	79	737	737
d1, Uniform Delay [s]	37.69	44.20	43.99	34.65	42.75	22.33	36.11	9.51	9.40	49.36	23.21	22.91
k, delay calibration	0.14	0.11	0.11	0.11	0.11	0.22	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.66	4.98	4.22	1.08	0.89	1.37	2.16	0.66	0.61	7.29	1.55	1.38
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.77	0.74	0.48	0.53	0.60	0.84	0.30	0.28	0.61	0.39	0.36
d, Delay for Lane Group [s/veh]	41.35	49.18	48.21	35.73	43.64	23.70	38.27	10.17	10.00	56.65	24.76	24.29
Lane Group LOS	D	D	D	D	D	C	D	B	B	E	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	7.39	5.08	4.81	3.66	3.24	9.40	9.53	3.79	3.54	1.39	5.39	4.93
50th-Percentile Queue Length [ft]	184.73	127.04	120.15	91.50	81.05	234.95	238.35	94.81	88.51	34.86	134.63	123.22
95th-Percentile Queue Length [veh]	11.85	8.78	8.40	6.59	5.84	14.43	14.60	6.83	6.37	2.51	9.19	8.57
95th-Percentile Queue Length [ft]	296.18	219.47	210.03	164.71	145.89	360.64	364.94	170.66	159.31	62.75	229.77	214.24

Movement, Approach, & Intersection Results

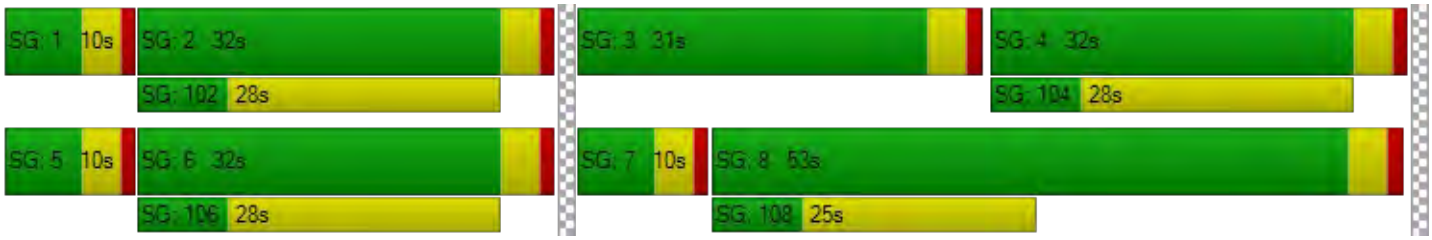
d_M, Delay for Movement [s/veh]	41.35	48.78	48.21	35.73	43.64	23.70	38.27	10.11	10.00	56.65	24.61	24.29
Movement LOS	D	D	D	D	D	C	D	B	B	E	C	C
d_A, Approach Delay [s/veh]	45.44			31.50			25.09			27.09		
Approach LOS	D			C			C			C		
d_I, Intersection Delay [s/veh]	30.75											
Intersection LOS	C											
Intersection V/C	0.760											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	42.08	42.08	42.08	42.08
l_p,int, Pedestrian LOS Score for Intersection	2.526	2.811	3.070	2.606
Crosswalk LOS	B	C	C	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	533	933	533
d_b, Bicycle Delay [s]	28.23	28.23	14.93	28.23
l_b,int, Bicycle LOS Score for Intersection	2.110	2.323	2.766	2.056
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	27.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.403

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	139	134	78	54	149	148	140	312	126	50	384	57
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	139	134	78	54	149	148	140	312	126	50	384	57
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	35	21	14	39	39	37	82	33	13	101	15
Total Analysis Volume [veh/h]	146	141	82	57	157	156	147	328	133	53	404	60
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	29	0	10	29	0	19	39	0	12	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	6	11	11	5	10	10	9	54	54	4	49	49
g / C, Green / Cycle	0.07	0.12	0.12	0.05	0.11	0.11	0.10	0.60	0.60	0.05	0.54	0.54
(v / s)_i Volume / Saturation Flow Rate	0.04	0.07	0.04	0.03	0.08	0.08	0.08	0.13	0.12	0.03	0.12	0.12
s, saturation flow rate [veh/h]	3400	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	224	237	237	93	210	210	186	1132	1132	90	1031	1031
d1, Uniform Delay [s]	41.10	37.32	36.11	41.85	38.87	38.85	39.45	8.43	8.33	41.92	10.78	10.73
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.18	2.38	0.87	6.27	5.21	5.09	7.22	0.43	0.38	5.96	0.52	0.50
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.65	0.60	0.35	0.61	0.75	0.74	0.79	0.21	0.19	0.59	0.23	0.22
d, Delay for Lane Group [s/veh]	44.28	39.70	36.97	48.13	44.09	43.94	46.67	8.86	8.71	47.89	11.30	11.22
Lane Group LOS	D	D	D	D	D	D	D	A	A	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	1.66	3.05	1.69	1.39	3.62	3.59	3.51	2.12	1.92	1.29	2.45	2.35
50th-Percentile Queue Length [ft]	41.57	76.37	42.19	34.77	90.54	89.79	87.63	52.93	47.88	32.27	61.26	58.81
95th-Percentile Queue Length [veh]	2.99	5.50	3.04	2.50	6.52	6.46	6.31	3.81	3.45	2.32	4.41	4.23
95th-Percentile Queue Length [ft]	74.82	137.47	75.95	62.58	162.96	161.61	157.73	95.28	86.18	58.08	110.27	105.85

Movement, Approach, & Intersection Results

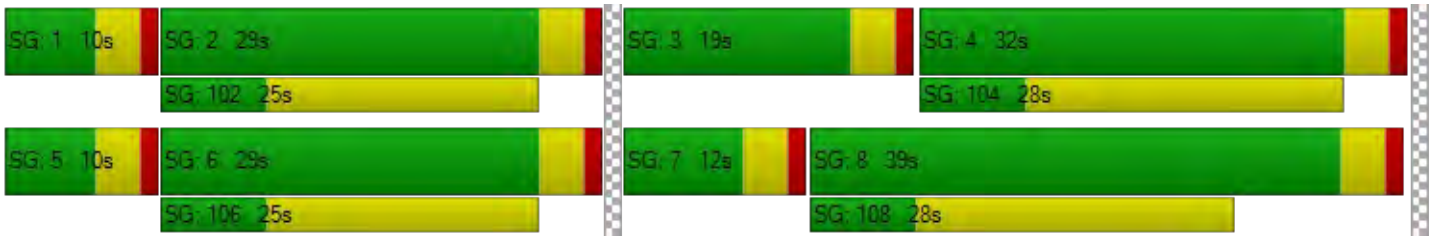
d_M, Delay for Movement [s/veh]	44.28	39.70	36.97	48.13	44.09	43.94	46.67	8.82	8.71	47.89	11.27	11.22
Movement LOS	D	D	D	D	D	D	D	A	A	D	B	B
d_A, Approach Delay [s/veh]	40.91			44.65			17.95			15.02		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	26.98											
Intersection LOS	C											
Intersection V/C	0.403											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.568	2.306	2.556	2.491
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	778	622
d_b, Bicycle Delay [s]	23.47	23.47	16.81	21.36
l_b,int, Bicycle LOS Score for Intersection	2.168	1.865	2.061	1.986
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	30.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.588

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	203	390	34	78	339	123	162	296	286	62	387	94
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	203	390	34	78	339	123	162	296	286	62	387	94
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	53	103	9	21	89	32	43	78	75	16	102	25
Total Analysis Volume [veh/h]	214	411	36	82	357	129	171	312	301	65	407	99
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	29	0	22	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	13	22	22	5	15	15	11	42	42	5	36	36
g / C, Green / Cycle	0.14	0.24	0.24	0.06	0.16	0.16	0.12	0.46	0.46	0.05	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.12	0.12	0.12	0.05	0.13	0.12	0.10	0.16	0.16	0.04	0.14	0.13
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	255	464	464	109	311	311	211	880	880	98	761	761
d1, Uniform Delay [s]	37.73	29.25	29.15	41.67	36.38	35.97	38.85	15.55	15.45	41.81	18.77	18.60
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.33	0.80	0.76	9.76	5.11	3.67	7.35	1.12	1.06	7.37	1.22	1.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.49	0.48	0.75	0.81	0.75	0.81	0.35	0.34	0.66	0.34	0.32
d, Delay for Lane Group [s/veh]	45.05	30.04	29.91	51.43	41.49	39.64	46.20	16.67	16.51	49.18	19.99	19.72
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	5.04	4.23	4.10	2.07	5.70	5.13	4.06	4.20	4.02	1.60	3.90	3.65
50th-Percentile Queue Length [ft]	125.99	105.63	102.57	51.74	142.45	128.18	101.54	104.99	100.51	40.08	97.55	91.20
95th-Percentile Queue Length [veh]	8.72	7.60	7.39	3.73	9.61	8.84	7.31	7.56	7.24	2.89	7.02	6.57
95th-Percentile Queue Length [ft]	218.03	189.91	184.63	93.13	240.32	221.01	182.77	188.98	180.92	72.14	175.60	164.16

Movement, Approach, & Intersection Results

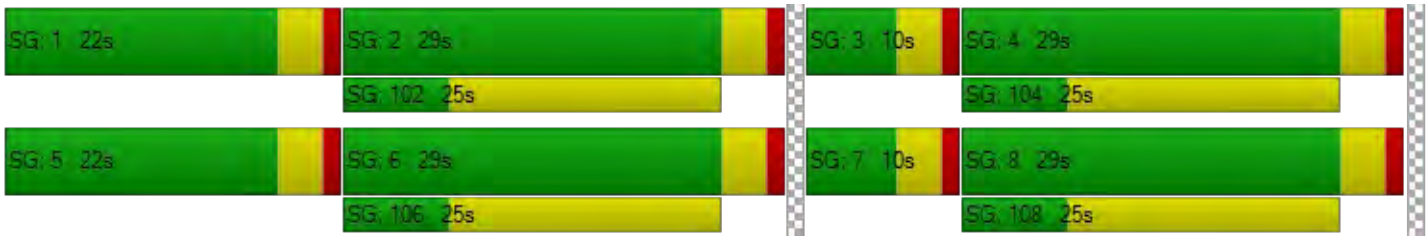
d_M, Delay for Movement [s/veh]	45.05	29.98	29.91	51.43	40.95	39.64	46.20	16.67	16.51	49.18	19.89	19.72
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	34.86			42.16			23.05			23.20		
Approach LOS	C			D			C			C		
d_I, Intersection Delay [s/veh]	30.30											
Intersection LOS	C											
Intersection V/C	0.588											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.569	2.543	2.598	2.495
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	556	556
d_b, Bicycle Delay [s]	23.47	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.105	2.028	2.206	2.031
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.243

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	97	9	9	0	36	2	7	10	125	17	9	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	9	9	0	36	2	7	10	125	17	9	0
Peak Hour Factor	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	3	3	0	13	1	3	4	45	6	3	0
Total Analysis Volume [veh/h]	139	13	13	0	52	3	10	14	179	24	13	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	640	806	681	785	634	794	617	675
Degree of Utilization, x	0.24	0.02	0.08	0.00	0.02	0.24	0.04	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.92	0.05	0.25	0.01	0.05	0.95	0.12	0.06
95th-Percentile Queue Length [ft]	23.01	1.23	6.19	0.29	1.20	23.76	3.03	1.47
Approach Delay [s/veh]	9.84		8.37		8.67		8.55	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	9.04							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	17.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.534

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	245	0	0	0	0	0	230	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	245	0	0	0	0	0	230	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	81	0	0	0	0	0	76	0
Total Analysis Volume [veh/h]	0	0	0	0	325	0	0	0	0	0	305	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	17.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	3.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	78.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			17.49			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	9.03											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	230	342	339	18	372	0	37	4	37	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	230	342	339	18	372	0	37	4	37	0	0	0
Peak Hour Factor	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	98	97	5	107	0	11	1	11	0	0	0
Total Analysis Volume [veh/h]	263	392	388	21	426	0	42	5	42	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	564	608	679	559	563	430	497	
Degree of Utilization, x	0.62	0.57	0.51	0.40	0.40	0.11	0.08	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.18	3.61	2.94	1.91	1.89	0.37	0.28	
95th-Percentile Queue Length [ft]	104.55	90.30	73.52	47.80	47.27	9.14	6.89	
Approach Delay [s/veh]	16.17			13.30		11.40		0.00
Approach LOS	C			B		B		A
Intersection Delay [s/veh]	15.09							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.794

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	912	414	0	0	574
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	912	414	0	0	574
Peak Hour Factor	0.9500	0.9270	0.9270	0.9500	0.9500	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	246	112	0	0	155
Total Analysis Volume [veh/h]	0	984	447	0	0	619
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.79
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.62
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	1.91
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	47.79
d_A, Approach Delay [s/veh]	0.00		0.00		12.62	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.81					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	19.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.732

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	312	1024	987	0	0	323
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	312	1024	987	0	0	323
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	82	269	260	0	0	85
Total Analysis Volume [veh/h]	328	1078	1039	0	0	340
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	41	59	18	0	0	31
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	19	64	41	18
g / C, Green / Cycle	0.21	0.71	0.46	0.20
(v / s)_i Volume / Saturation Flow Rate	0.18	0.28	0.27	0.18
s, saturation flow rate [veh/h]	1800	3800	3800	1900
c, Capacity [veh/h]	373	2688	1731	387
d1, Uniform Delay [s]	34.59	5.38	18.37	34.76
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.71	0.45	1.55	6.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.88	0.40	0.60	0.88
d, Delay for Lane Group [s/veh]	41.30	5.83	19.92	41.37
Lane Group LOS	D	A	B	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	7.49	3.50	8.04	7.76
50th-Percentile Queue Length [ft]	187.26	87.51	200.98	194.10
95th-Percentile Queue Length [veh]	11.98	6.30	12.69	12.33
95th-Percentile Queue Length [ft]	299.48	157.52	317.23	308.34

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	41.30	5.83	19.92	0.00	0.00	41.37
Movement LOS	D	A	B			D
d_A, Approach Delay [s/veh]	14.11		19.92		41.37	
Approach LOS	B		B		D	
d_I, Intersection Delay [s/veh]	19.60					
Intersection LOS	B					
Intersection V/C	0.732					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.842	2.647	2.040
Crosswalk LOS	C	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.292	4.990	4.132
Bicycle LOS	F	E	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	4.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.478

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	1270	40	22	1194	50	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1270	40	22	1194	50	16
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	334	11	6	314	13	4
Total Analysis Volume [veh/h]	1337	42	23	1257	53	17
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	51	0	10	61	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	70	70	3	77	5
g / C, Green / Cycle	0.78	0.78	0.03	0.86	0.06
(v / s)_i Volume / Saturation Flow Rate	0.36	0.36	0.01	0.33	0.04
s, saturation flow rate [veh/h]	1900	1900	1800	3800	1800
c, Capacity [veh/h]	1482	1482	55	3249	101
d1, Uniform Delay [s]	3.42	3.42	42.88	1.42	41.73
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.05	1.05	5.05	0.35	8.15
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.47	0.47	0.42	0.39	0.69
d, Delay for Lane Group [s/veh]	4.47	4.47	47.93	1.76	49.88
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	3.23	3.23	0.57	0.84	1.74
50th-Percentile Queue Length [ft]	80.78	80.78	14.37	21.07	43.47
95th-Percentile Queue Length [veh]	5.82	5.82	1.03	1.52	3.13
95th-Percentile Queue Length [ft]	145.41	145.41	25.87	37.93	78.25

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.47	4.47	47.93	1.76	49.88	49.88
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	4.47		2.59		49.88	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.75					
Intersection LOS	A					
Intersection V/C	0.478					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.786	2.813	1.780
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.270	5.188	4.248
Bicycle LOS	F	F	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	32.1
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.256

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1250	1	3	1257	46	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1250	1	3	1257	46	41
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	329	0	1	331	12	11
Total Analysis Volume [veh/h]	1316	1	3	1323	48	43
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free		Free		Stop	
Flared Lane					No	
Storage Area [veh]	0		0		0	
Two-Stage Gap Acceptance					Yes	
Number of Storage Spaces in Median	0		0		2	

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.01	0.00	0.01	0.01	0.26	0.11
d_M, Delay for Movement [s/veh]	0.00	0.00	11.95	0.00	32.12	21.76
Movement LOS	A	A	B	A	D	C
95th-Percentile Queue Length [veh]	0.00	0.00	26.99	13.49	1.58	1.58
95th-Percentile Queue Length [ft]	0.00	0.00	674.68	337.34	39.45	39.45
d_A, Approach Delay [s/veh]	0.00		0.03		27.23	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	0.92					
Intersection LOS	D					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	32.8
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.725

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	163	537	79	141	342	92	163	633	204	168	562	161
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	537	79	141	342	92	163	633	204	168	562	161
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	141	21	37	90	24	43	167	54	44	148	42
Total Analysis Volume [veh/h]	172	565	83	148	360	97	172	666	215	177	592	169
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	15	33	0	13	31	0	15	29	0	15	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	18	18	9	17	17	11	36	36	11	36	36
g / C, Green / Cycle	0.12	0.21	0.21	0.10	0.19	0.19	0.12	0.40	0.40	0.12	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.10	0.17	0.17	0.08	0.12	0.12	0.10	0.24	0.22	0.10	0.21	0.19
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	208	391	391	181	362	362	212	752	752	217	757	757
d1, Uniform Delay [s]	38.98	34.45	34.14	39.73	33.72	33.42	38.81	21.73	21.17	38.67	20.60	20.20
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.03	5.13	4.07	8.64	1.98	1.67	7.29	3.69	3.02	7.27	2.57	2.20
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.85	0.81	0.82	0.65	0.61	0.81	0.61	0.56	0.82	0.52	0.48
d, Delay for Lane Group [s/veh]	47.02	39.58	38.21	48.37	35.69	35.09	46.10	25.42	24.19	45.94	23.17	22.40
Lane Group LOS	D	D	D	D	D	D	D	C	C	D	C	C
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.13	7.38	6.91	3.60	4.88	4.52	4.08	8.17	7.25	4.19	6.60	5.96
50th-Percentile Queue Length [ft]	103.19	184.41	172.69	90.01	121.91	112.90	102.03	204.29	181.27	104.85	165.10	149.02
95th-Percentile Queue Length [veh]	7.43	11.83	11.22	6.48	8.50	8.00	7.35	12.86	11.67	7.55	10.82	9.97
95th-Percentile Queue Length [ft]	185.74	295.76	280.44	162.02	212.45	200.03	183.66	321.49	291.67	188.73	270.47	249.13

Movement, Approach, & Intersection Results

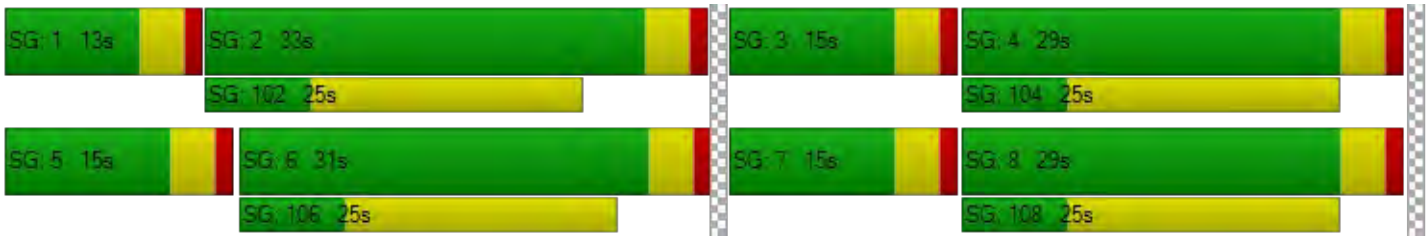
d_M, Delay for Movement [s/veh]	47.02	39.01	38.21	48.37	35.48	35.09	46.10	25.03	24.19	45.94	22.92	22.40
Movement LOS	D	D	D	D	D	D	D	C	C	D	C	C
d_A, Approach Delay [s/veh]	40.61			38.57			28.30			27.17		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	32.77											
Intersection LOS	C											
Intersection V/C	0.725											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.606	2.594	2.673	2.657
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	644	600	556	556
d_b, Bicycle Delay [s]	20.67	22.05	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.236	2.059	2.428	2.333
Bicycle LOS	B	B	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	19.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.648

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1120	202	0	878	699	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1120	202	0	878	699	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	295	53	0	231	184	0
Total Analysis Volume [veh/h]	1179	213	0	924	736	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	36	36	46	46
g / C, Green / Cycle	0.40	0.40	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.35	0.11	0.24	0.19
s, saturation flow rate [veh/h]	3400	1900	3800	3800
c, Capacity [veh/h]	1350	755	1952	1952
d1, Uniform Delay [s]	24.99	18.38	14.03	13.17
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.92	0.20	0.83	0.56
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.87	0.28	0.47	0.38
d, Delay for Lane Group [s/veh]	26.91	18.59	14.85	13.72
Lane Group LOS	C	B	B	B
Critical Lane Group	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	11.33	2.96	5.88	4.38
50th-Percentile Queue Length [ft]	283.29	73.98	147.09	109.56
95th-Percentile Queue Length [veh]	16.85	5.33	9.86	7.82
95th-Percentile Queue Length [ft]	421.31	133.16	246.54	195.40

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	26.91	18.59	0.00	14.85	13.72	0.00
Movement LOS	C	B		B	B	
d_A, Approach Delay [s/veh]	25.63		14.85		13.72	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	19.50					
Intersection LOS	B					
Intersection V/C	0.648					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.392	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.895	4.740
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	44.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.938

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	308	120	97	106	269	303	202	1343	439	304	1681	239
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	308	120	97	106	269	303	202	1343	439	304	1681	239
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	81	32	26	28	71	80	53	353	116	80	442	63
Total Analysis Volume [veh/h]	324	126	102	112	283	319	213	1414	462	320	1769	252
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	16	35	0	21	40	0	10	50	0	14	54	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	17	18	23	23	10	46	46	23	59	59
g / C, Green / Cycle	0.10	0.14	0.15	0.19	0.19	0.08	0.38	0.38	0.19	0.49	0.49
(v / s)_i Volume / Saturation Flow Rate	0.10	0.12	0.06	0.15	0.17	0.06	0.37	0.24	0.18	0.35	0.36
s, saturation flow rate [veh/h]	3400	1900	1800	1900	1900	3400	3800	1900	1800	3800	1900
c, Capacity [veh/h]	340	262	276	364	364	276	1463	731	342	1877	938
d1, Uniform Delay [s]	53.72	50.67	45.84	46.08	47.13	54.03	36.15	29.99	47.86	23.78	23.89
k, delay calibration	0.11	0.11	0.11	0.11	0.13	0.11	0.50	0.50	0.24	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	13.91	8.64	0.95	3.61	8.09	4.54	16.83	4.12	20.97	2.37	4.80
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.95	0.87	0.41	0.78	0.88	0.77	0.97	0.63	0.93	0.72	0.72
d, Delay for Lane Group [s/veh]	67.63	59.31	46.79	49.69	55.22	58.57	52.98	34.11	68.82	26.15	28.68
Lane Group LOS	E	E	D	D	E	E	D	C	E	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	5.51	7.33	3.10	8.37	10.04	3.33	23.29	11.61	11.37	15.15	15.97
50th-Percentile Queue Length [ft]	137.82	183.17	77.46	209.19	251.10	83.15	582.13	290.18	284.17	378.84	399.36
95th-Percentile Queue Length [veh]	9.36	11.77	5.58	13.11	15.24	5.99	31.20	17.19	16.90	21.54	22.53
95th-Percentile Queue Length [ft]	234.08	294.15	139.44	327.79	381.04	149.67	779.97	429.86	422.40	538.44	563.23

Movement, Approach, & Intersection Results

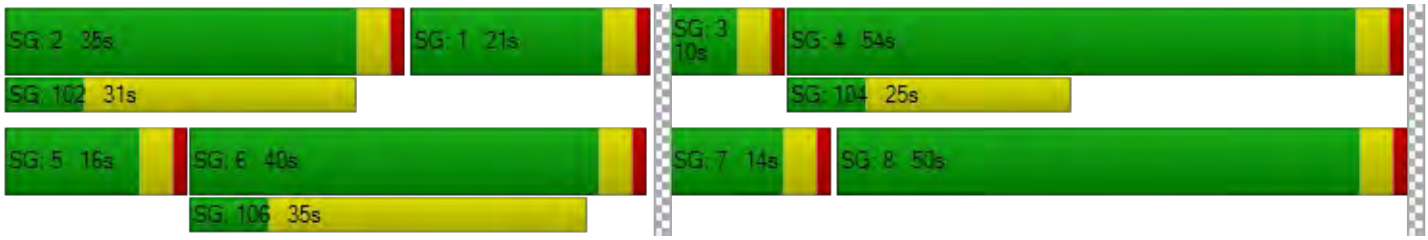
d_M, Delay for Movement [s/veh]	67.63	59.31	59.31	46.79	49.69	55.22	58.57	52.98	34.11	68.82	26.76	28.68
Movement LOS	E	E	E	D	D	E	E	D	C	E	C	C
d_A, Approach Delay [s/veh]	64.19			51.71			49.38			32.72		
Approach LOS	E			D			D			C		
d_I, Intersection Delay [s/veh]	44.26											
Intersection LOS	D											
Intersection V/C	0.938											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.568	3.288	3.112
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	517	600	767	833
d_b, Bicycle Delay [s]	33.00	29.40	22.82	20.42
l_b,int, Bicycle LOS Score for Intersection	2.470	2.149	3.283	2.847
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	16.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.525

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	500	102	533	420	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	500	102	533	420	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	132	27	140	111	0	0
Total Analysis Volume [veh/h]	526	107	561	442	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	21	0	69	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	52	52	30	86	
g / C, Green / Cycle	0.57	0.57	0.34	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.17	0.17	0.31	0.12	
s, saturation flow rate [veh/h]	1900	1900	1800	3800	
c, Capacity [veh/h]	1089	1089	609	3631	
d1, Uniform Delay [s]	9.84	9.84	28.63	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.68	0.68	6.37	0.07	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.29	0.29	0.92	0.12	
d, Delay for Lane Group [s/veh]	10.52	10.52	35.00	0.17	
Lane Group LOS	B	B	C	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	3.16	3.16	12.21	0.03	
50th-Percentile Queue Length [ft]	79.11	79.11	305.14	0.87	
95th-Percentile Queue Length [veh]	5.70	5.70	17.94	0.06	
95th-Percentile Queue Length [ft]	142.39	142.39	448.38	1.56	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	10.52	10.52	35.00	0.17	0.00	0.00
Movement LOS	B	B	C	A		
d_A, Approach Delay [s/veh]	10.52		19.65		0.00	
Approach LOS	B		B		A	
d_I, Intersection Delay [s/veh]	16.12					
Intersection LOS	B					
Intersection V/C	0.525					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	34.67
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	2.074
Crosswalk LOS	F	F	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.655	4.960	4.132
Bicycle LOS	E	E	D

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	21.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.751

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	340	3	219	10	0	29	26	1559	0	0	1811	21
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	340	3	219	10	0	29	26	1559	0	0	1811	21
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	89	1	58	3	0	8	7	410	0	0	477	6
Total Analysis Volume [veh/h]	358	3	231	11	0	31	27	1641	0	0	1906	22
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	47	0	10	0	0	10	53	0	0	43	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	17	17	4	3	77	69	69
g / C, Green / Cycle	0.15	0.15	0.04	0.03	0.70	0.63	0.63
(v / s)_i Volume / Saturation Flow Rate	0.11	0.12	0.02	0.02	0.43	0.51	0.51
s, saturation flow rate [veh/h]	3400	1900	1800	1800	3800	1900	1900
c, Capacity [veh/h]	520	291	72	56	2652	1198	1198
d1, Uniform Delay [s]	44.11	45.01	51.93	52.44	8.84	15.25	15.25
k, delay calibration	0.11	0.11	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.63	5.20	7.32	6.30	1.09	5.81	5.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.69	0.80	0.58	0.48	0.62	0.80	0.80
d, Delay for Lane Group [s/veh]	45.74	50.21	59.25	58.74	9.93	21.06	21.06
Lane Group LOS	D	D	E	E	A	C	C
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	4.72	6.56	1.28	0.83	9.55	18.35	18.35
50th-Percentile Queue Length [ft]	118.00	163.98	32.10	20.77	238.83	458.80	458.80
95th-Percentile Queue Length [veh]	8.28	10.76	2.31	1.50	14.62	25.38	25.38
95th-Percentile Queue Length [ft]	207.08	268.98	57.79	37.38	365.55	634.45	634.45

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	45.74	50.21	50.21	59.25	0.00	59.25	58.74	9.93	0.00	0.00	21.06	21.06
Movement LOS	D	D	D	E		E	E	A			C	C
d_A, Approach Delay [s/veh]	47.51			59.25			10.72			21.06		
Approach LOS	D			E			B			C		
d_I, Intersection Delay [s/veh]	21.06											
Intersection LOS	C											
Intersection V/C	0.751											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	44.55	44.55	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.142	1.770	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	782	0	891	709
d_b, Bicycle Delay [s]	20.40	55.00	16.91	22.91
l_b,int, Bicycle LOS Score for Intersection	2.536	4.202	2.936	3.150
Bicycle LOS	B	D	C	C

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	40.8
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.015

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	264	243	78	255	172	896	803	656	175	105	768	221
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	264	243	78	255	172	896	803	656	175	105	768	221
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	69	64	21	67	45	236	211	173	46	28	202	58
Total Analysis Volume [veh/h]	278	256	82	268	181	943	845	691	184	111	808	233
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	37	29	0	49	41	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	38	28	28	38	28	64	33	61	61	9	37	37
g / C, Green / Cycle	0.31	0.23	0.23	0.31	0.23	0.54	0.27	0.51	0.51	0.08	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.15	0.09	0.09	0.15	0.05	0.50	0.25	0.23	0.23	0.06	0.28	0.26
s, saturation flow rate [veh/h]	1800	1900	1900	1800	3800	1900	3400	1900	1900	1800	1900	1900
c, Capacity [veh/h]	574	436	436	502	872	1021	934	968	968	140	593	593
d1, Uniform Delay [s]	33.49	39.27	38.98	33.28	37.43	25.49	42.00	18.85	18.68	54.42	39.68	38.56
k, delay calibration	0.17	0.11	0.11	0.15	0.11	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.00	0.60	0.53	1.26	0.12	14.85	3.63	1.57	1.48	9.75	20.55	13.75
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.40	0.37	0.53	0.21	0.92	0.90	0.46	0.45	0.79	0.91	0.84
d, Delay for Lane Group [s/veh]	34.49	39.86	39.51	34.54	37.54	40.33	45.62	20.42	20.17	64.17	60.24	52.30
Lane Group LOS	C	D	D	C	D	D	D	C	C	E	E	D
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.74	4.47	4.12	6.48	2.18	27.68	12.45	8.23	7.91	3.68	18.52	15.89
50th-Percentile Queue Length [ft]	168.42	111.82	103.02	161.88	54.50	692.09	311.30	205.86	197.71	91.88	462.94	397.14
95th-Percentile Queue Length [veh]	10.99	7.94	7.42	10.65	3.92	36.31	18.24	12.94	12.52	6.62	25.57	22.42
95th-Percentile Queue Length [ft]	274.84	198.53	185.43	266.21	98.10	907.81	455.98	323.51	313.01	165.38	639.37	560.55

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.49	39.75	39.51	34.54	37.54	40.33	45.62	20.33	20.17	64.17	57.61	52.30
Movement LOS	C	D	D	C	D	D	D	C	C	E	E	D
d_A, Approach Delay [s/veh]	37.35			38.85			32.74			57.17		
Approach LOS	D			D			C			E		
d_I, Intersection Delay [s/veh]	40.83											
Intersection LOS	D											
Intersection V/C	1.015											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.527	2.910	3.257	2.908
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	467	467	417	617
d_b, Bicycle Delay [s]	35.27	35.27	37.60	28.70
l_b,int, Bicycle LOS Score for Intersection	2.068	2.708	2.979	2.510
Bicycle LOS	B	B	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	23.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.589

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	249	87	185	47	59	67	72	786	199	124	584	43
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	249	87	185	47	59	67	72	786	199	124	584	43
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	23	49	12	16	18	19	207	52	33	154	11
Total Analysis Volume [veh/h]	262	92	195	49	62	71	76	827	209	131	615	45
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	19	35	0	13	29	0	10	32	0	10	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	12	12	4	7	7	5	50	50	8	53	53
g / C, Green / Cycle	0.10	0.13	0.13	0.05	0.08	0.08	0.06	0.55	0.55	0.09	0.59	0.59
(v / s)_i Volume / Saturation Flow Rate	0.08	0.05	0.10	0.03	0.03	0.04	0.04	0.28	0.26	0.07	0.18	0.17
s, saturation flow rate [veh/h]	3400	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	349	248	248	87	145	145	104	1045	1045	168	1113	1113
d1, Uniform Delay [s]	39.34	35.81	37.98	41.97	39.76	39.95	41.80	12.72	12.40	39.95	9.38	9.34
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.27	0.92	5.44	5.57	1.98	2.53	9.45	1.80	1.57	7.50	0.69	0.67
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.75	0.37	0.79	0.56	0.43	0.49	0.73	0.51	0.48	0.78	0.30	0.29
d, Delay for Lane Group [s/veh]	42.61	36.73	43.42	47.54	41.74	42.49	51.25	14.52	13.97	47.45	10.08	10.01
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	B	B
Critical Lane Group	No	No	Yes	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.94	1.89	4.48	1.19	1.38	1.60	1.92	6.75	6.12	3.15	3.23	3.14
50th-Percentile Queue Length [ft]	73.46	47.23	111.97	29.75	34.43	39.88	47.90	168.79	152.88	78.75	80.70	78.44
95th-Percentile Queue Length [veh]	5.29	3.40	7.95	2.14	2.48	2.87	3.45	11.01	10.17	5.67	5.81	5.65
95th-Percentile Queue Length [ft]	132.23	85.02	198.74	53.55	61.98	71.79	86.22	275.33	254.27	141.75	145.26	141.19

Movement, Approach, & Intersection Results

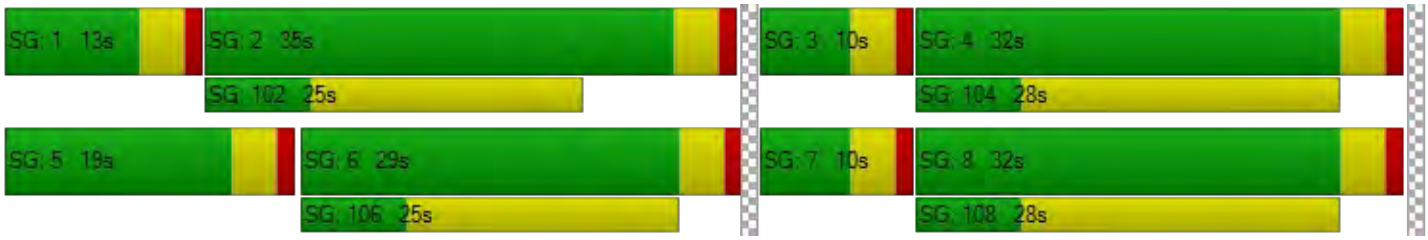
d_M, Delay for Movement [s/veh]	42.61	36.73	43.42	47.54	41.74	42.49	51.25	14.33	13.97	47.45	10.04	10.01
Movement LOS	D	D	D	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	41.91			43.59			16.78			16.24		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	23.71											
Intersection LOS	C											
Intersection V/C	0.589											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.607	2.227	2.701	2.662
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	689	556	622	622
d_b, Bicycle Delay [s]	19.34	23.47	21.36	21.36
l_b,int, Bicycle LOS Score for Intersection	2.465	1.710	2.477	2.212
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	29.9
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.549

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	186	435	56	73	368	97	99	374	234	53	249	78
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	186	435	56	73	368	97	99	374	234	53	249	78
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	114	15	19	97	26	26	98	62	14	66	21
Total Analysis Volume [veh/h]	196	458	59	77	387	102	104	394	246	56	262	82
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	29	0	22	29	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	12	21	21	5	15	15	7	43	43	5	41	41
g / C, Green / Cycle	0.13	0.24	0.24	0.06	0.16	0.16	0.08	0.48	0.48	0.05	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.11	0.14	0.13	0.04	0.13	0.12	0.06	0.18	0.16	0.03	0.09	0.09
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	236	449	449	105	310	310	136	905	905	92	859	859
d1, Uniform Delay [s]	38.18	30.52	30.34	41.78	36.39	36.06	40.87	15.05	14.67	41.88	14.92	14.84
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.30	1.22	1.12	9.54	5.09	3.91	8.45	1.19	0.98	6.25	0.54	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.83	0.59	0.56	0.74	0.81	0.76	0.76	0.38	0.33	0.61	0.21	0.19
d, Delay for Lane Group [s/veh]	45.48	31.73	31.45	51.32	41.48	39.97	49.33	16.24	15.64	48.13	15.47	15.35
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.63	5.12	4.89	1.94	5.69	5.23	2.56	4.52	3.86	1.37	2.23	2.10
50th-Percentile Queue Length [ft]	115.74	127.89	122.31	48.57	142.15	130.76	63.91	113.05	96.62	34.17	55.80	52.50
95th-Percentile Queue Length [veh]	8.16	8.82	8.52	3.50	9.60	8.98	4.60	8.01	6.96	2.46	4.02	3.78
95th-Percentile Queue Length [ft]	203.96	220.62	213.00	87.42	239.92	224.53	115.04	200.24	173.92	61.50	100.44	94.50

Movement, Approach, & Intersection Results

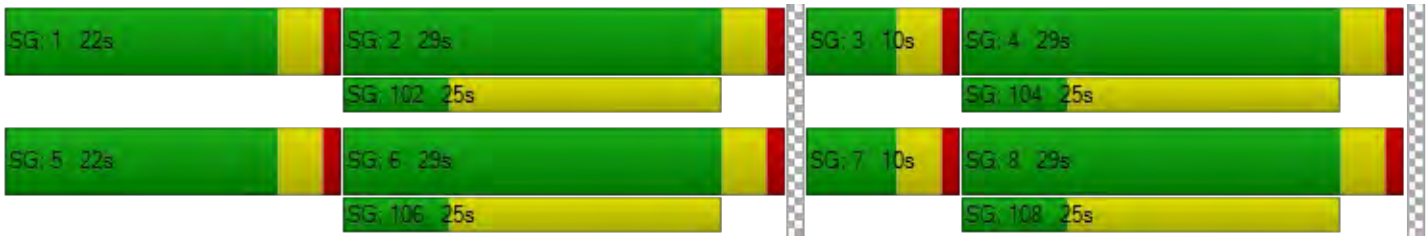
d_M, Delay for Movement [s/veh]	45.48	31.61	31.45	51.32	40.95	39.97	49.33	16.16	15.64	48.13	15.43	15.35
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	35.41			42.19			20.63			19.99		
Approach LOS	D			D			C			B		
d_I, Intersection Delay [s/veh]	29.91											
Intersection LOS	C											
Intersection V/C	0.549											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.573	2.535	2.554	2.481
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	556	556	556	556
d_b, Bicycle Delay [s]	23.47	23.47	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.148	2.027	2.173	1.890
Bicycle LOS	B	B	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.406

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	168	11	2	2	22	5	4	4	128	5	3	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	168	11	2	2	22	5	4	4	128	5	3	1
Peak Hour Factor	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	4	1	1	8	2	1	1	47	2	1	0
Total Analysis Volume [veh/h]	246	16	3	3	32	7	6	6	188	7	4	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	646	818	667	774	609	761	587	656
Degree of Utilization, x	0.41	0.00	0.05	0.01	0.01	0.26	0.01	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.97	0.01	0.17	0.03	0.03	1.01	0.04	0.02
95th-Percentile Queue Length [ft]	49.16	0.28	4.15	0.68	0.75	25.33	0.90	0.58
Approach Delay [s/veh]	11.97		8.23		9.04		8.62	
Approach LOS	B		A		A		A	
Intersection Delay [s/veh]	10.46							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.506

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	204	0	0	0	0	0	321	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	204	0	0	0	0	0	321	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	66	0	0	0	0	0	104	0
Total Analysis Volume [veh/h]	0	0	0	0	266	0	0	0	0	0	418	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	18.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	70.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			18.64			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	7.25											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	30.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.930

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	359	577	460	31	398	0	34	7	43	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	359	577	460	31	398	0	34	7	43	0	0	0
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	156	125	8	108	0	9	2	12	0	0	0
Total Analysis Volume [veh/h]	389	625	498	34	431	0	37	8	47	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	545	579	653	505	511	384	434	
Degree of Utilization, x	0.93	0.88	0.76	0.46	0.46	0.12	0.11	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	11.60	10.00	7.06	2.39	2.35	0.40	0.35	
95th-Percentile Queue Length [ft]	290.03	249.93	176.47	59.71	58.74	10.11	8.83	
Approach Delay [s/veh]	36.68			15.63		12.66		0.00
Approach LOS	E			C		B		A
Intersection Delay [s/veh]	30.88							
Intersection LOS	D							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.998

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	1396	435	0	0	726
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1396	435	0	0	726
Peak Hour Factor	0.9500	0.9180	0.9180	0.9500	0.9500	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	380	118	0	0	198
Total Analysis Volume [veh/h]	0	1521	474	0	0	791
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.00	1.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.98
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	2.83
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	70.72
d_A, Approach Delay [s/veh]	0.00		0.00		13.98	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.97					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 5: Victoria Avenue at Lynwood Drive

Control Type:	Signalized	Delay (sec / veh):	12.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.645

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Lynwood Drive	
Base Volume Input [veh/h]	163	1512	1241	0	0	216
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	163	1512	1241	0	0	216
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	43	398	327	0	0	57
Total Analysis Volume [veh/h]	172	1592	1306	0	0	227
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protected	Permissive	Permissive	Permissive	Split	Split
Signal group	5	2	6	0	0	8
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	6	6	0	0	6
Maximum Green [s]	30	30	30	0	0	30
Amber [s]	3.0	3.0	3.0	0.0	0.0	3.0
All red [s]	1.0	1.0	1.0	0.0	0.0	1.0
Split [s]	19	37	18	0	0	53
Vehicle Extension [s]	3.0	3.0	3.0	0.0	0.0	3.0
Walk [s]	0	0	7	0	0	7
Pedestrian Clearance [s]	0	0	7	0	0	14
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
I2, Clearance Lost Time [s]	2.0	2.0	2.0	0.0	0.0	2.0
Minimum Recall	No	No	No			No
Maximum Recall	No	No	No			No
Pedestrian Recall	No	No	No			No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	R
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	10	69	55	13
g / C, Green / Cycle	0.12	0.77	0.61	0.14
(v / s)_i Volume / Saturation Flow Rate	0.10	0.42	0.34	0.12
s, saturation flow rate [veh/h]	1800	3800	3800	1900
c, Capacity [veh/h]	209	2911	2300	276
d1, Uniform Delay [s]	38.88	4.24	10.69	37.37
k, delay calibration	0.11	0.50	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.80	0.74	1.02	6.10
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.55	0.57	0.82
d, Delay for Lane Group [s/veh]	46.68	4.99	11.71	43.46
Lane Group LOS	D	A	B	D
Critical Lane Group	Yes	No	Yes	Yes
50th-Percentile Queue Length [veh]	4.11	4.36	7.26	5.24
50th-Percentile Queue Length [ft]	102.73	108.96	181.61	130.90
95th-Percentile Queue Length [veh]	7.40	7.78	11.68	8.99
95th-Percentile Queue Length [ft]	184.92	194.55	292.12	224.72

Movement, Approach, & Intersection Results

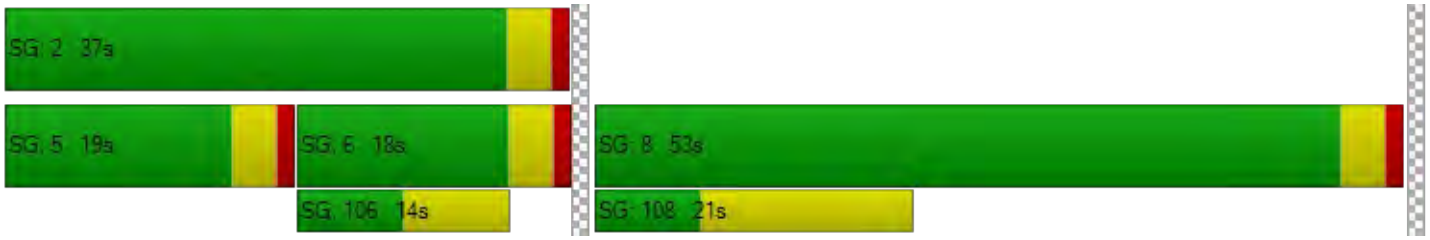
d_M, Delay for Movement [s/veh]	46.68	4.99	11.71	0.00	0.00	43.46
Movement LOS	D	A	B			D
d_A, Approach Delay [s/veh]	9.05		11.71		43.46	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	12.47					
Intersection LOS	B					
Intersection V/C	0.645					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.942	2.837	1.909
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	5.588	5.210	4.132
Bicycle LOS	F	F	D

Sequence

Ring 1	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 6: Victoria Avenue at Mirada Road

Control Type:	Signalized	Delay (sec / veh):	4.3
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.557

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Mirada Road	
Base Volume Input [veh/h]	1603	26	19	1369	26	16
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1603	26	19	1369	26	16
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	422	7	5	360	7	4
Total Analysis Volume [veh/h]	1687	27	20	1441	27	17
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Split	Split
Signal group	2	0	1	6	7	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	Lead	-
Minimum Green [s]	6	0	6	6	6	0
Maximum Green [s]	30	0	30	30	30	0
Amber [s]	3.0	0.0	3.0	3.0	3.0	0.0
All red [s]	1.0	0.0	1.0	1.0	1.0	0.0
Split [s]	56	0	10	66	29	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	3.0	0.0
Walk [s]	7	0	0	0	7	0
Pedestrian Clearance [s]	7	0	0	0	18	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	2.0	0.0
Minimum Recall	No		No	No	No	
Maximum Recall	No		No	No	No	
Pedestrian Recall	No		No	No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	C
C, Cycle Length [s]	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	76	76	2	83	4
g / C, Green / Cycle	0.80	0.80	0.03	0.87	0.04
(v / s)_i Volume / Saturation Flow Rate	0.45	0.45	0.01	0.38	0.02
s, saturation flow rate [veh/h]	1900	1900	1800	3800	1800
c, Capacity [veh/h]	1526	1526	48	3313	79
d1, Uniform Delay [s]	3.35	3.35	45.53	1.26	44.51
k, delay calibration	0.50	0.50	0.11	0.50	0.11
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.50	1.50	5.77	0.42	5.99
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.56	0.42	0.43	0.56
d, Delay for Lane Group [s/veh]	4.85	4.85	51.30	1.67	50.50
Lane Group LOS	A	A	D	A	D
Critical Lane Group	Yes	No	Yes	No	Yes
50th-Percentile Queue Length [veh]	4.21	4.21	0.54	0.76	1.14
50th-Percentile Queue Length [ft]	105.36	105.36	13.45	19.03	28.49
95th-Percentile Queue Length [veh]	7.58	7.58	0.97	1.37	2.05
95th-Percentile Queue Length [ft]	189.54	189.54	24.20	34.25	51.29

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	4.85	4.85	51.30	1.67	50.50	50.50
Movement LOS	A	A	D	A	D	D
d_A, Approach Delay [s/veh]	4.85		2.35		50.50	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	4.34					
Intersection LOS	A					
Intersection V/C	0.557					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	2.909	2.919	1.761
Crosswalk LOS	C	C	A
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	47.50	47.50	47.50
l_b,int, Bicycle LOS Score for Intersection	5.546	5.338	4.205
Bicycle LOS	F	F	D

Sequence

Ring 1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	6	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 7: Victoria Avenue at Date Street

Control Type:	Two-way stop	Delay (sec / veh):	35.3
Analysis Method:	HCM 6th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.000

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Date Street	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	45.00		45.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		No	

Volumes

Name	Victoria Avenue		Victoria Avenue		Date Street	
Base Volume Input [veh/h]	1630	0	0	1401	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1630	0	0	1401	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	429	0	0	369	0	0
Total Analysis Volume [veh/h]	1716	0	0	1475	0	0
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			No
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			Yes
Number of Storage Spaces in Median	0	0	2

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.01	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	14.86	0.00	35.30	16.99
Movement LOS	A	A	B	A	E	C
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00		0.00		26.15	
Approach LOS	A		A		D	
d_I, Intersection Delay [s/veh]	0.00					
Intersection LOS	E					

Intersection Level Of Service Report
Intersection 8: Sterling Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	31.7
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.590

Intersection Setup

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Sterling Avenue			Sterling Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	167	374	80	119	262	85	110	507	154	173	546	136
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	167	374	80	119	262	85	110	507	154	173	546	136
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	44	98	21	31	69	22	29	133	41	46	144	36
Total Analysis Volume [veh/h]	176	394	84	125	276	89	116	534	162	182	575	143
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	22	35	0	21	34	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	95	95	95	95	95	95	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	11	15	15	8	12	12	8	44	44	12	48	48
g / C, Green / Cycle	0.12	0.16	0.16	0.09	0.13	0.13	0.08	0.46	0.46	0.12	0.50	0.50
(v / s)_i Volume / Saturation Flow Rate	0.10	0.13	0.12	0.07	0.10	0.09	0.06	0.19	0.18	0.10	0.20	0.18
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	214	301	301	159	244	244	150	877	877	222	953	953
d1, Uniform Delay [s]	40.95	38.68	38.38	42.48	40.13	39.86	42.72	17.05	16.75	40.68	14.71	14.47
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.73	5.34	4.18	8.21	5.16	4.06	8.14	1.44	1.26	7.30	1.20	1.08
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.82	0.81	0.77	0.78	0.77	0.72	0.77	0.41	0.38	0.82	0.39	0.36
d, Delay for Lane Group [s/veh]	48.68	44.02	42.55	50.70	45.29	43.91	50.86	18.49	18.01	47.97	15.91	15.55
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	B	B
Critical Lane Group	No	Yes	No	Yes	No	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	4.44	5.91	5.47	3.21	4.56	4.20	2.98	5.40	4.89	4.56	5.05	4.63
50th-Percentile Queue Length [ft]	110.98	147.63	136.82	80.30	114.11	104.94	74.62	135.12	122.26	113.90	126.33	115.71
95th-Percentile Queue Length [veh]	7.89	9.89	9.31	5.78	8.07	7.56	5.37	9.22	8.52	8.06	8.74	8.16
95th-Percentile Queue Length [ft]	197.36	247.27	232.74	144.53	201.70	188.89	134.31	230.44	212.93	201.41	218.49	203.92

Movement, Approach, & Intersection Results

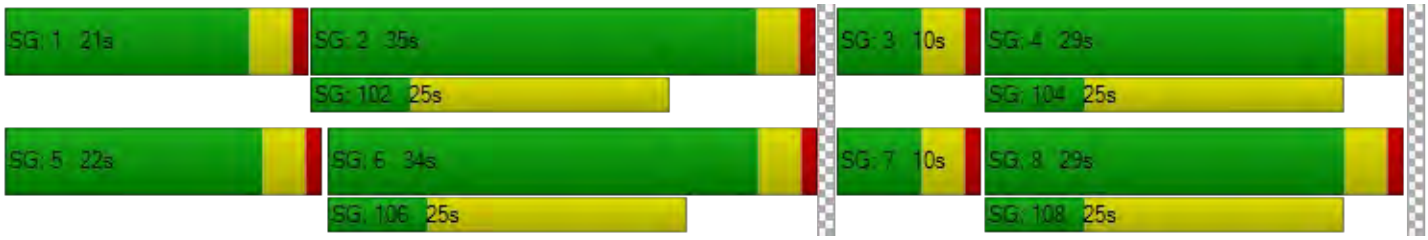
d_M, Delay for Movement [s/veh]	48.68	43.47	42.55	50.70	44.85	43.91	50.86	18.33	18.01	47.97	15.78	15.55
Movement LOS	D	D	D	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	44.75			46.17			22.91			22.26		
Approach LOS	D			D			C			C		
d_I, Intersection Delay [s/veh]	31.70											
Intersection LOS	C											
Intersection V/C	0.590											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	37.14	37.14	37.14	37.14
l_p,int, Pedestrian LOS Score for Intersection	2.551	2.525	2.624	2.622
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	653	632	526	526
d_b, Bicycle Delay [s]	21.56	22.24	25.79	25.79
l_b,int, Bicycle LOS Score for Intersection	2.099	1.964	2.230	2.302
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 9: SR-210 EB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	20.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.690

Intersection Setup

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No		No	
Crosswalk	Yes		No		No	

Volumes

Name	SR-210 EB Off-Ramp		Highland Avenue		Highland Avenue	
Base Volume Input [veh/h]	1378	175	0	706	728	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	1378	175	0	706	728	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	363	46	0	186	192	0
Total Analysis Volume [veh/h]	1451	184	0	743	766	0
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Split	Split	Permissive	Permissive	Permissive	Permissive
Signal group	1	0	0	8	4	0
Auxiliary Signal Groups						
Lead / Lag	Lead	-	-	-	-	-
Minimum Green [s]	6	0	0	6	6	0
Maximum Green [s]	30	0	0	30	30	0
Amber [s]	3.0	0.0	0.0	3.0	3.0	0.0
All red [s]	1.0	0.0	0.0	1.0	1.0	0.0
Split [s]	65	0	0	25	25	0
Vehicle Extension [s]	3.0	0.0	0.0	3.0	3.0	0.0
Walk [s]	0	0	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	14	0
Rest In Walk	No			No	No	
I1, Start-Up Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	0.0	2.0	2.0	0.0
Minimum Recall	No			No	No	
Maximum Recall	No			No	No	
Pedestrian Recall	No			No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	R	C	C
C, Cycle Length [s]	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	43	43	39	39
g / C, Green / Cycle	0.48	0.48	0.43	0.43
(v / s)_i Volume / Saturation Flow Rate	0.43	0.10	0.20	0.20
s, saturation flow rate [veh/h]	3400	1900	3800	3800
c, Capacity [veh/h]	1628	910	1642	1642
d1, Uniform Delay [s]	21.28	13.51	18.01	18.14
k, delay calibration	0.11	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.88	0.11	0.90	0.95
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.89	0.20	0.45	0.47
d, Delay for Lane Group [s/veh]	23.16	13.61	18.91	19.10
Lane Group LOS	C	B	B	B
Critical Lane Group	Yes	No	No	Yes
50th-Percentile Queue Length [veh]	13.23	2.09	5.43	5.64
50th-Percentile Queue Length [ft]	330.83	52.22	135.73	141.09
95th-Percentile Queue Length [veh]	19.20	3.76	9.25	9.54
95th-Percentile Queue Length [ft]	479.97	94.00	231.26	238.49

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	23.16	13.61	0.00	18.91	19.10	0.00
Movement LOS	C	B		B	B	
d_A, Approach Delay [s/veh]	22.09		18.91		19.10	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	20.61					
Intersection LOS	C					
Intersection V/C	0.690					

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.471	0.000	0.000
Crosswalk LOS	B	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0
d_b, Bicycle Delay [s]	45.00	45.00	45.00
l_b,int, Bicycle LOS Score for Intersection	4.132	4.745	4.764
Bicycle LOS	D	E	E

Sequence

Ring 1	1	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 10: Arden Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	52.2
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.017

Intersection Setup

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	No			Yes			Yes			Yes		

Volumes

Name	Arden Avenue			Arden Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	257	83	87	123	209	294	210	1660	278	307	1688	253
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	257	83	87	123	209	294	210	1660	278	307	1688	253
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	68	22	23	32	55	77	55	437	73	81	444	67
Total Analysis Volume [veh/h]	271	87	92	129	220	309	221	1747	293	323	1777	266
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lag	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	36	0	18	41	0	10	56	0	10	56	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	0	0	0	7	0
Pedestrian Clearance [s]	0	24	0	0	28	0	0	0	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	L	C	C	L	C	R	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	13	18	22	22	10	52	52	21	63	63
g / C, Green / Cycle	0.08	0.11	0.15	0.19	0.19	0.08	0.43	0.43	0.17	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.08	0.09	0.07	0.12	0.16	0.07	0.46	0.15	0.18	0.36	0.36
s, saturation flow rate [veh/h]	3400	1900	1800	1900	1900	3400	3800	1900	1800	3800	1900
c, Capacity [veh/h]	255	213	267	352	352	286	1652	826	309	1985	992
d1, Uniform Delay [s]	55.50	52.25	46.86	45.03	47.55	53.85	33.92	22.68	49.70	21.31	21.41
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.24	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	44.39	8.69	1.35	1.82	7.03	4.47	39.24	1.19	48.18	1.94	3.93
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	1.06	0.84	0.48	0.62	0.88	0.77	1.06	0.35	1.05	0.68	0.69
d, Delay for Lane Group [s/veh]	99.89	60.94	48.21	46.85	54.58	58.31	73.16	23.87	97.88	23.25	25.33
Lane Group LOS	F	E	D	D	D	E	F	C	F	C	C
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	5.43	5.79	3.64	6.22	9.64	3.44	32.34	5.81	13.35	14.32	15.04
50th-Percentile Queue Length [ft]	135.69	144.84	91.09	155.41	241.10	86.12	808.57	145.26	333.75	357.96	375.93
95th-Percentile Queue Length [veh]	9.43	9.74	6.56	10.31	14.74	6.20	43.48	9.76	19.78	20.52	21.40
95th-Percentile Queue Length [ft]	235.77	243.53	163.96	257.64	368.43	155.02	1087.03	244.10	494.52	513.11	534.92

Movement, Approach, & Intersection Results

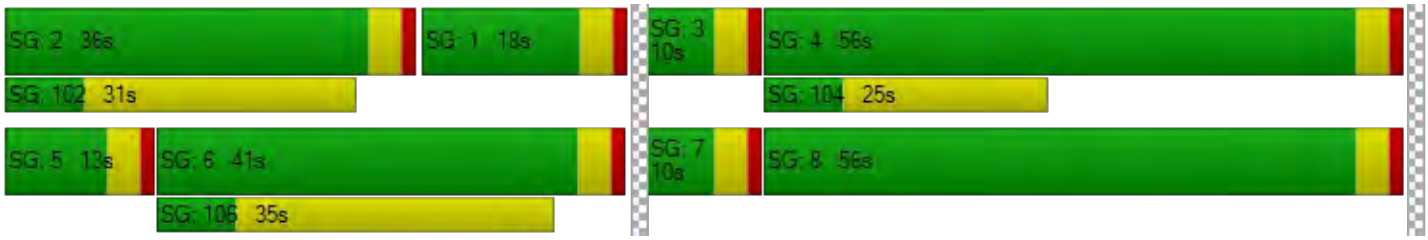
d_M, Delay for Movement [s/veh]	99.89	60.94	60.94	48.21	46.85	54.58	58.31	73.16	23.87	97.88	23.74	25.33
Movement LOS	F	E	E	D	D	D	E	F	C	F	C	C
d_A, Approach Delay [s/veh]	84.40			50.75			65.32			34.04		
Approach LOS	F			D			E			C		
d_I, Intersection Delay [s/veh]	52.24											
Intersection LOS	D											
Intersection V/C	1.017											

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	0.000	2.554	3.302	3.171
Crosswalk LOS	F	B	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	533	617	867	867
d_b, Bicycle Delay [s]	32.27	28.70	19.27	19.27
l_b,int, Bicycle LOS Score for Intersection	2.302	2.102	3.425	2.861
Bicycle LOS	B	B	C	C

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 11: Arden Avenue at SR-210 EB On-Ramp

Control Type:	Signalized	Delay (sec / veh):	16.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.441

Intersection Setup

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Approach	Northbound		Southbound		Westbound	
Lane Configuration						
Turning Movement	Thru	Right	Left	Thru	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Curb Present	No		No			
Crosswalk	No		No		Yes	

Volumes

Name	Arden Avenue		Arden Avenue		SR-210 EB On-Ramp	
Base Volume Input [veh/h]	375	75	474	329	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	375	75	474	329	0	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	99	20	125	87	0	0
Total Analysis Volume [veh/h]	395	79	499	346	0	0
Presence of On-Street Parking	No	No	No	No		
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0		0		0	
v_di, Inbound Pedestrian Volume crossing m	0		0		0	
v_co, Outbound Pedestrian Volume crossing	0		0		0	
v_ci, Inbound Pedestrian Volume crossing mi	0		0		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	8.00

Phasing & Timing

Control Type	Permissive	Permissive	Protected	Permissive	Permissive	Permissive
Signal group	2	0	3	8	0	0
Auxiliary Signal Groups						
Lead / Lag	-	-	Lead	-	-	-
Minimum Green [s]	6	0	6	6	0	0
Maximum Green [s]	30	0	30	30	0	0
Amber [s]	3.0	0.0	3.0	3.0	0.0	0.0
All red [s]	1.0	0.0	1.0	1.0	0.0	0.0
Split [s]	18	0	72	90	0	0
Vehicle Extension [s]	3.0	0.0	3.0	3.0	0.0	0.0
Walk [s]	7	0	0	0	0	0
Pedestrian Clearance [s]	7	0	0	0	0	0
Rest In Walk	No			No		
I1, Start-Up Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
I2, Clearance Lost Time [s]	2.0	0.0	2.0	2.0	0.0	0.0
Minimum Recall	No		No	No		
Maximum Recall	No		No	No		
Pedestrian Recall	No		No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	L	C	
C, Cycle Length [s]	90	90	90	90	
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	
g_i, Effective Green Time [s]	55	55	27	86	
g / C, Green / Cycle	0.61	0.61	0.30	0.96	
(v / s)_i Volume / Saturation Flow Rate	0.12	0.12	0.28	0.09	
s, saturation flow rate [veh/h]	1900	1900	1800	3800	
c, Capacity [veh/h]	1155	1155	546	3631	
d1, Uniform Delay [s]	7.91	7.91	30.20	0.10	
k, delay calibration	0.50	0.50	0.11	0.50	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	0.40	0.40	6.46	0.05	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.21	0.21	0.91	0.10	
d, Delay for Lane Group [s/veh]	8.31	8.31	36.66	0.15	
Lane Group LOS	A	A	D	A	
Critical Lane Group	Yes	No	Yes	No	
50th-Percentile Queue Length [veh]	2.00	2.00	11.01	0.03	
50th-Percentile Queue Length [ft]	50.11	50.11	275.16	0.66	
95th-Percentile Queue Length [veh]	3.61	3.61	16.45	0.05	
95th-Percentile Queue Length [ft]	90.19	90.19	411.18	1.18	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	8.31	8.31	36.66	0.15	0.00	0.00
Movement LOS	A	A	D	A		
d_A, Approach Delay [s/veh]	8.31		21.71		0.00	
Approach LOS	A		C		A	
d_I, Intersection Delay [s/veh]	16.90					
Intersection LOS	B					
Intersection V/C	0.441					

Other Modes

g_Walk,mi, Effective Walk Time [s]	0.0	0.0	11.0	
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	
d_p, Pedestrian Delay [s]	0.00	0.00	34.67	
l_p,int, Pedestrian LOS Score for Intersection	0.000	0.000	1.986	
Crosswalk LOS	F	F	A	
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	
c_b, Capacity of the bicycle lane [bicycles/h]	0	0	0	
d_b, Bicycle Delay [s]	45.00	45.00	45.00	
l_b,int, Bicycle LOS Score for Intersection	4.523	4.830	4.132	
Bicycle LOS	E	E	D	

Sequence

Ring 1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 12: SR-210 WB Off-Ramp at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	33.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.865

Intersection Setup

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			No			No		

Volumes

Name	SR-210 WB Off-Ramp			Denny's Driveway			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	318	6	332	19	0	66	34	1772	0	0	1856	28
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	318	6	332	19	0	66	34	1772	0	0	1856	28
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	2	87	5	0	17	9	466	0	0	488	7
Total Analysis Volume [veh/h]	335	6	349	20	0	69	36	1865	0	0	1954	29
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Split	Split	Permiss	Split	Protecte	Permiss	Permiss	Permiss	Permiss	Permiss
Signal group	0	2	0	1	0	0	3	8	0	0	4	0
Auxiliary Signal Groups												
Lead / Lag	-	-	-	Lead	-	-	Lead	-	-	-	-	-
Minimum Green [s]	0	6	0	6	0	0	6	6	0	0	6	0
Maximum Green [s]	0	30	0	30	0	0	30	30	0	0	30	0
Amber [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
All red [s]	0.0	1.0	0.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0
Split [s]	0	29	0	11	0	0	10	80	0	0	70	0
Vehicle Extension [s]	0.0	3.0	0.0	3.0	0.0	0.0	3.0	3.0	0.0	0.0	3.0	0.0
Walk [s]	0	0	0	0	0	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0	14	0	0	7	0
Rest In Walk		No		No				No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	2.0	0.0
Minimum Recall		No		No			No	No			No	
Maximum Recall		No		No			No	No			No	
Pedestrian Recall		No		No			No	No			No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	24	24	7	4	76	68	68
g / C, Green / Cycle	0.20	0.20	0.06	0.04	0.64	0.57	0.57
(v / s)_i Volume / Saturation Flow Rate	0.10	0.19	0.05	0.02	0.49	0.52	0.52
s, saturation flow rate [veh/h]	3400	1900	1800	1800	3800	1900	1900
c, Capacity [veh/h]	690	386	111	63	2415	1078	1078
d1, Uniform Delay [s]	42.33	46.93	55.64	57.06	15.66	23.54	23.54
k, delay calibration	0.11	0.27	0.11	0.11	0.50	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.53	18.86	12.52	7.81	2.47	13.88	13.88
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.49	0.92	0.80	0.57	0.77	0.92	0.92
d, Delay for Lane Group [s/veh]	42.86	65.78	68.16	64.87	18.13	37.42	37.42
Lane Group LOS	D	E	E	E	B	D	D
Critical Lane Group	No	Yes	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh]	4.46	12.37	3.04	1.21	17.81	28.11	28.11
50th-Percentile Queue Length [ft]	111.40	309.25	76.12	30.34	445.15	702.70	702.70
95th-Percentile Queue Length [veh]	7.92	18.14	5.48	2.18	24.73	36.80	36.80
95th-Percentile Queue Length [ft]	197.95	453.45	137.02	54.60	618.16	920.07	920.07

Movement, Approach, & Intersection Results

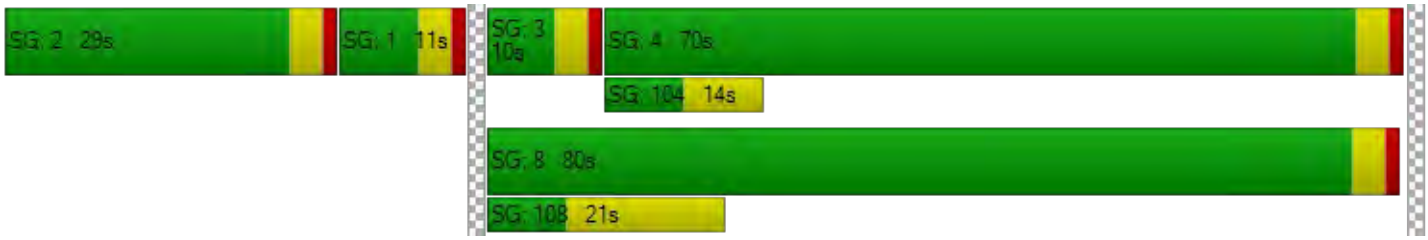
d_M, Delay for Movement [s/veh]	42.86	65.78	65.78	68.16	0.00	68.16	64.87	18.13	0.00	0.00	37.42	37.42
Movement LOS	D	E	E	E		E	E	B			D	D
d_A, Approach Delay [s/veh]	54.65			68.16			19.02			37.42		
Approach LOS	D			E			B			D		
d_I, Intersection Delay [s/veh]	33.05											
Intersection LOS	C											
Intersection V/C	0.865											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	0.0	0.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	0.00	0.00
l_p,int, Pedestrian LOS Score for Intersection	2.178	1.807	0.000	0.000
Crosswalk LOS	B	A	F	F
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	417	0	1267	1100
d_b, Bicycle Delay [s]	37.60	60.00	8.07	12.15
l_b,int, Bicycle LOS Score for Intersection	2.698	4.279	3.128	3.196
Bicycle LOS	B	E	C	C

Sequence

Ring 1	2	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 13: Victoria Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	49.3
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	1.104

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	274	185	53	185	139	1049	1183	651	145	75	583	242
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	274	185	53	185	139	1049	1183	651	145	75	583	242
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	72	49	14	49	37	276	311	171	38	20	153	64
Total Analysis Volume [veh/h]	288	195	56	195	146	1104	1245	685	153	79	614	255
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	120
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	6	3	8	0	7	4	0
Auxiliary Signal Groups						3,6						
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	6	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	10	32	0	10	32	32	46	29	0	49	32	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	3.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	7	0	7	0	0	7	0
Pedestrian Clearance [s]	0	21	0	0	21	21	0	18	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No	No	No	No		No	No	
Maximum Recall	No	No		No	No	No	No	No		No	No	
Pedestrian Recall	No	No		No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	R	L	C	C	L	C	C
C, Cycle Length [s]	120	120	120	120	120	120	120	120	120	120	120	120
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	0.00	2.00	2.00	0.00	2.00	0.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	38	28	28	38	28	74	42	63	63	7	28	28
g / C, Green / Cycle	0.32	0.23	0.23	0.32	0.23	0.62	0.35	0.53	0.53	0.06	0.23	0.23
(v / s)_i Volume / Saturation Flow Rate	0.16	0.07	0.06	0.11	0.04	0.58	0.37	0.22	0.22	0.04	0.24	0.22
s, saturation flow rate [veh/h]	1800	1900	1900	1800	3800	1900	3400	1900	1900	1800	1900	1900
c, Capacity [veh/h]	603	443	443	557	885	1174	1195	1001	1001	102	441	441
d1, Uniform Delay [s]	33.38	37.88	37.71	31.45	36.71	20.92	38.91	17.24	17.24	55.81	46.07	45.17
k, delay calibration	0.19	0.11	0.11	0.11	0.11	0.50	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.01	0.36	0.33	0.38	0.09	15.40	24.99	1.29	1.29	11.50	52.41	29.12
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.48	0.29	0.27	0.35	0.16	0.94	1.04	0.42	0.42	0.77	1.04	0.93
d, Delay for Lane Group [s/veh]	34.40	38.24	38.04	31.82	36.79	36.32	63.90	18.53	18.53	67.32	98.48	74.29
Lane Group LOS	C	D	D	C	D	D	F	B	B	E	F	E
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh]	6.99	3.20	2.99	4.41	1.73	31.03	21.42	7.29	7.29	2.69	19.46	15.51
50th-Percentile Queue Length [ft]	174.81	79.88	74.64	110.25	43.31	775.80	535.56	182.27	182.27	67.16	486.58	387.72
95th-Percentile Queue Length [veh]	11.33	5.75	5.37	7.85	3.12	40.17	29.84	11.72	11.72	4.84	27.26	21.97
95th-Percentile Queue Length [ft]	283.23	143.78	134.34	196.35	77.95	1004.19	745.94	292.97	292.97	120.89	681.50	549.18

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	34.40	38.17	38.04	31.82	36.79	36.32	63.90	18.53	18.53	67.32	92.29	74.29
Movement LOS	C	D	D	C	D	D	F	B	B	E	F	E
d_A, Approach Delay [s/veh]	36.14			35.76			45.65			85.37		
Approach LOS	D			D			D			F		
d_I, Intersection Delay [s/veh]	49.29											
Intersection LOS	D											
Intersection V/C	1.104											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	49.50	49.50	49.50	49.50
l_p,int, Pedestrian LOS Score for Intersection	2.492	2.977	3.327	2.750
Crosswalk LOS	B	C	C	C
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	467	467	417	467
d_b, Bicycle Delay [s]	35.27	35.27	37.60	35.27
l_b,int, Bicycle LOS Score for Intersection	2.004	2.752	3.278	2.342
Bicycle LOS	B	C	C	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 14: Palm Avenue at Highland Avenue

Control Type:	Signalized	Delay (sec / veh):	21.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.461

Intersection Setup

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Palm Avenue			Palm Avenue			Highland Avenue			Highland Avenue		
Base Volume Input [veh/h]	232	66	124	31	59	37	41	562	155	127	607	41
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	232	66	124	31	59	37	41	562	155	127	607	41
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	61	17	33	8	16	10	11	148	41	33	160	11
Total Analysis Volume [veh/h]	244	69	131	33	62	39	43	592	163	134	639	43
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	13	31	0	11	29	0	10	32	0	16	38	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	21	0	0	21	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	R	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	8	11	11	3	6	6	4	52	52	9	56	56
g / C, Green / Cycle	0.09	0.12	0.12	0.04	0.06	0.06	0.04	0.57	0.57	0.10	0.62	0.62
(v / s)_i Volume / Saturation Flow Rate	0.07	0.04	0.07	0.02	0.03	0.03	0.02	0.21	0.19	0.07	0.18	0.18
s, saturation flow rate [veh/h]	3400	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	319	223	223	70	119	119	81	1084	1084	172	1180	1180
d1, Uniform Delay [s]	39.88	36.45	37.72	42.43	40.74	40.70	42.12	10.47	10.28	39.85	7.90	7.87
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	3.81	0.78	2.45	4.87	2.49	2.34	5.28	0.93	0.84	7.40	0.63	0.61
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.76	0.31	0.59	0.47	0.43	0.42	0.53	0.36	0.34	0.78	0.29	0.29
d, Delay for Lane Group [s/veh]	43.69	37.22	40.17	47.30	43.23	43.05	47.40	11.40	11.11	47.24	8.53	8.47
Lane Group LOS	D	D	D	D	D	D	D	B	B	D	A	A
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	2.77	1.42	2.85	0.81	1.17	1.13	1.05	4.14	3.77	3.21	2.97	2.89
50th-Percentile Queue Length [ft]	69.30	35.60	71.37	20.17	29.23	28.16	26.13	103.48	94.25	80.36	74.19	72.23
95th-Percentile Queue Length [veh]	4.99	2.56	5.14	1.45	2.10	2.03	1.88	7.45	6.79	5.79	5.34	5.20
95th-Percentile Queue Length [ft]	124.74	64.07	128.47	36.30	52.62	50.68	47.03	186.26	169.64	144.65	133.54	130.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.69	37.22	40.17	47.30	43.20	43.05	47.40	11.30	11.11	47.24	8.50	8.47
Movement LOS	D	D	D	D	D	D	D	B	B	D	A	A
d_A, Approach Delay [s/veh]	41.65			44.16			13.21			14.86		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	21.48											
Intersection LOS	C											
Intersection V/C	0.461											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.583	2.201	2.635	2.606
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	600	556	622	756
d_b, Bicycle Delay [s]	22.05	23.47	21.36	17.42
l_b,int, Bicycle LOS Score for Intersection	2.292	1.670	2.218	2.233
Bicycle LOS	B	A	B	B

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Intersection Level Of Service Report
Intersection 15: Victoria Avenue at Pacific Street

Control Type:	Signalized	Delay (sec / veh):	29.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	No			No			No			No		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	Victoria Avenue			Victoria Avenue			Pacific Street			Pacific Street		
Base Volume Input [veh/h]	131	358	45	38	324	86	81	268	187	49	199	50
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	131	358	45	38	324	86	81	268	187	49	199	50
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	94	12	10	85	23	21	71	49	13	52	13
Total Analysis Volume [veh/h]	138	377	47	40	341	91	85	282	197	52	209	53
Presence of On-Street Parking	No		No	No		No	No		No	No		No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing	0			0			0			0		
v_di, Inbound Pedestrian Volume crossing m	0			0			0			0		
v_co, Outbound Pedestrian Volume crossing	0			0			0			0		
v_ci, Inbound Pedestrian Volume crossing mi	0			0			0			0		
v_ab, Corner Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	90
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	16.00

Phasing & Timing

Control Type	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal group	5	2	0	1	6	0	3	8	0	7	4	0
Auxiliary Signal Groups												
Lead / Lag	Lead	-	-	Lead	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	6	6	0	6	6	0	6	6	0	6	6	0
Maximum Green [s]	30	30	0	30	30	0	30	30	0	30	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
Split [s]	20	40	0	11	31	0	10	29	0	10	29	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
Walk [s]	0	7	0	0	7	0	0	7	0	0	7	0
Pedestrian Clearance [s]	0	18	0	0	18	0	0	18	0	0	18	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Minimum Recall	No	No		No	No		No	No		No	No	
Maximum Recall	No	No		No	No		No	No		No	No	
Pedestrian Recall	No	No		No	No		No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	L	C	C	L	C	C
C, Cycle Length [s]	90	90	90	90	90	90	90	90	90	90	90	90
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_i, Effective Green Time [s]	9	18	18	4	13	13	6	48	48	4	47	47
g / C, Green / Cycle	0.10	0.20	0.20	0.04	0.15	0.15	0.06	0.53	0.53	0.05	0.52	0.52
(v / s)_i Volume / Saturation Flow Rate	0.08	0.11	0.11	0.02	0.12	0.11	0.05	0.13	0.12	0.03	0.07	0.07
s, saturation flow rate [veh/h]	1800	1900	1900	1800	1900	1900	1800	1900	1900	1800	1900	1900
c, Capacity [veh/h]	175	381	381	78	279	279	114	1005	1005	89	979	979
d1, Uniform Delay [s]	39.81	32.50	32.36	42.19	37.14	36.88	41.54	11.56	11.36	41.94	11.39	11.36
k, delay calibration	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.50	0.50	0.11	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.72	1.32	1.23	5.06	5.09	4.07	9.42	0.60	0.52	5.88	0.29	0.28
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.79	0.57	0.55	0.51	0.79	0.75	0.75	0.25	0.22	0.58	0.14	0.13
d, Delay for Lane Group [s/veh]	47.53	33.81	33.59	47.25	42.23	40.95	50.96	12.16	11.88	47.81	11.68	11.64
Lane Group LOS	D	C	C	D	D	D	D	B	B	D	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	No	Yes	No	Yes	No	No
50th-Percentile Queue Length [veh]	3.32	4.30	4.14	0.97	5.04	4.68	2.13	2.77	2.41	1.27	1.40	1.34
50th-Percentile Queue Length [ft]	83.08	107.54	103.60	24.30	125.91	117.00	53.32	69.18	60.26	31.64	35.03	33.60
95th-Percentile Queue Length [veh]	5.98	7.70	7.46	1.75	8.72	8.23	3.84	4.98	4.34	2.28	2.52	2.42
95th-Percentile Queue Length [ft]	149.54	192.58	186.48	43.74	217.93	205.69	95.97	124.52	108.46	56.95	63.05	60.48

Movement, Approach, & Intersection Results

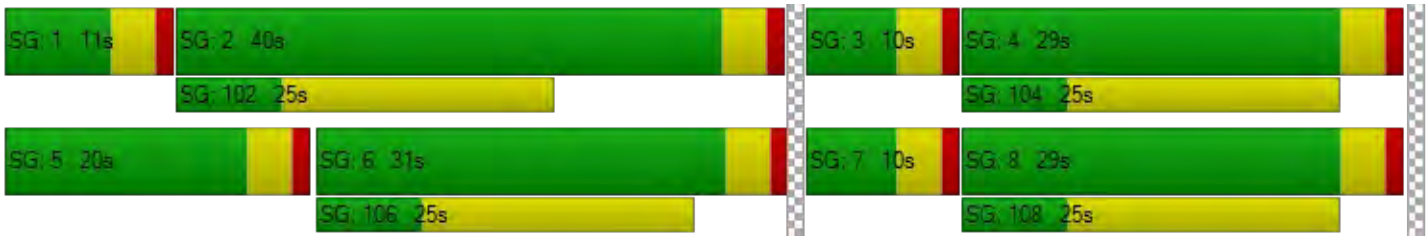
d_M, Delay for Movement [s/veh]	47.53	33.72	33.59	47.25	41.78	40.95	50.96	12.13	11.88	47.81	11.67	11.64
Movement LOS	D	C	C	D	D	D	D	B	B	D	B	B
d_A, Approach Delay [s/veh]	37.10			42.09			17.89			17.65		
Approach LOS	D			D			B			B		
d_I, Intersection Delay [s/veh]	29.47											
Intersection LOS	C											
Intersection V/C	0.433											

Other Modes

g_Walk,mi, Effective Walk Time [s]	11.0	11.0	11.0	11.0
M_corner, Corner Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft²/ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	34.67	34.67	34.67	34.67
l_p,int, Pedestrian LOS Score for Intersection	2.524	2.492	2.495	2.433
Crosswalk LOS	B	B	B	B
s_b, Saturation Flow Rate of the bicycle lane	2000	2000	2000	2000
c_b, Capacity of the bicycle lane [bicycles/h]	800	600	556	556
d_b, Bicycle Delay [s]	16.20	22.05	23.47	23.47
l_b,int, Bicycle LOS Score for Intersection	2.023	1.949	2.025	1.819
Bicycle LOS	B	A	B	A

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



APPENDIX F-V

YEAR 2040 WITH PROJECT (PHASE 2) WITH MITIGATION TRAFFIC CONDITIONS

APPENDIX G

INTERNAL (ON-SITE) INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX G-I

EXISTING WITH PROJECT (PHASE 1) TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.228

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	96	37	17	0	15	4	2	9	63	2	13	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	37	17	0	15	4	2	9	63	2	13	1
Peak Hour Factor	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	11	5	0	4	1	1	3	19	1	4	0
Total Analysis Volume [veh/h]	115	44	20	0	18	5	2	11	75	2	16	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	696	876	729	849	646	808	639	708
Degree of Utilization, x	0.23	0.02	0.02	0.01	0.00	0.11	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.88	0.07	0.08	0.02	0.01	0.36	0.01	0.07
95th-Percentile Queue Length [ft]	21.91	1.75	1.90	0.44	0.23	8.91	0.24	1.84
Approach Delay [s/veh]	9.12		7.59		7.70		7.96	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.53							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.124

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	90	0	0	0	0	0	119	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	90	0	0	0	0	0	119	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	24	0	0	0	0	0	31	0
Total Analysis Volume [veh/h]	0	0	0	0	95	0	0	0	0	0	125	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	10.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	10.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10.37			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.48											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.345

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	138	282	205	9	160	0	31	5	13	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	282	205	9	160	0	31	5	13	0	0	0
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	76	55	2	43	0	8	1	4	0	0	0
Total Analysis Volume [veh/h]	149	305	221	10	173	0	33	5	14	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	658	700	810	629	634	527	629	
Degree of Utilization, x	0.35	0.32	0.27	0.15	0.14	0.07	0.02	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.54	1.41	1.11	0.51	0.50	0.23	0.07	
95th-Percentile Queue Length [ft]	38.45	35.19	27.73	12.69	12.55	5.81	1.71	
Approach Delay [s/veh]	10.06			9.37		9.66		0.00
Approach LOS	B			A		A		A
Intersection Delay [s/veh]	9.90							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.210

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	625	172	0	0	189
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	625	172	0	0	189
Peak Hour Factor	0.9500	0.9520	0.9520	0.9500	0.9500	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	164	45	0	0	50
Total Analysis Volume [veh/h]	0	657	181	0	0	199
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.21
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.24
Movement LOS		A	A			A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.35
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	8.75
d_A, Approach Delay [s/veh]	0.00		0.00		9.24	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.77					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.219

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	81	9	9	0	36	2	7	10	114	17	9	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	9	9	0	36	2	7	10	114	17	9	0
Peak Hour Factor	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	3	3	0	13	1	3	4	41	6	3	0
Total Analysis Volume [veh/h]	116	13	13	0	52	3	10	14	163	24	13	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	646	815	691	798	642	807	628	688
Degree of Utilization, x	0.20	0.02	0.08	0.00	0.02	0.22	0.04	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.74	0.05	0.24	0.01	0.05	0.83	0.12	0.06
95th-Percentile Queue Length [ft]	18.49	1.22	6.09	0.28	1.19	20.87	2.98	1.44
Approach Delay [s/veh]	9.43		8.28		8.41		8.45	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.74							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	234	0	0	0	0	0	205	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	234	0	0	0	0	0	205	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	78	0	0	0	0	0	68	0
Total Analysis Volume [veh/h]	0	0	0	0	311	0	0	0	0	0	272	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	67.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			16.00			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	8.53											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.530

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	182	305	318	18	345	0	34	4	35	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	182	305	318	18	345	0	34	4	35	0	0	0
Peak Hour Factor	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	87	91	5	99	0	10	1	10	0	0	0
Total Analysis Volume [veh/h]	208	349	364	21	395	0	39	5	40	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	580	627	696	578	582	449	522	
Degree of Utilization, x	0.53	0.49	0.44	0.36	0.36	0.10	0.08	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.10	2.70	2.26	1.63	1.61	0.32	0.25	
95th-Percentile Queue Length [ft]	77.48	67.43	56.52	40.80	40.32	8.11	6.20	
Approach Delay [s/veh]	13.80			12.35		10.92		0.00
Approach LOS	B			B		B		A
Intersection Delay [s/veh]	13.21							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.710

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	806	385	0	0	526
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	806	385	0	0	526
Peak Hour Factor	0.9500	0.9270	0.9270	0.9500	0.9500	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	217	104	0	0	142
Total Analysis Volume [veh/h]	0	869	415	0	0	567
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.71
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.97
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	1.61
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	40.27
d_A, Approach Delay [s/veh]	0.00		0.00		11.97	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.67					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	155	11	2	2	22	5	4	4	120	5	3	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	155	11	2	2	22	5	4	4	120	5	3	1
Peak Hour Factor	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	4	1	1	8	2	1	1	44	2	1	0
Total Analysis Volume [veh/h]	227	16	3	3	32	7	6	6	176	7	4	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	651	825	674	785	614	770	595	666
Degree of Utilization, x	0.37	0.00	0.05	0.01	0.01	0.24	0.01	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.73	0.01	0.16	0.03	0.03	0.92	0.04	0.02
95th-Percentile Queue Length [ft]	43.25	0.27	4.10	0.68	0.74	22.94	0.89	0.57
Approach Delay [s/veh]	11.44		8.16		8.81		8.54	
Approach LOS	B		A		A		A	
Intersection Delay [s/veh]	10.08							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	17.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.469

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	196	0	0	0	0	0	301	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	196	0	0	0	0	0	301	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	64	0	0	0	0	0	98	0
Total Analysis Volume [veh/h]	0	0	0	0	255	0	0	0	0	0	392	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	17.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	61.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			17.33			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	6.83											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	24.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.853

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	320	547	443	31	379	0	31	7	42	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	547	443	31	379	0	31	7	42	0	0	0
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	87	148	120	8	103	0	8	2	11	0	0	0
Total Analysis Volume [veh/h]	347	593	480	34	411	0	34	8	46	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	555	589	665	515	521	398	451	
Degree of Utilization, x	0.85	0.80	0.71	0.43	0.43	0.11	0.10	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	9.15	7.91	5.93	2.15	2.12	0.37	0.32	
95th-Percentile Queue Length [ft]	228.87	197.71	148.31	53.86	52.95	9.24	8.07	
Approach Delay [s/veh]	28.42			14.79		12.21		0.00
Approach LOS	D			B		B		A
Intersection Delay [s/veh]	24.58							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.971

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	1309	416	0	0	692
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1309	416	0	0	692
Peak Hour Factor	0.9500	0.9180	0.9180	0.9500	0.9500	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	356	113	0	0	188
Total Analysis Volume [veh/h]	0	1426	453	0	0	754
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.97
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.93
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	2.69
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	67.17
d_A, Approach Delay [s/veh]	0.00		0.00		13.93	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.99					
Intersection LOS	B					

APPENDIX G-II

EXISTING WITH PROJECT (PHASE 2) TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.259

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	113	37	17	0	15	4	2	9	73	2	13	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	113	37	17	0	15	4	2	9	73	2	13	1
Peak Hour Factor	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	11	5	0	4	1	1	3	22	1	4	0
Total Analysis Volume [veh/h]	135	44	20	0	18	5	2	11	87	2	16	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	690	870	721	838	639	799	631	697
Degree of Utilization, x	0.26	0.02	0.02	0.01	0.00	0.12	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.03	0.07	0.08	0.02	0.01	0.42	0.01	0.07
95th-Percentile Queue Length [ft]	25.85	1.76	1.92	0.45	0.24	10.44	0.24	1.87
Approach Delay [s/veh]	9.45		7.65		7.85		8.03	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.78							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.142

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	100	0	0	0	0	0	146	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	100	0	0	0	0	0	146	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	26	0	0	0	0	0	38	0
Total Analysis Volume [veh/h]	0	0	0	0	105	0	0	0	0	0	154	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	10.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	12.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10.69			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.33											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	190	323	228	9	182	0	34	5	14	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	323	228	9	182	0	34	5	14	0	0	0
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	87	62	2	49	0	9	1	4	0	0	0
Total Analysis Volume [veh/h]	205	349	246	10	197	0	37	5	15	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	640	686	791	606	611	503	596	
Degree of Utilization, x	0.43	0.40	0.31	0.17	0.17	0.08	0.03	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.18	1.96	1.33	0.61	0.61	0.27	0.08	
95th-Percentile Queue Length [ft]	54.55	48.96	33.18	15.30	15.15	6.81	1.94	
Approach Delay [s/veh]	11.17			9.83		10.09		0.00
Approach LOS	B			A		B		A
Intersection Delay [s/veh]	10.85							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.259

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	742	195	0	0	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	742	195	0	0	230
Peak Hour Factor	0.9500	0.9520	0.9520	0.9500	0.9500	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	195	51	0	0	60
Total Analysis Volume [veh/h]	0	779	205	0	0	242
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.26
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.43
Movement LOS		A	A			A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.45
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	11.13
d_A, Approach Delay [s/veh]	0.00		0.00		9.43	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.86					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.243

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	97	9	9	0	36	2	7	10	125	17	9	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	9	9	0	36	2	7	10	125	17	9	0
Peak Hour Factor	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	3	3	0	13	1	3	4	45	6	3	0
Total Analysis Volume [veh/h]	139	13	13	0	52	3	10	14	179	24	13	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	640	806	681	785	634	794	617	675
Degree of Utilization, x	0.24	0.02	0.08	0.00	0.02	0.24	0.04	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.92	0.05	0.25	0.01	0.05	0.95	0.12	0.06
95th-Percentile Queue Length [ft]	23.01	1.23	6.19	0.29	1.20	23.76	3.03	1.47
Approach Delay [s/veh]	9.84		8.37		8.67		8.55	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	9.04							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	17.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.534

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	245	0	0	0	0	0	230	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	245	0	0	0	0	0	230	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	81	0	0	0	0	0	76	0
Total Analysis Volume [veh/h]	0	0	0	0	325	0	0	0	0	0	305	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	17.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	3.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	78.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			17.49			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	9.03											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	230	342	339	18	372	0	37	4	37	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	230	342	339	18	372	0	37	4	37	0	0	0
Peak Hour Factor	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	98	97	5	107	0	11	1	11	0	0	0
Total Analysis Volume [veh/h]	263	392	388	21	426	0	42	5	42	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	564	608	679	559	563	430	497	
Degree of Utilization, x	0.62	0.57	0.51	0.40	0.40	0.11	0.08	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.18	3.61	2.94	1.91	1.89	0.37	0.28	
95th-Percentile Queue Length [ft]	104.55	90.30	73.52	47.80	47.27	9.14	6.89	
Approach Delay [s/veh]	16.17			13.30		11.40		0.00
Approach LOS	C			B		B		A
Intersection Delay [s/veh]	15.09							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.794

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	912	414	0	0	574
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	912	414	0	0	574
Peak Hour Factor	0.9500	0.9270	0.9270	0.9500	0.9500	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	246	112	0	0	155
Total Analysis Volume [veh/h]	0	984	447	0	0	619
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.79
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.62
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	1.91
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	47.79
d_A, Approach Delay [s/veh]	0.00		0.00		12.62	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.81					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.406

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	168	11	2	2	22	5	4	4	128	5	3	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	168	11	2	2	22	5	4	4	128	5	3	1
Peak Hour Factor	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	4	1	1	8	2	1	1	47	2	1	0
Total Analysis Volume [veh/h]	246	16	3	3	32	7	6	6	188	7	4	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	646	818	667	774	609	761	587	656
Degree of Utilization, x	0.41	0.00	0.05	0.01	0.01	0.26	0.01	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.97	0.01	0.17	0.03	0.03	1.01	0.04	0.02
95th-Percentile Queue Length [ft]	49.16	0.28	4.15	0.68	0.75	25.33	0.90	0.58
Approach Delay [s/veh]	11.97		8.23		9.04		8.62	
Approach LOS	B		A		A		A	
Intersection Delay [s/veh]	10.46							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.506

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	204	0	0	0	0	0	321	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	204	0	0	0	0	0	321	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	66	0	0	0	0	0	104	0
Total Analysis Volume [veh/h]	0	0	0	0	266	0	0	0	0	0	418	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	18.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	70.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			18.64			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	7.25											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	30.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.930

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	359	577	460	31	398	0	34	7	43	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	359	577	460	31	398	0	34	7	43	0	0	0
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	156	125	8	108	0	9	2	12	0	0	0
Total Analysis Volume [veh/h]	389	625	498	34	431	0	37	8	47	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	545	579	653	505	511	384	434	
Degree of Utilization, x	0.93	0.88	0.76	0.46	0.46	0.12	0.11	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	11.60	10.00	7.06	2.39	2.35	0.40	0.35	
95th-Percentile Queue Length [ft]	290.03	249.93	176.47	59.71	58.74	10.11	8.83	
Approach Delay [s/veh]	36.68			15.63		12.66		0.00
Approach LOS	E			C		B		A
Intersection Delay [s/veh]	30.88							
Intersection LOS	D							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.998

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	1396	435	0	0	726
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1396	435	0	0	726
Peak Hour Factor	0.9500	0.9180	0.9180	0.9500	0.9500	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	380	118	0	0	198
Total Analysis Volume [veh/h]	0	1521	474	0	0	791
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.00	1.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.98
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	2.83
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	70.72
d_A, Approach Delay [s/veh]	0.00		0.00		13.98	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.97					
Intersection LOS	B					

APPENDIX G-III

YEAR 2020 WITH PROJECT (PHASE 1) TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.228

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	96	37	17	0	15	4	2	9	63	2	13	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	37	17	0	15	4	2	9	63	2	13	1
Peak Hour Factor	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	11	5	0	4	1	1	3	19	1	4	0
Total Analysis Volume [veh/h]	115	44	20	0	18	5	2	11	75	2	16	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	696	876	729	849	646	808	639	708
Degree of Utilization, x	0.23	0.02	0.02	0.01	0.00	0.11	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.88	0.07	0.08	0.02	0.01	0.36	0.01	0.07
95th-Percentile Queue Length [ft]	21.91	1.75	1.90	0.44	0.23	8.91	0.24	1.84
Approach Delay [s/veh]	9.12		7.59		7.70		7.96	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.53							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.124

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	90	0	0	0	0	0	119	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	90	0	0	0	0	0	119	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	24	0	0	0	0	0	31	0
Total Analysis Volume [veh/h]	0	0	0	0	95	0	0	0	0	0	125	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	10.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	10.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10.37			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.48											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.345

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	138	282	205	9	160	0	31	5	13	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	282	205	9	160	0	31	5	13	0	0	0
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9500	0.9260	0.9260	0.9260	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	76	55	2	43	0	8	1	4	0	0	0
Total Analysis Volume [veh/h]	149	305	221	10	173	0	33	5	14	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	658	700	810	629	634	527	629	
Degree of Utilization, x	0.35	0.32	0.27	0.15	0.14	0.07	0.02	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.54	1.41	1.11	0.51	0.50	0.23	0.07	
95th-Percentile Queue Length [ft]	38.45	35.19	27.73	12.69	12.55	5.81	1.71	
Approach Delay [s/veh]	10.06			9.37		9.66		0.00
Approach LOS	B			A		A		A
Intersection Delay [s/veh]	9.90							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.210

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	625	172	0	0	189
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	625	172	0	0	189
Peak Hour Factor	0.9500	0.9520	0.9520	0.9500	0.9500	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	164	45	0	0	50
Total Analysis Volume [veh/h]	0	657	181	0	0	199
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.21
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.24
Movement LOS		A	A			A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.35
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	8.75
d_A, Approach Delay [s/veh]	0.00		0.00		9.24	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.77					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.219

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	81	9	9	0	36	2	7	10	114	17	9	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	9	9	0	36	2	7	10	114	17	9	0
Peak Hour Factor	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	3	3	0	13	1	3	4	41	6	3	0
Total Analysis Volume [veh/h]	116	13	13	0	52	3	10	14	163	24	13	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	646	815	691	798	642	807	628	688
Degree of Utilization, x	0.20	0.02	0.08	0.00	0.02	0.22	0.04	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.74	0.05	0.24	0.01	0.05	0.83	0.12	0.06
95th-Percentile Queue Length [ft]	18.49	1.22	6.09	0.28	1.19	20.87	2.98	1.44
Approach Delay [s/veh]	9.43		8.28		8.41		8.45	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.74							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	234	0	0	0	0	0	205	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	234	0	0	0	0	0	205	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	78	0	0	0	0	0	68	0
Total Analysis Volume [veh/h]	0	0	0	0	311	0	0	0	0	0	272	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	67.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			16.00			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	8.53											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.530

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	182	305	318	18	345	0	34	4	35	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	182	305	318	18	345	0	34	4	35	0	0	0
Peak Hour Factor	0.8730	0.8730	0.8730	0.8730	0.8730	0.9500	0.8730	0.8730	0.8730	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	87	91	5	99	0	10	1	10	0	0	0
Total Analysis Volume [veh/h]	208	349	364	21	395	0	39	5	40	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	580	627	696	578	582	449	522	
Degree of Utilization, x	0.53	0.49	0.44	0.36	0.36	0.10	0.08	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.10	2.70	2.26	1.63	1.61	0.32	0.25	
95th-Percentile Queue Length [ft]	77.48	67.43	56.52	40.80	40.32	8.11	6.20	
Approach Delay [s/veh]	13.80			12.35		10.92		0.00
Approach LOS	B			B		B		A
Intersection Delay [s/veh]	13.21							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.710

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	806	385	0	0	526
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	806	385	0	0	526
Peak Hour Factor	0.9500	0.9270	0.9270	0.9500	0.9500	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	217	104	0	0	142
Total Analysis Volume [veh/h]	0	869	415	0	0	567
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.71
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.97
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	1.61
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	40.27
d_A, Approach Delay [s/veh]	0.00		0.00		11.97	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.67					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	155	11	2	2	22	5	4	4	120	5	3	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	155	11	2	2	22	5	4	4	120	5	3	1
Peak Hour Factor	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	4	1	1	8	2	1	1	44	2	1	0
Total Analysis Volume [veh/h]	227	16	3	3	32	7	6	6	176	7	4	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	651	825	674	785	614	770	595	666
Degree of Utilization, x	0.37	0.00	0.05	0.01	0.01	0.24	0.01	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.73	0.01	0.16	0.03	0.03	0.92	0.04	0.02
95th-Percentile Queue Length [ft]	43.25	0.27	4.10	0.68	0.74	22.94	0.89	0.57
Approach Delay [s/veh]	11.44		8.16		8.81		8.54	
Approach LOS	B		A		A		A	
Intersection Delay [s/veh]	10.08							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	17.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.469

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	196	0	0	0	0	0	301	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	196	0	0	0	0	0	301	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	64	0	0	0	0	0	98	0
Total Analysis Volume [veh/h]	0	0	0	0	255	0	0	0	0	0	392	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	17.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	61.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			17.33			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	6.83											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	24.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.853

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	320	547	443	31	379	0	31	7	42	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	547	443	31	379	0	31	7	42	0	0	0
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9500	0.9230	0.9230	0.9230	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	87	148	120	8	103	0	8	2	11	0	0	0
Total Analysis Volume [veh/h]	347	593	480	34	411	0	34	8	46	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	555	589	665	515	521	398	451	
Degree of Utilization, x	0.85	0.80	0.71	0.43	0.43	0.11	0.10	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	9.15	7.91	5.93	2.15	2.12	0.37	0.32	
95th-Percentile Queue Length [ft]	228.87	197.71	148.31	53.86	52.95	9.24	8.07	
Approach Delay [s/veh]	28.42			14.79		12.21		0.00
Approach LOS	D			B		B		A
Intersection Delay [s/veh]	24.58							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.971

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	1309	416	0	0	692
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1309	416	0	0	692
Peak Hour Factor	0.9500	0.9180	0.9180	0.9500	0.9500	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	356	113	0	0	188
Total Analysis Volume [veh/h]	0	1426	453	0	0	754
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.97
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.93
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	2.69
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	67.17
d_A, Approach Delay [s/veh]	0.00		0.00		13.93	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.99					
Intersection LOS	B					

APPENDIX G-IV

YEAR 2022 WITH PROJECT (PHASE 2) TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.259

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	113	37	17	0	15	4	2	9	73	2	13	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	113	37	17	0	15	4	2	9	73	2	13	1
Peak Hour Factor	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	11	5	0	4	1	1	3	22	1	4	0
Total Analysis Volume [veh/h]	135	44	20	0	18	5	2	11	87	2	16	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	690	870	721	838	639	799	631	697
Degree of Utilization, x	0.26	0.02	0.02	0.01	0.00	0.12	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.03	0.07	0.08	0.02	0.01	0.42	0.01	0.07
95th-Percentile Queue Length [ft]	25.85	1.76	1.92	0.45	0.24	10.44	0.24	1.87
Approach Delay [s/veh]	9.45		7.65		7.85		8.03	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.78							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.142

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	100	0	0	0	0	0	146	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	100	0	0	0	0	0	146	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	26	0	0	0	0	0	38	0
Total Analysis Volume [veh/h]	0	0	0	0	105	0	0	0	0	0	154	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	10.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	12.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10.69			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.33											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	190	323	228	9	182	0	34	5	14	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	323	228	9	182	0	34	5	14	0	0	0
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9500	0.9260	0.9260	0.9260	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	87	62	2	49	0	9	1	4	0	0	0
Total Analysis Volume [veh/h]	205	349	246	10	197	0	37	5	15	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	640	686	791	606	611	503	596	
Degree of Utilization, x	0.43	0.40	0.31	0.17	0.17	0.08	0.03	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.18	1.96	1.33	0.61	0.61	0.27	0.08	
95th-Percentile Queue Length [ft]	54.55	48.96	33.18	15.30	15.15	6.81	1.94	
Approach Delay [s/veh]	11.17			9.83		10.09		0.00
Approach LOS	B			A		B		A
Intersection Delay [s/veh]	10.85							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.259

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	742	195	0	0	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	742	195	0	0	230
Peak Hour Factor	0.9500	0.9520	0.9520	0.9500	0.9500	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	195	51	0	0	60
Total Analysis Volume [veh/h]	0	779	205	0	0	242
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.26
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.43
Movement LOS		A	A			A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.45
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	11.13
d_A, Approach Delay [s/veh]	0.00		0.00		9.43	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.86					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.243

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	97	9	9	0	36	2	7	10	125	17	9	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	9	9	0	36	2	7	10	125	17	9	0
Peak Hour Factor	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	3	3	0	13	1	3	4	45	6	3	0
Total Analysis Volume [veh/h]	139	13	13	0	52	3	10	14	179	24	13	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	640	806	681	785	634	794	617	675
Degree of Utilization, x	0.24	0.02	0.08	0.00	0.02	0.24	0.04	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.92	0.05	0.25	0.01	0.05	0.95	0.12	0.06
95th-Percentile Queue Length [ft]	23.01	1.23	6.19	0.29	1.20	23.76	3.03	1.47
Approach Delay [s/veh]	9.84		8.37		8.67		8.55	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	9.04							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	17.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.534

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	245	0	0	0	0	0	230	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	245	0	0	0	0	0	230	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	81	0	0	0	0	0	76	0
Total Analysis Volume [veh/h]	0	0	0	0	325	0	0	0	0	0	305	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	17.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	3.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	78.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			17.49			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	9.03											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	230	342	339	18	372	0	37	4	37	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	230	342	339	18	372	0	37	4	37	0	0	0
Peak Hour Factor	0.8730	0.8730	0.8730	0.8730	0.8730	0.9500	0.8730	0.8730	0.8730	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	98	97	5	107	0	11	1	11	0	0	0
Total Analysis Volume [veh/h]	263	392	388	21	426	0	42	5	42	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	564	608	679	559	563	430	497	
Degree of Utilization, x	0.62	0.57	0.51	0.40	0.40	0.11	0.08	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.18	3.61	2.94	1.91	1.89	0.37	0.28	
95th-Percentile Queue Length [ft]	104.55	90.30	73.52	47.80	47.27	9.14	6.89	
Approach Delay [s/veh]	16.17			13.30		11.40		0.00
Approach LOS	C			B		B		A
Intersection Delay [s/veh]	15.09							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.794

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	912	414	0	0	574
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	912	414	0	0	574
Peak Hour Factor	0.9500	0.9270	0.9270	0.9500	0.9500	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	246	112	0	0	155
Total Analysis Volume [veh/h]	0	984	447	0	0	619
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.79
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.62
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	1.91
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	47.79
d_A, Approach Delay [s/veh]	0.00		0.00		12.62	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.81					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.406

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	168	11	2	2	22	5	4	4	128	5	3	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	168	11	2	2	22	5	4	4	128	5	3	1
Peak Hour Factor	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	4	1	1	8	2	1	1	47	2	1	0
Total Analysis Volume [veh/h]	246	16	3	3	32	7	6	6	188	7	4	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	646	818	667	774	609	761	587	656
Degree of Utilization, x	0.41	0.00	0.05	0.01	0.01	0.26	0.01	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.97	0.01	0.17	0.03	0.03	1.01	0.04	0.02
95th-Percentile Queue Length [ft]	49.16	0.28	4.15	0.68	0.75	25.33	0.90	0.58
Approach Delay [s/veh]	11.97		8.23		9.04		8.62	
Approach LOS	B		A		A		A	
Intersection Delay [s/veh]	10.46							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.506

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	204	0	0	0	0	0	321	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	204	0	0	0	0	0	321	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	66	0	0	0	0	0	104	0
Total Analysis Volume [veh/h]	0	0	0	0	266	0	0	0	0	0	418	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	18.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	70.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			18.64			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	7.25											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	30.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.930

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	359	577	460	31	398	0	34	7	43	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	359	577	460	31	398	0	34	7	43	0	0	0
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9500	0.9230	0.9230	0.9230	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	156	125	8	108	0	9	2	12	0	0	0
Total Analysis Volume [veh/h]	389	625	498	34	431	0	37	8	47	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	545	579	653	505	511	384	434	
Degree of Utilization, x	0.93	0.88	0.76	0.46	0.46	0.12	0.11	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	11.60	10.00	7.06	2.39	2.35	0.40	0.35	
95th-Percentile Queue Length [ft]	290.03	249.93	176.47	59.71	58.74	10.11	8.83	
Approach Delay [s/veh]	36.68			15.63		12.66		0.00
Approach LOS	E			C		B		A
Intersection Delay [s/veh]	30.88							
Intersection LOS	D							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.998

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	1396	435	0	0	726
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1396	435	0	0	726
Peak Hour Factor	0.9500	0.9180	0.9180	0.9500	0.9500	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	380	118	0	0	198
Total Analysis Volume [veh/h]	0	1521	474	0	0	791
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.00	1.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.98
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	2.83
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	70.72
d_A, Approach Delay [s/veh]	0.00		0.00		13.98	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.97					
Intersection LOS	B					

APPENDIX G-V

YEAR 2040 WITH PROJECT (PHASE 1) TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.5
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.228

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	96	37	17	0	15	4	2	9	63	2	13	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	96	37	17	0	15	4	2	9	63	2	13	1
Peak Hour Factor	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	11	5	0	4	1	1	3	19	1	4	0
Total Analysis Volume [veh/h]	115	44	20	0	18	5	2	11	75	2	16	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	696	876	729	849	646	808	639	708
Degree of Utilization, x	0.23	0.02	0.02	0.01	0.00	0.11	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.88	0.07	0.08	0.02	0.01	0.36	0.01	0.07
95th-Percentile Queue Length [ft]	21.91	1.75	1.90	0.44	0.23	8.91	0.24	1.84
Approach Delay [s/veh]	9.12		7.59		7.70		7.96	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.53							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	10.4
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.124

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	90	0	0	0	0	0	119	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	90	0	0	0	0	0	119	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	24	0	0	0	0	0	31	0
Total Analysis Volume [veh/h]	0	0	0	0	95	0	0	0	0	0	125	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	10.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	10.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10.37			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.48											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	9.9
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.345

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	138	282	205	9	160	0	31	5	13	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	282	205	9	160	0	31	5	13	0	0	0
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	37	76	55	2	43	0	8	1	4	0	0	0
Total Analysis Volume [veh/h]	149	305	221	10	173	0	33	5	14	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	658	700	810	629	634	527	629	
Degree of Utilization, x	0.35	0.32	0.27	0.15	0.14	0.07	0.02	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.54	1.41	1.11	0.51	0.50	0.23	0.07	
95th-Percentile Queue Length [ft]	38.45	35.19	27.73	12.69	12.55	5.81	1.71	
Approach Delay [s/veh]	10.06			9.37		9.66		0.00
Approach LOS	B			A		A		A
Intersection Delay [s/veh]	9.90							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	9.2
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.210

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	625	172	0	0	189
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	625	172	0	0	189
Peak Hour Factor	0.9500	0.9520	0.9520	0.9500	0.9500	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	164	45	0	0	50
Total Analysis Volume [veh/h]	0	657	181	0	0	199
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.21
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.24
Movement LOS		A	A			A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.35
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	8.75
d_A, Approach Delay [s/veh]	0.00		0.00		9.24	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.77					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.7
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.219

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	81	9	9	0	36	2	7	10	114	17	9	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	81	9	9	0	36	2	7	10	114	17	9	0
Peak Hour Factor	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	3	3	0	13	1	3	4	41	6	3	0
Total Analysis Volume [veh/h]	116	13	13	0	52	3	10	14	163	24	13	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	646	815	691	798	642	807	628	688
Degree of Utilization, x	0.20	0.02	0.08	0.00	0.02	0.22	0.04	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.74	0.05	0.24	0.01	0.05	0.83	0.12	0.06
95th-Percentile Queue Length [ft]	18.49	1.22	6.09	0.28	1.19	20.87	2.98	1.44
Approach Delay [s/veh]	9.43		8.28		8.41		8.45	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.74							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	16.0
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.490

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	234	0	0	0	0	0	205	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	234	0	0	0	0	0	205	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	78	0	0	0	0	0	68	0
Total Analysis Volume [veh/h]	0	0	0	0	311	0	0	0	0	0	272	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	16.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	67.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			16.00			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	8.53											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	13.2
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.530

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	182	305	318	18	345	0	34	4	35	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	182	305	318	18	345	0	34	4	35	0	0	0
Peak Hour Factor	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	52	87	91	5	99	0	10	1	10	0	0	0
Total Analysis Volume [veh/h]	208	349	364	21	395	0	39	5	40	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	580	627	696	578	582	449	522	
Degree of Utilization, x	0.53	0.49	0.44	0.36	0.36	0.10	0.08	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	3.10	2.70	2.26	1.63	1.61	0.32	0.25	
95th-Percentile Queue Length [ft]	77.48	67.43	56.52	40.80	40.32	8.11	6.20	
Approach Delay [s/veh]	13.80			12.35		10.92		0.00
Approach LOS	B			B		B		A
Intersection Delay [s/veh]	13.21							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	12.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.710

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	806	385	0	0	526
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	806	385	0	0	526
Peak Hour Factor	0.9500	0.9270	0.9270	0.9500	0.9500	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	217	104	0	0	142
Total Analysis Volume [veh/h]	0	869	415	0	0	567
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.71
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	11.97
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	1.61
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	40.27
d_A, Approach Delay [s/veh]	0.00		0.00		11.97	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.67					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	10.1
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.374

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	155	11	2	2	22	5	4	4	120	5	3	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	155	11	2	2	22	5	4	4	120	5	3	1
Peak Hour Factor	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	57	4	1	1	8	2	1	1	44	2	1	0
Total Analysis Volume [veh/h]	227	16	3	3	32	7	6	6	176	7	4	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	651	825	674	785	614	770	595	666
Degree of Utilization, x	0.37	0.00	0.05	0.01	0.01	0.24	0.01	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.73	0.01	0.16	0.03	0.03	0.92	0.04	0.02
95th-Percentile Queue Length [ft]	43.25	0.27	4.10	0.68	0.74	22.94	0.89	0.57
Approach Delay [s/veh]	11.44		8.16		8.81		8.54	
Approach LOS	B		A		A		A	
Intersection Delay [s/veh]	10.08							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	17.3
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.469

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	196	0	0	0	0	0	301	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	196	0	0	0	0	0	301	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	64	0	0	0	0	0	98	0
Total Analysis Volume [veh/h]	0	0	0	0	255	0	0	0	0	0	392	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	17.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	61.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			17.33			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	6.83											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	24.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.853

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	320	547	443	31	379	0	31	7	42	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	320	547	443	31	379	0	31	7	42	0	0	0
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	87	148	120	8	103	0	8	2	11	0	0	0
Total Analysis Volume [veh/h]	347	593	480	34	411	0	34	8	46	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	555	589	665	515	521	398	451	
Degree of Utilization, x	0.85	0.80	0.71	0.43	0.43	0.11	0.10	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	9.15	7.91	5.93	2.15	2.12	0.37	0.32	
95th-Percentile Queue Length [ft]	228.87	197.71	148.31	53.86	52.95	9.24	8.07	
Approach Delay [s/veh]	28.42			14.79		12.21		0.00
Approach LOS	D			B		B		A
Intersection Delay [s/veh]	24.58							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	13.9
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.971

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	1309	416	0	0	692
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1309	416	0	0	692
Peak Hour Factor	0.9500	0.9180	0.9180	0.9500	0.9500	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	356	113	0	0	188
Total Analysis Volume [veh/h]	0	1426	453	0	0	754
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.97
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.93
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	2.69
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	67.17
d_A, Approach Delay [s/veh]	0.00		0.00		13.93	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.99					
Intersection LOS	B					

APPENDIX G-VI

YEAR 2040 WITH PROJECT (PHASE 2) TRAFFIC CONDITIONS

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	8.8
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.259

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	113	37	17	0	15	4	2	9	73	2	13	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	113	37	17	0	15	4	2	9	73	2	13	1
Peak Hour Factor	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380	0.8380
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	34	11	5	0	4	1	1	3	22	1	4	0
Total Analysis Volume [veh/h]	135	44	20	0	18	5	2	11	87	2	16	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	690	870	721	838	639	799	631	697
Degree of Utilization, x	0.26	0.02	0.02	0.01	0.00	0.12	0.00	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.03	0.07	0.08	0.02	0.01	0.42	0.01	0.07
95th-Percentile Queue Length [ft]	25.85	1.76	1.92	0.45	0.24	10.44	0.24	1.87
Approach Delay [s/veh]	9.45		7.65		7.85		8.03	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	8.78							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	10.7
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.142

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	100	0	0	0	0	0	146	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	100	0	0	0	0	0	146	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500	0.9500	0.9500	0.9500	0.9500	0.9510	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	26	0	0	0	0	0	38	0
Total Analysis Volume [veh/h]	0	0	0	0	105	0	0	0	0	0	154	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	10.69	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					B						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	12.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			10.69			0.00			0.00		
Approach LOS	A			B			A			A		
d_I, Intersection Delay [s/veh]	4.33											
Intersection LOS	B											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	10.8
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.433

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	190	323	228	9	182	0	34	5	14	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	190	323	228	9	182	0	34	5	14	0	0	0
Peak Hour Factor	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9260	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	51	87	62	2	49	0	9	1	4	0	0	0
Total Analysis Volume [veh/h]	205	349	246	10	197	0	37	5	15	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	640	686	791	606	611	503	596	
Degree of Utilization, x	0.43	0.40	0.31	0.17	0.17	0.08	0.03	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	2.18	1.96	1.33	0.61	0.61	0.27	0.08	
95th-Percentile Queue Length [ft]	54.55	48.96	33.18	15.30	15.15	6.81	1.94	
Approach Delay [s/veh]	11.17			9.83		10.09		0.00
Approach LOS	B			A		B		A
Intersection Delay [s/veh]	10.85							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	9.4
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.259

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	742	195	0	0	230
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	742	195	0	0	230
Peak Hour Factor	0.9500	0.9520	0.9520	0.9500	0.9500	0.9520
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	195	51	0	0	60
Total Analysis Volume [veh/h]	0	779	205	0	0	242
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.26
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	9.43
Movement LOS		A	A			A
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	0.45
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	11.13
d_A, Approach Delay [s/veh]	0.00		0.00		9.43	
Approach LOS	A		A		A	
d_I, Intersection Delay [s/veh]	1.86					
Intersection LOS	A					

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	9.0
Analysis Method:	HCM 6th Edition	Level Of Service:	A
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.243

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	97	9	9	0	36	2	7	10	125	17	9	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	97	9	9	0	36	2	7	10	125	17	9	0
Peak Hour Factor	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990	0.6990
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	35	3	3	0	13	1	3	4	45	6	3	0
Total Analysis Volume [veh/h]	139	13	13	0	52	3	10	14	179	24	13	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	640	806	681	785	634	794	617	675
Degree of Utilization, x	0.24	0.02	0.08	0.00	0.02	0.24	0.04	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.92	0.05	0.25	0.01	0.05	0.95	0.12	0.06
95th-Percentile Queue Length [ft]	23.01	1.23	6.19	0.29	1.20	23.76	3.03	1.47
Approach Delay [s/veh]	9.84		8.37		8.67		8.55	
Approach LOS	A		A		A		A	
Intersection Delay [s/veh]	9.04							
Intersection LOS	A							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	17.5
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.534

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	245	0	0	0	0	0	230	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	245	0	0	0	0	0	230	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500	0.9500	0.9500	0.9500	0.9500	0.7530	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	81	0	0	0	0	0	76	0
Total Analysis Volume [veh/h]	0	0	0	0	325	0	0	0	0	0	305	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	17.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	3.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	78.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			17.49			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	9.03											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	15.1
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.617

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	230	342	339	18	372	0	37	4	37	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	230	342	339	18	372	0	37	4	37	0	0	0
Peak Hour Factor	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.8730	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	66	98	97	5	107	0	11	1	11	0	0	0
Total Analysis Volume [veh/h]	263	392	388	21	426	0	42	5	42	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	564	608	679	559	563	430	497	
Degree of Utilization, x	0.62	0.57	0.51	0.40	0.40	0.11	0.08	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	4.18	3.61	2.94	1.91	1.89	0.37	0.28	
95th-Percentile Queue Length [ft]	104.55	90.30	73.52	47.80	47.27	9.14	6.89	
Approach Delay [s/veh]	16.17			13.30		11.40		0.00
Approach LOS	C			B		B		A
Intersection Delay [s/veh]	15.09							
Intersection LOS	C							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.794

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	912	414	0	0	574
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	912	414	0	0	574
Peak Hour Factor	0.9500	0.9270	0.9270	0.9500	0.9500	0.9270
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	246	112	0	0	155
Total Analysis Volume [veh/h]	0	984	447	0	0	619
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.01	0.00	0.00	0.00	0.79
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	12.62
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	1.91
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	47.79
d_A, Approach Delay [s/veh]	0.00		0.00		12.62	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.81					
Intersection LOS	B					

Intersection Level Of Service Report
Intersection 1: Victoria Avenue at Road "A"

Control Type:	All-way stop	Delay (sec / veh):	10.5
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.406

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "A"			Road "A"		
Base Volume Input [veh/h]	168	11	2	2	22	5	4	4	128	5	3	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	168	11	2	2	22	5	4	4	128	5	3	1
Peak Hour Factor	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820	0.6820
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	62	4	1	1	8	2	1	1	47	2	1	0
Total Analysis Volume [veh/h]	246	16	3	3	32	7	6	6	188	7	4	1
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	646	818	667	774	609	761	587	656
Degree of Utilization, x	0.41	0.00	0.05	0.01	0.01	0.26	0.01	0.01

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	1.97	0.01	0.17	0.03	0.03	1.01	0.04	0.02
95th-Percentile Queue Length [ft]	49.16	0.28	4.15	0.68	0.75	25.33	0.90	0.58
Approach Delay [s/veh]	11.97		8.23		9.04		8.62	
Approach LOS	B		A		A		A	
Intersection Delay [s/veh]	10.46							
Intersection LOS	B							

Intersection Level Of Service Report
Intersection 2: Victoria Avenue at Road "B"

Control Type:	Two-way stop	Delay (sec / veh):	18.6
Analysis Method:	HCM 6th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.506

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Road "B"			Road "B"		
Base Volume Input [veh/h]	0	0	0	0	204	0	0	0	0	0	321	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	0	0	0	204	0	0	0	0	0	321	0
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500	0.9500	0.9500	0.9500	0.9500	0.7680	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	0	66	0	0	0	0	0	104	0
Total Analysis Volume [veh/h]	0	0	0	0	266	0	0	0	0	0	418	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Priority Scheme	Stop	Stop	Free	Free
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance		No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	18.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Movement LOS					C						A	
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	2.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	70.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	0.00			18.64			0.00			0.00		
Approach LOS	A			C			A			A		
d_I, Intersection Delay [s/veh]	7.25											
Intersection LOS	C											

Intersection Level Of Service Report
Intersection 3: Victoria Avenue at Driveway "C"

Control Type:	All-way stop	Delay (sec / veh):	30.9
Analysis Method:	HCM 6th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.930

Intersection Setup

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes			No			Yes			No		

Volumes

Name	Victoria Avenue			Victoria Avenue			Driveway "C"			Driveway "C"		
Base Volume Input [veh/h]	359	577	460	31	398	0	34	7	43	0	0	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	359	577	460	31	398	0	34	7	43	0	0	0
Peak Hour Factor	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9230	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	97	156	125	8	108	0	9	2	12	0	0	0
Total Analysis Volume [veh/h]	389	625	498	34	431	0	37	8	47	0	0	0
Pedestrian Volume [ped/h]	0			0			0			0		

Intersection Settings

Lanes

Capacity per Entry Lane [veh/h]	545	579	653	505	511	384	434	
Degree of Utilization, x	0.93	0.88	0.76	0.46	0.46	0.12	0.11	

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	11.60	10.00	7.06	2.39	2.35	0.40	0.35	
95th-Percentile Queue Length [ft]	290.03	249.93	176.47	59.71	58.74	10.11	8.83	
Approach Delay [s/veh]	36.68			15.63		12.66		0.00
Approach LOS	E			C		B		A
Intersection Delay [s/veh]	30.88							
Intersection LOS	D							

Intersection Level Of Service Report
Intersection 4: Victoria Avenue at Driveway "D"

Control Type:	Two-way stop	Delay (sec / veh):	14.0
Analysis Method:	HCM 6th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.998

Intersection Setup

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Approach	Northbound		Southbound		Eastbound	
Lane Configuration						
Turning Movement	Left	Thru	Thru	Right	Left	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00		30.00		30.00	
Grade [%]	0.00		0.00		0.00	
Crosswalk	No		No		Yes	

Volumes

Name	Victoria Avenue		Victoria Avenue		Driveway "D"	
Base Volume Input [veh/h]	0	1396	435	0	0	726
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1396	435	0	0	726
Peak Hour Factor	0.9500	0.9180	0.9180	0.9500	0.9500	0.9180
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	380	118	0	0	198
Total Analysis Volume [veh/h]	0	1521	474	0	0	791
Pedestrian Volume [ped/h]	0		0		0	

Intersection Settings

Priority Scheme	Free	Free	Stop
Flared Lane			
Storage Area [veh]	0	0	0
Two-Stage Gap Acceptance			No
Number of Storage Spaces in Median	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.00	0.02	0.00	0.00	0.00	1.00
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	13.98
Movement LOS		A	A			B
95th-Percentile Queue Length [veh]	0.00	0.00	0.00	0.00	0.00	2.83
95th-Percentile Queue Length [ft]	0.00	0.00	0.00	0.00	0.00	70.72
d_A, Approach Delay [s/veh]	0.00		0.00		13.98	
Approach LOS	A		A		B	
d_I, Intersection Delay [s/veh]	3.97					
Intersection LOS	B					

APPENDIX H

EXISTING TRAFFIC CONDITIONS
BASIC FREEWAY SEGMENTS
LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX H-I

EXISTING TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing (2017)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4144	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1484
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.62
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	21.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

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Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3484	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1871
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.78
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	64.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	28.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing (2017)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	2577	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1384
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	19.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing (2017)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3325	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1190
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	17.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

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Agency	LLG	Analysis Year	Existing (2017)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3581	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1282
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	18.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing (2017)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3010	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1616
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	23.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing (2017)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	2921	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1568
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.65
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	22.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing (2017)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3771	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1350
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	19.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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APPENDIX H-II

EXISTING WITH PROJECT (PHASE 1) TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phase 1)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4250	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1522
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	22.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phase 1)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3530	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1896
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.79
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	64.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	29.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phase 1)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	2643	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1420
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phase 1)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3398	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1217
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	17.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phase 1)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3709	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1328
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.55
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	19.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phase 1)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3088	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1658
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.69
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	24.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phase 1)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3001	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1612
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	23.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phase 1)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3895	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1395
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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APPENDIX H-III

EXISTING WITH PROJECT (PHASE 1) WITH MITIGATION TRAFFIC CONDITIONS

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APPENDIX H-IV

EXISTING WITH PROJECT (PHASE 2) TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phases 1 & 2)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4296	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1538
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.64
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	22.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phases 1 & 2)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3546	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1904
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.79
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	64.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	29.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phases 1 & 2)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	2672	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1435
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phases 1 & 2)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3424	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1226
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	17.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phases 1 & 2)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3752	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1343
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	19.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phases 1 & 2)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3107	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1668
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	24.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phases 1 & 2)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3028	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1626
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.68
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	23.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phases 1 & 2)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3926	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1406
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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APPENDIX H-V

EXISTING WITH PROJECT (PHASE 2) WITH MITIGATION TRAFFIC CONDITIONS

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APPENDIX I

EXISTING TRAFFIC CONDITIONS
FREEWAY MERGE AND DIVERGE SEGMENTS
LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX I-I

EXISTING TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing (2017)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4144	1027
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4451	1103
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.62	0.55

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	17.5
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.527
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1346
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	55.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	75.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	3105	Ramp Junction Speed (S), mi/h	60.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	24.7
Level of Service (LOS)	B		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing (2017)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	2	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3117	367
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3348	394
Capacity (c), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.78	0.20

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	30.3
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.438
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	57.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3348	Ramp Junction Speed (S), mi/h	57.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3742	Average Density (D), pc/mi/ln	32.4
Level of Service (LOS)	D		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing (2017)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	2	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2577	397
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2768	426
Capacity (c), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.58	0.21

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	26.3
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.466
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	57.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	2768	Ramp Junction Speed (S), mi/h	57.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	24.3
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing (2017)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2180	1145
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2342	1230
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.50	0.62

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	525.6	Density in Ramp Influence Area (D_R), pc/mi/ln	20.8
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.323
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	941
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	61.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	68.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	1401	Ramp Junction Speed (S), mi/h	62.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2631	Average Density (D), pc/mi/ln	19.0
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing (2017)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3581	1000
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3846	1074
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.53	0.54

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	14.6
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.525
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1070
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	55.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.614	Outer Lanes Freeway Speed (S_O), mi/h	76.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	2776	Ramp Junction Speed (S), mi/h	59.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	21.4
Level of Service (LOS)	B		

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HCS7 Freeway Merge Report

Project Information			
Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing (2017)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N)	2	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Volume (V_i), veh/h	2581	429
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2772	461
Capacity (c), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.67	0.23

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	26.3
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.372
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	59.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	2772	Ramp Junction Speed (S), mi/h	59.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3233	Average Density (D), pc/mi/ln	27.1
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing (2017)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	2	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2921	363
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3137	390
Capacity (c), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.65	0.20

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	29.5
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.463
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	57.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3137	Ramp Junction Speed (S), mi/h	57.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	27.5
Level of Service (LOS)	D		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing (2017)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2558	1213
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2748	1303
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.56	0.65

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	628.1	Density in Ramp Influence Area (D_R), pc/mi/ln	23.2
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.343
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1105
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	67.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	1643	Ramp Junction Speed (S), mi/h	62.3
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2946	Average Density (D), pc/mi/ln	21.7
Level of Service (LOS)	C		

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APPENDIX I-II

EXISTING WITH PROJECT (PHASE 1) TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phase 1)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4250	1133
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4565	1217
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.63	0.61

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	18.2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.538
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1373
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	54.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.590	Outer Lanes Freeway Speed (S_O), mi/h	75.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	3192	Ramp Junction Speed (S), mi/h	59.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.4
Level of Service (LOS)	B		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phase 1)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	2	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3117	413
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3348	444
Capacity (c), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.79	0.22

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	30.7
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.446
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	57.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3348	Ramp Junction Speed (S), mi/h	57.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3792	Average Density (D), pc/mi/ln	33.0
Level of Service (LOS)	D		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phase 1)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	2	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2643	463
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2839	497
Capacity (c), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.59	0.25

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	27.0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.473
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	2839	Ramp Junction Speed (S), mi/h	56.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.0
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phase 1)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2180	1218
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2342	1308
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.51	0.65

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	542.3	Density in Ramp Influence Area (D_R), pc/mi/ln	21.4
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.327
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	941
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	68.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	1401	Ramp Junction Speed (S), mi/h	62.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2709	Average Density (D), pc/mi/ln	19.4
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information			
Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phase 1)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Volume (V_i), veh/h	3709	1128
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3984	1212
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.55	0.61

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	15.6
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.537
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1095
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	55.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.605	Outer Lanes Freeway Speed (S_O), mi/h	76.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2889	Ramp Junction Speed (S), mi/h	59.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	22.3
Level of Service (LOS)	B		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phase 1)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	2	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2581	507
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2772	545
Capacity (c), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.69	0.27

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	26.9
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.381
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	59.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	2772	Ramp Junction Speed (S), mi/h	59.3
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3317	Average Density (D), pc/mi/ln	28.0
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phase 1)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	2	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3001	443
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3223	476
Capacity (c), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.67	0.24

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	30.3
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.471
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3223	Ramp Junction Speed (S), mi/h	56.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	28.4
Level of Service (LOS)	D		

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HCS7 Freeway Merge Report

Project Information			
Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phase 1)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Volume (V_i), veh/h	2558	1337
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2748	1436
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.58	0.72

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	656.6	Density in Ramp Influence Area (D_R), pc/mi/ln	24.2
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.353
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1105
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	67.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	1643	Ramp Junction Speed (S), mi/h	62.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3079	Average Density (D), pc/mi/ln	22.5
Level of Service (LOS)	C		

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APPENDIX I-III

EXISTING WITH PROJECT (PHASE 1) WITH MITIGATION TRAFFIC CONDITIONS

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APPENDIX I-IV

EXISTING WITH PROJECT (PHASE 2) TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phases 1 & 2)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4296	1179
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4614	1266
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.64	0.63

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	18.5
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.542
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1386
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	54.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.586	Outer Lanes Freeway Speed (S_O), mi/h	75.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	3228	Ramp Junction Speed (S), mi/h	59.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.8
Level of Service (LOS)	B		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phases 1 & 2)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	2	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3117	429
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3348	461
Capacity (c), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.79	0.23

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	30.8
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.449
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	57.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3348	Ramp Junction Speed (S), mi/h	57.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3809	Average Density (D), pc/mi/ln	33.2
Level of Service (LOS)	D		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phases 1 & 2)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	2	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2672	492
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2870	528
Capacity (c), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.60	0.26

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	27.2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.476
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	2870	Ramp Junction Speed (S), mi/h	56.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.3
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phases 1 & 2)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2180	1244
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2342	1336
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.51	0.67

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	548.3	Density in Ramp Influence Area (D_R), pc/mi/ln	21.6
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.329
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	941
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	68.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	1401	Ramp Junction Speed (S), mi/h	62.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2737	Average Density (D), pc/mi/ln	19.6
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phases 1 & 2)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3752	1171
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4030	1258
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.56	0.63

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	15.9
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.541
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1106
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	54.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.601	Outer Lanes Freeway Speed (S_O), mi/h	76.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2924	Ramp Junction Speed (S), mi/h	59.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	22.6
Level of Service (LOS)	B		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phases 1 & 2)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	2	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2581	526
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2772	565
Capacity (c), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.70	0.28

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	27.1
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.383
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	59.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	2772	Ramp Junction Speed (S), mi/h	59.3
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3337	Average Density (D), pc/mi/ln	28.1
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phases 1 & 2)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	2	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3028	470
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3252	505
Capacity (c), pc/h	4800	2000
Volume-to-Capacity Ratio (v/c)	0.68	0.25

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	30.5
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.473
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	-
Flow in Lanes 1 and 2 (v_{12}), pc/h	3252	Ramp Junction Speed (S), mi/h	56.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	28.6
Level of Service (LOS)	D		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Existing + Project (Phases 1 & 2)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2558	1368
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2748	1469
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.59	0.73

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	663.6	Density in Ramp Influence Area (D_R), pc/mi/ln	24.4
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.356
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1105
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	67.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	1643	Ramp Junction Speed (S), mi/h	61.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3112	Average Density (D), pc/mi/ln	22.7
Level of Service (LOS)	C		

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APPENDIX I-V

EXISTING WITH PROJECT (PHASE 2) WITH MITIGATION TRAFFIC CONDITIONS

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APPENDIX J

YEAR 2020 TRAFFIC CONDITIONS
BASIC FREEWAY SEGMENTS
LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX J-I

YEAR 2020 WITHOUT PROJECT TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 Without Project (Phase 1)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4429	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1586
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	23.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 Without Project (Phase 1)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3754	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1344
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	19.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 Without Project (Phase 1)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	2854	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1022
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	14.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 Without Project (Phase 1)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3563	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1276
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	18.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 Without Project (Phase 1)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3865	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1384
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	19.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 Without Project (Phase 1)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3281	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1175
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.49
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	16.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 Without Project (Phase 1)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3178	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1138
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	16.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 Without Project (Phase 1)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4061	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1454
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	21.0
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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APPENDIX J-II

YEAR 2020 WITH PROJECT (PHASE 1) TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 With Project (Phase 1)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4535	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1624
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.68
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	23.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 With Project (Phase 1)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3800	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1361
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.57
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	19.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 With Project (Phase 1)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	2920	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1045
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	14.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 With Project (Phase 1)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3636	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1302
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	18.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 With Project (Phase 1)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3993	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1430
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 With Project (Phase 1)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3359	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1203
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	17.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

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Agency	LLG	Analysis Year	Year 2020 With Project (Phase 1)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3258	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1166
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.49
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	16.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 With Project (Phase 1)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4185	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1498
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.62
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	21.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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APPENDIX J-III

YEAR 2020 WITH PROJECT (PHASE 1) WITH MITIGATION TRAFFIC CONDITIONS

APPENDIX K

YEAR 2020 TRAFFIC CONDITIONS
FREEWAY MERGE AND DIVERGE SEGMENTS
LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX K-I

YEAR 2020 WITHOUT PROJECT TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 Without Project (Phase 1)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	3000
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4429	1088
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4757	1169
Capacity (c), pc/h	7200	4000
Volume-to-Capacity Ratio (v/c)	0.66	0.29

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	1.2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.533
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1973
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	55.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	73.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	2784	Ramp Junction Speed (S), mi/h	61.3
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.9
Level of Service (LOS)	A		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 Without Project (Phase 1)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3341	413
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3589	444
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.56	0.22

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	593.2	Density in Ramp Influence Area (D_R), pc/mi/ln	21.3
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.325
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1446
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.597	Outer Lanes Freeway Speed (S_O), mi/h	66.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	2143	Ramp Junction Speed (S), mi/h	62.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2587	Average Density (D), pc/mi/ln	21.4
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 Without Project (Phase 1)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2854	505
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3066	542
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.43	0.27

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	21.5
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.477
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	863
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.658	Outer Lanes Freeway Speed (S_O), mi/h	76.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2203	Ramp Junction Speed (S), mi/h	61.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	16.7
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 Without Project (Phase 1)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2349	1214
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2523	1304
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.53	0.65

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	580.2	Density in Ramp Influence Area (D_R), pc/mi/ln	22.2
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.333
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1014
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	68.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	1509	Ramp Junction Speed (S), mi/h	62.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2813	Average Density (D), pc/mi/ln	20.4
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 Without Project (Phase 1)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	3000
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3865	1061
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4151	1140
Capacity (c), pc/h	7200	4000
Volume-to-Capacity Ratio (v/c)	0.58	0.29

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	0.0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.531
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1656
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	55.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	74.2
Flow in Lanes 1 and 2 (v_{12}), pc/h	2495	Ramp Junction Speed (S), mi/h	61.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	22.5
Level of Service (LOS)	A		

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HCS7 Freeway Merge Report

Project Information

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Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2804	477
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3012	512
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.49	0.26

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	484.3	Density in Ramp Influence Area (D_R), pc/mi/ln	19.1
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.313
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1214
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	61.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.597	Outer Lanes Freeway Speed (S_O), mi/h	67.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	1798	Ramp Junction Speed (S), mi/h	63.2
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2310	Average Density (D), pc/mi/ln	18.6
Level of Service (LOS)	B		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 Without Project (Phase 1)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3178	403
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3414	433
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.47	0.22

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	23.1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.467
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1028
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.655	Outer Lanes Freeway Speed (S_O), mi/h	76.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	2386	Ramp Junction Speed (S), mi/h	61.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	18.4
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 Without Project (Phase 1)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2775	1286
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2981	1381
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.61	0.69

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	694.7	Density in Ramp Influence Area (D_R), pc/mi/ln	24.9
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.361
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1198
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	59.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	67.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	1783	Ramp Junction Speed (S), mi/h	61.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3164	Average Density (D), pc/mi/ln	23.5
Level of Service (LOS)	C		

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APPENDIX K-II

YEAR 2020 WITH PROJECT (PHASE 1) TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information			
Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 With Project (Phase 1)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	3000
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Volume (V_i), veh/h	4535	1194
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4871	1282
Capacity (c), pc/h	7200	4000
Volume-to-Capacity Ratio (v/c)	0.68	0.32

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	2.2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.543
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1974
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	54.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	73.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	2897	Ramp Junction Speed (S), mi/h	61.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	26.6
Level of Service (LOS)	A		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 With Project (Phase 1)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3341	459
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3589	493
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.57	0.25

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	603.7	Density in Ramp Influence Area (D_R), pc/mi/ln	21.6
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.328
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1446
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.597	Outer Lanes Freeway Speed (S_O), mi/h	66.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	2143	Ramp Junction Speed (S), mi/h	62.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2636	Average Density (D), pc/mi/ln	21.7
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 With Project (Phase 1)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2920	571
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3136	613
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.44	0.31

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	22.0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.483
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	875
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.653	Outer Lanes Freeway Speed (S_O), mi/h	76.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2261	Ramp Junction Speed (S), mi/h	61.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	17.1
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 With Project (Phase 1)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2349	1287
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2523	1382
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.54	0.69

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	596.9	Density in Ramp Influence Area (D_R), pc/mi/ln	22.8
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.339
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1014
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	68.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	1509	Ramp Junction Speed (S), mi/h	62.3
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2891	Average Density (D), pc/mi/ln	20.9
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 With Project (Phase 1)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	3000
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3993	1189
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4289	1277
Capacity (c), pc/h	7200	4000
Volume-to-Capacity Ratio (v/c)	0.60	0.32

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	0.0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.543
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1657
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	54.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	74.2
Flow in Lanes 1 and 2 (v_{12}), pc/h	2632	Ramp Junction Speed (S), mi/h	61.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	23.4
Level of Service (LOS)	A		

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HCS7 Freeway Merge Report

Project Information			
Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 With Project (Phase 1)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data		
	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity		
Volume (V_i), veh/h	2804	555
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3012	596
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.50	0.30

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	502.2	Density in Ramp Influence Area (D_R), pc/mi/ln	19.7
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.316
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1214
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	61.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.597	Outer Lanes Freeway Speed (S_O), mi/h	67.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	1798	Ramp Junction Speed (S), mi/h	63.2
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2394	Average Density (D), pc/mi/ln	19.0
Level of Service (LOS)	B		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 With Project (Phase 1)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3258	483
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3499	519
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.49	0.26

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	23.6
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.475
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1046
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.649	Outer Lanes Freeway Speed (S_O), mi/h	76.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	2453	Ramp Junction Speed (S), mi/h	61.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	19.0
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2020 With Project (Phase 1)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2775	1410
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2981	1515
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.62	0.76

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	723.3	Density in Ramp Influence Area (D_R), pc/mi/ln	25.9
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.374
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1198
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	59.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	67.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	1783	Ramp Junction Speed (S), mi/h	61.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3298	Average Density (D), pc/mi/ln	24.4
Level of Service (LOS)	C		

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APPENDIX K-III

YEAR 2020 WITH PROJECT (PHASE 1) WITH MITIGATION TRAFFIC CONDITIONS

APPENDIX L

YEAR 2022 TRAFFIC CONDITIONS
BASIC FREEWAY SEGMENTS
LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX L-I

YEAR 2022 WITHOUT PROJECT TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 Without Project (Phase 2)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4724	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1691
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.2
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 Without Project (Phase 2)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3966	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1420
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 Without Project (Phase 2)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3051	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1092
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	15.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 Without Project (Phase 2)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3794	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1358
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.57
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	19.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 Without Project (Phase 2)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4181	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1497
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.62
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	21.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

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Agency	LLG	Analysis Year	Year 2022 Without Project (Phase 2)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3531	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1264
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	18.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

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Agency	LLG	Analysis Year	Year 2022 Without Project (Phase 2)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3423	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1226
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	17.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

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Agency	LLG	Analysis Year	Year 2022 Without Project (Phase 2)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4379	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1568
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.65
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	22.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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APPENDIX L-II

YEAR 2022 WITH PROJECT (PHASE 2) TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 With Project (Phases 1 & 2)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4771	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1708
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.71
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 With Project (Phases 1 & 2)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3982	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1426
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.4
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 With Project (Phases 1 & 2)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3080	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1103
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	15.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

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Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3820	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1368
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.57
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	19.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

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Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4223	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1512
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	21.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

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Agency	LLG	Analysis Year	Year 2022 With Project (Phases 1 & 2)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3550	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1271
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.9
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	18.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3450	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1235
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	17.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

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Agency	LLG	Analysis Year	Year 2022 With Project (Phases 1 & 2)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4410	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1579
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	23.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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APPENDIX L-III

YEAR 2022 WITH PROJECT (PHASE 2) WITH MITIGATION TRAFFIC CONDITIONS

APPENDIX M

YEAR 2022 TRAFFIC CONDITIONS
FREEWAY MERGE AND DIVERGE SEGMENTS
LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX M-I

YEAR 2022 WITHOUT PROJECT TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 Without Project (Phase 2)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	3000
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4724	1235
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	5074	1327
Capacity (c), pc/h	7200	4000
Volume-to-Capacity Ratio (v/c)	0.70	0.33

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	3.2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.547
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2061
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	54.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	72.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	3013	Ramp Junction Speed (S), mi/h	60.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	27.8
Level of Service (LOS)	A		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 Without Project (Phase 2)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3489	477
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3748	512
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.59	0.26

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	641.8	Density in Ramp Influence Area (D_R), pc/mi/ln	22.5
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.334
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1510
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.597	Outer Lanes Freeway Speed (S_O), mi/h	66.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2238	Ramp Junction Speed (S), mi/h	62.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2750	Average Density (D), pc/mi/ln	22.7
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 Without Project (Phase 2)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3051	590
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3277	634
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.46	0.32

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	22.7
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.485
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	928
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.649	Outer Lanes Freeway Speed (S_O), mi/h	76.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2349	Ramp Junction Speed (S), mi/h	61.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	17.9
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 Without Project (Phase 2)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2461	1333
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2643	1432
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.57	0.72

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	633.3	Density in Ramp Influence Area (D_R), pc/mi/ln	23.7
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.348
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1062
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	68.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	1581	Ramp Junction Speed (S), mi/h	62.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3013	Average Density (D), pc/mi/ln	21.9
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 Without Project (Phase 2)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	3000
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4181	1229
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4491	1320
Capacity (c), pc/h	7200	4000
Volume-to-Capacity Ratio (v/c)	0.62	0.33

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	0.9
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.547
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1744
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	54.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	73.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	2747	Ramp Junction Speed (S), mi/h	60.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	24.6
Level of Service (LOS)	A		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 Without Project (Phase 2)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2952	579
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3171	622
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.53	0.31

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	541.8	Density in Ramp Influence Area (D_R), pc/mi/ln	20.6
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.322
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1278
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	61.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.597	Outer Lanes Freeway Speed (S_O), mi/h	67.2
Flow in Lanes 1 and 2 (v_{12}), pc/h	1893	Ramp Junction Speed (S), mi/h	63.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2515	Average Density (D), pc/mi/ln	20.1
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 Without Project (Phase 2)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3423	502
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3677	539
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.51	0.27

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	24.5
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.477
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1120
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.643	Outer Lanes Freeway Speed (S_O), mi/h	76.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	2557	Ramp Junction Speed (S), mi/h	61.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	20.0
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 Without Project (Phase 2)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2921	1458
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3137	1566
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.65	0.78

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	767.6	Density in Ramp Influence Area (D_R), pc/mi/ln	27.0
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.390
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1261
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	59.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	67.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1876	Ramp Junction Speed (S), mi/h	61.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3442	Average Density (D), pc/mi/ln	25.7
Level of Service (LOS)	C		

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APPENDIX M-II

YEAR 2022 WITH PROJECT (PHASE 2) TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 With Project (Phases 1 & 2)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	3000
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4771	1282
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	5125	1377
Capacity (c), pc/h	7200	4000
Volume-to-Capacity Ratio (v/c)	0.71	0.34

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	3.6
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.552
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2061
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	54.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	72.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	3064	Ramp Junction Speed (S), mi/h	60.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	28.2
Level of Service (LOS)	A		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 With Project (Phases 1 & 2)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3489	493
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3748	530
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.59	0.27

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	645.6	Density in Ramp Influence Area (D_R), pc/mi/ln	22.6
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.336
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1510
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.597	Outer Lanes Freeway Speed (S_O), mi/h	66.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2238	Ramp Junction Speed (S), mi/h	62.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2768	Average Density (D), pc/mi/ln	22.8
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 With Project (Phases 1 & 2)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3080	619
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3308	665
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.46	0.33

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	23.0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.488
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	933
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.647	Outer Lanes Freeway Speed (S_O), mi/h	76.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2375	Ramp Junction Speed (S), mi/h	60.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	18.1
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 With Project (Phases 1 & 2)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2461	1359
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2643	1460
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.57	0.73

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	639.2	Density in Ramp Influence Area (D_R), pc/mi/ln	23.9
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.350
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1062
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	68.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	1581	Ramp Junction Speed (S), mi/h	62.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3041	Average Density (D), pc/mi/ln	22.1
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 With Project (Phases 1 & 2)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	3000
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4223	1271
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4536	1365
Capacity (c), pc/h	7200	4000
Volume-to-Capacity Ratio (v/c)	0.63	0.34

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	1.3
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.551
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1744
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	54.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	73.9
Flow in Lanes 1 and 2 (v_{12}), pc/h	2792	Ramp Junction Speed (S), mi/h	60.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	24.9
Level of Service (LOS)	A		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 With Project (Phases 1 & 2)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2952	598
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3171	642
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.53	0.32

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	546.1	Density in Ramp Influence Area (D_R), pc/mi/ln	20.8
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.323
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1278
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	61.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.597	Outer Lanes Freeway Speed (S_O), mi/h	67.2
Flow in Lanes 1 and 2 (v_{12}), pc/h	1893	Ramp Junction Speed (S), mi/h	62.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2535	Average Density (D), pc/mi/ln	20.2
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 With Project (Phases 1 & 2)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3450	529
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3706	568
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.51	0.28

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	24.7
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.479
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1127
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.641	Outer Lanes Freeway Speed (S_O), mi/h	76.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	2579	Ramp Junction Speed (S), mi/h	61.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	20.1
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2022 With Project (Phases 1 & 2)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2921	1489
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3137	1599
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.66	0.80

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	774.7	Density in Ramp Influence Area (D_R), pc/mi/ln	27.2
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.394
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1261
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	59.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	67.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1876	Ramp Junction Speed (S), mi/h	61.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3475	Average Density (D), pc/mi/ln	25.9
Level of Service (LOS)	C		

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APPENDIX M-III

YEAR 2022 WITH PROJECT (PHASE 2) WITH MITIGATION TRAFFIC CONDITIONS

APPENDIX N

YEAR 2040 TRAFFIC CONDITIONS
BASIC FREEWAY SEGMENTS
LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX N-I

YEAR 2040 WITHOUT PROJECT TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 Without Project (Phase 1)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	5716	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	2047
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	61.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	33.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 Without Project (Phase 1)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4994	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1788
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.75
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	66.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	27.1
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 Without Project (Phase 1)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3190	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1142
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.48
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	16.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 Without Project (Phase 1)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3951	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1415
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 Without Project (Phase 1)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4349	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1557
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.65
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	22.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 Without Project (Phase 1)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3736	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1338
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	19.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 Without Project (Phase 1)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4785	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1713
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.71
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	67.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	25.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 Without Project (Phase 1)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	5724	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	2049
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.85
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	61.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	33.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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APPENDIX N-II

YEAR 2040 WITH PROJECT (PHASE 1) TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phase 1)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	5822	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	2084
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.87
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	61.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	34.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phase 1)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	5040	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1805
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.75
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.8
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	27.4
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phase 1)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3256	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1166
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.49
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	16.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phase 1)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4024	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1441
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phase 1)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4477	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1603
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.1
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	23.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phase 1)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3814	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1366
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.57
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	19.6
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phase 1)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4865	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1742
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.73
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	66.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	26.2
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phase 1)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	5848	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	2094
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.87
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	60.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	34.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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APPENDIX N-III

YEAR 2040 WITH PROJECT (PHASE 1) WITH MITIGATION TRAFFIC CONDITIONS

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APPENDIX N-IV

YEAR 2040 WITH PROJECT (PHASE 2) TRAFFIC CONDITIONS

HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phases 1 & 2)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	5868	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	2101
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	60.6
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	34.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phases 1 & 2)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	5056	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1810
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.75
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	65.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	27.5
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phases 1 & 2)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3285	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1176
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.49
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	16.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phases 1 & 2)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4050	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1450
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.3
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	20.9
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phases 1 & 2)
Jurisdiction	SR-210 EB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4520	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1618
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	68.0
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	23.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phases 1 & 2)
Jurisdiction	SR-210 EB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	3833	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1372
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.57
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	69.7
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	19.7
Total Ramp Density Adjustment	-	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phases 1 & 2)
Jurisdiction	SR-210 WB, east of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	4892	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	1752
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.73
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	66.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	26.3
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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HCS7 Basic Freeway Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phases 1 & 2)
Jurisdiction	SR-210 WB, west of Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	70.0	Total Ramp Density (TRD), ramps/mi	-
Lane Width, ft	-	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	-		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Volume (V), veh/h	5879	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor (PHF)	0.95	Flow Rate (v_p), pc/h/ln	2105
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.88
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	-	Average Speed (S), mi/h	60.5
Right-Side Lateral Clearance Adj. (f_{RLC})	-	Density (D), pc/mi/ln	34.8
Total Ramp Density Adjustment	-	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	70.0		

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APPENDIX N-V

YEAR 2040 WITH PROJECT (PHASE 2) WITH MITIGATION TRAFFIC CONDITIONS

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APPENDIX O

YEAR 2040 TRAFFIC CONDITIONS
FREEWAY MERGE AND DIVERGE SEGMENTS
LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX O-I

YEAR 2040 WITHOUT PROJECT TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 Without Project (Phase 1)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	3000
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	5716	1180
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	6140	1267
Capacity (c), pc/h	7200	4000
Volume-to-Capacity Ratio (v/c)	0.85	0.32

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	7.4
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.542
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2631
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	54.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	70.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	3509	Ramp Junction Speed (S), mi/h	60.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	33.8
Level of Service (LOS)	A		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 Without Project (Phase 1)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4536	458
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4872	492
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.75	0.25

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	878.0	Density in Ramp Influence Area (D_R), pc/mi/ln	27.6
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.390
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1963
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	59.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.597	Outer Lanes Freeway Speed (S_O), mi/h	64.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	2909	Ramp Junction Speed (S), mi/h	61.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3401	Average Density (D), pc/mi/ln	29.3
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 Without Project (Phase 1)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3190	556
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3426	597
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.48	0.30

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	23.4
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.482
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	999
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.647	Outer Lanes Freeway Speed (S_O), mi/h	76.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2427	Ramp Junction Speed (S), mi/h	61.2
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	18.7
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 Without Project (Phase 1)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2634	1317
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2829	1415
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.59	0.71

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	669.4	Density in Ramp Influence Area (D_R), pc/mi/ln	24.4
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.356
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1137
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	67.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	1692	Ramp Junction Speed (S), mi/h	61.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3107	Average Density (D), pc/mi/ln	22.9
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 Without Project (Phase 1)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	3000
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4349	1151
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4671	1236
Capacity (c), pc/h	7200	4000
Volume-to-Capacity Ratio (v/c)	0.65	0.31

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	1.2
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.539
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1889
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	54.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	73.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	2782	Ramp Junction Speed (S), mi/h	61.1
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	25.5
Level of Service (LOS)	A		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 Without Project (Phase 1)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3198	538
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3435	578
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.56	0.29

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	588.9	Density in Ramp Influence Area (D_R), pc/mi/ln	21.5
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.327
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1384
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.597	Outer Lanes Freeway Speed (S_O), mi/h	66.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2051	Ramp Junction Speed (S), mi/h	62.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2629	Average Density (D), pc/mi/ln	21.3
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 Without Project (Phase 1)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4785	455
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	1.000
Flow Rate (v_i), pc/h	5140	479
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.71	0.24

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	31.1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.471
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1822
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.609	Outer Lanes Freeway Speed (S_O), mi/h	73.6
Flow in Lanes 1 and 2 (v_{12}), pc/h	3318	Ramp Junction Speed (S), mi/h	61.8
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	27.7
Level of Service (LOS)	D		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 Without Project (Phase 1)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4330	1394
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4651	1497
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.85	0.75

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	1076.9	Density in Ramp Influence Area (D_R), pc/mi/ln	33.5
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.550
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1870
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	65.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	2781	Ramp Junction Speed (S), mi/h	57.4
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4278	Average Density (D), pc/mi/ln	35.7
Level of Service (LOS)	D		

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APPENDIX O-II

YEAR 2040 WITH PROJECT (PHASE 1) TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phase 1)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	3000
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	5822	1286
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	6253	1381
Capacity (c), pc/h	7200	4000
Volume-to-Capacity Ratio (v/c)	0.87	0.35

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	8.0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.552
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2680
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	54.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	70.2
Flow in Lanes 1 and 2 (v_{12}), pc/h	3573	Ramp Junction Speed (S), mi/h	60.3
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	34.6
Level of Service (LOS)	A		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phase 1)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4536	504
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4872	541
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.75	0.27

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	888.5	Density in Ramp Influence Area (D_R), pc/mi/ln	27.9
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.396
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1963
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	58.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.597	Outer Lanes Freeway Speed (S_O), mi/h	64.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	2909	Ramp Junction Speed (S), mi/h	60.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3450	Average Density (D), pc/mi/ln	29.6
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phase 1)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3256	622
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3497	668
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.49	0.33

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	23.9
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.488
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1013
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.642	Outer Lanes Freeway Speed (S_O), mi/h	76.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	2484	Ramp Junction Speed (S), mi/h	61.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	19.1
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phase 1)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2634	1390
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2829	1493
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.60	0.75

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	686.1	Density in Ramp Influence Area (D_R), pc/mi/ln	25.0
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.363
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1137
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	59.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	67.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	1692	Ramp Junction Speed (S), mi/h	61.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3185	Average Density (D), pc/mi/ln	23.3
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phase 1)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	3000
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4477	1279
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4809	1374
Capacity (c), pc/h	7200	4000
Volume-to-Capacity Ratio (v/c)	0.67	0.34

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	2.4
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.552
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1889
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	54.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	73.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	2920	Ramp Junction Speed (S), mi/h	60.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	26.5
Level of Service (LOS)	A		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phase 1)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3198	616
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3435	662
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.57	0.33

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	606.9	Density in Ramp Influence Area (D_R), pc/mi/ln	22.1
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.332
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1384
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.597	Outer Lanes Freeway Speed (S_O), mi/h	66.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2051	Ramp Junction Speed (S), mi/h	62.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2713	Average Density (D), pc/mi/ln	21.8
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phase 1)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4865	535
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	5226	575
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.73	0.29

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	31.6
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.480
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1846
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.603	Outer Lanes Freeway Speed (S_O), mi/h	73.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	3380	Ramp Junction Speed (S), mi/h	61.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	28.3
Level of Service (LOS)	D		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phase 1)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4330	1518
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4651	1631
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.87	0.82

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	1105.6	Density in Ramp Influence Area (D_R), pc/mi/ln	34.5
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.590
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1870
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	53.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	65.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	2781	Ramp Junction Speed (S), mi/h	56.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4412	Average Density (D), pc/mi/ln	37.1
Level of Service (LOS)	D		

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APPENDIX O-III

YEAR 2040 WITH PROJECT (PHASE 1) WITH MITIGATION TRAFFIC CONDITIONS

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APPENDIX O-IV

YEAR 2040 WITH PROJECT (PHASE 2) TRAFFIC CONDITIONS

HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phases 1 & 2)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	3000
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	5868	1332
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	6303	1431
Capacity (c), pc/h	7200	4000
Volume-to-Capacity Ratio (v/c)	0.88	0.36

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	8.4
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.557
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	2680
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	70.2
Flow in Lanes 1 and 2 (v_{12}), pc/h	3623	Ramp Junction Speed (S), mi/h	60.2
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	34.9
Level of Service (LOS)	A		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phases 1 & 2)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4536	520
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4872	559
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.75	0.28

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	892.4	Density in Ramp Influence Area (D_R), pc/mi/ln	28.1
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.398
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1963
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	58.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.597	Outer Lanes Freeway Speed (S_O), mi/h	64.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	2909	Ramp Junction Speed (S), mi/h	60.9
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3468	Average Density (D), pc/mi/ln	29.7
Level of Service (LOS)	D		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phases 1 & 2)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3285	651
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3528	699
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.49	0.35

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	24.1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.491
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1018
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.640	Outer Lanes Freeway Speed (S_O), mi/h	76.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	2510	Ramp Junction Speed (S), mi/h	61.0
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	19.3
Level of Service (LOS)	C		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phases 1 & 2)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	AM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	2634	1416
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	2829	1521
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.60	0.76

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	692.1	Density in Ramp Influence Area (D_R), pc/mi/ln	25.2
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.365
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1137
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	59.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	67.7
Flow in Lanes 1 and 2 (v_{12}), pc/h	1692	Ramp Junction Speed (S), mi/h	61.7
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	3213	Average Density (D), pc/mi/ln	23.5
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phases 1 & 2)
Jurisdiction	SR-210 EB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	2
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	3000
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4520	1322
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4855	1420
Capacity (c), pc/h	7200	4000
Volume-to-Capacity Ratio (v/c)	0.67	0.36

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	2.8
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.556
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1889
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	73.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	2966	Ramp Junction Speed (S), mi/h	60.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	26.7
Level of Service (LOS)	A		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phases 1 & 2)
Jurisdiction	SR-210 EB On-Ramp from Arden Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	680
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	3198	635
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	3435	682
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.57	0.34

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	611.2	Density in Ramp Influence Area (D_R), pc/mi/ln	22.3
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.333
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1384
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	60.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.597	Outer Lanes Freeway Speed (S_O), mi/h	66.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2051	Ramp Junction Speed (S), mi/h	62.6
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2733	Average Density (D), pc/mi/ln	21.9
Level of Service (LOS)	C		

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HCS7 Freeway Diverge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phases 1 & 2)
Jurisdiction	SR-210 WB Off-Ramp to Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (L_D), ft	1500	190
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4892	562
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	5255	604
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.73	0.30

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Density in Ramp Influence Area (D_R), pc/mi/ln	31.8
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.482
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1856
Distance to Downstream Ramp (L_{DOWN}), ft	10000	Off-Ramp Influence Area Speed (S_R), mi/h	56.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.601	Outer Lanes Freeway Speed (S_O), mi/h	73.5
Flow in Lanes 1 and 2 (v_{12}), pc/h	3399	Ramp Junction Speed (S), mi/h	61.5
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	28.5
Level of Service (LOS)	D		

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HCS7 Freeway Merge Report

Project Information

Analyst	AB	Date	10/9/2017
Agency	LLG	Analysis Year	Year 2040 With Project (Phases 1 & 2)
Jurisdiction	SR-210 WB On-Ramp from Highland Ave	Time Period Analyzed	PM Peak Hour
Project Description	2-16-3777-1 San Manuel Casino Expansion and Hotel, San Bernardino County		

Geometric Data

	Freeway	Ramp
Number of Lanes (N)	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (L_A), ft	1500	750
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Volume (V_i), veh/h	4330	1549
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	2.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.980	0.980
Flow Rate (v_i), pc/h	4651	1664
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.88	0.83

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	1112.6	Density in Ramp Influence Area (D_R), pc/mi/ln	34.8
Distance to Upstream Ramp (L_{UP}), ft	10000	Speed Index (M_S)	0.601
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	1870
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	53.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.598	Outer Lanes Freeway Speed (S_O), mi/h	65.1
Flow in Lanes 1 and 2 (v_{12}), pc/h	2781	Ramp Junction Speed (S), mi/h	56.2
Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	4445	Average Density (D), pc/mi/ln	37.5
Level of Service (LOS)	D		

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Appendix F
Queue Length Tables

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TABLE 1

EXISTING WITH PROJECT PEAK HOUR FREEWAY OFF-RAMP QUEUING ANALYSIS

SAN MANUAL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

Key Ramp Intersection	(1) Existing Traffic Conditions Maximum Queue/Minimum Storage			(2) Existing With Project (Phase 1) Traffic Conditions Maximum Queue/Minimum Storage			(3) Existing With Project (Phase 2) Traffic Conditions[1] Maximum Queue/Minimum Storage		
	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday PM Peak Hour	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday PM Peak Hour	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday PM Peak Hour
9. SR-210 EB Off-Ramp at Highland Avenue									
Southbound Left-Turn[2]	690'	686'	762'	750'	758'	860'	776'	780'	876'
Southbound Right-Turn	160'	134'	101'	149'	123'	88'	145'	120'	86'
Eastbound Through[2]	108'	306'	244'	134'	374'	324'	148'	394'	340'
Westbound Through[2]	132'	228'	260'	158'	280'	342'	168'	298'	354'
12. SR-210 WB Off-Ramp at Highland Avenue									
Northbound Left-Turn[2]	290'	268'	240'	276'	256'	254'	268'	250'	264'
Northbound Through/Right-Turn	128'	98'	178'	201'	188'	318'	224'	210'	352'
Southbound Left-Turn/Right-Turn	5'	39'	88'	5'	39'	102'	5'	39'	108'
Eastbound Left-Turn	13'	27'	35'	13'	27'	41'	13'	27'	43'
Eastbound Through[2]	206'	346'	454'	296'	462'	864'	358'	520'	970'
Westbound Through	156'	290'	320'	211'	403'	638'	236'	453'	709'
Westbound Through/Right-Turn	156'	290'	320'	211'	403'	638'	236'	453'	709'

1 Includes Phase 1 traffic.

2 It should be noted that the queue lengths reported are per lane. Since only one queue length is presented in the LOS calculation worksheets, the reported queue lengths have been doubled to reflect the total queue to reflect the dual lanes.

LINSCOTT LAW & GREENSPAN engineers

TABLE 2

YEAR 2020 WITH PROJECT PEAK HOUR FREEWAY OFF-RAMP QUEUING ANALYSIS

SAN MANUAL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

Key Ramp Intersection	(1) Year 2020 Without Project Traffic Conditions Maximum Queue/Minimum Storage			(2) Year 2020 With Project (Phase 1) Traffic Conditions Maximum Queue/Minimum Storage		
	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday PM Peak Hour	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday PM Peak Hour
9. SR-210 EB Off-Ramp at Highland Avenue						
Southbound Left-Turn[3]	710'	712'	810'	768'	782'	904'
Southbound Right-Turn	163'	139'	104'	152'	127'	90'
Eastbound Through[3]	138'	368'	320'	168'	430'	410'
Westbound Through[3]	190'	274'	340'	222'	332'	424'
12. SR-210 WB Off-Ramp at Highland Avenue						
Northbound Left-Turn[3]	384'	310'	274'	382'	322'	338'
Northbound Through/Right-Turn	126'	105'	189'	199'	207'	387'
Southbound Left-Turn/Right-Turn	5'	43'	93'	5'	46'	125'
Eastbound Left-Turn	14'	28'	38'	14'	30'	52'
Eastbound Through[3]	272'	428'	528'	344'	556'	1,086'
Westbound Through	197'	353'	377'	236'	494'	800'
Westbound Through/Right-Turn	197'	353'	377'	236'	494'	800'

[3] It should be noted that the queue lengths reported are per lane. Since only one queue length is presented in the LOS calculation worksheets, the reported queue lengths have been doubled to reflect the total queue to reflect the dual lanes.

LINSCOTT LAW & GREENSPAN engineers

TABLE 3
YEAR 2022 WITH PROJECT PEAK HOUR FREEWAY OFF-RAMP QUEUING ANALYSIS
SAN MANUAL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

Key Ramp Intersection	(1) Year 2022 Without Project Traffic Conditions[4] Maximum Queue/Minimum Storage			(2) Year 2022 With Project (Phase 2) Traffic Conditions Maximum Queue/Minimum Storage		
	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday PM Peak Hour	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday PM Peak Hour
9. SR-210 EB Off-Ramp at Highland Avenue						
Southbound Left-Turn[5]	784'	798'	920'	808'	820'	936'
Southbound Right-Turn	155'	130'	91'	150'	126'	88'
Eastbound Through[5]	180'	458'	436'	196'	480'	450'
Westbound Through[5]	238'	362'	452'	252'	380'	464'
12. SR-210 WB Off-Ramp at Highland Avenue						
Northbound Left-Turn[5]	392'	378'	368'	386'	386'	358'
Northbound Through/Right-Turn	201'	229'	430'	228'	265'	453'
Southbound Left-Turn/Right-Turn	5'	53'	141'	5'	56'	138'
Eastbound Left-Turn	14'	35'	54'	14'	37'	54'
Eastbound Through[5]	368'	624'	1,102'	410'	720'	1,226'
Westbound Through	248'	550'	821'	268'	631'	929'
Westbound Through/Right-Turn	248'	550'	821'	268'	631'	929'

4 Includes Phase 1 traffic.

5 It should be noted that the queue lengths reported are per lane. Since only one queue length is presented in the LOS calculation worksheets, the reported queue lengths have been doubled to reflect the total queue to reflect the dual lanes.

LINSCOTT LAW & GREENSPAN engineers

TABLE 4
YEAR 2040 WITH PROJECT PEAK HOUR FREEWAY OFF-RAMP QUEUING ANALYSIS
SAN MANUAL HOTEL AND CASINO EXPANSION, SAN BERNARDINO COUNTY

Key Ramp Intersection	(1) Year 2040 Without Project Traffic Conditions Maximum Queue/Minimum Storage			(2) Year 2040 With Project (Phase 1) Traffic Conditions Maximum Queue/Minimum Storage			(3) Year 2040 With Project (Phase 2) Traffic Conditions[6] Maximum Queue/Minimum Storage		
	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday PM Peak Hour	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday PM Peak Hour	Weekday AM Peak Hour	Weekday PM Peak Hour	Saturday PM Peak Hour
9. SR-210 EB Off-Ramp at Highland Avenue									
Southbound Left-Turn[7]	752'	754'	856'	808'	822'	946'	830'	842'	960'
Southbound Right-Turn	174'	149'	111'	163'	137'	96'	158'	133'	94'
Eastbound Through[7]	156'	412'	364'	186'	472'	448'	202'	494'	462'
Westbound Through[7]	214'	312'	386'	246'	374'	464'	262'	390'	238'
12. SR-210 WB Off-Ramp at Highland Avenue									
Northbound Left-Turn[7]	412'	352'	322'	412'	406'	398'	410'	414'	396'
Northbound Through/Right-Turn	134'	113'	200'	205'	232'	413'	232'	269'	453'
Southbound Left-Turn/Right-Turn	5'	46'	100'	5'	55'	136'	5'	58'	137'
Eastbound Left-Turn	14'	30'	40'	14'	36'	55'	14'	37'	55'
Eastbound Through[7]	306'	480'	590'	382'	634'	1,154'	412'	732'	1,236'
Westbound Through	214'	398'	421'	254'	554'	852'	271'	634'	920'
Westbound Through/Right-Turn	214'	398'	421'	254'	554'	852'	271'	634'	920'

6 Includes Phase 1 traffic.

7 It should be noted that the queue lengths reported are per lane. Since only one queue length is presented in the LOS calculation worksheets, the reported queue lengths have been doubled to reflect the total queue to reflect the dual lanes.

Appendix G
Draft TEIR Comments

Letter A1

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
PLANNING (MS 725)
464 WEST 4th STREET, 6th FLOOR
SAN BERNARDINO, CA 92401-1400
PHONE (909) 388-7017
FAX (909) 383-5936
TTY 711
www.dot.ca.gov/dist8

Making Conservation a California Way of Life.

March 21, 2018

File: 08-SBd-210-PM R27.022

Michelle Hickey
San Manuel Band of Mission Indians
26569 Community Center Drive
Highland, CA 92345

Subject: San Manuel Hotel & Casino Expansion – Response to IGR Comments

Dear Ms. Hickey:

Thank you for providing the California Department of Transportation (Caltrans) the opportunity to review and comment on the Response to IGR Comments for the San Manuel Hotel and Casino Expansion (Project), located near the cities of Highland and San Bernardino, within and adjacent to the existing San Manuel Casino on the Tribe's Reservation in San Bernardino County. The project involves construction of an additional 795,000 square feet of hospitality and entertainment facilities and the expansion of the Tribe's existing gaming facilities. The proposal also include an approximate 2,200 stall parking structure.

As the owner and operator of the State Highway System (SHS), it is our responsibility to coordinate and consult with local jurisdictions when a proposed development may impact our facilities. We have the following comments regarding this project:

1) Page 19 & 20: Please do not use Live Theater Code 441 as insufficient data is available per the ITE Manual. Use a land use code that is equivalent to concerts or draw from the tribes experience with holding concerts at this location. A1-1

2) A freeway widening project (EA# 0C70U) on SR-210 (PM 25.00/33.20) is in progress which will add an auxiliary lane from Highland Avenue to San Bernardino Avenue and add accel/decel lanes at selected locations. Construction is expected to be completed in June 2021. We feel this addresses previous comments # 3 and 5c from our letter on this project dated February 21, 2018. A1-2

3) Also, a ramp widening project (EA# 1H640) at the east bound off-ramp (SR-210, PM 26.50) to Highland Avenue is in progress. Construction is expected to be completed in September 2019. We feel this addresses previous comments # 6 a and b from our letter on this project dated February 21, 2018. A1-3

4) We consider comments # 1, 2, 4, 5 a, b and 8 from our letter on this project dated February 21, 2018 are addressed or are considered to be non-applicable. A1-4

These recommendations are preliminary and summarize our review of materials provided for our evaluation. If you have any questions regarding this letter, please contact Jacob Mathew (909) 806-3928 or myself at (909) 383-4557.

Sincerely,

Mark Roberts

MARK ROBERTS
Office Chief, AICP
Intergovernmental Review, Community and Regional Planning

Cc: Jennifer Wade, Environmental Science Associates
Larry Mainez, Community Development Director, City of Highland
Mark Persico, Community Development Director, City of San Bernardino
Haissam Yahya, Division of Traffic Operations, Caltrans District 8
Lorna Foster, Tribal Liaison, Caltrans District 8

Letter A1 (Superceded)

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
PLANNING (MS 725)
464 WEST 4th STREET, 6th FLOOR
SAN BERNARDINO, CA 92401-1400
PHONE (909) 388-7017
FAX (909) 383-5936
TTY 711
www.dot.ca.gov/dist8

Making Conservation a California Way of Life.

February 21, 2018

File: 08-SBd-210-PM R27.022

Michelle Hickey
San Manuel Band of Mission Indians
26569 Community Center Drive
Highland, CA 92345

Subject: San Manuel Hotel & Casino Expansion –Traffic Impact Analysis

Dear Ms. Hickey:

Thank you for providing the California Department of Transportation (Caltrans) the opportunity to review and comment on the Traffic Impact Analysis for the San Manuel Hotel and Casino Expansion (Project), located near the cities of Highland and San Bernardino, within and adjacent to the existing San Manuel Casino on the Tribe's Reservation in San Bernardino County. The project involves construction of an additional 795,000 square feet of hospitality and entertainment facilities and the expansion of the Tribe's existing gaming facilities. The proposal also include an approximate 2,200 stall parking structure.

As the owner and operator of the State Highway System (SHS), it is our responsibility to coordinate and consult with local jurisdictions when proposed development may impact our facilities. We offer the following comments:

1) Page 16: Correct the published data from March 2013 to March 2003.

2) The SR-210/Del Rosa Avenue Interchange should be included in analysis.

3) Weaving analysis on the mainline (SR-210) between Del Rosa Avenue and Highland Avenue should be considered.

4) Provide queue lengths for all movements at ramps intersections in Tables.

5) Year 2020, Saturday PM Peak House + Project (Phase 1):

   a) The LOS for each phase should be operated at acceptable LOS D or better. For example, eastbound through on Highland Avenue at Intersection #10, shows LOS F.

A1-5

b) Please add to your methodology per HCM 6th edition, that a volume over capacity ratio greater than or equal to one is considered a LOS 'F'.

c) The queue lengths on Highland Avenue between EB off ramp and Arden Avenue; and Arden Avenue and WB off ramp exceeds the intersections spacing.

6) Year 2022, Saturday PM Peak House + Project (Phase 2) with Mitigation:

a) Most movements in lane group LOS for Intersection #10 are failing (Northbound left with LOS F and northbound through with LOS E; Southbound right with LOS E; Eastbound left with LOS E and eastbound through with LOS F; and Westbound left with LOS F).

b) The queue lengths on Highland Avenue between EB off ramp and Arden Avenue; and WB off ramp are longer than the intersections spacing. Therefore, your recommended improvement for northbound direction will not improve LOS.

7) Page 19 & 20: Please do not use Live Theater Code 441 as insufficient data is available per the ITE Manual. Use a land use code that is equivalent to concerts.

8) Page 19 & 20: A K-factor of 9% AM and 11% PM should be used to convert daily to peak hour. If you believe a multi-peak hour is applicable, an 8% and 10% K-factor may be used for AM and PM respectively.

A1-5 cont.

These recommendations are preliminary and summarize our review of materials provided for our evaluation. If you have any questions regarding this letter, please contact Jacob Mathew (909) 806-3928 or myself at (909) 383-4557.

Sincerely,

MARK ROBERTS
Office Chief, AICP
Intergovernmental Review, Community and Regional Planning

Cc: Jennifer Wade, Environmental Science Associates
Larry Mainez, Community Development Director, City of Highland
Lorna Foster, Caltrans District 8 Tribal Liaison
Mark Persico, Community Development Director, City of San Bernardino

Environmental Science Associates
c/o Jennifer Wade
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Re: San Manuel Hotel, Casino and Parking Expansion

Dear Ms. Wade:

As a strong voice for the economic development of our two-county region, The Inland Empire Economic Partnership would like to express its support of the San Manuel Band of Mission Indians' hotel, casino and parking expansion.

Vibrant economic development is crucial to the resurgence of Inland Southern California. As a region with a population greater than the state of Oregon, the two-county region needs our businesses to evolve and expand. One such organization is the San Manuel Band of Mission Indians.

San Manuel is unique in our area. It is at once a federally recognized sovereign Indian nation with its own government, a prominent community partner, a generous philanthropist and a thriving enterprise. Since 2016, San Manuel has increased its number of employees from over 4,000 to nearly 4,500 workers with an estimate 70 percent of those employees coming from within San Bernardino County. Its economic impact to San Bernardino County alone is estimated at more than $1 billion.

A2-1

Members of our organization have had the opportunity to learn about the Tribe's proposed hotel, casino and parking expansion and we support the effort. The new expansion holds the promise of 1,400 construction jobs and 1,200 permanent jobs that span a broad variety of education and skill sets.

As a community partner, San Manuel has a proven record of philanthropy that reaches across education, health care, community service, infrastructure public safety, the arts and Indian affairs. To that end, they have provided briefings on their project and shared the results of their environmental impact report studies with government agencies, chambers of commerce, economic development organizations and the public.

The Inland Empire Economic Partnership would like to add its support for the San Manuel expansion project and the numerous economic benefits it will bring our region.

Sincerely,

Paul Granillo
President and CEO
Inland Empire Economic Partnership

Dignity Health
St. Bernardine Medical Center

February 16, 2018

Environmental Science Associates
c/o Jennifer Wade
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Re: San Manuel Hotel, Casino and Parking Expansion

Dear Ms. Wade:

As a member of the health care community who has worked with the San Manuel Band of Mission Indians, I would like to add my support to the Tribe's efforts to develop its hotel, casino and parking expansion.

Members of our organization have had the opportunity to learn about the Tribe's proposed hotel, casino and parking expansion and we support the effort. To that end, they have provided briefings on their project and shared the results of their environmental impact report studies with government agencies, chambers of commerce, economic development organizations and the public.

A3-1

We believe the economic benefits of this expansion will reach well beyond the Tribe. San Manuel has been a long-time partner in the effort to improve the health and education of the residents of San Bernardino County. Since 2009, it has given more than $80 million to the region's hospitals, schools and philanthropies.

The new expansion not only will generate up to 1,400 construction jobs and 1,200 permanent jobs, it will allow the Tribe to further its mission of giving back to the community through its support of schools, universities, charities and hospitals, such as ours.

Partnership would like to add its support for the San Manuel expansion project and the numerous economic benefits it will bring our region.

Sincerely,

Douglas Kleam
President and CEO

Goodwill Southern California

342 N. San Fernando Road
Los Angeles, CA 90031
323.223.1211

14565 Lanark Street
Panorama City, CA 91402
818.782.2520

8120 Palm Lane
San Bernardino, CA 92410
909.885.3831

GoodwillSoCal.org

DONALD F. CRUMRINE
Flaherty & Crumrine (ret.)
CHAIR

THOMAS MURNANE
ARC Business Advisors
VICE CHAIR

LAURENCE MIDLER
CBRE Group, Inc.
SECOND VICE CHAIR

PETER STARRETT
Peter Starrett Associates
TREASURER

SUSAN H. STROMGREN
Bank of the West (ret.)
SECRETARY

PATRICK McCLENAHAN
PRESIDENT & CEO

February 15, 2018

Environmental Science Associates
c/o Jennifer Wade
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Re: San Manuel Hotel, Casino and Parking Expansion

Dear Ms. Wade:

As a member of the non-profit community who has worked with the San Manuel Band of Mission Indians, I would like to add my support to the Tribe's efforts to develop its hotel, casino and parking expansion.

San Manuel has provided briefings on their project and shared the results of their environmental impact report studies with government agencies, chambers of commerce, economic development organizations and the public. I have had the opportunity to learn about the Tribe's proposed hotel, casino and parking expansion and I support the effort.

San Manuel has been a long-time partner in the effort to improve the health and education of the residents of San Bernardino County. Since 2009, it has given more than $80 million to the region's hospitals, schools and philanthropies.

The new expansion will allow the Tribe to further its mission of giving back to the community through its support of schools, universities, charities and hospitals, such as ours. It will also create up to 1,400 construction jobs and 1,200 permanent jobs -- something so important to our region as it recovers from its economic challenges.

Goodwill Southern California would like to add its support for the San Manuel expansion project and the numerous economic and community benefits it will bring our Inland Southern California.

A4-1

Sincerely,

Patrick McClenahan
President & CEO

SAN BERNARDINO AREA CHAMBER OF COMMERCE
546 W. 6TH ST. • P.O. BOX 658 • SAN BERNARDINO, CA 92402 • (909) 885-7515 • FAX (909) 384-9979
sba.chamber@verizon.net www.sbachamber.org

Wheeler, Jim, Chairman
Raising Cane's

Nolan, John, Past Chairman
Gresham, Savage, Nolan & Tilden

Swalla, Debbie, Financial Chair
AltaPacific Bank

Quiggle, Maryann, Chair Ambassadors
Inland Empire Glass

Quisi, Larry, Chair Business Support
Quisi Bros. Signs

Avakian, Jack, Chair Community Affairs
YMCA

Gastel, Robert, Chair Governmental Affairs
Arrowhead Mechanical

Cayir, Ali
Transtech Engineers, Inc.

Conrad, Allan
National Orange Show

Coser, Frank
Anita's Mexican Food Corp.

Katzman, Jack
ABO Enterprises

Kaufman, John
JKS Investment Group LLC

Lang, Kevin
LLU Adventist Health Sciences Cntr

Ledbetter, Kelly
Jordan Insurance Services

Paredes, Cathy
Bank of America

Reif, Tim
Inland Center Mall

Romeo, Marty
Retired

Selmer, Nelson
Ardent Mills

Stevens, Lesley
Residence Inn by Marriott

Utley, Cliff
Cliff's Pest Control

Wilcox, Evlyn
Retired

Penman, Judi
President/CEO

February 21, 2018

Environmental Science Associates
c/o Jennifer Wade
2600 Capitol Avenue, Suite 200
Sacramento, CA 95816

RE: San Manuel Band of Mission Indians Hotel, Casino and Parking Expansion Project

Dear Ms. Wade:

Being a native of San Bernardino, I have watched my city change through the years. My father was employed by the Santa Fe Railroad and I made many new friends with new people coming into our community through Norton Air Force Base. Times changed and these two great employers left our city. A new employer emerged, not without controversy, however, a family business located in the heart of San Bernardino and employing thousands of people, so helping mitigate that loss.

As the President/CEO of the San Bernardino Area Chamber of Commerce I value the economic impact The San Manuel Band of Mission Indians has made to San Bernardino County alone, which is estimated to be in excess of $1 billion. My chamber members were excited to hear the presentation regarding the Tribe's proposed hotel, casino and parking expansion and eagerly anticipate the new visitors and revenue it will bring to our area.

This project will continue to foster the positive growth that the tribe has introduced to our region's economy and continue contributing greatly to the economic resurgence to the City of San Bernardino. It is estimated that of the 4,500 workers employed by San Manuel, 70 percent of those come from within San Bernardino County.

The San Manuel Band of Mission Indians believe in the communities in which they live and do business. They contribute millions of dollars to philanthropic organizations yearly making them an important partner in helping our region grow and thrive. The Tribe's impact extends to our School Districts, Hospitals, Community Service, Infrastructure, Police Service, and the Arts. The Tribal members are involved and they care.

The San Bernardino Area Chamber of Commerce would like to express its support of the San Manuel Band of Mission Indian's Hotel, Casino and Parking Expansion Project.

Sincerely,

Judi Penman
President/CEO
San Bernardino Area Chamber of Commerce

A5-1

SAN BERNARDINO CITY
UNIFIED SCHOOL DISTRICT

Dale Marsden, Ed.D
Superintendent

February 21, 2018

Environmental Science Associates
c/o Jennifer Wade
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Re: San Manuel Hotel, Casino and Parking Expansion

Dear Ms. Wade:

As members of the education community who has worked with the San Manuel Band of Mission Indians, we would like to add my support to the Tribe's efforts to develop its hotel, casino and parking expansion.

The Tribe has provided briefings on their project and shared the results of their environmental impact report studies with government agencies, chambers of commerce, economic development organizations and the public. Members of our organization have had the opportunity to learn about the Tribe's proposed hotel, casino and parking expansion and we support the effort.

Much like their philanthropy, we believe the economic benefits of this expansion will reach well beyond the Tribe. San Manuel has been a long-time partner in the effort to improve the health and education of the residents of San Bernardino County. Since 2009, it has given more than $80 million to the region's hospitals, schools and philanthropies.

A6-1

Since 2016, San Manuel has increased its number of employees from over 4,000 to nearly 4,500 workers with an estimate 70 percent of those employees coming from within San Bernardino County. Its economic impact to San Bernardino County alone is estimated at more than $1 billion.

The new expansion not only will generate up to 1,400 construction jobs and 1,200 permanent jobs, it will allow the Tribe to further its mission of giving back to the community through its support of hospitals, universities, charities and school districts, such as ours.

The San Bernardino City Unified School District would like to add its support for the San Manuel expansion project and the numerous economic benefits it will bring our region.

Sincerely,

Dale Marsden, Ed.D
Superintendent
San Bernardino City Unified School District

GREAT FUTURES START HERE.

BOYS & GIRLS CLUBS
OF GREATER REDLANDS-RIVERSIDE

Serving communities in the Inland Empire since 1967

Environmental Science Associates
c/o Jennifer Wade
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Re: San Manuel Hotel, Casino and Parking Expansion

Dear Ms. Wade:

As a member of the non-profit community who has worked with the San Manuel Band of Mission Indians, the Boys & Girls Clubs of Greater Redlands-Riverside would like to add its support for Tribe's efforts to develop its hotel, casino and parking expansion.

I have had the opportunity to learn about the Tribe's proposed hotel, casino and parking expansion and I support the Tribe's project.

San Manuel has been an important partner in the effort to improve the health, well-being and education of the residents of San Bernardino County – particularly the region's youth. Since 2009, it has given more than $80 million to the region's hospitals, schools and philanthropies.

Their new expansion project will allow the Tribe to further its mission of giving back to the community through its support of schools, universities and charities such as ours. It will also create up to 1,400 construction jobs and 1,200 permanent jobs -- something our region very much needs.

Boys & Girls Clubs of Greater Redlands-Riverside supports the San Manuel expansion project and the numerous economic and community benefits it will bring our Inland Southern California.

Sincerely,

P.T. McEwen
Chief Executive Officer

Board Officers
Chairman
Bill Brunick
Law Offices of Brunick, McElhaney & Becket

Chief Executive Officer
P.T. McEwen
Boys & Girls Clubs

Vice Chairman
Kelley K. Bowden
Montecito Memorial Park & Mortuary

Secretary
Kristine D. Scott
The Gas Company

Past Chairman
David McLaughlin*
UBS Financial Services (retired)

Board of Directors

Mary E. Cardenas
iHerb.com

Steven J. Dunkerken
Ritual Brewing Co.

Jon Fenster
Fenster & Fenster CPAs

Shana Fisk
Innovative Education Management

Mark W. Gorden
Redlands Dental Group

Michael Kuhn, M.D.
Loma Linda University Children's Hospital

Keith S. Moreland
Arroyo Insurance Services

John C. Oliver, Jr.
SageMark Consulting

Bud Opdyke
Yucaipa-Calimesa Joint Unified School District

Edward R. Serros, M.D.
Nephrologists

Dawn Steele
ADP

Sherry N. Walsh
Redlands Unified School District

A7-1

LOMA LINDA UNIVERSITY
HEALTH

February 21, 2018

Environmental Science Associates
c/o Jennifer Wade
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Re: San Manuel Expansion Project

Dear Ms. Wade:

As a member of the health care community who has worked with the San Manuel Band of Mission Indians, I would like to add my support to the Tribe's proposed development plans to expand its business operations.

The Tribe has provided briefings on their project and shared the results of their environmental impact report studies with government agencies, chambers of commerce, economic development organizations and the public. Members of our organization have had the opportunity to learn about the Tribe's proposed expansion plans and we support the effort.

Much like their philanthropy, we believe the economic benefits of this expansion will reach well beyond the Tribe. San Manuel has been a long-time partner in the effort to improve the health and education of the residents of San Bernardino County. Since 2009, it has given more than $80 million to the region's hospitals, schools and philanthropies.

Since 2016, San Manuel has increased its number of employees from over 4,000 to nearly 4,500 workers with an estimated 70 percent of those employees coming from within San Bernardino County. Its economic impact to San Bernardino County alone is estimated at more than $1 billion.

The new expansion not only will generate up to 1,400 construction jobs and 1,200 permanent jobs, it will allow the Tribe to further its mission of giving back to the community through its support of schools, universities, charities and hospitals, such as ours.

Loma Linda University Health would like to add its support for the San Manuel expansion project and the numerous economic benefits it will bring our region.

A8-1

Sincerely,

Richard H. Hart, MD, DrPH
President

A Seventh-day Adventist Organization
OFFICE OF THE PRESIDENT
11175 Campus Street, Loma Linda, California 92354
909-558-4540 · *fax* 909-558-0242 · www.lluhealth.org

San Bernardino Valley College

OFFICE OF THE PRESIDENT

February 21, 2018

Environmental Science Associates
c/o Jennifer Wade
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Re: San Manuel Hotel, Casino and Parking Expansion

Dear Ms. Wade:

As members of the education community who have worked with the San Manuel Band of Mission Indians, we would like to add our support to the Tribe's efforts to develop its hotel, casino and parking expansion.

Much like their philanthropy, we believe the economic benefits of this expansion will reach well beyond the Tribe. San Manuel has been a long-time partner in the effort to improve the health and education of the residents of San Bernardino County. Since 2009, it has given more than $80 million to the region's hospitals, schools and philanthropies.

The Tribe has provided briefings on their project and shared the results of their environmental impact report studies with government agencies, chambers of commerce, economic development organizations and the public. Members of our organization have had the opportunity to learn about the Tribe's proposed hotel, casino and parking expansion and we support the effort.

Since 2016, San Manuel has increased its number of employees from over 4,000 to nearly 4,500 workers with an estimate 70 percent of those employees coming from within San Bernardino County. Its economic impact to San Bernardino County alone is estimated at more than $1 billion.

The new expansion not only will generate up to 1,400 construction jobs and 1,200 permanent jobs, it will allow the Tribe to further its mission of giving back to the community through its support of hospitals, charities, school districts and universities, such as ours.

San Bernardino Valley College would like to add its support for the San Manuel expansion project and the numerous benefits it will bring our region.

A9-1

All the best,

Diana Z. Rodriguez
President
San Bernardino Valley College

San Bernardino Valley College 701 South Mount Vernon Avenue San Bernardino, California 92410
(909) 384-4470 office (909) 889-7821 fax email: drodriguez@valleycollege.edu

InlandAction

A non-profit, non-partisan corporation of public spirited leaders who have joined together to be catalysts for the economic well-being of the Inland Empire region of California since 1962.

February 26, 2018

Ms. Jennifer Wade
Environmental Science Associates
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Re: San Manuel Hotel, Casino and Parking Expansion

Dear Ms. Wade:

Inland Action would like to express its support of the San Manuel Band of Mission Indians' hotel, casino and parking expansion. Inland Action is a non-profit organization of business and community leaders dedicated to the economic and community betterment of the Southern California region. Vibrant economic development is crucial to the resurgence of Inland Southern California. As a region with a population greater than the state of Oregon, it is important that our businesses evolve and expand. One such organization is the San Manuel Band of Mission Indians.

San Manuel is unique in our area. It is at once a federally recognized sovereign Indian nation with its own government, a prominent community partner, a generous philanthropist and a thriving enterprise. Since 2016, San Manuel has increased its number of employees from over 4,000 to nearly 4,500 workers, with an estimate of 70 percent of those employees coming from within San Bernardino County. Its economic impact to San Bernardino County alone is estimated at more than $1 billion. The new expansion holds the promise of 1,400 construction jobs and 1,200 permanent jobs that span a broad variety of education and skill sets. As a community partner, San Manuel has a proven record of philanthropy that reaches across education, health care, community service, infrastructure, public safety, and the arts.

A10-1

Members of our organization have had the opportunity to learn about the Tribe's proposed hotel, casino and parking expansion; and we support the effort. To that end, the Tribe has provided briefings on their project and shared the results of their environmental impact report studies with government agencies, chambers of commerce, economic development organizations and the public. We believe that the project will not have significant impacts on the off-Reservation environment after the proposed mitigation.

Inland Action would like to add its support for the San Manuel expansion project and the numerous economic benefits it will bring our region.

Sincerely,

Deborah Barmack

Deborah Barmack
President

1601 E. Third St., Suite 138, San Bernardino, CA 92408 | Tel. 909-382-4018 | Fax. 909-792-8742 | www.InlandAction.com

AQUINAS HIGH SCHOOL

Large enough to challenge, small enough to care

Environmental Science Associates
c/o Jennifer Wade
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

February 27, 2018

Re: San Manuel Hotel, Casino and Parking Expansion

Dear Ms. Wade:

As members of the education community who has worked with the San Manuel Band of Mission Indians, we would like to add our support to the Tribe's efforts to develop its hotel, casino and parking expansion.

The Tribe has provided briefings on their project and shared the results of their environmental impact report studies with government agencies, chambers of commerce, economic development organizations and the public. Members of our organization have had the opportunity to learn about the Tribe's proposed hotel, casino and parking expansion and we support the effort.

Much like their philanthropy, we believe the economic benefits of this expansion will reach well beyond the Tribe. San Manuel has been a long-time partner in the effort to improve the health and education of the residents of San Bernardino County. Since 2009, it has given more than $80 million to the region's hospitals, schools and philanthropies.

Since 2016, San Manuel has increased its number of employees from over 4,000 to nearly 4,500 workers with an estimate 70 percent of those employees coming from within San Bernardino County. Its economic impact to San Bernardino County alone is estimated at more than $1 billion.

The new expansion not only will generate up to 1,400 construction jobs and 1,200 permanent jobs, it will allow the Tribe to further its mission of giving back to the community through its support of hospitals, universities, charities and schools, such as ours.

Aquinas High School would like to add its support for the San Manuel expansion project and the numerous economic benefits it will bring our region.

A11-1

Sincerely,

Dr. Jim Brennan
President

BEST
2012 - 2017

2772 Sterling Avenue San Bernardino, CA 92404 (909) 886-4659 FAX (909) 886-7717

Letter A12

Baldy View Chapter
9227 Haven Avenue, Suite 350
Rancho Cucamonga,
California 91730
ph 909.945.1884
fx 909.942.2063
www.biabuild.com

February 28, 2018

Environmental Science Associates
c/o Jennifer Wade
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Re: San Manuel Hotel, Casino and Parking Expansion

Dear Ms. Wade:

The Building Industry Association, Baldy View Chapter understands the importance of job creation to our region's economy and to our housing market. That is why our chapter supports the hotel and casino expansion proposed by the San Manuel Band of Mission Indians.

The Tribe is an important part of our region's economy and has contributed greatly to the economic resurgence of the City of San Bernardino. Since 2016, San Manuel has increased its number of employees from over 4,000 to nearly 4,500 workers with an estimate 70 percent of those employees coming from within San Bernardino County.

The Tribe's economic impact to San Bernardino County alone is estimated at more than $1 billion. The new expansion has the potential of generating 1,400 construction jobs and 1,200 permanent jobs that span a broad variety of education and skill sets.

A12-1

San Manuel is more than a casino, it is a generous philanthropist and an important partner in helping our region grow and thrive. The Tribe's impact extends to education, health care, community service, infrastructure, public safety, and the arts.

Our organization has had the opportunity to learn about the Tribe's proposed hotel, casino and parking expansion and we support the effort. The Building Industry Association, Baldy View Chapter supports the Tribe's expansion and the benefits the San Manuel Band of Mission Indians brings to our economy and community.

Sincerely,

Carlos Rodriguez
Chief Executive Officer
Building Industry Association, Baldy View Chapter

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

Sent via electronic mail to jwade@esassoc.com

February 26, 2018

Jennifer Wade
Environmental Science Associates
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

RE: San Manuel Hotel and Casino Expansion Project Draft Tribal Environmental Impact Report

Dear Ms. Wade:

Southern California Edison (SCE) is pleased to submit the following comments on the Draft Tribal Environmental Impact Report (Draft TEIR) for the San Manuel Hotel and Casino Expansion Project (Project).

The Project includes the development of approximately 795,000 square feet of new entertainment and hospitality facilities, including a hotel, performance venue, additional gaming area, restaurants and other guest amenities, back of house and administrative facilities, an approximately 2,200 stall parking structure and additional power utility infrastructure. The Draft TEIR was developed in accordance with the requirements of the Tribal-State Gaming Compact between the San Manuel Band of Mission Indians (Tribe) and the State of California.

A13-1

SCE provides electric service to the Tribe's Reservation and maintains electrical transmission and distribution facilities, as well as substations and supporting appurtenances on the Reservation, and in the adjacent City of San Bernardino and County of San Bernardino.

The Draft TEIR for the Project broadly identifies the need for "additional power utility infrastructure" on page 2-1 of the Project Description. On page 2-3 the Draft TEIR states that "Off-Reservation infrastructure improvements, if needed, would include 1) upgrades to existing power poles for the substation energy alternative/variant".

Section 2.3 Energy Alternatives/Variants on page 2-3 provides further information on the infrastructure improvements and states:

SCE is currently studying the feasibility of providing an open air substation ***with new 66 kilovolts (kV) transmission lines*** *that would connect to the existing lines at the corner of Marshall Boulevard and Arden Avenue and travel to the substation location on the Tribe's Reservation in existing SCE right of way on Arden Avenue and Piedmont Drive and on previously disturbed areas of the Reservation."* (emphasis added)

A13-2

This description correctly notes that new off-Reservation utility infrastructure is needed to support the Project, not just upgrades to existing power poles. The TEIR should provide a consistent description of SCE's infrastructure improvements as part of the Project as well as analyzing construction impacts resulting from the installation of those improvements.

We do not see any analysis or details in the Draft TEIR of how the Project would impact SCE's facilities. SCE construction activities, occurring off-Reservation have not been analyzed within the Off-Reservation Environmental Analysis sections within Chapter Three. Specifically, the following resources need to be addressed for SCE facilities: Aesthetics, Air Quality, Noise, Traffic, Cultural Resources and Biological Resources (nesting birds) in order for SCE to utilize this EIR and provide the required support without separate permitting with the California Public Utilities Commission (CPUC).

A13-2 cont.

Again, SCE appreciates the opportunity to comment on the Draft TEIR for the San Manuel Hotel and Casino Expansion Project. SCE looks forward to working and collaborating with the San Manuel Band of Mission Indians. If you have any questions regarding this letter, please contact me at heather.neely@sce.com or 626.476.7839.

Regards,

Heather Neely
Third Party Environmental Reviews
Environmental Services
Southern California Edison
2244 Walnut Grove
Rosemead CA 91770

Letter A14

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

February 26, 2018

Michelle Hickey
San Manuel Band of Mission Indians
26569 Community Center Dr
Highland, CA 92346

Subject: San Manuel Hotel and Casino Expansion Project
SCH#: 2017111018

Dear Michelle Hickey:

The State Clearinghouse submitted the above named Other Document to selected state agencies for review. The review period closed on February 23, 2018, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

A14-1

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Document Details Report
State Clearinghouse Data Base

SCH# 2017111018
Project Title San Manuel Hotel and Casino Expansion Project
Lead Agency San Manuel Band of Mission Indians

Type Oth Other Document

Description Note: Tribal EIR and Review Per Lead

The project includes the development of approx. 795,000 square feet of new entertainment and hospitality facilities, including a hotel, performance venue, additional gaming area, restaurants, and other guest amenities, back of house, and administrative facilities, an approx. 2,200 stall parking structure and additional power utility infrastructure (substation and/or transmission lines). Phase 1 of the project includes 55,000 sf of additional gaming and a phase 2 which increases this number to 100,000 sf through the conversion of meeting and event and back-of-hous space. In addition, the project may connect to future Tribal owned combined heat and power cogeneration facility and/or a fuel cell powe facilities on the Tribe's Reservation.

Lead Agency Contact

Name Michelle Hickey
Agency San Manuel Band of Mission Indians
Phone 909-864-8933 **Fax**
email
Address 26569 Community Center Dr
City Highland **State** CA **Zip** 92346

Project Location

County San Bernardino
City Highland, San Bernardino
Region
Lat / Long 34° 9' 4" N / 117° 13' 41" W
Cross Streets North Victoria Ave and Lynwood Drive
Parcel No.
Township 1N **Range** 3W **Section** 19 **Base** SBBM

Proximity to:

Highways 210
Airports
Railways
Waterways Sand Creek, Little Sand Creek
Schools San Bernardino City USD
Land Use tribal lands

Project Issues Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Economics/Jobs; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Fish and Wildlife, Region 6; Cal Fire; Department of Parks and Recreation; Department of Water Resources; California Highway Patrol; Caltrans, District 8; Office of Emergency Services, California; State Water Resources Control Board, Division of Drinking Water; State Water Resources Control Board, Division of Drinking Water, District 13; Regional Water Quality Control Bd., Region 6 (Victorville); Native American Heritage Commission; California Energy Commission; Public Utilities Commission; California Department of Justice, Attorney General's Office

Note: Blanks in data fields result from insufficient information provided by lead agency.

Document Details Report
State Clearinghouse Data Base

Date Received 01/10/2018 ***Start of Review*** 01/10/2018 ***End of Review*** 02/23/2018

Note: Blanks in data fields result from insufficient information provided by lead agency

Letter I1

From: David Vanburen
To: Jennifer Wade
Subject: San Manuel Project....
Date: Monday, January 22, 2018 10:22:38 AM

Ms. Jennifer Wade,

The flyer that San Manuel distributed to its neighbors listed your email at jwade@esaassoc.com. I kept getting it rejected until I located your exact email address. On purpose by them? I1-1

Regarding the proposed expansion of San Manuel Casino, I strongly oppose it. I reside 2 blocks from the casino and the casino has ruined my neighborhood. The traffic is unbearable and crime has increased significantly because of the casino. The expansion will only made matters worse. I1-2

Before the casino was built, the city of San Bernardino offered the Tribe land away from the current location to build the casino on but the Tribe did not accept it. Instead the Tribe built the casino in the muddle of a residential neighborhood. This is a ridiculous location for a casino of this size. I1-3

I know that the Tribe always gets what it wants so this is probably a waste of time.

Dave Van Buren
2895 Pinon Ct
Highland, CA 92346
909-862-0859

Letter I2

From: Geri Conway
To: Jennifer Wade
Subject: Casino Expansion concerns
Date: Monday, January 22, 2018 1:31:59 PM

I have been living on Indian cyn ct since 1990.i moved there for the tranquility and hillside nature right behind my property..i now see bright flood lights, speeding traffic, loud ambulances, hillside bulldozing/maintenance with air pollution from dirt mounds, dirty busses, and trash blowing into my property from Amber Hills..So im very concerned on how you are going to manage all this with the expansion of the casino/.not to mention the children that cross over Victoria to walk to school..Why cant you build a special bridge over Victoria ave for the school kids??..this way they wont be runned over by the crazy in a hurry chronic gambler customers that come out of that casino/.I will be attending the meeting to hear concerns from the nearby neighbors and how exactly San Manuel plans to manage the spill over effect it will have on us..thank you..Geri Conway

I2-1

I2-2

I2-3

January 19, 2018

Environmental Science Associates
c/o Jennifer Wade
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

To Whom It May Concern:

RE: *San Manuel Expansion Project- Hotel, Event Center & Parking Garage TDEIR Document Comments*

My family has owned our house since it was built and has watched the neighborhood including the tribal lands around us grow over the last 30+ years.

We do not think the expansion of more commercial uses in a residential area is a good thing; we are against it at this location.

The appropriate location would be on the tribal owned land down by the San Bernardino Airport or by the Glen Helen Amphitheatre, where the increased traffic, increase air pollution, increased noise and increase in need for emergency services would be less obtrusive and allow for better and safer access. I3-1

AESTHETICS:

The height of 197' and/or 15 – 17 stories for the hotel is excessive for the area and will tower over everything in the vicinity, causing shadows over people's homes and blocking existing views. PAGE 3.2 – 2 how is a structure that will literally tower over the entire area and will be visible for miles in most directions considered a less than significant impact on the aesthetics of the surrounding area? I3-2

AIR QUALITY:

Per page 3.3-18 states the impacts will be less than significant, how is that possible with 15,000 more cars a day or so, comes a lot more air pollution from the cars, delivery trucks, buses, emergency vehicles etc... I3-3

Also, the cigarette smoke (which was not addressed at all) adds toxins to the air and the additional smokers that come to the project site will add those toxins to the air as well. The project should consider being a NON-SMOKING FACILITIY: The Casino/Hotel/Event Center and Parking areas should all be smoke free, reducing the amount of toxins in the air and on the ground (cigarette butts.) I3-4

HAZARDS AND HAZARDOUS MATERIALS:

Page 3.6-3, Need to prepare an Off-Site Evacuation plan in addition to their On-site evacuation plan to allow emergency responders in to the area not just for the casino/hotel/event center but surrounding neighborhoods as well and allow residents and guests out safely. An emergency evacuation plan needs to be developed for the residential neighborhoods, not just for the Casino/Hotel/Event center guests and employees. I3-5

LAND USE:

As stated on pages 3.2-1 and 3.7-1 the surrounding land uses are single family residential and this project's expansion of a non-compatible commercial land use is irresponsible planning and design. All the houses in the area are one or two stories tall; this proposed 15 - 17 story tall hotel will be at many times taller than the surrounding uses, other than the casino and parking. The hotel will be approximately 197' tall that is higher than most buildings in the downtowns of San Bernardino, Highland, Riverside or Redlands. This is not a commercial area or even a non-developed area this is a RESIDENTIAL neighborhood and this is NOT a compatible land use. I3-6

NOISE:

Restrict the hours of construction: Monday – Friday 8 am to 5pm. Do not allow vibrations from construction such as pile driving to vibrate, shake or jolt the neighboring areas, like it did during previous construction projects for the casino. Page 3.8-5 the tribe has not reduced the noise from the current parking structure, currently sirens are heard 24 hours a day going to and from the San Manuel Casino and the horns and alarms from cars in the parking structure are a noise nuisance already. Make the parking areas and event center so that the sounds that happen within them do not travel off-site into the surrounding residential neighborhoods (maybe add acoustic absorbing materials within the structures or don't have openings in the walls.) Also, the Noise Study needs to monitor areas for more than a mere 15 minutes, they should at least monitor a location for 24 hours to get a better idea of what the ambient noise is at that spot. The sounds carry further at night; the monitoring was during the day, if they don't do a longer duration for the noise monitoring they should at least monitor several times a day. Page 3.8-20 the parking structure will be higher than the adjacent residential areas and the sound attenuation walls, allowing the noise to go into the surrounding residences yards/homes. The higher the structure the more noise not less noise will be heard and if a location is higher than where the sound originated the higher location will hear more noise. (i.e. residences upslope from the casino/event center/parking structure will hear more noise than those level with or lower than the structures. I3-7 I3-8 I3-9 I3-10 I3-11 I3-12

PUBLIC SERVICES:

A Pedestrian and Bicycle (handicap accessible) bridge needs to be constructed to cross Victoria near Lynwood drive and/or Citrus Street for public pedestrian and bicyclist safety. I3-13

TRANSPORTATION AND TRAFFIC:

Despite what the Traffic Impact Analysis shows, they need to find a way to add another major roadway to the Casino complex from Highland Avenue to accommodate the additional traffic. Not only will there be an increase in daily traffic of approximately 15,000 trips upon completion of the project there will be additional traffic of construction equipment and construction crews during the project's construction adding to the delivery truck, bus and other traffic currently impacting the roadways. Pages 4.4.9 and 5.1 No mitigation or modifications for Victoria Avenue? How is Victoria going to keep an LOS Lower than F in the current configuration? If modifications/mitigation will be required on Arden they should also be required on Victoria. A pedestrian and bicycle safe bridge is necessary for pedestrians and bicyclists I3-14 I3-15 I3-16

crossing the Victoria, children cross this street to go to and from school and need to do so safely. Page 3.10-13.3 Removing crosswalks is only okay, if they are replaced with a raised pedestrian bridge over Victoria Avenue, allowing bicyclists and pedestrians (including school children) to cross this increasingly busy street safely.

I3-16 (cont.)

WATER RESOURCES:

The Water analysis didn't address how the tribe would keep trash and other debris out of the flood control channel and storm drains on/off site. The project needs to maintain all areas on-site and within the vicinity of the project (i.e. along Lynwood/Victoria) trash free and cigarette butt free. The trash and cigarette butts dumped by casino/event/hotel patrons can not only make the area look bad but, the items can end up in the water ways, by getting into the storm drains and the adjacent flood control facilities polluting our water and our oceans. The casino/hotel should have daily cleanup of the parking areas and the streets leading to their facilities to help prevent this additional pollution and water quality issue.

I3-17

AGENCY AND PUBLIC COMMENTS:

Page 6-3: Despite the response that "locating to an alternate location is not viable and would not enhance the experience of existing customers" By expanding their commercial site in a residential neighborhood is not enhancing the lives of the existing residences that live near the casino complex. No more commercial in our once quiet residential area please. We still believe that this project should be somewhere it belongs; away from residential neighborhoods and where the roads can accommodate the traffic, such as near the San Bernardino Airport or Glen Helen Amphitheater lands owned by the tribe already.

I3-18

Thank you,

Mr. & Mrs. J. Williams
3134 Cactus Circle, Highland, CA 92346

From: Linda Massenzo seabrightdays@yahoo.com
Subject: Tribal environmental impact for homeowner
Date: Jan 25, 2018 at 7:32:14 AM
To: jwade@esassoc.com

To whom it may concern,
We are one of the three houses on Willow Drive that abuts the San Manuel property. Our concern is general noise factor. The noise now is a loud humming sound we hear inside our house from the Air condition Units for the Casino. When building a hotel it will increase the noise since more Air Condition units. Now we have to turn on TV to fall asleep. This is not even commenting on the additional noise that will take place. I would like to request that the sound would be* measured at our property so that you could understand any additional noise would be devastating and unbearable. I4-1
Please take this in mind when investigating the impact on our home. If nothing is done for the noise we will have to sell our home; which we have lived here since 1980.
Thank you, any questions please call Linda Massenzo at (909) 855-7517. * 3465 Willow Drive, Highland, Ca. 92346 Soundwall is needed

Sent from my iPad

Public Comment

San Manuel Hotel and Casino Expansion Project Draft TEIR

Comments may be turned in at the public meeting or sent via postal mail or email to:

Jennifer Wade
Environmental Science Associates
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Email: jwade@esassoc.com

Commentor Name: Kellen Ricker

Mailing Address: 3608 Leroy Street, # San Bernardino CA, 92404

E-mail Address: mr-spencer05@yahoo.com

Comments: I have seen all of the changes to the streets, for instance the restriping and retiming of the traffic signals in certain interchanges. My question concerns the offramps and on-ramps of the freeways, particularly the 210 west and eastbound freeways. Has the tribe considered, flow of traffic lights for onramps? Have they considered widening? (Since this has to also involved city of SSB). / Have they considered what the monetary gain will be for the city? ~~Have they considered~~ I have lived here my whole life and I know San Manuel is good for the community. These are just my concerns

I5-1

I5-2

Public Comment

San Manuel Hotel and Casino Expansion Project Draft TEIR

Comments may be turned in at the public meeting or sent via postal mail or email to:

Jennifer Wade
Environmental Science Associates
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Email: jwade@esassoc.com

Commentor Name: thomas dillon

Mailing Address: _____

_____

E-mail Address: dillon.thomas@live.com

Comments: SHOULD DO A TRAFFIC STUDY @ DEL ROSA I6-1

ALSO ADD A RIGHT HAND TURN LANE INSTEAD OF JUST I6-2

RE-STRIPING.

Public Comment

San Manuel Hotel and Casino Expansion Project Draft TEIR

Comments may be turned in at the public meeting or sent via postal mail or email to:

Jennifer Wade
Environmental Science Associates
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Email: jwade@esassoc.com

Commentor Name: Rochelle Oquendo

Mailing Address: 3094 N Central Ave
Highland, CA

E-mail Address: ro_oquendo@yahoo.com

Comments: Mitigation:

Propose a solution for noise. I7-1

Consider satellite parking I7-2

Traffic safety issue; ie. speeding cars, running red lights, intoxicated drivers... spilling into residential areas. I7-3

Foot patrols during high volume period or events I7-4

Propose better walls and/or landscaping. I7-5

Public Comment

San Manuel Hotel and Casino Expansion Project Draft TEIR

Comments may be turned in at the public meeting or sent via postal mail or email to:

Jennifer Wade
Environmental Science Associates
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Email: jwade@esassoc.com

Commentor Name: Ginger Lassiter

Mailing Address: 3079 Mojave Ct
Highland

E-mail Address: mail4ginger@abl.com

Comments: Traffic N & S on Victoria needs to be able to U-Turn. Also at Lynwood & Victoria. All traffic signals forbid U-turns. This forces people (who are not familiar with the area to turn on to surface streets. These ~~streets~~ are marked (Citrus Ave. for example) No U Turn. These people have no choice but to U Turn. These are obviously residential mazes they are not familiar with.

Thank for the U-turn signs I'm sure you'll ~~get~~ receive.

Ginger

I8-1

Public Comment

San Manuel Hotel and Casino Expansion Project Draft TEIR

Comments may be turned in at the public meeting or sent via postal mail or email to:

Jennifer Wade
Environmental Science Associates
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Email: jwade@esassoc.com

Commentor Name: Juan De La Rosa

Mailing Address: 13222 El Rio Road
Victorville, Ca 92392

E-mail Address: carleethesweet@hotmail.com

Comments: Very great presentation! There's a lot of great information being given to the public about this new project and something very important and encouraging was the emphasis on bringing both revenue and jobs within our Community. As an IBEW 477 member, it is exciting to know how much keeping these projects is and hope that, if what was said is true, a project this size will bring lots of opportunity and work for our Comty! Any questions or comments in regards to our hall or what our younger members are doing to get involved please feel free to call! I'd love to hear from ya guys. Thank ya! 951-616-4549

I9-1

Public Comment

San Manuel Hotel and Casino Expansion Project Draft TEIR

Comments may be turned in at the public meeting or sent via postal mail or email to:

Jennifer Wade
Environmental Science Associates
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Email: jwade@esassoc.com

Commentor Name: Brad Orescanin

Mailing Address: 124 Myrtlewood Dr.
Calimesa, CA 92320

E-mail Address: brad.Orescanin@gmail.com

Comments: On the topic of local hiring I would like to see some form of system implemented to monitor Sub-contractors, and where they are from. I believe that Companies that are out of County or out of state should not be used on such a large project for our community. To expand on that, I believe it is in the best interest of the community to use Local Trade Unions to complete this project. Union members live in their countys, and put out the highest quality of work as it is a representation of their local and their City. Thank you for taking time to read my comment,

IBEW Local #477

I10-1

Public Comment

San Manuel Hotel and Casino Expansion Project Draft TEIR

Comments may be turned in at the public meeting or sent via postal mail or email to:

Jennifer Wade
Environmental Science Associates
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Email: jwade@esassoc.com

Commentor Name: CHRIS WATERS

Mailing Address: 7371 SILKWOOD LN
HIGHLAND, CA 92346

E-mail Address: CHRIS 555135@GMAIL.COM

Comments: WOULD LIKE TO SEE TRADE WORK ON THE PROJECT USING LOCAL HIRE. PREFER UNION TRADES MAN THIS PROJECT.

I11-1

Public Comment

San Manuel Hotel and Casino Expansion Project Draft TEIR

Comments may be turned in at the public meeting or sent via postal mail or email to:

Jennifer Wade
Environmental Science Associates
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Email: jwade@esassoc.com

Commentor Name: Blake MacDonald

Mailing Address: 12580 Redwing Road Apple Valley, CA 92308

E-mail Address: Khonadog@gmail.com

Comments: I would very much like to see all the construction of this project hired out to union members only. The Unions of this county supply much more than just a paycheck to it's members. They invest into their members the training, skill and knowledge they need to be succesful wherever they go. If you go union with this work you will further your Reach of help to the community by using local union hands. May God bless you and your decision

I12-1

Public Comment

San Manuel Hotel and Casino Expansion Project Draft TEIR

Comments may be turned in at the public meeting or sent via postal mail or email to:

Jennifer Wade
Environmental Science Associates
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Email: jwade@esassoc.com

Commentor Name: Charles Ballew

Mailing Address: 106 W. Pennsylvania Ave apt 607
Redlands CA 92374

E-mail Address: lakeleyvas@gmail.com

Comments: I as a member of this community would like to see as much of the work go to the members of the community. I would like to see efforts be made to reach out to local union contractors and members for trade work. These are the people who you can guarantee most likely to use your facilities and will form feelings of trust and appreciation amongst fellow community members. This is a project happening in our own backyard, so who better to construct it than union members in their own community.

I13-1

Public Comment

San Manuel Hotel and Casino Expansion Project Draft TEIR

Comments may be turned in at the public meeting or sent via postal mail or email to:

Jennifer Wade
Environmental Science Associates
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Email: jwade@esassoc.com

Commentor Name: Bettye Flamish

Mailing Address: 2605 Del Norte
Highland, Ca 92346

E-mail Address: Richard.Flamish@att.net

Comments:

During peak hours of casino attendance & events (holidays etc) there is a distinct gas odor which permeates throughout the house.

On daily walks the same odor is detected outside. Additional neighbors have submitted complaints & concerns

Would like this to be researched & identified. please

Thank you

I14-1

Comments & Questions

① Take a Note! William & Judy Yamaguchi D.B.

We noticed TEIR is your own environmental report. Did an outside environmental agent check out the impact on the whole neighborhood with your improvements and new building?

I15-1

② There are 2-3 churches and a soccer field along with local homes traffic along with casino traffic with only one Highland Exit off the freeway. What does implementation of traffic mitigation at the intersection of Arden and Highland mean?

I15-2

③ We have 3 traffic signals closely together from Highland exit to Arden to freeway entrance and busy restaurant traffic. With extra traffic for the casino and

I15-3

Take a Note!

hotel - how can the area not be impacted with extra traffic, noise and lack of good air quality?

(4) If the new hotel is on Lynwood ~~How~~ will that traffic not interfere with Belvedere Elem Sch. traffic and child safety? which is on the same street as well as Marshall?

(5) Some cars try to find another way to the Casino by driving through the neighborhood and will try the Piedmont entrance. Will that entrance continue to be closed?

I15-3 (cont.)

I15-4

I15-5

From: Dean Werner
To: Jennifer Wade
Subject: New hotel and casino project
Date: Thursday, February 1, 2018 11:25:53 PM

Hello,

I am concerned how the additional impact on the 210 freeway has been addressed or not addressed. The freeway bogs down to a stop at the Highland Ave exit on the 210 east bound.

The added hotel guests and casino patrons will further impact this section of freeway and cause stopping or slowing depending on time of day.

I16-1

Thank you,
Dean

Letter I17

From: Linda Massenzo
To: Jennifer Wade
Cc: Bryan Benso
Subject: Follow up on noise concern at 3465 Willow Dr. , Highland, Ca.
Date: Wednesday, February 14, 2018 6:19:44 AM

Dear Jennifer,
On my original email I did not include my address at 3465 Willow Dr., Highland, CA 92346. It's important that the sound check is done at my residence. Since our property abuts San Manuel Indian property it's a concern for as there is no Sound Wall or Double Pane Windows. Our home is a two story next to the foothills, which the sound amplifies upstairs. It's not only sound we are concerned with, it will be noise, light, privacy, traffic, property value. While at the first meeting to the public I met Bryan Benso, who said he thinks they could do something. Please contact me at (909) 855-7517 so we can make a appointment to come to my home.

I17-1

I17-2

Thank you, Linda Massenzo

Sent from my iPad

Feb 13, 2018

Ms. Jennifer Wade
Environmental Science Associates
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Re: San Manuel Hotel + Casino Expansion

My husband and I are retired State employees who live very close to the San Manuel Casino. I'd like to give my input regarding the Hotel + Casino expansion project. Below is a summary of my thoughts: I18-1

Pros:
- Increase in community income (donations)
- Increase in jobs
- Community news + San Manuel activities shared with neighbors close to the Casino.
- Solicitation + encouragement of neighbors input.

Cons:
- Increased traffic (guests using alternate routes to the Casino) - i.e. Piedmont (dead-end + Victoria) I18-2
- No turning light at Citrus/Victoria (except for evenings + nights) I18-3
- Casino guests make U-turns + run red lights often. I18-4

- Increase sirens heard days + nights (guests) I18-5

- Increase in foot traffic (undesirable guests)
  - Gate at Piedmont/Victoria is open during school days + breaks.
  - Casino guests walk through all hours and sometimes ask for assistance or items they want (i.e. jumper cables, wire hanger, bus fare, etc.)
  - Casino guests run through the gate after committing crimes at the Casino. (I witnessed a few).
  - Casino guests leave litter all along Piedmont Drive. We removed an Olive tree on the corner of our property to minimize the issue (casino cups, beer cans + bottles, syringes, medical marijuana containers, used condoms + food wrappers)
  - Casino guests meet people inside the gate at Piedmont/Victoria to drink + do drugs on the curb, then walk back to the Casino.

I18-6

- Increase in local crime (homes close to the Casino).
  - Home burglaries
  - Thefts
    - Cars broken into, items stolen
      - daughter's Ipad + glasses
      - neighbor's back license plate

I18-7

Suggestions:

- Increase Security presence for homes very close to the Casino (days & nights) I18-8
- Keep the gate at Piedmont/Victoria locked at all times & only open it for Casino employees with Casino I.D.'s. to attend or leave work. I18-9
- All other Casino guests can use Citrus & Victoria to attend the Casino. I18-10
- School children from Serrano Middle School can walk to Citrus to go to school. I18-11
  - Citrus runs directly into the school parking lot.
- Build an electronic gate at Piedmont/Victoria for Casino employees to open/close with their I.D.'s & codes. I18-12

These suggestions may not eliminate the mentioned issues, but can minimize them tremendously. My husband & I have lived here since 1993 and would like to see our neighborhood preserved and protected while San Manuel moves forward with its Casino & Hotel expansion project. I18-13

Sincerely,

Shirley Dorsey
3127 Yuma Drive
Highland, CA 92346

Letter I19

jwade@esassoc.com

February 20, 2018

To provide comments in writing on the Draft TEIR:
Environmental Science Associates
c/o Jennifer Wade
2600 Capitol Ave, Suite 200
Sacramento, CA 95816

Off-Reservation Environmental Feedback

I have lived at the corner of Valaria and Marshal(3186 Valaria Dr) for the past 27 years. I am old and cannot afford to relocate anywhere else.

My neighbors and I (ADDRESS: Valaria Dr. N and Marshall Ave) got together and determined the following Off-Reservation Environmental issues, if not severely mitigated will SIGNIFICANTLY IMPACT OUR QUALITY OF LIFE.

I19-1

Aesthetics	What improvements on the current sound walls and landscape and lighting are you going to include in the area Valaria Dr and Rockford on the Marshall Avenue cul de sac? We often hear noises from the Casino at all times of the day.	I19-2
Air Quality	There is an East Valley Water District sewer hole (for lack of a better descriptive word) on Valaria Dr. N near the Marshall intersection. When we have called EVWD to investigate, they say it's the sewer smell from the Casino that is smelling. It fouls the whole street/vicinity. EVWD when they finally show up, are usually there for hours supposedly cleaning it but then it happens again and again. We are forced to stay inside the house not to smell it for days. What improvements are in place to fix this condition, especially if you will be adding more than 4000 hotel beds and other rooms and cooking facilities, etc.? What are you doing to mitigate this condition and to ensure it does not get worse or surface somewhere else. This is a serious air quality issue that has been affecting our lives for a long time.	I19-3
Biological Resources	We have possums that roam the streets at night in this neighborhood. Where are they coming from and what are the impacts of this development on their habitats?	I19-4
Land Use	Fix the streets/Pave	I19-5
Noise	Traffic noise on Lynnwood and into our neighborhood needs to be mitigated.	I19-6
Public Services	We are concerned with safety with increased people. Can you work with the city to assign law enforcement office by the casino or even in the neighborhood? That would deter all the people walking along Lynwood and into our community of all time to the day and night. What can be done to sustain this effort?	I19-7
Transportation and Traffic	1. The routing of traffic to and from the reservation need to be revisited. Are your patrons going to access the Casino through Arden as you are planning improvements on Arden? And they to Lynwood or Marshal or what? We have a school and right now the traffic is dangerous. Your patrons are coming through Lynnwood and high speeds causing a real disaster to occur. We suggest you reroute traffic away from Arden/Lynnwood and improve the sound walls on Lynnwood if some increased traffic uses this street. 2. Can you find another sport at the bus stop? People linger there and there are kids walking home from the elementary and middle schools and the people are questionable. How can you mitigate this issue.	I19-8 I19-9
Utilities and	Please address how the sewer systems from the Casino are not going to impact the off-reservation residents as previously described.	I19-10

Service Systems	
Water Resources	

I19-10 cont.

From: bratwic@aol.com
To: Jennifer Wade
Subject: San Manuel expansion
Date: Friday, February 23, 2018 11:39:42 AM

My concern is the traffic on Victoria in the event of a Emergency. Years ago we had a fire and were told to evacuate. We have 2 ways out and it took us over an hour to get to Highland Avenue. San Manuel closed early that day but the traffic was Scary. They did a great job moving their customers out. Their fire department also did an excellent job hold the fire. Can you imagine how bad it could be with the hotel and everything else they are building. We will never get out. I20-1

I am happy for the success the tribe has had and I wish them well. But isn't there another location they can use for this? I20-2

Janice West
3015 Mirada Rd
Highland, California 92346

Sent from AOL Mobile Mail
Get the new AOL app: mail.mobile.aol.com

Letter I21

From: Ralph Abramo
To: Jennifer Wade
Subject: comment on San Manuel TEIR
Date: Monday, February 26, 2018 8:54:31 AM

Dear Ms. Wade,

Thank you for accepting my comment in regards to the Environmental Impact Report drafted for the expansion project of the San Manual Casino in Highland California. I am a local resident who resides on N. Bangor Ave between Citrus and Piedmont across from the middle school. While the study does include a traffic evaluation on Victoria Ave which is the main road out of the Casino, it does not appear a study was done to evaluate the impact of increased traffic on neighborhood streets that surround the casino such as Citrus and Bangor Ave. I've spoken with several neighbors and our concern has to do with the neighborhood traffic caused by backups and delays on Victoria whenever an event wraps up at the casino. When there are traffic delays on Victoria, many drivers opt to turn left on Citrus, left on N. Bangor Ave, right on Piedmont then right on Orange in order to get to Highland Blvd which if they turn left will take them to local freeways. Events at the Casino can finish up as late as 10-11pm in the evening and the resulting increase in neighborhood surface street traffic is unacceptable. While I am not against the expansion of the Casino, I am concerned about the increased neighborhood traffic, the traffic noise that occurs and the disregard of local traffic laws like speeding and running of stop signs that occur late at night. The increased traffic noise makes it difficult to enjoy our home and sometimes impacts our ability to sleep.

I21-1

I am asking that an evaluation be done to determine if measures can be implemented that would discourage casino event attendees from using neighborhood surface streets like Citrus and N. Bangor to get to Highland Ave in order to avoid the traffic on Victoria; measures like signs, police presence or even gates with local residence access only to stop the annoying traffic flow. Unfortunately I was unaware of the local informational meeting that took place in January and I would like the opportunity to express our neighborhood concerns.

Thank you and look forward to a response.

Sincerely,

Ralph Abramo
2994 Bangor Ave.
Highland

Letter I22

From: Mendez, Emi
To: Jcoin@sanmanuel-nsn.gov; Jennifer Wade
Subject: San Manuel Expansion Project
Date: Monday, February 26, 2018 9:59:11 AM
Attachments: image001.png

As a resident and neighbor of the Casino I am curious about which roads will be used to enter the San Manuel Casino expansion that is being planned. There are already too many vehicles that use Victoria Avenue and Arden Avenue and according to the flyers that were sent out to the neighborhoods you will be adding 1400 more vehicles during the construction phase and then 1200 vehicles once your planned expansion is completed that will be impacting the roads. All the added traffic on our roads will cause them to deteriorate much faster not to mention the noise that will accompany all those vehicles as they travel through our neighborhood to get to the Casino. What types of noise control will be put in place to adhere to the local noise ordinance? I22-1 I22-2

How will neighborhoods in the vicinity of the be protected from criminal activity? I22-3

Emi Mendez,
Secretary II
Department of Public Works
Phone: 909-387-1873
825 East Third Street
San Bernardino, CA, 92415

Our job is to create a county in which those who reside and invest can prosper and achieve well-being.
www.SBCounty.gov

Letter I23

From: Ralph Abramo
To: Jennifer Wade
Subject: Comment on draft TEIR
Date: Monday, February 26, 2018 10:21:06 AM

Dear Ms Wade,

I appreciate the opportunity to comment on the TEIR and to raise concerns regarding traffic control improvement measures outlined in the DTEIR. While I understand a detailed study was undertaken to evaluate the traffic or the potential increase in traffic on Victoria, I'd like to mention the practical adverse effects I notice as a resident living on Bangor Ave between Citrus and Piedmont. At the time when concerts or events take place at the Casino, many drivers will avoid traffic delays on Victoria heading to Highland Ave and opt to drive through the residential area. They turn left onto Citrus from Victoria, turn left on Bangor Ave and then right on Piedmont then right on Orange to shortcut to Highland Ave. The amount of increased traffic and resulting traffic noise in the evenings as late as 10 and 11pm when these concerts conclude is unacceptable and it impacts the enjoyment of our home. Many drivers speed through the streets without regard for speed limits in residential areas. After reading section 3.10 of the TEIR, it does not appear that a study outlining the increased traffic flow at the intersection of Citrus and Victoria or the resulting impact this increase will have the surrounding neighborhood was called for or done. I am not against the expansion of the Casino but I'd like to know if an environmental impact study can be done to study the results of the increased neighborhood traffic or if anything can be done to discourage drivers from shortcutting through our neighborhood. Signs stating residents only, police patrols on events nights or similar means to discourage drivers from shortcutting through the neighborhood surrounding San Manuel Casino.

I23-1

Please let me know what I can do to bring this issue to the attention of the proper personnel.

I thank you for your consideration.

Sincerely,

Ralph Abramo
2994 Bangor Ave
Highland

Letter I24

From: trannymedic@aol.com
To: Jennifer Wade
Subject: San Manuel Expansion project
Date: Monday, February 26, 2018 11:55:15 AM

Hi, I am an area resident. I live at 2930 Pepper St. I am a happy neighbor to the Casino. I am not opposed the the expansion that is proposed. But when I looked over the lengthy impact report I am not seeing any significant improvements to traffic flow. Current traffic flow is terrible and dangerous at times. There are only two streets that allow access to my neighborhood, Orange St and Victoria Ave. The heavy casino traffic (which is very unpredictable) makes access via Victoria Ave very difficult, if not impossible. This leaves only Orange St for the thousands of residents in the area.

When I use Lynwood Ave to approach from the west the route becomes very dangerous because of the way that traffic is kept from entering the casino from that direction. Traffic is forced to turn right at the intersection of Lynwood and Victoria. This may be good for the casino, but it is dangerous for the area residents because the casino patrons that want to enter the casino from that direction make a legal right turn onto Victoria, then either make an illegal U-turn on Victoria at Citrus, or make a legal left turn from Victoria to Citrus then make a very dangerous illegal U-turn at the corner of Citrus and Havasu Ct. This is especially dangerous because the illegal U-turn is initiated from one side of Citrus crossing right in front of oncoming traffic which has just made a similar left turn off of Victoria. The oncoming traffic (which is me on a daily basis) cannot stop to make room for the illegal U-turn made by the casino patron because there is oncoming traffic on Victoria in both directions. This is even more dangerous and possibly even deadly for motorcycle riders. I have had many serious close calls when coming around the corner on my motorcycle. There is a No U-turn sign posted at the intersection of Havasu Ct and Citrus but it is routinely ignored by the casino patrons. Almost every time I use that intersection to approach from the west there is a casino patron making a dangerous illegal U-turn there. Within 20 minutes of writing this comment, I had one driver cut in front of me when he was making an illegal U-turn and the vehicle behind me also made an illegal U-turn there after I passed. I24-1

We also get very significant undesirable traffic flow through our neighborhood from casino patrons accessing the casino from Orange St. I recently had casino patrons stop and urinate in the street in front of my house. I got the license number and reported to police, but nothing ever happened. There are also taxicab drivers that continually park in our neighborhood and spend many hours loitering and sleeping. I24-2

I am also concerned about the runoff of water and mud from the reservation above us when it rains. At the current time, when it rains, there is considerable mud runoff from the reservation and in heavy rain storms, homes have been threatened and lost to mud flow due to reservation construction habits. There is currently constant water running through the streets from the reservation at Central Ave and down Pepper St to Lynwood. Future construction must address these issues for the safety of our homes.
If you would like to contact me regarding these concerns or your concerns as our neighbors, that would be fine. I24-3

Thank you for considering our needs as your friendly neighbors,
Doug and Mary Betten
2930 Pepper St.
Highland, CA 92346
909-647-7732

Letter I25

From: Ramiro Gomez Sr.
To: Jennifer Wade
Subject: DTEIR
Date: Monday, February 26, 2018 9:45:35 PM

Dear Jennifer
We have our residence on 3435 E willow Dr Highland, CA 92346
All of us in our family are concerned about the noise, traffic and lights that the Hotel Expansion project for as long as it would take
All of us work during the day we get back in the evening after our duties, resting and a good night sleep is necessary for all of us
We have no idea about how this project will be
Please we ask you to help us in this matter any way possible
You can contact me at (909) 856-3100
Greatly appreciate your help with our concerns
Truly yours
The Gomez family
Sent from my iPhone

I25-1

HIGHLAND, CALIFORNIA; THURSDAY, JANUARY 25, 2018

SAN MANUEL HOTEL AND CASINO EXPANSION

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JASON ESHELMAN:

I have been a resident of Highland for eight years, resident of San Bernardino my whole life, and I represent the International Brotherhood of Electrical Workers Local 477, San Bernardino, and my comment is that we're part of the community, we're bound by jurisdictional lines, so every one of our employees, our workers, are San Bernardino residents, so I would love to see this project entirely built with residents. We're the community. I would hate to see it get outsourced to a company with labor from somewhere else. I live four miles away, we're part of the community, I would love to see the community build it. Thank you. T1-1

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HIGHLAND, CALIFORNIA; THURSDAY, JANUARY 25, 2018

SAN MANUEL HOTEL AND CASINO EXPANSION

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JOALENE AND STEPHANIE:

We want to ask about solar. We were wondering if they were going to do solar? Bring up the idea of solar. T2-1

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HIGHLAND, CALIFORNIA; THURSDAY, JANUARY 25, 2018

SAN MANUEL HOTEL AND CASINO EXPANSION

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DAVID LASSITER:

This is just about the casino, and what, 15 years or better that it has been here, we don't go there very much because of the smoke, and we were wondering why they don't do something to suck the smoke out of there? T3-1

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HIGHLAND, CALIFORNIA; THURSDAY, JANUARY 25, 2018

SAN MANUEL HOTEL AND CASINO EXPANSION

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UNIDENTIFIED SPEAKER:

My comment is I live on Blythe Street, I'm 300 feet from the kitchen, and I can tell you what they are going to serve every day. I can tell you if it's Italian, Mexican, or whatever it may be. Nobody changes the filters. I talked to Lynn or Roy -- nobody listens. Nobody cares. What can we do? What can the neighbors do? What can the Indians do to stop or control the aroma and the smell that comes from the kitchen? Thank you. T4-1

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HIGHLAND, CALIFORNIA; THURSDAY, JANUARY 25, 2018

SAN MANUEL HOTEL AND CASINO EXPANSION

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JUSTIN TILLMAN:

My biggest issue is I am an IBEW guy now, but I wasn't for a long time, we have a lot of out-of-state or out-of-county contractors, and I would like to see the money stay local in San Bernardino county. If it goes union or not, it would be nice if it is a local hire situation. A project labor agreement, I'm not saying this project needs one, but something to assure that a percentage of the jobs was locally hired as far as the construction site. T5-1

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HIGHLAND, CALIFORNIA; THURSDAY, JANUARY 25, 2018

SAN MANUEL HOTEL AND CASINO EXPANSION

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GARY QUIEL:

My house is located about 500 feet -- I reside about 500 feet away from where the parking structure is going to go on the east side of Victoria. As I look out my window this morning, I have a two-story house, I have a nice view of the mountains, and now, there is a parking structure going in and all I'm going to see is concrete walls. I have a concern. T6-1

I'm not convinced that the noise litigation or noise study is correct because there is a lot of noise there. I feel it is flawed. I mean, we hear car alarms, we hear sirens, we hear people talking, we hear yelling, so I don't believe some of these studies are correct. T6-2

As far as the aesthetics, yeah, it might be a nice looking concrete structure, but it is going to devalue my property, and who wants to buy a house where all they see is a big concrete wall? T6-3

And the traffic, I don't see how they think it is not going to affect the traffic flow. It is a mess right now, and now, we're going to go add a 500-room hotel and more T6-4

parking structure.

So as far as the Environmental Impact Report, I feel there is fraud in several areas.

I'm really upset. I never got any comments back from the questions I sent in.

Again, I'm really concerned about the devaluation of my property. Why don't they put three of the stories underground so it is not elevated so high? The higher they go up, that sound is going to travel through that structure because it is all open air.

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T6-4 cont.

T6-5

T6-6

T6-7

HIGHLAND, CALIFORNIA; THURSDAY, JANUARY 25, 2018
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ART:

I was just saying that the way they gave out the flyers on everybody's doors for the hotel, can't they go within a quarter mile of the hotel and do a little survey and ask people that live around there and ask what are some of the issue we encounter and let us fill it out because we'll give you better feedback than someone walking down the street one day because we're there 24/7. So just a little survey, "What do you think? What can we do? How can we help? What are the main problems that we encounter?" Can't you do that with just a little survey paper? You can do it with that. Maybe put an already posted envelope in there and ask people to mail it out to you guys. It might help, it might not. The people in the neighborhood know more of what is going on in the neighborhood than the police, or the Indians, or anybody. T7-1

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