FINAL SUBSEQUENT

ENVIRONMENTAL IMPACT REPORT

MORENO VALLEY MALL REDEVELOPMENT PROJECT

SCH NO. 2022040136

Lead Agency

City of Moreno Valley
14177 Frederick Street
PO Box 88005
Moreno Valley, CA 92552

CONSULTANT

Kimley-Horn and Associates, Inc.
Kevin Thomas, Project Manager
3801 University Avenue, Suite 300
Riverside, CA 92501

April 2023

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Section 1.0 Introduction

1.1 INTRODUCTION

The Final Subsequent Environmental Impact Report (Final SEIR) for the Moreno Valley Mall Redevelopment Project has been prepared in accordance with the California Environmental Quality Act (CEQA), and CEQA Guidelines. CEQA Guidelines Section 15132 indicates that the contents of a Final EIR shall consist of:

(a) Environmental Impact Reports shall contain the information outlined in this article, but the format of the document may be varied. Each element must be covered, and when these elements are not separated into distinct sections, the document shall state where in the document each element is discussed.

(b) The EIR may be prepared as a separate document, as part of a general plan, or as part of a project report. If prepared as a part of the project report, it must still contain one separate and distinguishable section providing either analysis of all the subjects required in an EIR or, as a minimum, a table showing where each of the subjects is discussed. When the Lead Agency is a state agency, the EIR shall be included as part of the regular project report if such a report is used in the agency's existing review and budgetary process.

(c) Draft EIRs shall contain the information required by Sections 15122 through 15131. Final EIRs shall contain the same information and the subjects described in Section 15132.

(d) No document prepared pursuant to this article that is available for public examination shall include a "trade secret" as defined in Section 6254.7 of the Government Code, information about the location of archaeological sites and sacred lands, or any other information that is subject to the disclosure restrictions of Section 6254 of the Government Code.

The Final SEIR includes all of these required components.

In accordance with §15088 of the State CEQA Guidelines, the City of Moreno Valley, as the lead agency for the proposed Project, evaluated comments received on the Draft Subsequent EIR (Draft SEIR) (State Clearinghouse No. 2022040136) and has prepared responses to the comments received. The preceding Table of Contents and Section 1.0 provides of a list of all persons, organizations, and public agencies commenting on the Draft SEIR. Section 2.0 includes the Responses to Comments received on the Draft SEIR. It should be noted that responses to comments also result in various editorial clarifications and corrections to the original Draft SEIR text. Added or modified text is shown in Section 3.0, Errata, by underlining (<u>example</u>) while deleted text is shown by striking (~~example~~). The additional information, corrections, and clarifications are not considered to substantively affect the conclusions within the SEIR. This Response to Comments document is part of the Final SEIR, which includes the SEIR pursuant to §15132 of the State CEQA Guidelines. It should be noted that the Draft SEIR and its appendices are provided under separate cover.

After review and discussion by City staff and the City Planning Commission, responses to comments will be sent to commenting agencies and individuals. This satisfies the requirement of § 21092.5 of CEQA to send responses to the public agency comments received on the Draft SEIR at least 10 days prior to Project approval. This document includes responses to all written and verbal comments received on the Draft SEIR.

1.2 ORGANIZATION OF FINAL SEIR

This Final SEIR provides the requisite information required under CEQA and is organized as follows:

- **Section 1.0 Introduction.** This section provides an introduction to the Final SEIR, including the requirements under CEQA, the organization of the document, as well as brief summary of the CEQA process activities to date.
- **Section 2.0 Comments and Responses.** This section provides a list of public agencies, organizations, and individuals commenting on the Draft SEIR, provides a copy of each written comment received, and any response required under CEQA.
- **Section 3.0 Errata to the Draft SEIR.** This section details changes to the Draft SEIR.
- **Appendix.** This section provides additional content where needed and cross-referenced from the body of the Final SEIR.

1.3 CEQA PROCESS HISTORY

The City has complied with relevant Public Resources Code provisions and CEQA Guidelines regarding the preparation and processing of the Draft SEIR. A brief summary of the Project's CEQA process is as follows:

1 A Notice of Preparation (NOP) informing interested parties and agencies of the Project was distributed on April 6, 2022. Written and verbal comments were given at a public scoping meeting held for the Project on April 20, 2022.

2 A Recirculated NOP informing interested parties and agencies of the Project was distributed on April 26, 2022. Recirculation of the NOP occurred to correct information provided in the first NOP. Additional written and verbal comments were given at a second public scoping meeting held for the Project on May 18, 2022.

3 Following a Notice of Completion (NOC), the Draft SEIR and Notice of Availability (NOA) were distributed for public review and comment for a 45-day period, beginning November 27, 2022. The public review period closed on January 11, 2023.

1.4 CHANGES TO THE DRAFT SEIR

As previously stated, **Section 3.0, Errata** to the Draft SEIR, details the changes to the Draft SEIR. In response to public comments, text changes have been made to Draft SEIR sections to clarify and amplify the analysis or mitigation measures, and to make insignificant modifications to the Draft SEIR. This information does not rise to the level of significant new information as the resulting impact analysis and alternatives considered remain essentially unchanged, and no new or more severe impacts have been identified. These changes do not warrant Draft SEIR recirculation pursuant to California Public Resources Code §21092.1 and CEQA Guidelines §15088.5. As discussed herein and as elaborated upon in the respective Response to Comments, none of the clarifications or changes made in the Errata reflect a new significant environmental impact, a "substantial increase" in the severity of an environmental impact for which mitigation is not proposed, or a new feasible alternative or mitigation measure that would clearly lessen significant environmental impacts but is not adopted, nor do the Errata reflect a "fundamentally flawed" or "conclusory" Draft SEIR. In all cases, as discussed in individual responses to comments and Draft SEIR Errata, these minor clarifications and modifications do not identify new or substantially more severe environmental impacts that the City has not committed to mitigate. Therefore, the public has not been deprived of a meaningful opportunity to comment upon a substantial adverse environmental effect of the Project or an unadopted feasible Project alternative or mitigation measure. Instead, the information added supports the existing analysis and conclusions, and responds to inquiries made from commenters. Therefore, this Final SEIR is not subject to recirculation prior to certification.

CEQA Guidelines §15088.5 describes when an EIR requires recirculation prior to certification, stating in part:

> *"(a) A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this section, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. "Significant new information" requiring recirculation include, for example, a disclosure showing that:*
>
> *(1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.*
>
> *(2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.*
>
> *(3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to apply it.*
>
> *(4) The draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded (Mountain Lion Coalition v. Fish and Game Com. (1989) 214 Cal.App.3d 1043).*
>
> *(b) Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR."*

Section 2.0 Comments and Responses to Draft SEIR

2.1 INTRODUCTION TO COMMENTS AND RESPONSES

Table 2.0-1 below provides a list of those parties that provided written comments on the Draft SEIR during the public review period. In addition, one comment letter was received after the close of the public review period. Each comment document has been assigned a letter as indicated in the table.

A copy of the written comments are provided in this section, and have been annotated with the assigned letter along with a number for each comment. Each comment document is followed by a written response which corresponds to the comments provided.

Table 2.0-1: Comments from Public Agencies, Organizations and Individuals

Letter	Date Received	Organization/Name
State Agencies		
S1	January 11, 2023	California Department of Transportation (Caltrans)
Local/Regional Agencies		
L1	January 11, 2023	Moreno Valley Unified School District (MVUSD)
L2	January 11, 2023	Riverside Transit Agency (RTA)
L3	January 11, 2023	South Coast Air Quality Management District (SCAQMD)
Organizations		
O1	January 11, 2023	Residents for a Livable Moreno Valley
O2	January 9, 2023	Supporters Alliance for Environmental Responsibility (SAFER)
O3	January 10, 2023	Sierra Club
O4	January 11, 2023	Sierra Club
O5	January 10, 2023	Southwest Mountain States Carpenters (SWMSRCC)
O6	December 19, 2022	Southern California Gas Company
Public/Individuals		
I1	November 28, 2022	Natalie Schuman

Comment Letter S1 – California Department of Transportation

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY Gavin Newsom Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 8
PLANNING (MS 722)
464 WEST 4th STREET, 6th Floor
SAN BERNARDINO, CA 92401-1400
PHONE (909) 383-4557
FAX (909) 383-5936
TTY (909) 383-6300
www.dot.ca.gov/dist8

Comment Letter S1

Make Conservation
A California Way of Life.

January 11, 2023

Riv 60 PM 13.66
Location: SR-60 and Day Street
APNs:291-110-032, 033, 034, 035

City of Moreno Valley
Planning Department
Julia Descoteaux
14177 Fredrick Street
Moreno Valley, CA 92553

Moreno Valley Mall Redevelopment Project

Ms. Descoteaux,

We have completed our initial review for the above-mentioned proposal to Revitalize and Redevelop a portion of the existing Moreno Valley Mall, excluding the existing JC Penny and Macy's locations. Redevelopment proposes to add four multi-family residential communities totaling 1,627DU within the affected portion. Redevelopment also proposes to add two hotels operating within a single hotel building, along with a three-story, 60,000 square foot office building. 1

As the owner and operator of the State Highway System (SHS), it is our responsibility to coordinate and consult with local jurisdictions when proposed development may impact our facilities. Under the California Environmental Quality Act (CEQA), we are required to make recommendations to offset associated impacts with the proposed project. Although the project is under the jurisdiction of the City of Moreno Valley, it is also subject to the policies and regulations that govern the SHS due to the development's potential impact to State facilities requiring mitigation and Caltrans encroachment permit issuance.

We recommend the following to be provided:

Traffic Study

- A Traffic Impact Study (TIS) is necessary to determine this proposed project's near-term and long-term impacts to the State facilities and to propose appropriate mitigation measures. The study should be based on

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Caltrans' *Guide for the Preparation of Traffic Impact Studies (TIS)* which is located at the following website:

http://www.dot.ca.gov/hq/tpp/offices/ocp/igr_ceqa_files/tisguide.pdf

Minimum contents of the traffic impact study are listed in Appendix "A" of the TIS guide.

- Traffic Impact further away from the project is typically not required because a project's potential impacts to the SHS dissipate to less than significant levels as traffic disperses throughout the transportation system.

- The data used in the TIS should not be more than 2 years old.

- The geographic area examined in the traffic study should include as a minimum all regionally significant arterial system segments and intersections, including State highway facilities where the project will add over 100 peak hour trips. State highway facilities that are experiencing noticeable delays should be analyzed in the scope of the traffic study for projects that add 50 to 100 peak hour trips.

- Traffic Analysis Scenarios should clearly be exhibited as exiting, existing + project, existing + project + cumulative, and existing + project + cumulative + ambient growth. 1 cont.

- Caltrans endeavors that any direct and cumulative impacts to the State highway system be eliminated or reduced to a level of insignificance pursuant to the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) standards.

- The LOS for operating State highway facilities is based upon Measures of Effectiveness (MOE) identified in the Highway Capacity Manual (HCM). Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities; however, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than this target LOS, the existing MOE should be maintained. In general, the region-wide goal for an acceptable LOS on all freeways, roadway segments, and intersections is "D". For undeveloped or not densely developed locations, the goal may be to achieve LOS "C".

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Ms. Descoteaux
January 11, 2023
Page 3

- Clearly indicate LOS with and without improvements.

- It is recommended that the Synchro Analysis includes all intersections from the Project site to the proposed study areas. A PHF of 0.92 in urban areas is recommended to be used in the Synchro Analysis.

- All freeway entrance and exit ramps where a proposed project will add a significant number of peak-hour trips that may cause any traffic queues to exceed storage capacities should be analyzed. If ramp metering is to occur, a ramp queue analysis for all nearby Caltrans metered on-ramps is required to identify the delay to motorists using the on-ramps and the storage necessary to accommodate the queuing. The effects of ramp metering should be analyzed in the traffic study. For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

- Proposed improvements should be exhibited in preliminary drawings that indicate the LOS with improvements.

- Please submit 3 hard copies of all Traffic Impact Analysis documents and 2 cd's. Where applicable, please also provide 2 cd's of the Synchro Analysis file. 1 cont.

Prior to your submission for an Encroachment Permit, a follow-up Traffic Study Report letter will be required from the Department of Planning.

We appreciate the opportunity to offer comments concerning this project. If you have any questions regarding this letter, please contact Talvin Dennis at (909) 806-3957 for assistance.

Sincerely,

Rosa F. Clark

ROSA F. CLARK
Office Chief
Land Development/Intergovernmental Review

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Responses to Comment Letter S1 – California Department of Transportation

S1.1 This appears to be a general form comment letter and does not raise any specific issues regarding the adequacy of the Draft SEIR. The Draft SEIR's traffic analysis followed standard City and Caltrans requirements, and is summarized in ***Section 4.7, Transportation*** of the Draft SEIR, starting on page 4.7-11. Additionally, refer to the Moreno Valley Redevelopment Traffic Impact Analysis, August 19, 2022 (August TIA) (**Appendix A** of this Final SEIR) for additional information related to the methodology of the TIA.

Study Methodologies and Significance Criteria

The commenter states that traffic counts should not be more than two years old. Traffic counts and data for the Traffic Impact Analysis in the Draft SEIR were collected no earlier than December 2021 and therefore are less than 2 years old.

The commenter states that the geographic area examined in the traffic study should include as a minimum all regionally significant arterial system segments and intersections. The study area was determined in consultation with the City of Moreno Valley Public Works staff and included local and state highway facilities where the project will add the most significant number of vehicle trips that could result in operational deficiencies.

The commenter states that Traffic Analysis Scenarios should clearly be exhibited as exiting, existing + project, existing + project + cumulative, and existing + project + cumulative + ambient growth. The study did include existing, 2026 near term project completion, and 2040 long range general plan buildout traffic conditions, without and with the project. All future scenarios included cumulative projects, which were obtained from the City of Moreno Valley and nearby agencies including the City of Riverside.

Freeway segments and intersections associated with freeway on- and off-ramps fall under Caltrans jurisdiction. Caltrans updated its guidance in 2020 to include metrics to evaluate transportation impacts based on VMT and no longer sets a minimum acceptable LOS for its facilities.

The source provided in the comment letter with respect to the Caltrans traffic study methodology (i.e., the "Guide for the Preparation of Traffic Impact Studies (TIS)") appears to be outdated. The most recent (at the time of this response to comments on January 30, 2023) guidance from Caltrans related to Caltrans' Local Development Review (LDR) is found in the webpage: https://dot.ca.gov/programs/sustainability/sb-743/sb743-resources.

Caltrans provides resources for developers, local governments, and others seeking information on how to implement projects that support the goals of SB 743 and benefit their communities.

Based on the Caltrans' Transportation Impact Study Guide, Caltrans is transitioning away from LOS performance standards and instead focused on VMT to identify significant impacts. The Transportation Impact Study Guide (TISG) provides guidance to Caltrans Districts, lead agencies, tribal governments, developers and consultants regarding Caltrans review of a land use project or plan's transportation analysis using a vehicle miles traveled (VMT) metric. The TISG replaces the Guide for the Preparation of Traffic Impact Studies (Caltrans, 2002) and is for use with local land use projects, not for transportation projects on the State Highway System.[1]

According to the TISG, "For land use projects and plans, automobile delay is no longer considered a significant impact on the environment under CEQA (SB 743, 2013)." Caltrans review of land use projects and plans is focused on a VMT metric, consistent with changes to the CEQA Guidelines (California Code of Regulations Section 15064.3(b)(1)). This VMT-focused TISG provides a foundation for review of how lead agencies apply the VMT metric to CEQA project analysis.

Beyond or in addition to the use of the VMT metric, determining how the State Highway System may otherwise be affected by a land use project may still be necessary at times, particularly as it relates to the safety of the traveling public. Additional future guidance will include the basis for requesting transportation impact analysis that is not based on VMT. This guidance will include a simplified safety analysis approach that reduces risks to all road users and focuses on multi-modal conflict analysis as well as access management issues. With this guidance the Department will transition away from requesting LOS or other vehicle operations analyses of land use projects."

Caltrans no longer uses a LOS standard to evaluate impacts for its facilities under CEQA. In the absence of a LOS standard from Caltrans, at the ramp intersections the LOS standards of "E "for Riverside County from the Riverside County Long Range Transportation Study were used.

LOS analyses were provided for local and State intersections, roadway segments, and freeway facilities. Several State facilities were included in the study area as follows.

The commenter states that all freeway entrance and exit ramps where a proposed project will add a significant number of peak-hour trips that may cause any traffic queues to exceed storage capacities should be analyzed. The following entrance and exit ramps were studied in the TIA:

State facilities study intersections

- I-215 Freeway Ramps/Eucalyptus Avenue
- Day Street/SR-60 WB Ramps
- Day Street/SR-60 EB Ramps
- Frederick Street/SR-60 EB On-Ramp
- Frederick Street/SR-60 EB Off-Ramp– Sunnymead Boulevard
- SR-60 WB Off Ramp/Hemlock Avenue

Queues at freeway on-and off-ramps for the study intersections listed above were analyzed with the HCM methodology using the Synchro 10 software. The 95th percentile queue lengths, available storage at turn lanes, and distance to adjacent side streets and signalized intersections

[1] California Department of Transportation (May 2020). *Transportation Impact Study Guide*. Available at https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-05-20-approved-vmt-focused-tisg-a11y.pdf. Accessed February 2023.

for each study intersection during the scenarios studied. The analysis concluded that the following State Highway intersections would experience traffic queues to exceed storage capacity due to traffic increased related to the project:

- I-215 Ramps at Eucalyptus Avenue: The project has minimal to no impact on the queues at this intersection. There is no space to extend queue storage; therefore, no improvements were recommended. However, there is expected to be adequate queue storage on the I-215 ramps.
- Frederick Street/SR-60 EB Off-Ramp – Sunnymead Boulevard: the project would result in small increases in the off-ramp queues of three vehicles or less. No improvements were recommended. However, the queue storage for the SR-60 EB off-ramp is projected to serve anticipated queues.

In summary, the TIS assessed queues at freeway off-ramps for the potential for queues to extend to the freeway mainline, which could result in hazardous conditions due to speed differentials. A review of the queues indicate that no off-ramps queues would exceed the available storage.

The commenter states that the LOS for operating State highway facilities is based upon Measures of Effectiveness (MOE) identified in the Highway Capacity Manual (HCM). Caltrans endeavors to maintain a target LOS at the transition between LOS “C” and LOS “D” on State highway facilities. The following freeway mainline segments were analyzed in the TIA:

State facilities study freeway mainline segments

- SR-60 between the Day Street Ramp
- SR-60 east of the Frederick Street Ramps
- I-215 from SR-60 to Eucalyptus Avenue Ramps
- I-215 south of the Eucalyptus Avenue Ramps

Freeway segments were analyzed according to HCM procedures with the HCS software, which is consistent with Caltrans practices. All freeway segments of SR-60 and I-215 analyzed are forecasted to operate at a LOS D or better during all peak periods in all scenarios. No deficiencies and improvements were recommended.

Comment Letter L1 – Moreno Valley Unified School District

MORENO VALLEY UNIFIED SCHOOL DISTRICT

FACILITIES PLANNING & DEVELOPMENT
25634 Alessandro Blvd.
Moreno Valley, CA 92553
951-571-7500
www.mvusd.net

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DR. ESPERANZA ARCE
Chief Academic Officer

SUSANA LOPEZ
Chief Business Official

DR. ROBERT VERDI
Chief Human Resources Officer

Vision Statement
To empower students to become future ready and positively impact the world.

Mission Statement
To provide an equitable education for all students to be prepared for college and/or a viable career path for a successful life.

January 11, 2023

Comment Letter L1

Julia Descoteaux, Senior Planner
City of Moreno Valley Community Development Department
14177 Frederick Street
Moreno Valley, CA 92553

Projects: PEN21-0168, PEN 22-0061, PEN 22-0075 – SCH No. 2022040136

Subject: Letter Received 12/1/22 – NOTICE OF AVAILABILITY – Moreno Valley Mall Redevelopment Project – DRAFT SUBSEQUENT ENVIORNMENTAL IMPACT REPORT

Ms. Descoteaux,

The Moreno Valley Unified School District (District) appreciates the opportunity to review the information provided for the above Project.

The District's focus continues to be the health and well-being of our students, families and staff. We are very concerned about the significant and unavoidable adverse impacts to air quality and greenhouse gas emissions shown in the DSEIR for this project. These impacts jeopardize the short and long-term quality of life for our community. Although growth in the City is exciting, this increases the unhealthful air our community breathes every day. Should you wish to discuss our concerns or have questions regarding schools supporting this area of the community, please let us know. 1

It should be noted that there would be developer impact fees associated with the commercial and residential development of this project, payable to the Moreno Valley Unified School District. At this time, those fees are $0.78 per square foot for new commercial/industrial projects and $4.79 per square foot for residential construction. Please contact our Facilities and Planning Team members, Amy Esquibel, MPA (aesquibel@mvusd.net) and Jacob Romero (jromero@mvusd.net) for further information about the process for payment of school fees.

Please keep us informed as to the City's progress in this matter, and any notifications relating to this project. 2

Sincerely,

Samer Alzubaidi
Director, Facilities Planning & Development
MORENO VALLEY UNIFIED SCHOOL DISTRICT
13911 Perris Blvd., Building A, Moreno Valley, CA 92553

Response to Comment Letter L1 – Moreno Valley Unified School District

L1.1 Regarding the Project impacts to air quality and greenhouse gas emissions, refer to ***Section 4.2, Air Quality*** and ***Section 4.4, Greenhouse Gas Emissions*** of the Draft SEIR. As identified in these sections of the Draft SEIR, the Project would implement various mitigation measures to reduce the impacts of the Project of air quality and greenhouse gas emissions. These mitigations measures, **MM AQ-1** through **MM AQ-6**, as well as **MM GHG-1** through **MM GHG-3** would be implemented by the Project. As the comment does not raise any substantive issues regarding the adequacy of the Draft SEIR, and no further response is warranted.

L1.2 Comment noted. The Draft SEIR addresses school impact fees in ***Section 7.0, Effects Found Not To Be Significant*** on page 7-21, in the Draft SEIR, which notes the school districts serving the City qualify for Level 2 fees, which equivalate to $4.66 per square foot for new residential projects and $0.66 per square foot for commercial/industrial projects. Based on this comment, the Draft SEIR is hereby revised to update the fees as noted in this comment. Refer to ***Section 3.0, Errata to the Draft SEIR***.

> The school districts serving the City qualify for ~~Level 2~~ Level 1 fees, which equivalate to ~~$4.66~~ $4.79 per square foot for new residential projects and ~~$0.66~~ $0.78 per square foot for commercial/industrial projects.

Comment Letter L2 – Riverside Transit Agency

DocuSign Envelope ID: 6AF5587F-3A8D-4DB6-ABB2-DFF0C794D8A6

Comment Letter L2

Riverside Transit Agency

1825 Third Street
P.O. Box 59968
Riverside, CA 92517-1968
Phone: (951) 565-5000
Fax: (951) 565-5001

January 11, 2023

Julia Descoteaux
City of Moreno Valley
14177 Frederick Street
Moreno Valley, CA 92553

SUBJECT: WRITTEN COMMENTS ON THE DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT (DSEIR) FOR THE PROPOSED MORENO VALLEY MALL REDEVELOPMENT PROJECT.

Dear Julia Descoteaux,

The Riverside Transit Agency (RTA) remains dedicated to partnering with the City of Moreno Valley to provide transit services to the proposed Moreno Valley Mall Redevelopment Project. Currently, RTA has eight bus stops at the Moreno Valley Mall. The Moreno Valley Mall is one of the busiest transfer points in RTA's service network with 5 routes servicing the mall and over 520 average weekday boardings. It is important that RTA continues to provide service to the mall as it is a key destination in the region and a major transfer point for riders traveling through. If you have any questions or need additional information from RTA, please contact Jennifer Nguyen, Director of Planning at jnguyen@riversidetransit.com or (951) 565-5132. 1

Sincerely,

DocuSigned by:
00883D6B1C01488...

Kristin Warsinski
Chief Executive Officer
Riverside Transit Agency

Response to Comment Letter L2 – Riverside Transit Agency

L2.1 This comment does not raise any substantive issues regarding the adequacy of the Draft SEIR. The eight existing bus stops would be relocated to the northern boundary of the Project site along Town Circle. Coordination between the Project Applicant and RTA will continue. Further discussion pertaining to transit and transfer points serviced by the RTA are presented in ***Section 4.7, Transportation*** of the Draft SEIR.

Comment Letter L3 – South Coast Air Quality Management District

Comment Letter L3

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

SENT VIA E-MAIL: January 11, 2023
juliad@moval.org
Julia Descoteaux, Senior Planner
City of Moreno Valley, Community Development Department
14177 Frederick Street
Moreno Valley, CA 92553

Draft Subsequent Environmental Impact Report (DSEIR) for the Proposed Moreno Valley Mall Redevelopment Project (Proposed Project) (State Clearinghouse No.: 2022040136)

South Coast Air Quality Management District (South Coast AQMD) staff appreciates the opportunity to comment on the above-mentioned document. The City of Moreno Valley is the Lead Agency under the California Environmental Quality Act (CEQA) for the Proposed Project. The following comments on the health risk assessment (HRA) should be included in the Final SEIR.

South Coast AQMD Staff's Summary of Project Information in the DSEIR 1
Based on the DSEIR, the Proposed Project includes a specific plan amendment to amend Specific Plan No. 200 – Towngate Specific Plan (SP-200) to allow a mix of retail and residential land uses within the planning area of SP-200.[1] The Proposed Project encompasses approximately 58.6 acres[2] and is within 130 feet south of State Route 60 (SR-60).[3] Construction will occur over 3 years and 8 months with full buildout of the Proposed Project anticipated by late 2026.[4] Once completed, the Proposed Project anticipates a new growth of approximately 60,000 square feet of office space, 270 hotel rooms, 1,627 multi-family residential units, and 1.9 acres of open space.[5] The Proposed Project is located on the southwest corner of Centerpoint Drive and Towne Circle in the City of Moreno Valley, Riverside County, California.

South Coast AQMD Staff's Comments on the DSEIR

Sensitive Receptors and HRA

Sensitive receptors are people that have an increased sensitivity to air pollution or environmental contaminants and include schools, daycare centers, nursing homes, elderly care facilities, hospitals, and residential dwelling units. The Proposed Project will include, among others, 1,627 residential dwelling units. Implementation of the Proposed Project would result in new development of such sensitive land uses within 170 feet of the SR-60 freeway.[6] 2

Notwithstanding the court rulings, South Coast AQMD staff recognizes that the lead agencies that approve CEQA documents retain the authority to include any additional information they deem relevant to assessing and mitigating the environmental impacts of a project. Because of South Coast AQMD staff's concern about the potential public health impacts of siting sensitive populations within close proximity of freeways or other sources of air pollution, South Coast AQMD staff recommends that, prior

[1] DSEIR. 2.0 Introduction and Purpose. Page 2-1.
[2] *Ibid.* 3.0 Project Description. Page 3-1.
[3] *Ibid.* Page 3-2.
[4] *Ibid.* Page 3-10.
[5] *Ibid.* Page 3-6.
[6] *Ibid.* 4.2 Air Quality. Page 4.2-38.

Julia Descoteaux, Senior Planner January 11, 2023

to approving future development projects, the lead agency consider the impacts of air pollutants on people who will live in a new project and provide mitigation where necessary. 2 cont.

The California Air Resources Board's (CARB) *Air Quality and Land Use Handbook: A Community Health Perspective*[7] is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. Additional guidance on strategies to reduce air pollution exposure near high-volume roadways is available in CARB's technical advisory.[8] In CARB's Air Quality and Land Use Handbook, page 4, Table 1-1, under the Source Category of Freeways and High-Traffic Roads, the recommendations advice against siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day. The basis for the recommendation made in Table 1-1 comes from California freeway studies that show a 70% drop off in particulate pollution levels at 500 feet.[9] Sensitive receptors in close proximity to freeways and high-traffic roads are shown to have increase cancer risks of 300 to 1,700 in one million.[10] 3

Future Project-level HRA

The Lead Agency conducted an operation HRA to analyze the potential cancer risk on future sensitive receptors located on the Proposed Project site from mobile source emissions from adjacent SR-60.[11] The results show a maximum cancer risk of 9.36 per million for on-site resident exposure (and 2.63 per million for on-site worker exposure),[12] which is less than the South Coast AQMD's CEQA maximum incremental cancer risk threshold of 10 in one million for toxic air contaminants.[13] 4

Upon further review of the DSEIR's Appendix C – Health Risk Assessment, it appears that the freeway truck traffic volume used for the HRA was from year 2020.[14,15] Emission factors, however, were from the EMFAC generated calendar model year 2026.[16] When compared to the 2020-year freeway truck traffic volume, the freeway truck traffic volume may be higher at project completion year in 2026. Numerous warehouses in the region not yet in operation are anticipated to be in operation by 2026 (for example future warehouses in the World Logistics Center business park in the eastern portion of the City of Moreno Valley).[17] Due to the growth of such activity in the region, an increase in truck traffic volume on the region's freeways is expected. This increase in truck traffic in the Proposed Project's full buildout year of 2026 should be accounted for in the HRA. By using 2020 freeway truck traffic volume, the number of trucks may have been underestimated along with the Proposed Project's operation health risk impacts. Staff therefore recommends that the Lead Agency revise the HRA by using 2026 projected freeway truck traffic volume in conjunction with 2026 emission factors. This revision should be included in the Final SEIR. 5

Health Risk Reduction Strategies 6

[7] CARB's *Air Quality and Land Use Handbook: A Community Health Perspective.* Accessed at: http://www.arb.ca.gov/ch/handbook.pdf.
[8] CARB's technical advisory. Accessed at: https://www.arb.ca.gov/ch/landuse.htm.
[9] CARB's *Air Quality and Land Use Handbook: A Community Health Perspective,* Table 1-2, page 6.
[10] *Ibid.*
[11] DSEIR Appendix C. Health Risk Assessment. Significance Criteria and Methodology. Page 15.
[12] DSEIR. 4.2 Air Quality. Page 4.2-38.
[13] South Coast AQMD's CEQA Air Quality Significance Thresholds. Accessed at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf
[14] DSEIR Appendix C. Health Risk Assessment. Significance Criteria and Methodology. Page 15.
[15] Caltrans, Traffic Census Program – Traffic Volumes, April 2022. Accessed at: https://dot.ca.gov/programs/traffic-operations/census
[16] DSEIR Appendix C. Health Risk Assessment. Significance Criteria and Methodology. Page 15 through 16.
[17] Final Programmatic Environmental Impact Report for The World Logistics Center, May 2015. Accessed at: https://moval.gov/cdd/pdfs/projects/wlc/FEIR.pdf

2

Julia Descoteaux, Senior Planner January 11, 2023

Many strategies are available to reduce exposures, including, but not limited to, building filtration systems with MERV 13 or better, or in some cases, MERV 15 or better is recommended; building design, orientation, location; vegetation barriers or landscaping screening, etc. Enhanced filtration units are capable of reducing exposures. However, enhanced filtration systems have limitations. For example, in a study that South Coast AQMD conducted to investigate filters,[18] a cost burden is expected to be within the range of $120 to $240 per year to replace each filter panel. The initial start-up cost could substantially increase if an HVAC system needs to be installed and if standalone filter units are required. Installation costs may vary and include costs for conducting site assessments and obtaining permits and approvals before filters can be installed. Other costs may include filter life monitoring, annual maintenance, and training for conducting maintenance and reporting. In addition, because the filters would not have any effectiveness unless the HVAC system is running, there may be increased energy consumption. It is typically assumed that the filters operate 100 percent of the time while residents are indoors, and the environmental analysis does not generally account for the times when the residents have their windows or doors open or are in common space areas of the project. These filters have no ability to filter out any toxic gases. Furthermore, when used filters are replaced, replacement has the potential to result in emissions from the transportation of used filters at disposal sites and generate solid waste. Therefore, the presumed effectiveness and feasibility of any filtration units should be carefully evaluated in more detail prior to assuming that they will sufficiently alleviate exposures to diesel particulate matter emissions. 6 cont.

Conclusion

Pursuant to California Public Resources Code Section 21092.5(a) and CEQA Guidelines Section 15088(b), South Coast AQMD staff requests that the Lead Agency provide South Coast AQMD staff with written responses to all comments contained herein prior to the certification of the Final SEIR. In addition, issues raised in the comments should be addressed in detail giving reasons why specific comments and suggestions are not accepted. There should be good faith, reasoned analysis in response. Conclusory statements unsupported by factual information will not suffice (CEQA Guidelines Section 15088(c)). Conclusory statements do not facilitate the purpose and goal of CEQA on public disclosure and are not meaningful, informative, or useful to decision makers and to the public who are interested in the Proposed Project. 7

South Coast AQMD staff is available to work with the Lead Agency to address any air quality questions that may arise from this comment letter. Please contact Evelyn Aguilar, Air Quality Specialist, at eaguilar@aqmd.gov should you have any questions.

Sincerely,

Sam Wang

Sam Wang
Program Supervisor, CEQA IGR
Planning, Rule Development & Implementation

SW:EA
RVC221206-08
Control Number

[18] This study evaluated filters rated MERV 13 or better. Accessed at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/aqmdpilotstudyfinalreport.pdf. Also see 2012 Peer Review Journal article by South Coast AQMD: https://onlinelibrary.wiley.com/doi/10.1111/ina.12013.

3

Response to Comment Letter L3 – South Coast Air Quality Management District

L3.1 The comment is general in nature, including a summary of the Project information. This comment does not raise any substantive issues regarding the adequacy of the Draft SEIR. No response is warranted.

L3.2 As determined by the California Supreme Court in *CBIA v. BAAQMD* (2015) 62 Cal.4th 369, Case No. S213478, impacts of the existing or future environment on future occupants of a Project are not required to be evaluated under CEQA. Notwithstanding the Court's decision, the City included a health risk assessment (HRA) to disclose the potential health risks posed to future residents of the Project being in close proximity to a major freeway, State Route 60 (SR-60); see Draft SEIR pages 4.2-37 through 4.2-39 and appendix C (Health Risk Assessment). The HRA was prepared in accordance with SCAQMD and the California Office of Environmental Health Hazard Assessment (OEHHA) guidance and recommendations, including the OEHHA, *Air Toxics Program Guidance Manual for the Preparation of Health Risk Assessments*, February 2015 and the SCAQMD Modeling Guidance for AERMOD.[2, 3] The analysis conservatively uses 95th percentile daily breathing rates, age sensitivity factors, a 30-year exposure duration, and a third trimester start age. Additionally, the analysis assumed future residents would be at the same location for 85 percent of the time for ages third trimester to two years, 72 percent of the time for ages two to 15, and 73 percent of the time for ages 16 to 30, as recommended by the SCAQMD. The analysis evaluates the health risk from exposure to total organic gases and diesel particulate matter (DPM) from cars and trucks.

L3.3 The comment is general in nature, summarizing recommendations contained in the California Air Resources Board's (CARB's) *Air Quality and Land Use Handbook: A Community Health Perspective* published in 2005. It does not raise any CEQA related issues. Thus, no response is needed. However, it is noted that the CARB Air Quality and Land Use Handbook is a guidance document that provides general recommendations. The relative risk identified in the CARB Handbook varies greatly. The CARB Handbook states that to determine the actual risk near a particular facility, a site-specific analysis would be required. The CARB Handbook also notes that risk from diesel particulate matter (DPM) will decrease over time as cleaner technology phases in. Since publication of the 2005 CARB Handbook, research has demonstrated the public health, climate, financial, and other benefits of compact, infill development along transportation corridors. New research has demonstrated promising strategies to help decrease pollution exposure near their sources. Near-roadway development is a result of a variety of factors, including economic growth, demand for built environment uses, and the scarcity of developable land in some areas. CARB's April 2017 Technical Advisory[4] demonstrates that planners, developers, and local governments can pursue infill development while simultaneously reducing exposure to traffic-related pollution

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2 Office of Environmental Health Hazard Assessment (February 2015). *Air Toxics Hot Spots Program: Risk Assessment Guidelines, Guidance Manual for Preparation of Health Risk Assessments*. Available at https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf. Accessed January 2023.

3 South Coast Air Quality Management District (ND). *South Coast AQMD Modeling Guidance for AERMOD*. Available at http://www.aqmd.gov/home/air-quality/meteorological-data/modeling-guidance. Accessed January 2023.

4 California Air Resources Board (April 2017). *Strategies to Reduce Air Pollution Exposure Near High-Volume* Roadways. Available at https://ww2.arb.ca.gov/sites/default/files/2017-10/rd_technical_advisory_final.pdf. Accessed January 2023.

by implementing strategies and statewide guidance and policies that promote sustainable communities.

L3.4 This comment does not raise any substantive issues regarding the adequacy of the Draft SEIR. Responses to specific comments are provided below. No further response is necessary.

L3.5 As noted in **Response L3.2**, an HRA was prepared for the project notwithstanding case law holds that impacts of the existing or future environment on future occupants of a Project are not required to be evaluated under CEQA (*CBIA v. BAAQMD* (2015) 62 Cal.4th 369, Case No. S213478). In *California Building Industry Assn. v. Bay Area Air Quality Mgmt. Dist.* (*CBIA v. BAAQMD*) (2015) 62 Cal.4th 369, the California Supreme Court held that CEQA generally does not require public agencies to analyze the impacts that existing environmental conditions might have on a project's future users or residents. In that case, the Court considered whether certain air quality thresholds of significance promulgated by the BAAQMD that addressed impacts on project residents were valid under CEQA. BAAQMD took the position that existing environmental conditions in the vicinity of a proposed project might adversely impact future residents or users of the project and should be analyzed under CEQA. The Supreme Court rejected this position, holding that "CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users or residents" and CEQA is limited to the impacts that arise from the project's effects on the environment.

Under *CBIA v. BAAQMD*, the Draft SEIR is not required to analyze the possible impact of air emissions from SR-60 on the health of the residents, visitors or other users of the Project site. However, for informational purposes only, the Draft SEIR conducted a health risk assessment for mobile source emissions from the SR-60 freeway. The health risk assessment was performed based on the commenter's Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Emissions and is included in Appendix C to the Draft SEIR.

The freeway traffic volumes used in the HRA was the latest available from the California Department of Transportation. Although traffic volumes may increase in future years, future year emissions factors will decrease due to fleet turnover with cleaner vehicles, the implementation of the SCAQMD Warehouse Indirect Source Rule (Rule 2305), as well as implementation of the CARB Advanced Clean Truck (ACT) regulation, and CARB's 2020 Mobile Source Strategy, CARB's Sustainable Freight Action Plan, among various others.

In June 2020, CARB adopted the ACT regulation, which requires medium- and heavy-duty manufacturers to produce ZEVs as an increasing portion of their sales beginning in 2024. This regulation is expected to result in roughly 100,000 ZEVs by 2030 and nearly 300,000 ZEVs by 2035. Similar to the truck and bus regulations, this legislation requires 100 percent zero-emission drayage, last mile delivery, and government fleets by 2035; 100 percent zero-emission refuse trucks and local buses by 2040; 100 percent zero-emission-capable vehicles in utility fleets by 2040; and 100 percent zero-emission everywhere else, where feasible, by 2045.

The 2020 Mobile Source Strategy provides practices in order to meet estimated future emission goals. These reductions include DPM emissions to fall 66 percent below 2017 rates by 2031, NO_X

emissions to fall 75 percent below 2017 emissions by 2031 and 82 percent by 2037, and GHG emissions are anticipated to be 76 percent below 2017 emission rates by 2045.

The Sustainable Freight Action Plan highlights targets for emissions in the freight shipping industry. This includes the deployment of over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.

Additionally, CARB continues to implement the Truck and Bus Regulation requires that by January 1, 2023 (i.e., this year) all diesel vehicles with a Gross Vehicle Weight Rating (GVWR) greater than 14,000 pounds to at least have a 2010 model year engine or later. EPA's emissions regulations outlined in CFR § 86.010 have standards that reduce emissions to 0.2 gram per brake horsepower hour (g/bhp-hr) for NO_X and 0.01 g/bhp-hr for particulate matter for 2010 model year engines. As years progress and traffic possibly increases, the regulation will keep updating to ensure large vehicles will have up to date and cleaner running engines.

SCAQMD's Multiple Air Toxics Exposure Study (MATES V) (August 2021) shows that carcinogenic risk from air toxics in the SCAB, based on the average concentrations at the 10 monitoring sites, is approximately 40 percent lower than the monitored average in MATES IV (2015) and 84 percent lower than the average in MATES II (2000).[5] The results of SCAQMD's ongoing research in air toxics shows that risk levels are decreasing despite development and vehicle traffic growth. This trend is expected to continue with the implementation of the aforementioned policies.

The full extent of these emissions reduction plans and regulations are conservatively not accounted for in the project HRA. Research from CARB shows that diesel cancer risk has steadily declined even as there has been an increase in population and diesel vehicle miles traveled (VMT).[6] The emissions improvements from implementation of the above regulations (and others) would further offset the increases in freeway traffic volumes.

Additionally, regarding growth in activity from the World Logistics Center, the Health Risk Assessment prepared for the World Logistics Center EIR evaluated risk levels from vehicles traveling along SR-60, including the freeway segment adjacent to the project site. The World Logistics Center EIR determined that cancer risk along SR-60 would be less than significant.[7] Furthermore, the Settlement Agreement for the World Logistics Center includes various emissions reduction measures to minimize its contribution to surrounding roadways, including SR-60. For example, the Settlement Agreement includes electric truck and car grant programs to reduce these emissions. Therefore, the health risk along SR-60 is not expected to increase significantly with future growth, including additional logistics activity in the area.

5 South Coast Air Quality Management District (August 2021). *MATES V Final Report, page ES-16*. Available at http://www.aqmd.gov/docs/default-source/planning/mates-v/mates-v-final-report-9-24-21.pdf?sfvrsn=6. Accessed January 2023.

6 California Air Resources Board (ND). *Overview: Diesel Exhaust &* Health. Available at https://ww2.arb.ca.gov/resources/overview-diesel-exhaust-and-health. Accessed January 2023.

7 City of Moreno Valley (December 2019). *Draft Recirculated Revised Sections of the Final Environmental Impact Report*. Available at https://www.moval.org/cdd/pdfs/projects/wlc/2020-Revised/Part2.pdf. Accessed January 2023.

L3.6 CalGreen Code Section 5.504.5.3 (Filters) requires MERV13 as the minimum standard. MERV13 filters capture 90 percent of particulates. The analysis in the Draft SEIR (pages 4.2-37 through 4.2-39, and Appendix C (Health Risk Assessment) of the Draft SEIR) conservatively analyzed health risks from SR-60 and determined that impacts would be less than significant. Therefore, the use of filters greater than MERV13 is not required. Based on CalGreen code requirements, most residential heating, air conditioning, and ventilation (HVAC) systems are rated for MERV13, and the use of filters greater than MERV13 would result in systems not operating efficiently or properly. It is noted that maintenance of the HVAC systems including filters would be performed by the building manager to ensure filters are changed regularly and that systems are fully functioning. Additionally, buildings are required to be energy efficient, meeting the strict standards of Title 24 (Part 6 and Part 11), which would offset the HVAC system energy consumption. Furthermore, the HRA did not assume any reductions in toxic gases (i.e., non-particulates) from the mandatory HVAC/filtration systems.

L3.7 The comment is general in nature, summarizing portions of California Public Resources Code and CEQA Guidelines and includes the author's salutation. The City of Moreno Valley intends to fully comply with the requirements of California Public Resources Code Section 21092.5(a) and CEQA Guidelines Section 15088 as requested in the comment. The comment does not raise any CEQA related issues, and no response is therefore warranted.

Comment Letter O1 – Residents for a Liable Moreno Valley

Comment Letter O1

Residents for a Livable Moreno Valley

29170 Stevens Avenue
Moreno Valley, CA 92555

FPPC ID 1303172

January 11, 2023

Julia Descoteaux, Senior Planner
juliad@moval.org
Community Development Department
City of Moreno Valley
141777 Frederick Street
Moreno Valley, CA 92553

Sent via E-mail:

Subject: Comments on the Supplemental Draft Environmental Impact Report (SCH No. 2022040136) for the Moreno Valley Mall Redevelopment Project

Dear Ms. Descoteaux,

As a resident of Moreno Valley for over 23 year and as a member of a local group of concerned citizens we take issue with some of the findings in the Supplemental Draft Environment Impact Report and the lack of availability of the Specific Plan Amendment document that should have been posted under Current Projects with the SDEIR and Appendixes. Below you will find comments and requests for information not found in the environment documents that we believe should be included. 1

The city has failed to make the specific plan amendment document available for review in the same digital format as the SDEIR. From reading the SDEIR it is obvious that this document must exist contrary to city staff's responses to requests for such a document. Throughout the SDEIR there are multiple reference to sections of the Specific Plan Amendment (SPA) that address the topics being analyzed to make the environmental findings. By not providing the SPA document in digital format as an accompanying document to the SDEIR all agencies required to review the environmental finding could not verify the justifications without referencing the SPA. The content of the SPA are independent of the original SP 200 and it should be publicly posted with the SDEIR and both recirculated for an appropriate review and analysis by all parties.. 2

Traffic Impact Analysis

The TIA available on the City's website is missing the majority of the listed and referenced Figures that show the study area or turning movements thus it is impossible to truly assess how much traffic passes through any location around the mall and beyond. **The SDEIR needs to be recirculated with a "complete" TIA for formal review and comment.** 3

From the written text of the DSEIR it appears that the intersections covered are likely fewer that it should be. Since this project include 1,627 dwelling with residents that will head off to work each day, and office working coming into the site, the analyses needs expanding to better reflect traveling patterns driver will likely take to avoid the major congestion intersections leading to or coming from freeway where they can travel to their desired destinations. Expectation of what should be studied is provided below. 4

The TIA fails into account the additional commercial and the 270 room hotel rejecting their Vehicle Miles Travel due to the City's VMT screening criteria. There is no explanation how the city has made the determination that these portions of the project can be excluded. The explanation given is that both will only serve locals thus limiting vehicle miles traveled. This is a false conclusion because this is a regional mall which is intended to draw on a customer base beyond the local community. There is nothing provided to conclude that a 270 hotel would only serve local residents. Its location along a major freeway implies that it expect to draw in traveler from the highway. If local use is the expectation, then approximately half of all the city residents would need to spend a least one night in the hotel, and that's at one person per room. 5

Additionally, this project proposes to reestablish commercial business within the two vacant anchor tenant spaces which far exceed the 40,000 sq. ft. threshold mentioned. Both these tenant spaces have been vacant for a number of years and their likely traffic volumes would no longer be a part of any documented traffic counts used in the analysis. Any traffic analysis data using from the 30 year old, outdated, EIR for SP-200 will be considered invalid under CEQA. 6 The TIA also fails to include the remaining commercial business in the mall. All of these businesses are within the TIA traffic area configuration for the mall and a traffic analysis for the entirety of the mall needs to be assessed. It is understood that the analysis could discount some traffic due to its current existence but traffic volumes have changes since the mall was first conceptualized and a full study is warranted. 7

- Provide how the city justifies excluding the commercial and hotel.
- Any aspect of this project that brings traffic in and out of the project area must be analyzed to deal with internal traffic congestion and needed mitigation.
- Analyze the hotel as a business available to all unless it can be proven that only locals will be allowed to use it.
- Include the traffic analysis for all the commercial square footage that will become operational with the mall's revitalization. 8
- Recirculate the SDEIR with the TIA revised to include all the missing figures throughout the document.
- Expand the intersection analysis to include those leading from the project site to reach Heacock Avenue and Cactus Avenue and their connections to the freeways for commuting.

The TIA fails to include or assess the transit hub currently on the project sit. With the addition of the residential units, office, and expanded commercial the public transit activity on the project site will no doubt increase. This needs to be addressed along with an analysis of the circulation pattern necessary for operating a transit hub. 9

Provide an analysis of the transit hub in its proposed location and address the increased traffic volumes. Having a transit hub near these intense uses is valuable traffic mitigation on its own and should be well planned to limit unnecessary travel by pedestrians. If the project does not propose a transit hub then the TIA needs to address the traffic impacts and inconveniences this create for the project. 9 cont.

It is hard to believe that with the expansion of uses on the mall that it will not be necessary to make roadway improvements within the project site or off-site. There are no mitigation measures to improve traffic flow. The current traffic congestion at both the Day Street and Fredrick Avenue freeway interchanges are extreme. The same is true at Centerpoint Drive and Fredrick Street. Stating that this congestion can be improved through better signal controlling cannot be considered a fix; otherwise it would be done now to elevate the current congestion. 10

Provide an impact, proportionality and fair share cost analysis for all impacted roadways and intersections identified in the TIA that need upgrades. 11

Although the Green Building Code may not address bicycle parking for apartments there would be a significant need to have bike lockers available when apartment storage space is limited. When bike locker are available there are more opportunities for vehicle trips to be reduced when residents chose to use there bike for a mood of transportation. Mitigate for bike locker installation. 12

Address why more Class II bike lanes are not being proposed or required to make the use of a bike for travel safer. Pedestrian use of the site does not appear to be that significant. There are significant grade differences to be overcome and no apparent direct path of travel from the ring road into the mall This needs to be required or explained away. 13

Land Use and Planning

It appears that project proposal is not in compliance with the land use densities for all its proposed elements thus not in compliance with the general plan land use for this project. There is no mention in the SDEIR of the acreages dedicated to each of uses proposed for verification of compliance with the residential density and the floor-area-rations (FAR) for the commercial, hotel, and office uses. With commercial proposed on the bottom floors of the apartments and the office building it is hard to assess the or separate FARs to look at them cumulatively.

Provide acreage dedicated for, and to support, the following uses and the relevant density calculation for them. 14

Apartments:
Office:
Hotel:
Commercial (40,000 sq. ft.):

Apartments are a more affordable housing option for those with less financial means and Moreno Valley is home to many considered under privileged. Since these are likely to be the future tenants why would the city permit the placement of homes that put environment burdens upon 15 them. Address the poor placement of the 250 apartment units on the northwest corner of the site subjected to the following impacts: 15 cont.

Air quality impacts and cancer risks from vehicle exhaust
Noise impacts from vehicle traffic 24/7
Light intrusion from the pylon message board for the mall.

The SDEIR states that lighting on this site will meet Dark Skies standards yet it say that metal halide lights will be used. This type of lighting is not compatible with the Dark Skies standards. Make sure there are conditions of approval or mitigation measure that limit the type of lights used to limit light scatter and maintain lights at the proper spectrum for night viewing.` 16

Do not discount these concerns by explaining these units will have high quality air filtration systems, dual pane windows and other sound proofing. To keep themselves say resident will have to keep window sealed tight at all times without a safe environment just outside on their balcony. 17

The **Preliminary Drainage Reports** discusses filtration system but no locations for these units are disclosed. Since the mall was first built the water quality regulations have become extremely strict about water being discharged from a project site if it is redeveloped. Runoffs from this site will no long we allowed to directly enter the storm drain system without clarification by one means or another. 18

Provide the full details of the filtration locations or the settling ponds this project will necessitate.

Health Risk Assessment

In the project description of the Health Risk Assessment, no mention is made that the 250 multi-family units in the northwest corner of the project site are located adjacent to SR-60. This location puts the apartment, with sensitive receptors, at greater risk from air pollutants and noise than the other apartment proposed in the southeast corner. 19

Even when the On-Site Resident Exposure index is at 9.36 and below the threshold of 10 why would it not be prudent to avoid placing sensitive receptor is such close proximity to harm. The findings that the cancer risk would be less than significant is only at 0.64 below the finding of significances. Options have been shown with the public that the apartment in the northwest corner of the site can be switch with the office building. Explain why this is not being considered.

After extensive review it appears that this analysis fails to account for projects such as the World Logistics Center and other warehouse development that will generate significant increases in traffic and diesel emission along SR-60 adjacent to the apartment. These additional impacts must be considered and a analyzed for a more accurate evaluation of the cancer risk assessment. 20

Even though the assessment complies with the standards used for the evaluation the project developer should explain why they need to place the apartments in this location. 20 cont.
These apartments are also subject to extensive traffic noise being above the freeway grade and many unit will be subjected to ongoing light intrusion from the pylon message board for the mall. 21

Public Services were listed under element with Element Not Found to be Significant and it does not appear that an evaluation was done to verify that the Fire Department can effectively protect builds of the heights proposed in this project. It is unknown if the department has a ladder truck that can reach to 85 or more feet. Please evaluate and address this issue. 22

Acoustical Assessment

Although CEQA findings for noise do not address off-site noise impacts on a project, the Acoustical Assessment report fails to include the pass-by traffic form SR-60. It is this constant flow of traffic and noise that will be present at the location of the 250 apartment units in the northwest corner of the site. This study needs to be amended to address this impact and verify that noise levels can be reduced to a less than significant level. Since the apartments will extend well above the freeway grade the monitor readings need to be taken at those levels and distances from the traffic. Maybe this should be addressed in the Health Risk Assessment section, but it must be addressed. 23

Air Quality Assessment

The Air Quality Assessment notes that the city has Standard Conditions of Approval one of which require electric vehicle charging opportunities in compliance with California Green Building Standards. However, these standards are silent on parking structures for residential units. As such, mitigation measures should be included that assure that an adequate number of EV Charging Stations are install but also that enough EV ready infrastructure is in place for the multitude of parking space in a concrete structure. Considering the expected life of the parking structure and the State mandate for all electric vehicles in the coming years, this project should be build ready to meet future needs. 24

Need to express concern about protecting those persons that will reside in the 250 apartment in the northwest corner of the site. Since no mitigations can fix the non-attainment for emissions would it not be prudent to relocate these apartments to a location elsewhere on the site with an opportunity for better air quality. 25

I request to be informed of any future meetings, public hearings, or the availability of related material to this project or other considerations for future development on the Moreno Valley Mall site. Feel free to contact me if you have any questions regarding our comments. 26

Sincerely,
Thomas Thornsley
Thomas Thornsley

909-797-1397
e-mail: tomthornsley@hotmail.com 26 cont.

Response to Comment Letter O1 – Residents for a Livable Moreno Valley

O1.1 This comment does not raise any substantive issues regarding the adequacy of the Draft SEIR. Regarding the availability of supplemental documents outside of the Draft SEIR and appendices, according to Section 15087 of the CEQA Guidelines, the Lead Agency made copies of the Draft SEIR available to the public. The Draft SEIR was made available to the public via the City's website, hard copies at the City of Moreno Valley City Hall, and library branches. Supplemental documents were provided upon request by the City in hard copy format at the City Hall, including a draft version of the specific plan amendment. As stated in ***Section 2.7*** of the Draft SEIR, certain documents incorporated in the Draft SEIR by reference were made available to the public at the City's Community Development Office. In addition, the Draft SEIR was made available to the public via the City's website, with hard copies provided at the City of Moreno Valley City Hall, and library branches. As noted above, supplemental documents, including the SP-200 Specific Plan, were available upon request by the City in hard copy format at the City Hall, including a draft version of the specific plan amendment. The Specific Plan Amendment for the Project is also described in the Project Description of the Draft SEIR (see ***Section 3.1*** and ***Section 3.5***) and other sections of the Draft SEIR where applicable (e.g., in ***Section 4.5, Land Use and Planning***, see Subsections 4.5.4, 4.5.5). The Specific Plan Amendment will also be published by the City in advance of the Planning Commission hearings on the Project approvals to be held in accordance with the Moreno Valley Zoning Code.

O1.2 Refer to **Response O1.1.**

O1.3 Refer to ***Section 4.7, Transportation, Page 4.7-1***, of the Draft SEIR, the Draft SEIR relied upon the August 19, 2022, version of the TIA (**Appendix A** of this Final SEIR) for the basis of analysis of Transportation impacts. Specific references to the TIA in the Draft SEIR included references to Figures 3 and 4 of the TIA. These figures were provided in both the April 19, 2022, and August 19, 2022, versions of the TIA and were labeled consistently between versions. Furthermore, there were no revisions to the analysis regarding vehicle miles traveled (VMT) between the August 2022 and April 2022 versions of the TIA. Due to SB 743, level of service (LOS) is no longer a basis for determination of transportation impacts under CEQA, and as such, VMT is used. The August 2022 version of the TIA represented minor changes and expanded upon the operational and LOS impacts of the Project, which again, pursuant to SB 743, is not a basis for determination of significance of transportation impacts under CEQA.

Specific changes between the August 2022 and April 2022 versions of the TIA are provided below:

- Revisions to the Recommended Improvements table (Table 2 of the TIA) pursuant to the expanded analysis and discussion on operational impacts were made, resulting in a higher fair share cost of improvements.
- Revisions to Table 57 of the TIA identifying the proper Project fair share values, generally representing an increase in values from the April 2022 version of the TIA.
- General formatting and grammatical revisions throughout the document.

- Inclusion of figures related to the operational and LOS analysis of the TIA, which under SB 743 is no longer the basis for determination of significance of transportation impacts under CEQA.

The April 19, 2022, TIA version was inadvertently included in the Draft SEIR appendices, rather than the updated August 19, 2022, TIA version. However, as discussed further below, the Draft SEIR Transportation discussion utilized the updated August 19, 2022, TIA, and the changes between the April and August TIA versions did not affect overall CEQA significance determinations. Refer to ***Section 4.7, Transportation, Page 4.7-1*** of the Draft SEIR, which states that the Draft SEIR relied upon the August 19, 2022, version of the TIA (**Appendix A** of this Final SEIR) for the basis of analysis of Transportation impacts. Specific references to the TIA in the Draft SEIR included references to Figures 3 and 4 of the TIA. These figures were provided in both the April 19, 2022, and August 19, 2022 versions of the TIA and were labeled consistently between versions. Furthermore, there were no revisions to the analysis regarding vehicle miles traveled (VMT) between the August 2022 and April 2022 versions of the TIA. In accordance with SB 743, level of service (LOS) is no longer a basis for determination of transportation impacts under CEQA, and as such, only VMT is used to determine whether there are significant impacts. (Operational LOS and other information is included in the August 2022 for informational purposes only.) The August 2022 version of the TIA represented minor changes and expanded upon the operational and LOS impacts of the Project, which again, pursuant to SB 743, is not a basis for determination of significance of transportation impacts under CEQA. It should be noted that the August 2022 version of the TIA has been approved by the City of Moreno Valley.

A summary of changes between the August 2022 and April 2022 versions of the TIA is provided below. The revisions summarized below do not affect the Draft SEIR's CEQA analysis as to VMT but rather are related to the City's operational and LOS guidelines. As noted above, the Draft SEIR text utilized the updated August 2022 traffic study, and the revisions below did not affect any of the Draft SEIR impact conclusions. It should be noted that Table, Figure, and Section numbers correspond to the August 2022 version of the TIA (**Appendix A** to this Final SEIR). It should be noted that these revisions are listed in order as they appear throughout the (additional minor editorial revisions that include general formatting or grammatical revisions are not included in this list below):

- Revision to Table 1 to remove Intersection E as an intersection not meeting operational standards due to the results of the expanded analysis.
- Revisions to Table 2 to remove Intersection E as an intersection identified for recommended operational improvements. Additionally, cost estimates and Project fair share costs were added to Table 2. Additionally, a brief discussion of the information provided in Table 2 is provided below Table 2.
- Inclusion of Figure 2.
- Discussion regarding the Queuing Evaluation Criteria was expanded to provide more context (Page 20 of the August 2022 TIA)

- Inclusion of Figures 5, 6, 7, 8, 11a, 11b, 12a, 12b, 13a, and 13b.
- An expansion of the discussion regarding cumulative projects in the Year 2026 Analysis (Page 54 of the August 2022 TIA).
- Inclusion of Figures 14, 15, 16, 17, 18, 19, 20, 21, 22a, 22b, 23a, 23b, 24a, and 24b.
- Revisions to several tables to represent the expanded analysis and operational conditions for Intersection E (Tables 21, 22, 29, 30, 33, 34, 37, 38). Additionally, the discussion following these tables was revised to match the expanded analysis.
- Inclusion of Figures 25, 26, 27, 28, 29a, 29b, 30a, 30b, 31a, and 31b.
- An overall expansion to the Traffic Signal Warrant Analysis (Pages 116 and 117 of the August 2022 TIA).
- The insertion of Table 35 related to Site Access Locations to provide more context to Section 11: Active Transportation and Public Transit Analysis of the August 2022 TIA.
- Revisions to Section 12: Findings and Recommendations and Table 36 of the TIA, regarding updated operational conditions for Intersection E.
- Generally, in the Findings and Recommendations section of the August 2022 TIA, the analysis was expanded to provide more information and context to the different subject areas, such as in the Intersection Turn Lane Queues discussion and Table 41 that follows. Each of the analyzed intersections is given a brief summary of the information provided in Table 41 and includes various additional tables to highlight specific information. It should be noted that these findings and recommendations related to the operational conditions of the Project. As previously stated, due to SB 743, operational conditions are not significant impacts under CEQA.
- Further, the Project fair share information was updated to provide more clarity for what the Project's fair share is and what the fair share cost of the Project was; refer to Tables 57 and 58 of the August 2022 TIA.
- Two new appendices were included in the August 2022 TIA, Appendix U and Appendix W.

As noted above, due to SB 743, level of service (LOS) is no longer a basis for determination of transportation impacts under CEQA. Rather, VMT is the methodology used under CEQA to determine significance for transportation impacts. The VMT analysis was not revised between the April 2022 and August 2022 versions of the TIA. The revisions to the TIA were primarily with respect to operational analysis and other issues that did not affect the EIR's transportation significance determinations. The Draft SEIR properly relied upon the updated August 2022 version of the TIA. The August 2022 TIA is included as an Appendix to this Responses to Comments document and has been made available for public review. Recirculation of the Draft SEIR is not necessary for reasons noted above.

O1.4 Refer to ***Section 4.7, Transportation*, Page 4.7-11**, of the Draft SEIR, for a discussion regarding the methodology and assumptions made for the determination of significance for transportation impact. Further, refer to **Page 4.7-5**, of the Draft SEIR, for a summary of SB 743, which amended CEQA and removed operational impacts as a basis for determinations of the significant of transportation impacts. Additionally, refer to the August TIA (**Appendix A** of this Final SEIR); the study area of the TIA includes intersections and roadways within the City of Riverside, City of Moreno Valley, and Caltrans facilities. Determination of the study area considers the number of trips generated by the Project, surrounding land uses and travel patterns, and the number of trips to the circulation system that could result in operational deficiencies. The study area was identified through the scoping process with City of Moreno Valley staff and according to requirements in the *City of Moreno Valley Transportation Analysis Guidelines* to evaluate land use and transportation projects. In consultation with City of Moreno Valley staff as detailed in the scoping agreement, a total of 20 intersections, six roadway segments, and four freeway segments were selected.

As previously stated, roadway capacity and LOS analyses are no longer used to determine transportation impacts under CEQA due to SB 743.

O1.5 Refer to **Page 4.7-11** of the Draft SEIR and Page 1 and Page 158 of the August TIA (**Appendix A** of this Final SEIR). A VMT analysis was prepared for the Project based on the metrics, thresholds, and criteria outlined in the City's transportation analysis guidelines to evaluate land use and transportation projects from a VMT standpoint. As part of its VMT guidelines, the City has adopted screening criteria, which can be used to quickly identify when a project or a portion of a mixed-use project should be expected to cause a less-than-significant impact related to VMT and would not require a detailed VMT analysis. Based on a review of the City's VMT screening criteria, this mixed-use project's retail and hotel portions can be screened out of a VMT analysis under the City's project type screening.

The justification is consistent with the City's TIA Guidelines and the California Office of Planning and Research SB 743 Technical Advisory. The Project's retail portion is less than 50,000 square feet and would be located on the first floor of the residential buildings. The number of residential units would support the added retail uses. Therefore, the retail uses would be local serving to support the residential component of this mixed-use project. Therefore, the Project's retail portion can be screened out of a VMT analysis using the project type screening.

The Project's hotel portion is intended to be local serving, as opposed to serving as a destination hotel. While one of the proposed hotels may include space for events, destination hotels are places that attract mostly guests from far away in which the reason to stay is to visit an area because it is special or provides many services or activities. Under the City's TIA Guidelines, the proposed hotels can be categorized as local-serving and therefore, the project's hotel portion can be screened out using the project type screening.

O1.6 Refer to **Page 3-4** of the Draft SEIR, the existing Moreno Valley Mall would be re-modeled with enhanced interiors elements and certain facade improvements, in addition to repurposing the existing Gottschalks anchor as new retail and repurposing the existing Sears anchor for multi-tenant retail and related uses. The existing vacant tenant spaces are part of the Towngate 200 Specific Plan (SP-200) and was approved by the City Council on October 27, 1987, and subsequently amended. Amendment 3, approved in 1991, re-targeted Planning Area 2 of the SP-200 land use to more commercial retail uses. Therefore, re-establishment of these vacant retail uses has been previously approved and are not part of the Project. Additionally, the environmental impact of these retail uses would have been considered as part of the environmental analysis for the SP-200.

O1.7 Refer to **Response O1.6**.

O1.8 Refer to **Responses O1.3** through **O1.6**.

O1.9 Refer to **Page 3-5** of the Draft SEIR a. The Project conceptually proposes the relocation of the existing bus stops to the north side of the property, along Town Circle. Conceptual plans include two bus stops, each serving two buses via the curb lane and a transfer station serving four buses. Final bus stop locations and design would be coordinated with the Riverside Transit Agency. Refer to **Response L2.1**. Additionally, the Project would include a network of sidewalks and pedestrian paths to provide circulation for pedestrians including to/from the relocated bus stops.

Refer to ***Section 4.7, Transportation***, **Page 4.7-5** and **4.7-6** of the Draft SEIR and page 154 of the August TIA (**Appendix A** of this Final SEIR) for information regarding potential impacts to additional transit riders to the transit system and SB 743. According to the OPR, SB 743 *Technical Advisory on Evaluating Transportation Impacts in CEQA*, "when evaluating impacts to multimodal transportation networks, lead agencies generally should not treat the addition of new transit users as an adverse impact. An infill development may add riders to transit systems and the additional boarding and alighting may slow transit vehicles, but it also adds destinations, improving proximity and accessibility. Such development also improves regional vehicle flow by adding less vehicle travel onto the regional network."[8] Therefore, the addition of new transit users should not be considered an adverse impact under CEQA.

O1.10 Refer to ***Section 4.7, Transportation***, **Page 4.7-16**, of the Draft SEIR, and Page 4 of the TIA. It is important to note that roadway capacity and LOS analyses are no longer used to determine transportation impacts under CEQA. The TIA identifies several improvements at intersections and roadway segments and identifies the costs and project fair shares. Section 12 of the TIA summarizes the applicable criteria and improvements needed due to added Project traffic within the study area. Furthermore, Table 2 Recommended Improvements, list potential improvements, by location, for the intersections and roadway segment where the Project meets the City of Riverside or Moreno Valley thresholds for identifying improvements to offset the increase in delay (intersections) or volume-to-capacity ratio (roadways).

[8] California Office of Planning and Research (December 2018). *Technical Advisory on Evaluating Transportation Impacts in* CEQA. Available at https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf. Accessed January 2023.

O1.11 Refer to ***Section 4.7, Transportation*, Page 4.7-12**, of the Draft SEIR, for estimated vehicle trips with Project development. Additionally, refer to the TIA at Page 150 and 151, Table 57: Project Fair Share Calculations. At intersections where an operational deficiency was identified, the TIA identified the number of project trips that would incorporate intersection and ratio of project traffic to the projected traffic increase at that location. Table 57 of the TIA presents a summary of the project fair share percentages for intersections where weekday morning, weekday evening, and/or Saturday midday peak hour operations do not meet target LOS.

O1.12 This comment does not raise any substantive issues regarding the adequacy of the Draft SEIR. Refer to **MM AQ-3** of the Draft SEIR which requires the development of a qualifying Commute Trip Reduction/Transportation Demand Management plan to reduce mobile GHG emissions for all uses. This includes the provision of infrastructure such as bicycle end of trip facilities. Additionally, the SPA provides design guidelines related to the provision of bicycle facilities and infrastructure. The individual developer(s) of Project components will be required to provide bicycle facilities in conformance with the SPA and City of Moreno Valley Code.

O1.13 Refer to **Section 4.7, Transportation, Page 4.7-3**, of the Draft SEIR, and Page 38 of the TIA. There are existing bicycle facilities provided by the City in the vicinity of the Project site. However, there are no designated bicycle routes within the Project site, as designated by the City's General Plan. Nonetheless, the Project would include a network of sidewalks and pedestrian paths within the Project area, encourage pedestrian and bicycle use, and generally discourage automobile use, refer to **MM AQ-3**. Refer to ***Section 4.7, Transportation*, Page 4.7-16**, of the Draft SEIR, the Project would provide a Class III Bicycle Route along Town Circle from Memorial Way to Centerpoint Drive. This would connect the existing Class II Bike Path along Memorial Way to the future Class II Bike Path along Centerpoint Drive that is to be developed by others. The provision of this Class III Bicycle Path is made outside of the General Plan designated bicycle circulation plan and is made to further the Project objectives of providing a mixed-use development that encourages pedestrian and bicycle use.

O1.14 Refer to Draft SEIR ***Section 3.0, Project Description***, **Table 3-1: Land Use and Quantity Summary**, **Page 3-6**, for a summary of the proposed net change in uses for the Project. Additionally, **Table 3-2: Land Use Equivalency Conversion**, **Page 3-6**, of the Draft SEIR, provides conversion factors that will appear in the SPA for allowable land uses envisions on the Project site. These conversions incorporate allowable density into these uses. Furthermore, the Project falls within the allowable maximum permitted floor area ratio (FAR) under existing general plan designations. The Project would have a maximum FAR of 0.90 which is within the maximum FAR allowed under the 2006 GPA and MoVal 2040 General Plan, which is 1.25, refer to ***Section 4.5, Land Use and Planning***, **Table 4.5-2: City of Moreno Valley 2040 General Plan Consistency**, **Page 4.5-11**, of the Draft SEIR. Additional details and information are provided within the Moreno Valley Mall Specific Plan.

O1.15 Refer to **Responses L3.3, L3.4, L3.5**, and **L3.6**. CalGreen Code Section 5.504.5.3 (Filters) requires MERV 13 as the minimum standard.

O1.16 Refer to **Response O4.5** regarding light impacts. Furthermore, the Draft SEIR does not state that the Project would comply with "Dark Skies" standards. The Draft SEIR states that the Project would comply with the City of Moreno Valley Municipal Code §9.16.280 which provides the general requirements and design guidelines for lighting within the City of Moreno Valley, refer to **Page 4.1-13** of the Draft SEIR. The Project would comply with such requirements. Additionally, the Project would comply with City of Moreno Valley Municipal Code §9.08.100 which provides and establishes regulations and standards for outdoor lighting, refer to **Page 4.1-16** of the Draft SEIR.

O1.17 Regarding the impacts to Air Quality, refer to ***Section 4.2, Air Quality*** of the Draft SEIR.

Regarding the impacts to Noise, refer to ***Section 4.6, Noise*** of the Draft SEIR.

Furthermore, refer to **Responses L3.2**, **L3.3**, and **L3.5** regarding air quality.

O1.18 Refer to Appendix 1 of **Appendix L** to the Draft SEIR, Maps and Site Plans of the Preliminary Water Quality Management Plan (PWQMP), for the proposed locations of the filtration systems. Refer to Appendix 6 of **Appendix L** to the Draft SEIR, BMP Design Details of the PWQMP for standard details and other design criteria for the proposed filtration units. The Project proposes the installation of BioClean stormwater biofiltration systems. Additionally, refer to Section 2, Page 2-1, and Section 4, Page 4-1, of the Preliminary Drainage Report (**Appendix M** to the Draft SEIR). The proposed drainage facilities will be designed to adequately convey the 100-year flow rate per the City of Moreno Valley development standards. In its completed condition, in addition to the proposed biofiltration systems, the Project would discharge stormwater at the existing storm water discharge connection point in Memorial Way with a peak flow of 171.31 cubic feet per second (cfs). This would represent a decrease in the peak flow by 13.87 cfs from the existing site conditions (185.18 cfs). Refer to Section 2 of the Preliminary Drainage Report (**Appendix M** of the Draft SEIR) for hydrologic analysis results.

O1.19 Refer to **Responses L3.2, L3.3, L3.4, L3.5**, and **L3.6**. Although not required per CEQA case law, the City included a health risk assessment (HRA) to disclose the potential health risks posed to future residents of the Project being in close proximity to SR-60; see Draft SEIR **Pages 4.2-37** through **4.2-39** and Draft SEIR **Appendix C** (Health Risk Assessment). The HRA evaluated the worst-case scenario that residential units could be located in the northwest corner of the project site (i.e., adjacent to SR-60) and determined that risk levels would not exceed the SCAQMD's 10 in one million threshold. As noted above, residential unit in the northwest corner is a conservative assumption, as the Specific Plan also allows for commercial and office uses at that location.

Regarding relevant CEQA case law, refer to **Response L3.5**.

O1.20 Refer to **Responses L3.2, L3.3, L3.4, L3.5,** and **L3.6**. The Health Risk Assessment prepared for the World Logistics Center EIR evaluated risk levels from vehicles traveling along SR-60, including the freeway segment adjacent to the project site and determined that cancer risk along SR-60 would be less than significant, refer to Page 4.3-69 of the World Logistics Center EIR.[9] Furthermore, as discussed in **Response L3.2**, emissions would improve from implementation of various regulations to further offset potential increases in freeway traffic volumes. Additionally, refer to **Response O1.19**.

O1.21 Refer to **Responses L3.2** and **L3.5.** In *California Building Industry Association v. Bay Area Air Quality Management District,* 62 Cal. 4th 369 [Case No. S 213478]), the California Supreme Court confirmed that CEQA, with several specific exceptions, is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. Therefore, the evaluation of SR-60 traffic noise is not required for the project's CEQA evaluation.

O1.22 The following response addresses the comment's suggestion that the EIR does not include adequate information regarding potential impacts to fire and police services. Information provided below was collected from the City of Moreno Valley's website and from the 2040 MoVal General Plan EIR.

Fire Service

Refer to ***Section 7.10, Public Services***, ***Page 7-18***, of the Draft SEIR. The City of Moreno Valley, through the certification of the MoVal 2040 Final EIR, analyzed the full build out of the City and the capability of the existing fire department to respond to service calls in a timely manner that is acceptable within the existing goals for response times. The MoVal 2040 Final EIR considered the proposed Project in that the MoVall 2040 General Plan contemplated redevelopment of the mall site. The MoVall 20240 Final EIR concluded that build out of the City, including the Project, would require the need for new fire stations or equipment, which would be funded through existing mechanisms for generating revenue for the expansion of these services, including but not limited to, development impact fees, property tax revenue, sales tax revenues, hotel bed tax revenues and other sources of revenue. The Project would ensure continued sales tax revenue from the Moreno Valley Mall and would in fact increase the net revenue to the City through additional sales tax revenue from expanded and modernized retail uses, increased revenue through hotel bed tax, and increased revenue through development impact fees. The direct payment of development impact fees by the Project would be utilized by the City to maintain proper response times and ensure adequate equipment is utilized at the discretion of the City.

Furthermore, the Project would comply with the City of Moreno Valley Municipal Code regarding building and safety requirements. Specifically, the Project would include fire suppression systems, smoke detectors, and fire alarms for residential uses and commercial uses as required by the code. These systems would aid the Fire Department, which maintains ladder truck companies and receives funds from development impact fees and other revenue at the discretion of the City, and maintains the safety of occupants in the event of a structural fire.

Existing fire stations within the City consist of Stations 2, 6, 48, 58, 65, 91, and 99.

9 City of Moreno Valley (December 2019). *Draft Recirculated Revised Sections of the Final Environmental Impact Report; Page 4.3*-69. Available at https://www.moval.org/cdd/pdfs/projects/wlc/2020-Revised/Part2.pdf. Accessed January 2023.

Station 2 is located at 24935 Hemlock Avenue, approximately 3.1 road miles east of the Project site. It is a three-bay facility that can house two engine companies, a truck company, and additional resources as needed. Currently, there is one paramedic engine assigned to this station which services the west side of Moreno Valley, including the Project site.

Station 6 is located at 22250 Eucalyptus Avenue, approximately 0.7 road miles southwest of the Project site. It is a three-bay facility that houses two engine companies, a truck company, and additional resources as needed. Currently, there is one paramedic engine, one aerial ladder truck company, and a Type 2 Urban Search and Rescue Truck and Trailer assigned to this fire station.

Station 48 is located at 10511 Village Road, approximately 3.7 road miles northeast of the Project site. It is a two-bay facility that can house two pieces of fire equipment. Currently, there is one paramedic fire engine assigned to this station with a reserve fire engine stationed inside the apparatus bay. This station primarily services the Sunnymead Ranch area of Moreno Valley.

Station 58 is located at 28040 Eucalyptus Avenue, approximately 7.2 road miles to the east of the Project site. It is a three-bay facility that houses two engine companies, a truck company, and additional resources as needed. This fire station currently houses one paramedic engine company and a type 3 fire engine.

Station 65 is located at 15111 Indiana Avenue, approximately 4.5 road miles to the southeast of the Project site. It is a two-bay facility that has housed both a fire engine company and an aerial ladder truck company. Today, this station houses one paramedic engine company and a reserve fire engine.

Station 91 is located at 16110 Lasselle Street, approximately 8.0 road miles to the southeast of the Project site. It is a three-bay facility that was initially staffed with the City's second aerial ladder truck company and was the first truck company with paramedic staffing. Since its opening, a paramedic engine company has been added to the stations and the staffing on the truck company reverted back to non-paramedic personnel.

Station 99 is located at 13400 Morrison Street, approximately 5.1 road miles to the east of the Project site. It is a two-bay facility that houses one paramedic engine company and is home to the City's two Battalion Chiefs.

The nearest ladder truck company is located at Station 6, approximately 0.7 road miles southwest of the Project site. Additionally, as part of the Project development process, the developer(s) of individual components of the Project would be required to submit design documents to the City for review by the different departments for compliance with the City code. This would include review by the Fire Department and Police Department to ensure that the site can be accessed by the emergency service vehicles that would serve the Project site.

With the construction of the World Logistics Center project, two new fire stations would be constructed, one with 12 total personnel and coverage of the aerial truck and one with 9 total personnel and additional fire apparatus. These are planned on the eastern portion of the City, providing additional fire service response within the City.

As noted above, the MoVall 2040 General Plan Final EIR evaluated fire service needs of the City and concluded that additional fire stations would be needed as part of City buildout. These fire stations would be funded by the development impact fees and general fund revenue that would be collected by projects within the City, to which this Project would contribute. The proximity to Fire Station 6, which includes an aerial truck company, would further ensure that adequate fire protection services would be available to the Project site. New construction at the Project site will comply with applicable City development codes regarding fire safety including adequate access, building construction materials, signage, and building safety design measures. As part of the Project's design review process with the City, City fire personnel reviewed Project design plans, provided comments which were incorporated into Project design, and at this time have not indicated any further concerns regarding the City's ability to provide adequate fire service. In addition, the Project is consistent with the General Plan policies and Municipal Code requirements relative to fire protection services. Therefore, the Draft SEIR appropriately concluded that the Project would not have any significant impact regarding fire service.

Police Service

Existing police services within the City are provided by the Moreno Valley Police Department (MVPD). The City also contracts with the County of Riverside for police protection services. Since the incorporation of the City of Moreno Valley, the City has maintained an annual contract with the Riverside County Sheriff's Department for police protection and crime prevention services. Services provided by the Moreno Valley Police Department include general law enforcement, traffic enforcement investigations, and routine support services such as communications, evidence collection, analysis and preservation, training, administration, and records keeping. The 2006 General Plan established a police staffing standard of at least 1 officer per 1,000 residents, as feasible given budget constraints.

MVPD receives approximately 400 to 450 calls per day. Calls to the MVPD are prioritized and assigned by urgency, from greatest urgency (Priority 1) through non-emergency calls. Priority 1 calls include emergency calls which require immediate response, when vehicular pursuit is in process, or when there is reason to believe that an immediate threat to life exists. Priority 2 calls include injured persons, robberies in progress, bomb threats, carjackings, rape, and stolen vehicles. Priority 3 calls include assault, prowlers, disturbances, tampering with vehicles, and burglary alarms. The MVPD has a response target of six minutes or less for Priority 1 calls, 15 minutes or less for Priority 2 calls, and 35 minutes or less for Priority 3 calls. The average response times in 2019 for; priority 1 calls: 6 minutes 37 seconds; priority 2 calls: 22 minutes 1 second; and priority 3 calls: 42 minutes and 46 seconds.

The Moreno Valley Police Department operates out of the Moreno Valley Station, located in the Civic Center Complex at Alessandro and Frederick, with satellite substations in several other locations throughout the City, including a substation located at the Project site, the Moreno Valley Mall. Additionally, MVPD is increasingly making use of technology to fight crime and improve public safety. MVPD employs a citywide camera surveillance system, one of the most advanced in the region, to remotely monitor parks and other key locations, permitting MVPD to enhance public safety without adding police officers. MVPD also makes use of a computer aided dispatch and records management system that allows rapid access to crime data, as well as digital cameras and automated license plate readers in patrol cars.

The City is planning an expansion of the Civic Center complex that would include a remodeled Public Safety Building capable of accommodating roughly 600 total personnel, as well as a satellite police substation in the southeastern part of the city to service anticipated demand from new developments through the City. The funding for these new facilities, and the personnel to staff them, would be acquired via the payment of development impact fees and general fund revenues, which the Project would contribute to. While the Project may increase demand for police services (due to additional retail, hotel and residential uses), the need for increased police services has been anticipated as part of the City's General Plan. The Project will offset its increased police service demand through payment of development impact fees and increased sales tax revenue, property tax revenue, and hotel bed taxes. Furthermore, the Project minimizes police service demand through having an onsite police substation. In addition, the modernized Moreno Valley Mall will comply with all applicable City development codes related to police safety, including adequate lighting, security systems and signage. Certain uses at the Project site are likely to include private security, such as the hotel, the overall Mall retail area, and residential buildings. Similar to fire service, the Project's design review process included input from City police personnel, and at this time City police personnel have not indicated any concerns with the ability to provide adequate police service for the Project. The Project is consistent with the General Plan policies and Municipal Code requirements relative to police services. Therefore, the Draft SEIR appropriately concluded that the Project would not have any significant impact regarding police service.

O1.23 Refer to **Response O1.21**.

O1.24 Refer to **Response O4.9**.

O1.25 Refer to **Response L3.6**. CalGreen Code Section 5.504.5.3 (Filters), which requires MERV 13 as the minimum standard.

O1.26 The commenter has been added to the mailing and distribution list. This comment does not address the adequacy of the environmental analysis and/or document. This comment is noted for the record and no further response is needed.

Comment Letter O2 – Supporters Alliance for Environmental Responsibility

Comment Letter O2

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Via Email

January 9, 2023

Julia Descoteaux, Senior Planner
Community Development Department
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14177 Frederick Street
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juliad@moval.org

Re: Comment on Draft Subsequent Environmental Impact Report, Moreno Valley Mall Redevelopment Project (PEN21-0168, PEN22-0061, PEN22-0075; SCH 2022040136)

Dear Ms. Descoteaux:

I am writing on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the Draft Subsequent Environmental Impact Report ("DSEIR") prepared for the Moreno Valley Mall Redevelopment Project (PEN21-0168, PEN22-0061, PEN22-0075; SCH 2022040136), including all actions related or referring to the proposed redevelopment of a portion of the existing Moreno Valley Mall site with four multi-family residential communities totaling 1,627 dwelling units, two hotels totaling approximately 270 keys, a three-story office building, parking structures, and other commercial and transit uses, located on a project site bounded by Town Circle on all sides, south of State Route 60, and east of Interstate 215 in the City of Moreno Valley ("Project"). 1

After reviewing the DSEIR, we conclude that the DSEIR fails as an informational document and fails to impose all feasible mitigation measures to reduce the Project's significant air quality, greenhouse gas, and energy impacts. SAFER requests that the Community Development Department address these shortcomings in a revised draft environmental impact report ("RDEIR") and recirculate the RDEIR prior to considering approvals for the Project. 2

We reserve the right to supplement these comments during review of the Final EIR for the Project and at public hearings concerning the Project. *Galante Vineyards v. Monterey Peninsula Water Management Dist.*, 60 Cal. App. 4th 1109, 1121 (1997). 3

Sincerely,

Adam Frankel
Lozeau Drury LLP

3 cont.

Response to Comment Letter O2 – Supporters Alliance for Environmental Responsibility

O2.1 This comment does not raise any substantive issues regarding the adequacy of the Draft SEIR. This comment is noted for the record and no further response is needed.

O2.2 The commenter concludes that the Draft SEIR fails to impose all feasible mitigation measures to reduce the Project's air quality, greenhouse gas and energy impacts. The Draft SEIR identifies numerous air quality and greenhouse gas mitigation measures to minimize emissions to the extent feasible. Furthermore, Draft SEIR ***Sections 4.2, Air Quality*** and ***4.4, Greenhouse Gas Emissions*** provide an analysis for the potential short-term and long-term emissions related to criteria air pollutants and greenhouse gases and proposes feasible mitigation measures that would substantially lessen impacts.

CEQA does not require adoption of every imaginable feasible mitigation measure. CEQA's requirement applies only to feasible mitigation that will "substantially lessen" a project's significant effects. (Public Resources Code, Sections 21002 and 21002.1(b).) As explained by one court: A lead agency's "duty to condition project approval on incorporation of feasible mitigation measures only exists when such measures would [avoid or] 'substantially lessen' a significant environmental effect. . . . Thus, the agency need not, under CEQA, adopt every nickel and dime mitigation scheme brought to its attention or proposed in the project EIR." (*San Franciscans for Reasonable Growth v. City and County of San Francisco (1989) 209 Cal.App.3d 1502, 1519*.) Rather, an EIR should focus on mitigation measures that are feasible, practical, and effective. (*Napa Citizens for Honest Government v. Napa County Board of Supervisors (2001) 91 Cal.App.4th 342, 365*.).

O2.3 This comment does not raise any substantive issues regarding the adequacy of the Draft SEIR. This comment is noted for the record and no further response is needed.

Comment Letter O3 – Sierra Club 1

Comment Letter O3

From: George Hague
To: Julia Descoteaux
Cc: Sean P. Kelleher; City Clerk
Subject: Comments on Moreno Valley Mall Redevelopment DSEIR & Safety agency considers ban on gas stoves amid health fears
Date: Tuesday, January 10, 2023 9:00:23 AM

Warning: External Email – Watch for Email Red Flags!

https://www.pressenterprise.com/2023/01/09/us-safety-agency-to-consider-ban-on-gas-stoves-amid-health-fears/?utm_email=842794D234C844D1A47745F574&g2i_eui=hUgkV%2bdKirSCBUX%2bu83RlC3bbZ3qu5iE&g2i_source=newsletter&lctg=842794D234C844D1A47745F574&active=yesD&utm_source=listrak&utm_medium=email&utm_term=Story+Button&utm_campaign=scng-pe-breakingnews&utm_content=alert

Good morning Ms Descoteaux,
January 10, 2023

Re: Moreno Valley Mall Redevelopment Draft Subsequent Environmental Impact Report DSEIR.

1

The DSEIR fails to analyze the impacts to people and the environment from all the gas appliances proposed in the Mall's redevelopment as mentioned in the article found below as well as the links within it. While there is a commitment to use Energy Star appliances, there is not a commitment for only electric in all the multifamily units. There needs to be only electric stoves/ovens, water heaters and HVAC systems at the very minimum. The same must be true in all hotel rooms, throughout the office building and all the businesses in the Mall. Making statements like "no additional mitigation measures are available that can reduce impacts to less than significant" for areas like air quality and greenhouse gas doesn't mean that there are not feasible mitigation measures that can reduce these negative impacts on the environment and people—especially children.

The Health Risk Assessment (HRA) doesn't consider the impacts of all these gas appliances in the inclosed apartments without much outside ventilation and therefore is inadequate. All of the multifamily units, but especially the hundreds of multifamily units in the NW section (some documents refer to them as areas 2 and 3) of the project are so very close to our already clogged SR-60 with much of the traffic being diesel big rigs. The 40 million sq ft World Logistic Center (WLC) will begin breaking ground this year and will add about 13,000 Daily Diesel truck trips to SR-60 and local streets. These daily trips will add significant pollution to the Mall site and especially to those trying to live there. The section of SR-60 near the mall is where its east bound lanes transitions from five lanes to three causing significant slow downs and congestion adding to the pollution generated near the multifamily units. The DSEIR reads that many of these units will have openings and also balconies which will bring even more pollution into the living areas. This is true even if these openings are looking over the interior courts. 2

The proposed MERV 13 filtration system is inadequate and must be upgraded to a MERV 16 3 filtration system to capture auto fumes and carbon dust as well as the hope of including odors. There must be a system to replace these MERV 16 filters as needed to have them working as they should to protect the health of the families. You cannot expect those who live in these multi-family units to be able to afford them and replace them when needed. Therefore the DSEIR must explains the system to replace the MERV 16 filters as needed at little or no cost to the residents. Failing to do this puts all of the families in the more than 1,600 units at significant health risk. 3 cont.

Failing to analyze and mitigate all of the above in the DSEIR as well as the appropriate appendices will make them inadequate. The DSEIR must prove the project is doing everything possible to reduce impacts on people's health — especially children and the elderly. 4

Not providing the public and agencies with online versions of the mall's old and new Specific Plans that are referred to throughout the DSEIR makes producing comments more difficult as well as causing certain important inadequate areas to be missed. Please keep me informed of all future meetings and documents.

5

Sincerely,

George Hague
Sierra Club
Moreno Valley Group
Conservation Chair

Safety agency considers ban on gas stoves amid health fears

Natural gas stoves, which are used in about 40% of US homes, emit pollutants such as nitrogen dioxide, carbon monoxide and fine particulate matter.

Bloomberg January 9, 2023 at 11:06 a.m.

The US Consumer Product Safety Commission says a ban on gas stoves is on the table amid rising concern about harmful indoor air pollutants emitted by the appliances. (iStockphoto)

By Ari Natter

A federal agency says a ban on gas stoves is on the table amid rising concern about harmful indoor air pollutants emitted by the appliances.

The US Consumer Product Safety Commission plans to take action to address the pollution, which can cause health and respiratory problems.

"This is a hidden hazard," Richard Trumka Jr., an agency commissioner, said in an interview. "Any option is on the table. Products that can't be made safe can be banned."

RELATED: California moves to become first in nation to ban natural gas furnaces and heaters by 2030

Natural gas stoves, which are used in about 40% of homes in the US, emit air pollutants such as nitrogen dioxide, carbon monoxide and fine particulate matter at levels the EPA and World Health Organization have said are unsafe and linked to respiratory illness, cardiovascular problems, cancer, and other health conditions, according to reports by groups such as the Institute for Policy Integrity and the American Chemical Society.

RELATED: Your natural gas bills to jump 'shockingly high' across region, SoCalGas warns

Consumer Reports, in October, urged consumers planning to buy a new range to consider going electric after tests conducted by the group found high levels of nitrogen oxide gases from gas stoves.

RELATED: Hundreds of deserted oil and gas wells in Southern California could soon get plugged

New peer-reviewed research published last month in the International Journal of Environmental Research and Public Health found that more than 12% of current childhood asthma cases in the US can be attributed to gas stove use.

"There is about 50 years of health studies showing that gas stoves are bad for our health, and the strongest evidence is on children and children's asthma," said Brady Seals, a manager in the carbon-free buildings program at the nonprofit clean energy group RMI and a co-author of the study. "By having a gas connection, we are polluting the insides of our homes."

The Bethesda, Maryland-based Consumer Product Safety Commission, which has a staff of roughly 500, plans to open public comment on hazards posed by gas stoves later this winter. Besides barring the manufacture or import of gas stoves, options include setting standards on emissions from the appliances, Trumka said.

RELATED: Study: Cancer-causing gas leaking from California stoves, pipes

Lawmakers have weighed in, asking the commission to consider requiring warning labels, range hoods and performance standards. In a letter to the agency in December, lawmakers including Senator Cory Booker of New Jersey and Representative Don Beyer of Virginia, both Democrats, urged action and called gas-stove emissions a "cumulative burden" on Black, Latino and low-income households that disproportionately experience air pollution.

Parallel efforts by state and local policymakers are targeting the use of natural gas in buildings more broadly, in a push to reduce climate-warming emissions (such as from methane) that exacerbate climate change. Nearly 100 cities and counties have adopted policies that require or encourage a move away from fossil fuel powered buildings. The New York City Council voted in 2021 to ban natural gas hookups in new buildings smaller than seven stories by the end of this year. The California Air Resources Board unanimously voted in September to ban the sale of natural gas-fired furnaces and water heaters by 2030.

RELATED: California cows are leaving the state and that won't help global warming

Consumers who want to switch from gas to electric ranges could get some help from the massive climate spending bill signed into law in August. The Inflation Reduction Act includes rebates of up to $840 for the purchase of new electric ranges as part of some $4.5 billion in funding to help low- and moderate-income households electrify their homes.

The Association of Home Appliance Manufacturers, which represents gas range manufacturers such as Whirlpool Corp., says that cooking produces emissions and harmful byproducts no matter what kind of stove is used.

"Ventilation is really where this discussion should be, rather than banning one particular type of technology," said Jill Notini, a vice president with the Washington-based trade group. "Banning one type of a cooking appliance is not going to address the concerns about overall indoor air quality. We may need some behavior change, we may need [people] to turn on their hoods when cooking."

RELATED: Natural gas soars 700%, becoming driving force in the new cold war

Natural gas distributors, whose business is threatened by the growing push to electrify homes, argue that a ban on natural gas stoves would drive up costs for homeowners and restaurants with little environmental gain. The American Gas Association, which represents utilities such as Dominion Energy Inc. and DTE Energy Co., said in a statement that regulatory and advisory agencies responsible for protecting residential consumer health and safety have presented no documented risks from gas stoves.

"The U.S. Consumer Product Safety Commission and EPA do not present gas ranges as a significant contributor to adverse air quality or health hazard in their technical or public information literature, guidance, or requirements," said Karen Harbert, the group's president. "The most practical, realistic way to achieve a sustainable future where energy is clean, as well as safe, reliable and affordable, is to ensure it includes natural gas and the infrastructure that transports it."

RELATED: Earth's ozone layer recovering as damaging chemicals phase out

Republicans, meanwhile, criticized the potential move as government overreach.

"If the CPSC really wanted to do something about public health, it would ban cigarettes, or automobiles, long before it moved on to address stoves," said Mike McKenna, a GOP energy lobbyist. "It's transparently political."

Trumka, who before joining the commission worked for a House committee in a role that included work on toxic heavy metals in baby food and the health hazards of e-cigarettes, said the commission could issue its proposal as soon as this year, though he conceded that would be "on the quick side."

"There is this misconception that if you want to do fine-dining kind of cooking it has to be done on gas," Trumka said. "It's a carefully manicured myth."

Response to Comment Letter O3 – Sierra Club

O3.1 Refer to ***Section 4.4, Greenhouse Gas Emissions*** of the Draft SEIR. The Project would be designed in accordance with the applicable Title 24 Energy Efficiency Standards for Residential and Nonresidential Building (California Code of Regulations [CCR], Title 24, Part 6) as well as the California Green Building Standards (CALGreen) Code (24 CCR, Part 11). Additionally, South Coast Air Quality Management District's Standard Conditions (SC) GHG-1 through SC GHG-4 would be followed as part of the Project. These standard conditions are applied to all project's located within the South Coast Air Basin. **MM GHG-1** requires the Project to meet or exceed 2019 CALGreen Tier 2 standards in order to exceed 2019 Title 24 energy efficiency standards by a minimum of 20 percent in order to further improve energy efficiency. **MM GHG-2** requires the residential projects to have energy efficient appliances.

Additionally, **MM AQ-3** through **MM AQ-5** have been identified in the Project's Air Quality Assessment to reduce operational emissions. **MM AQ-3** requires the implementation of a Transportation Demand Management (TDM) program to reduce single occupant vehicle trips and encourage transit. **MM AQ-4** prohibits the use of any kind of fireplaces, and **MM AQ-5** requires all landscaping equipment used on-site shall be 100 percent electrically powered.

Natural gas appliances are being phased out pursuant to the California Building Code and the latest CARB Scoping Plan and supported by the California Energy Commission's Building Decarbonization Assessment. The latest version of the California Building Code requires circuitry to support all-electric appliance and heating and also sets stronger ventilation standards for gas stoves. The California Air Resources Board has issued Resolution 20-32, targeting updates to the California Indoor Air Quality Program, which included their support for a gas appliance ban.[10] Experts estimate that the requirements for electric appliances in the code will prompt a substantial number of builders to forgo gas in new construction altogether, which could result in most homes built after January 1, 2023, being gas-free.[11] It is noted that the project is being built out over a several years and future phases would be subject to future building code improvements.

Furthermore, the Applicant for the Project has committed to providing electric appliances for residential units (to include ranges, stoves, ovens, laundry, and heating/cooling). As such, the EIR is hereby revised to update the Project Design Features in applicable environmental resource area impact analysis sections as noted in this response. Refer to ***Section 3.0, Errata to the Draft SEIR*** for more detailed information:

> In addition to applying existing standard conditions and regulatory requirements, the Project has incorporated the following Project Design Features into the SPA and TPM:

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[10] California Air Resources Board (November 2020). *California Indoor Air Quality Program Update: Resolution 20*-32. Available at https://ww2.arb.ca.gov/sites/default/files/barcu/board/res/2020/res20-32.pdf. Accessed January 2023.

[11] Natural Resources Defense Council (August 2021). *California Passes Nation's First building code that Establishes Pollution-free Electric Heat Pumps as Baseline Technology; Leads Transition Off of Fossil Fuels in New* Homes. Available at https://www.nrdc.org/media/2021/210811-0. Accessed January 2023.

- The Project consists of redeveloping an existing developed regional mall site, which will reduce grading and construction-related emissions that would otherwise be associated with developing new regional commercial uses at an alternate site;
- The concept grading plan proposes relatively minor offsite soil import/export (less than 5,000 cubic yards) and use of an on-site borrow pit, which minimizes air emissions associated with offsite truck traffic during construction; and
- The Project incorporates enhancements to the existing transit stop, which will increase transit opportunities to and from the mall, reducing traffic, air quality, GHG and noise impacts.
- The Project shall commit to the use of electrical indoor appliances for all residential uses which would reduce the indoor air quality impacts for residential units.

Regarding the feasibility of mitigation measures, refer to **Response O2.2**.

Regarding the potential impacts of mobile source emissions from the SR-60 freeway on residents of the Project, refer to **Responses L3.2**, **L3.3**, and **L3.5**.

O3.2 Refer to **Response O3.1** regarding natural gas appliances. Refer to **Responses L3.2**, **L3.3**, and **L3.5** regarding health risk from SR-60 and World Logistics Center trucks.

O3.3 Refer to **Response L3.6**.

O3.4 Refer to **Responses O3.1**, **O3.2**, and **O3.3**.

O3.5 Refer to **Response O1.1**. The Commenter has been added to the Project's mailing and distribution list for noticing for all future meetings, hearings, and availability of documents.

Comment Letter O4 – Sierra Club 2

Comment Letter O4

SIERRA CLUB

SAN GORGONIO CHAPTER

Moreno Valley Group

Good afternoon Ms Julia Descoteaux, January 11, 2023

Re: Additional comments on the Moreno Valley Mall Redevelopment Draft Subsequent Environmental Impact Report (DSEIR)

This project appears to rely on the Climate Action Plan (CAP) approved by the city in 2021as seen in 3.4 where it mentions the project "carries out the intent of the Climate Action Plan" without any proof that they will significantly capture internal trips and therefor reduce vehicle miles traveled (VMT). There are other places where the City's CAP in used and it is well known the document is inadequate in which to tier off. All places this is done in the DSEIR must be changed with the realization that the CAP cannot be used for tiering without making these documents totally inadequate. 1

Throughout the DSEIR the following is written: "no additional mitigation measures are available that can reduce impacts to less than significant". This doesn't mean that there are not feasible mitigation measures that can reduce these negative impacts on the environment and people—especially children —, but it tries to covey such misleading information. The Final SEIR (FSEIR) must stop using that which is in the quote marks found above or any similar phasing to make it appear nothing more can be done to reduce impacts and instead require all additional mitigations for all areas that cause negative impacts to people and/or the environment. 2

In the existing mall parking lots there are a few trees and you will see that the parking spaces below their shade are usually the first to be used — even if it requires more walking. All parking spaces throughout the mall, apartments, hotels and office building need to provide trees which provide shade year around. The redeveloped area must not repeat what is in the Macy's/J C Penny's parking lot with only a few severely pruned trees for many parking spaces. There needs to be shade provided by a variety of large trees that are allowed to grow to their full width and height without pruning to limit such growth. Trimming such trees to allow for more visibility limits their use as mitigation for the heat island effect.

The mall redevelopment must develop green and sustainable parking lots as describe in the following link: 3
https://www.montcopa.org/DocumentCenter/View/9735/Green-Sustainable-Parking-Guide-2_10_2016-Web?bidId=.

"Creating green and sustainable parking lots involves several design elements. These elements include maximizing shading and greening, incorporating naturalized drainage, utilizing paving that infiltrates, using energy- efficient lighting and renewable energy generation, adding safe pedestrian circulation, and

1

successfully integrating and connecting parking in the community. Any combination of these elements can be used in new parking lots or the redevelopment of existing lots." (page 13 from the above link)

When planting trees, it is essential to provide what a tree needs to grow—adequate space, soil, and water. The landscaping choices made in a parking lot must meet several objectives. Every plant chosen should be appropriate for the particularly harsh conditions found in most lots. Landscape diversity throughout the parking lot is important to enhance habitat and provide visual interest and color.

To provide sufficient shade, larger shade trees must be strategically spaced throughout the parking lot since they can provide two to six times more shade than small trees. Large canopy trees require equally large areas for their roots which generally extend the width of the spread of their branches. Unfortunately, in many instances, large trees planted in parking lots never achieve their full size and width of canopy due to the lack of sufficient soil volume provided. Several nationally recognized arborists have studied the minimum soil volume needed to support shade trees in confined situations, and they have concluded that 1,000 - 1,200 cubic feet or more of soil volume is needed for a large shade tree to grow in confined rooting environments such as parking lot islands. (page 17 from the above link)

There is information in the link found above for safe pedestrian circulation in parking lots which must become a feature throughout all areas of the redeveloped mall so we are not always walking in the same unsafe path as the cars must use. Use pavements that allow infiltration near where there are trees and other vegetation which should be native as well as drought tolerant. The article in the link found above while is not written for Moreno Valley Climate its information is very pertinent for this project.

The following link does provide information about trees in our area and even mentions Riverside as well as UCR:
https://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=30611. It also mentions the urban heat island (UHI) and how important it is to have the right trees for the future climate which UCR has been testing. 3 cont.

The Environmental Protect Agency (EPA) provided the following information:
https://www.epa.gov/heatislands/using-trees-and-vegetation-reduce-heat-islands. "The use of trees and vegetation in the urban environment brings benefits beyond mitigating urban heat islands including:

- *Reduced energy use:* Trees and vegetation that directly shade buildings decrease demand for air conditioning.
- *Improved air quality and lower greenhouse gas emissions:* By reducing energy demand, trees and vegetation decrease the production of associated air pollution and greenhouse gas emissions. They also remove air pollutants and store and sequester carbon dioxide.
- *Enhanced stormwater management and water quality:* Vegetation reduces runoff and improves water quality by absorbing and filtering rainwater.
- *Reduced pavement maintenance:* Tree shade can slow deterioration of street pavement, decreasing the amount of maintenance needed.

2

- *Improved quality of life:* Trees and vegetation provide aesthetic value, habitat for many species, and can reduce noise." (EPA article in the link found above)

The EPA article explains the cost of trees and their maintenance is far surpassed on a per-tree basis by their accrued benefits. The FSEIR needs to show that many of the parking lot sustainability and green measures shared above/below will be required to benefit the environment and people or it will not be doing everything possible to reduce impacts on climate change/climate disruption.

DSEIR's page 4.4-13 — 4.4-14 has the following from Moreno Valley's General Plan policies which must be implemented in a way guided by information found above or you are not doing everything possible to reduce impacts on climate change/climate disruption:

"City of Moreno Valley General Plan

The City of Moreno Valley's General Plan outlines the concerns of the community and the means of addressing those concerns. Chapter 6, Safety focuses on potential for natural hazards that pose risk to human health and property, including earthquakes, landslides, flooding, wildfire, and wind-related hazards. These risks are compounded by the warming of the climate, which is projected to bring hotter average daily temperatures, increased rainfall intensity, and more extreme weather events. General Plan policies that relate to greenhouse gas impacts include the following: 3 cont.

Policy 2.10.13: Provide landscaping in automobile

parking areas to reduce solar heat and glare.

Goal S-3:

Policy S.3-1: Policy S.3-6:

Policy S.3-7:

Build community resilience to climate change.

Continue to collaborate in regional climate action planning initiatives.

Encourage the use of landscaping, building materials, and site design techniques that provide passive cooling and reduce energy demand. In particular, promote the use of voluntary measures identified in the California Green Building Code (Title 24, Part 11 of the California Code of Regulations) to minimize heat island effects, including hardscape and roof materials with beneficial solar reflectance and thermal emittance values and measures for exterior wall shading.

3

Require new development to provide and maintain shade trees suitable to local climatic conditions. A climate-appropriate strategy may involve planting mostly drought-tolerant

[5] SCAQMD, "Staff Report: Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans," December 5, 2008, Attachment E: "Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold," October 2008, p. 3-2.

November 2022 4.4-13 4.4 | Greenhouse Gas

3 cont.

City of Moreno Valley
Moreno Valley Mall Redevelopment Project Draft Subsequent Environmental Impact Report

Policy S.3-8:

native trees that may have less foliage, interspersed with leafier trees at points where people gather.

Assess the feasibility of implementing urban heat island mitigation technologies in public gathering places, including UV-reflective materials and coatings, porous pavement, evaporative cooling towers, or other technologies that can reduce surface and air temperature and mitigate for the effects of extreme heat."

Even in the following "Policy 2.10.13: Provide landscaping in automobile parking areas to reduce solar heat and glare" you have direction to not replicate what now exists and provide sustainable and green parking areas throughout the mall redevelopment area. The area between SR-60 and any hardscape needs to have many tall mature trees that can grow at least 60 feet tall and 30 feet wide. This project doesn't need visibility, but it needs evergreen trees that do not loose their foliage in order to filter the significant pollution from nearby SR-60 and its ever increasing diesel truck traffic. Moreno Valley's 40.6 million sq ft World Logistic Center (WLC) will break ground this year and will add 13,000 Daily Diesel truck trips with significant harmful pollution to our already impacted SR-60 and local streets. The cumulative impacts of the WLC needs to be included into this project's analysis. The trees at maturity must not be stand in isolation, but closely overlap in several rows to provide the most effective filtration possible to protect those in the multi-family units, hotels, office and other people using the mall. Trees improve our air quality by filtering harmful dust and pollutants such as ozone, carbon monoxide, and sulfur dioxide from the air we breathe. The use of these large evergreen trees will also eat greenhouse gases that cause climate change. DSEIR's suggested use of much smaller ornamental trees provides little benefit to those at the mall and also little benefit to the environment by combating climate change/climate disruption while providing oxygen we need to breath as mentioned in the following link https://www.treepeople.org/22-benefits-of-trees/ from the TreePeople. Their use and also that of palm trees need to be significantly discouraged and ideally eliminated in order to provide shade as well as much needed filtration of SR-60 generated pollutions. Trees must be on their own irrigation system to allow irrigating other plants to be turned off during serious drought without harming trees while saving water. The City of Moreno Valley use to make this a requirement for the long term survival of trees. 4

4

When too much lighting is used by a project it emits glare which in turn makes it difficult to identify object and people. That is why this project must adhere to the International Dark Sky Standards to produce a safer project for the people who live, work and use the mall. The FSEIR must show that this will be done and also the amount of greenhouse gas (GHG) reductions that will also be realized by adhering to this accepted standards. There needs to be a plan in place to dim lights in the late night/early morning hours. This again reduces uses on our energy grid and our impacts on climate change/climate disruption. It will also help with Palomar Observatory light pollution — even if the mall is outside the restricted area. 5

The need in Moreno Valley for a transit hub/facility for the Riverside Transit Agency (RTA) is very evident because our people and our environment needs it. This is an ideal location with all of the existing nearby multifamily units and low paying job opportunities. With the addition of more than 1,600 more multifamily units and redevelopment of the mall this is the ideal location in our city for a transit hub in addition to multiple bus stops. There is no justification for not providing space for such a needed facility. The existing traffic in the area demands we have more bus transit and with this large expansion we need the transit hub even more. More is needed in the way of curb cuts for busses to pull out of the way of the flow of traffic and this needs to be done on all of Day Street in addition to the mall area. The bus stops must provide cover from rain and the sun which I am sure the RTA can provide you with designs. 6

Page 4.2-19 of the DSEIR shows the project will generate more than 11,000 daily trips. We can assume the major improvements to the mall is to also attract additional people. The traffic analysis needs to show what the current daily trips of the mall is during several different months of the year. and then also the increase after at least two years of operation of the Redeveloped Mall site. This analysis needs to be included in the Final SEIR. 7 Day Street is already a nightmare where many times you cannot make a left from the east bound off ramp onto the street because of the cars already backed up at signals — so you just sit on the offramp not moving. Changing signal timing will do little to address this and other traffic problems which must be addressed in the Final document. Just paying ones fair share doesn't mean all needed changes will be in place when the project is complete. The Final SEIR (FSEIR) must explain what needed traffic/road improvements will not be in place when the project is complete and how that will impact traffic movement over each of the first five years of operation. There is not a complete explanation of how the ownership/control of the west side of Day Street and connecting streets by the City of Riverside is impacting much needed improvements to that street and all streets that feed into it within a mile of the project site. The Sierra Club looks forward to reading how the FSEIR deals with/explains this important issues. 8

Electric Vehicle (EV) chargers are needed and must not be limited to what is required, but must be placed throughout the project and not just in a few places. With California restricting the sale of gas powered cars by 2035 which is less than ten years after the project is proposed to be complete means you need these EV chargers not only in the multifamily units, but also in the hotel, office and all mall parking lots. At least half of the EV chargers need to be Level 2. The FSEIR must explain how many Level 1 and Level 2 chargers will be placed in the mall redevelopment and where they will be located or it will be inadequate in its effort to reduce the project's impact on Climate Change/Climate Disruption as well as our non-attainment air quality. You also need not only special lockers for electric bike which are expensive, but also places for them to recharge. Again these need to be throughout the redevelopment site and their numbers/locations shown in the FSEIR. Such EV parking places must have signs indicating towing at owners expense if they are not using the EV charger. 9

Page 4.4-21 of the DSEIR reads "the City of Moreno Valley has no regulatory control over emissions control technology and therefore limited ability to control or mitigate emissions associated with mobile source emissions associated with this Project." In fact you can control construction equipment used on site and the city can also place EV chargers near entrances to make having such a vehicle much more desirable. The FSEIR must show this is being done. 10

TIER IV construction equipment must be required and a minimum of at least 90% of all construction equipment must be TIER IV of higher to reduce impacts on people and the environment with no diesel generators allowed at any time. Without such requirements they could have only one TIER IV piece of equipment to meet most requirements. 11

Pages 4.4-14 of the DSEIR shows completely why the City's 2021 Climate Action Plan (CAP) is totally ineffective in reducing greenhouse gas (GHG) emissions. The flowing words which require nothing is on Transportation Measures: "encouraging ride sharing…", "consider requiring", Require programs to "incentivize", and "Implement programs to incentivize". None of these really require anything to reduce GHG emissions which is a major problem throughout the City's CAP as well as this DSEIR. In other parts of the DEIR words like "encourage" and "promote" are used that again require nothing. Strong wording that really requires that which can be analyzed, measured, evaluated and even improved over time must be in all parts of the FSEIR or it will be woefully inadequate. 12

The DSEIR reads as follows:

Unavoidable Significant Impacts

There are unavoidable significant impacts associated with air quality and greenhouse gas emissions, as summarized below:

- "Air Quality
  - ▪ · The Project would conflict or obstruct implementation of an applicable air quality plan.
  - ▪ · The Project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. 13
  - ▪ · The Project would result in significant cumulative air quality impacts.

Greenhouse Gas Emissions

The project would generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment.

The Project would conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions.

The Project would result in significant cumulative GHG emissions" (**DSEIR page 1-2**)

6

The DSEIR fails to show how solar will be used throughout the project to help reduce these unavoidable significant impacts. While solar may not eliminate them it can reduce the impacts and therefore must be included in the project design. All roofs must be able to hold the maximum amount of solar arrays and this includes parking structures as can be seen on Riverside County's main building parking structure in Riverside. Failing to require solar means more fossil fuels will be used than is necessary. You cannot point to Edison currently use of more than 30% renewable energy as making no or little solar on the Mall Redevelopment as okay. Requiring only 20% renewable energy for this project is very sad when there will be so much roof space. The Sierra Club's previous email on this project about the health problems related to using gas appliances in homes/apartments is still very valid — even if there currently isn't any plan to restrict their use in the near future. The FSEIR must analyze this health impact on future residents during the expected lifespan of this project and also figure out the cost or retrofitting all multifamily units from gas to electric — when people finally demand it for the health of their children. The FSEIR must show how much air pollution/greenhouse gas can be eliminated if all roofs are used to their maximum for solar arrays as opposed to the current plan. 13 cont.

Since the public and agencies do not have online access to either the old or proposed mall Specific Plans it is difficult to compare what was and now is proposed with parks. The DSEIR reads as follows:

"7.11 Recreation
The SP-200 EIR did not identify the need for any mitigation measures related to recreation because the recreation facilities proposed by the project were determined to be adequate to meet the needs of project residents. Regarding recreation, the SP-200 EIR determined that, in the implementation of SP-200, the project would increase the recreational opportunities in the City of Moreno Valley with a park, open space greenbelt, private recreation facilities, and a town center with a public pool/recreation center. The SP-200 EIR reasoned that the increase in population from buildout of the SP-200 planning area will increase the use of regional recreational facilities. The recreation facilities proposed would be adequate to meet the needs of project residents and would ultimately contribute to the recreational amenities available to City residents."

The public and agencies really need both Specific Plans to make comments on the DSEIR which should have been re-noticed with the documents included. It is very evident from the above that much more was expected of the original specific plan than what is proposed for those living in the more than 1,600 multifamily units. It is very sad the children and also their parents will not have what was proposed and will need to settle for what is in the DSEIR. Will the children of the multifamily units be roaming the mall for their recreation? The FSEIR must show what will be available for the children of the project other than TV and the mall. Providing less than 2 acres of space scattered throughout the proposal, will do little to serve these children and some of the spaces probably will not want/appreciate children using their space. The new proposed recreation does little to serve the needs of thousands of people they plan to live and work in the redeveloped mall. The FSEIR must show the spaces/places for children and better match what was proposed in the current Specific Plan for the mall as can be read above and is in our City Park master plan. 14

During this comment period the Sierra Club sent city planners several request to recirculate the DSEIR because it didn't provide an online version of both the old and proposed Mall Specific Plan which are referred to multiple times in the document. Not having easy access makes it much more difficult to provide comments and to include others that I do not know about because of the not having the documents. The same is true for all others making comments – including agencies. Just recommending that I come in and expose myself to one of the tri-demic illnesses to read multiple volumes is not an option for me and I am sure for others. As I was reading the Appendix G: Traffic Impact Analysis I also ran into problems as I tried to make comments in this area. 15
Figures 14, 15, 16, 17, 18, 19 and 20 on pages 56-61 from Appendix G: Traffic Analysis are all

missing as are other sections and must be made available to make our comments. Again the Sierra Club is requesting the City recirculate this DSEIR to allow for full comments by the public and agencies. 15 cont.

The Sierra Club appreciates this opportunity to provide comments which will hopefully make for a better project in our non-attainment area and where the government is planning to increase it restrictions on particulate matter/soot like from diesel trucks because of it impacts on the health of people—especially the young and elderly. Placing multifamily units so close to SR-60 is placing them in danger unless you can provide at least MERV 16 filtration systems and MERV 17 would even be better. With the impacts on air quality and GHG being significant and "unavoidable" is a major concern to us. This is especially true when more can be feasibly done in both areas and it is evident that the project is deciding not to implement those. 16

Please keep us informed of all future documents and meetings.

Sincerely,

George Hague
Sierra Club
Moreno Valley Group
Conservation Chair

https://www.epa.gov/heatislands/using-trees-and-vegetation-reduce-heat-islands

Using Trees and Vegetation to Reduce Heat Islands

Trees and other plants help cool the environment, making vegetation a simple and effective way to reduce urban heat islands.

Trees and vegetation lower surface and air temperatures by providing shade and through evapotranspiration. Shaded surfaces, for example, may be 20–45°F (11–25°C) cooler than the peak temperatures of unshaded materials.[1] Evapotranspiration, alone or in combination with shading, can help reduce peak summer temperatures by 2–9°F (1–5°C).[2,3]

Trees and vegetation are most useful as a mitigation strategy when planted in strategic locations around buildings or to shade pavement in parking lots and on streets. Researchers have found that planting deciduous trees or vines to the west is typically

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most effective for cooling a building, especially if they shade windows and part of the building's roof.

Benefits and Costs

The use of trees and vegetation in the urban environment brings benefits beyond mitigating urban heat islands including:

- *Reduced energy use:* Trees and vegetation that directly shade buildings decrease demand for air conditioning.
- *Improved air quality and lower greenhouse gas emissions:* By reducing energy demand, trees and vegetation decrease the production of associated air pollution and greenhouse gas emissions. They also remove air pollutants and store and sequester carbon dioxide.
- *Enhanced stormwater management and water quality:* Vegetation reduces runoff and improves water quality by absorbing and filtering rainwater.
- *Reduced pavement maintenance:* Tree shade can slow deterioration of street pavement, decreasing the amount of maintenance needed.
- *Improved quality of life:* Trees and vegetation provide aesthetic value, habitat for many species, and can reduce noise.

Shading in parking lot medians can provide extensive shading coverage. (Photo courtesy of E.G. McPherson)

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The primary costs associated with planting and maintaining trees or other vegetation include purchasing materials, initial planting, and ongoing maintenance activities such as pruning, pest and disease control, and irrigation.

A study of urban forestry programs in five U.S. cities showed a range of expenditures: annual costs ranged from almost $15 per tree in the Desert Southwest region to $65 per tree in Berkeley, California. Pruning was often the greatest expenditure, accounting for roughly 25–40% of total annual costs (approximately $4–$20/tree). Administration and inspection costs were the next largest expenditure, ranging from approximately 8–35% of annual expenditures (about $4–$6/tree). Tree planting, surprisingly, accounted for just 2–15% of total annual urban forestry expenditures (roughly $0.50–$4/tree) in these cities.[4]

Although the benefits of urban forestry can vary considerably by community and tree species, they are almost always higher than the costs. The five-city study discussed above found that, on a per-tree basis, the cities accrued benefits ranging from about $1.50–$3.00 for every dollar invested. These cities spent roughly $15–$65 annually per tree, with net annual benefits ranging from approximately $30–$90 per tree.[4]

For More Information

More details are available in Chapter Two of EPA's *Reducing Urban Heat Islands: Compendium of Strategies*, which covers the following topics:

- How trees and vegetation reduce temperatures
- The benefits and costs associated with trees and vegetation
- Other factors to consider when using trees and vegetation
- Urban forestry initiatives
- Tree and vegetation tools and resources

References

1. Akbari, H., D. Kurn, et al. 1997. Peak power and cooling energy savings of shade trees. *Energy and Buildings* 25:139–148.

2. Huang, J., H. Akbari, and H. Taha. 1990. The Wind-Shielding and Shading Effects of Trees on Residential Heating and Cooling Requirements. ASHRAE Winter Meeting, American Society of Heating, Refrigerating and Air-Conditioning Engineers. Atlanta, Georgia.

3. Kurn, D., S. Bretz, B. Huang, and H. Akbari. 1994. The Potential for Reducing Urban Air Temperatures and Energy Consumption through Vegetative Cooling (PDF) (31 pp, 1.76MB). ACEEE Summer Study on Energy Efficiency in Buildings, American Council for an Energy Efficient Economy. Pacific Grove, California.

4. McPherson, E.G., J. R. Simpson, P. J. Peper, S. E. Maco, and Q. Xiao. 2005. Municipal forest benefits and costs in five US cities (PDF) (6 pp, 267K). *Journal of Forestry* 103(8):411–416.

https://ucanr.edu/blogs/blogcore/postdetail.cfm?postnum=30611

Why planting shade trees helps reduce the temperature of urban heat islands

Many of the landscape trees adorning urban cityscapes in Southern California are at or close to the end of their lifespans.

While several species of oak, maple, crape myrtle, ficus, magnolia and other common shade trees have a life expectancy of 50-80 years or longer in unstressed environments, few reach their full potential in cities and urban areas.

Why? In order to accommodate growing populations, cities have large areas of paved concrete and asphalt surfaces that create 'urban heat islands (UHI)'.These hard surfaces absorb large amounts of heat that builds up during the day and is released at night, leading to much higher night temperatures in cities than in surrounding areas.

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A well placed shade tree can reduce cooling costs in homes and other buildings.

The good news is that trees offer many benefits that offset the impacts of UHIs. Cities with larger tree canopies are a testament to this fact and have fewer adverse impacts from UHIs than do cities with low tree canopies.

Trees reduce the impact of UHIs by releasing heat back into the atmosphere faster than do concrete and asphalt surfaces. In addition, well-placed trees produce shade that cools the surrounding environment and reduces air conditioning needs. They also cool the air through transpiration and absorb and store carbon which moderates the impacts of pollution from fossil fuels.

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Planting trees that withstand UHIs today is crucial for tomorrow. University of California Division of Natural Resources researchers are identifying landscape tree species that can remain healthy under adverse urban conditions. In one study, 12 species of underplanted but promising landscape trees in the greater Los Angeles basin that currently grow well in desert climates are being evaluated at UC Riverside. Similarly, the health and longevity of trees currently performing well in Riverside and San Bernardino are being assessed in coastal areas. The idea is that trees growing well now in warmer climate zones will be good choices for cooler zones that are becoming warmer over time.

Reducing impacts of UHIs and maximizing life expectancies of currently planted urban trees that are not so resilient is just as important as looking into alternative species. In fact, research and education on sustaining these trees is critical to maintain and expand tree canopies as trees age. Even the loss of one front yard shade tree can significantly reduce shade, increase the surrounding temperature, and diminish energy savings.

Furthermore, trees subjected to UHIs can easily become heat and drought stressed leading to a downward spiral. Trees already declining due to one stress often fall prey to other stressors such as disease-forming pathogens or insect outbreaks. Identifying the cause of the tree's decline is crucial. Applying a pesticide to a tree that has no biotic disorder but is unhealthy due to lack of water does not solve the problem and can kill beneficial organisms important for keeping actual pests at bay.

Fortunately, there are many free online search engines that allow consumers to select trees based on multiple criteria such as climate zone, pest resistance, drought tolerance, ability to withstand high temperatures. These engines also provide 'fact sheets' for each species that provide information on the species' ultimate size and space requirements. One reliable and reputable searchable index is Urban Forest Ecosystem's found here: https://selectree.calpoly.edu/.

Since many long-lived species (such as magnolia and ficus) become large at maturity, they offer excellent shade potential and can mitigate UHIs better

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than smaller growing species. However, they require up to 2,500 to 3,000 cubic feet of root space and should not be planted close to sidewalks and structures. Doing so can result in significant damage.

For more information on selecting and caring for urban trees, contact your local UC Cooperative Extension Master Gardener helplines.

Here's how to contact the University of California Cooperative Extension Master Gardener helplines in your area.

Los Angeles County: 626-586-1988; http://celosangeles.ucanr.edu/UC_Master_Gardener_Program/

Orange County: 949-809-9760; http://mgorange.ucanr.edu/

Riverside County: 951-683-6491 ext. 231; https://ucanr.edu/sites/RiversideMG/

San Bernardino County: 909-387-2182; http://mgsb.ucanr.edu/

Response to Comment Letter O4 – Sierra Club

O4.1 The Project would carry out the intent of the Climate Action Plan (CAP), as adopted June 15, 2021. The City's CAP was approved alongside the 2040 MoVal General Plan as the horizon year for both documents is 2040. As the Project would be consistent with the 2040 MoVal General Plan, it additionally recognizes the City's CAP as a document used to reinforce the City's commitment to reducing greenhouse gas emissions (GHG). To this end, the Project would implement **MM GHG-1** and **MM GHG-2**, requiring compliance with specific energy standards and would require Energy Star certified appliances or of equivalent energy efficiency where applicable. Additionally, as the Project is located within the South Coast Air Basin, the Project would comply with the standard conditions for projects within the Basin's boundaries, refer to ***Section 4.4, Greenhouse Gas Emissions***, of the Draft SEIR.

Furthermore, the Project does not propose to and would not tier off the City's CAP which is subject to pending litigation. The Project has been deemed to be consistent 2006 General Plan and the 2040 MoVal General Plan, as described in **Table 4.5-2** and **Table 4.5-3**, in ***Section 4.5, Land Use and Planning***, of the Draft SEIR.

Regarding the Project's analysis of transportation impacts, refer to ***Section 4.7, Transportation*** of the Draft SEIR**.**

O4.2 Under CEQA, an EIR must include mitigation measures that will minimize the project's significant impacts by reducing or avoiding them. See 14 Cal. Code Regs. Section 15126.4(a)(1). However, an EIR need not identify and discuss mitigations measures that are infeasible. Mitigation measures are found to be infeasible should specific economic, legal, social, technological, or other considerations make infeasible the Project and/or its alternatives. The Project has analyzed and implemented all feasible mitigation measures and all mitigation measures imposed to the Project are available in **Table 1-1** in ***Section 1.0, Executive Summary***, on **Page 1-6**, of the Draft SEIR.

CEQA does not require adoption of every imaginable feasible mitigation measure. CEQA's requirement applies only to feasible mitigation that will "substantially lessen" a project's significant effects. (Public Resources Code, Sections 21002 and 21002.1(b).) As explained by one court: A lead agency's "duty to condition project approval on incorporation of feasible mitigation measures only exists when such measures would [avoid or] 'substantially lessen' a significant environmental effect. . . . Thus, the agency need not, under CEQA, adopt every nickel and dime mitigation scheme brought to its attention or proposed in the project EIR." (*San Franciscans for Reasonable Growth v. City and County of San Francisco (1989) 209 Cal.App.3d 1502, 1519*.) Rather, an EIR should focus on mitigation measures that are feasible, practical, and effective. (*Napa Citizens for Honest Government v. Napa County Board of Supervisors (2001) 91 Cal.App.4th 342, 365*.).

O4.3 The commenter states that the Project must provide trees that provide shade throughout the year and discusses the benefits of shade trees in parking lot in reducing the heat island effect in many open paved areas. The Draft SEIR shows that the Project will reduce surface parking by more than 60 percent from 34.6 acres to approximately 12 acres. New development of buildings, park/plaza, landscaped streets, and covered parking structures are replacing the existing parking lots that serve as heat islands. The existing surface parking (located on parcels 4, 6, 8, 21, and 22) will comply with current Zoning Landscape Standards and those set forth in the SPA. Refer to **Figure 3-6, Conceptual Open Space Plan,** in ***Section 3.0, Project Description***, of the Draft SEIR. The Project includes publicly accessible open space that will consist of building entries, pedestrian connections between the mix of uses on the site and an urban gathering space/plaza. All of the publicly accessible open spaces will be landscaped in accordance with the City's Landscape Standards and the design guidelines in the SPA.

The heat island effect refers to large, urbanized areas that can experience higher temperatures during hot summer months when compared to more rural communities. Heat islands are created by a combination of heat-absorptive surfaces (such as dark pavement and roofing), heat-generating activities (such as engines and generators) and the absence of vegetation (which provides evaporative cooling). The Project would redevelop an already urbanized area that consists of portions of the Moreno Valley Mall and also associated asphalt paved areas. The Project would be required to comply with the Specific Plan and the California Building Code, which includes requirements for enhanced cool roofs that would actually reduce the heat island effect.

California Building Code requires cool roofs which would reduce the heat island effect from existing conditions. The City of Moreno Valley requires a minimum solar reflectance index (SRI) of at least 16, which comparatively is higher than asphalt, which has an SRI range from 5-10 depending on how weathered the material is. Additionally, the Moreno Valley Mall Specific Plan Design Guidelines include DG-143, which states "Landscaping, including large dense trees when feasible, should be used to visually screen parking structures when adjacent to roadways and pedestrian walkways." This design plan also includes DG-243 which states that "Consideration should be given to the final size of trees within private open space areas to ensure that they match the scale of the surrounding area."

O4.4 The land between SR-60 and Town Circle Drive is not located within the development area and is therefore not controlled by the owner. Refer to **Responses L3.2, L3.3**, and **L3.5** regarding health risk from SR-60 and World Logistics Center trucks. The comments regarding the benefits of trees do not raise any substantive issues regarding the adequacy of the Draft SEIR and are noted for the record.

O4.5 Construction would result in temporary impacts from light and glare from equipment such as staging areas, lighting poles, and security lighting. However, the Project would comply with Moreno Valley MC §8.14.040 which limits the hours and days of construction; refer to ***Section 4.1, Aesthetics***. Additionally, MM AES-1 would be implemented which would require contractors to develop a Construction Lighting and Screening Plan as well as utilize directional lighting necessary for security to further minimize light and glare impacts.

Following Project buildout, the Project would be required to adhere to Moreno Valley MC §9.08.100 Lighting and §9.16.280 General requirements which set standards for light and glare for developments. These standards direct light away from sensitive receptors using selective light placing and shielding. The Project would comply with all applicable policies, standards and regulations pertaining to light and glare, as well as implement **MM AES-1** which would result in a less significant impact concerning light and glare adversely affecting day and nighttime views.

Furthermore, the Project would comply with energy conservation measures mandated by California Building Standards Code Title 24 – Energy Efficiency Standards. Title 24 standards require energy conservation features in new construction, including high efficiency lighting. The standards indirectly regulate and reduce GHG emissions.

As stated by the commentator, the Project is located outside of the 30-mile radius of the Palomar Observatory dark sky zone, as such, specific regulations and rules surrounding this dark sky zone would not apply to the Project.

O4.6 This comment does not address the adequacy of the environmental analysis and/or document. This comment is noted for the record and no further response is needed. As described in ***Subsection 4.7.2***, in ***Section 4.7, Transportation***, of the Draft SEIR, the Riverside Transit Agency provides bus service in the area, which include 5 routes that currently have a stop at the existing Moreno Valley Mall. The Project Applicant intends to continue providing areas for RTA bus service within the Project. Further discussion regarding transit and/or circulation are presented in ***Section 4.7, Transportation*** of the Draft SEIR, additionally refer to **Response L2.1**.

O4.7 Refer to **Responses O1.6** and **O1.7**.

O4.8 Refer to ***Section 4.7, Transportation*, Page 4.7-12** of the Draft SEIR. It is important to note that roadway capacity and delay are no longer metrics to evaluate transportation impacts under CEQA. These analyses were included in the DEIR for informational purposes. Section 12 (Findings and Recommendations) of the TIA summarizes the applicable criteria and improvements needed due to added Project traffic to the study area. The needed improvements were identified for near term 2026 and long term 2040 conditions, according to the timing of the deficiency associated with Project traffic.

The study area included several roadway segments and intersections west of the project including Day Street. Determination of the study area considers the number of trips generated by the project, surrounding land uses and travel patterns, as well as the number of trips to the circulation system that could result in operational deficiencies. The study area was identified through the City of Moreno Valley scoping process and Transportation Analysis Guidelines to evaluate land use and transportation projects. Refer to page 22 of the TIA which states, “In consultation with City of Moreno Valley staff as detailed in the scoping agreement, a total of 20 intersections, six roadway segments, and four freeway segments were selected for the purposes of this analysis.” The TIA included intersections west of Day Street such as Valley Springs Parkway at Eucalyptus Avenue along with I-215 ramps at Eucalyptus Avenue. The TIA demonstrates only 5 percent of the total number of Project trips are anticipated to the west via local roads, and the Project trips would be dispersed west of I-215. Therefore, the Project would not add a substantial number of trips that would potentially cause a deficiency to the streets within the Project area. Table 58 of the TIA summarizes the improvements that would be implemented with development of the

Project. Several improvements are included in the areas along Day Street and to the west, including the intersections of:

- I-215 Ramps/ Eucalyptus Ave: signal retiming
- Valley Springs Pkwy/ Eucalyptus Ave: Fair share payment towards overlap phasing for the southbound right turn movement
- Day St/ Canyon Springs Pkwy: Fair share payment towards overlap phasing for the westbound right turn movement
- Day St/ Campus Pkwy: Fair share payment towards overlap phasing for the westbound right turn movement
- Day St/ Eucalyptus Ave: planned City widening

For the listed improvements the TIA identified the agency where the improvement would occur, the cost estimate and Project's cost fair share. It should be noted that these improvements are not required to mitigate the impacts of the Project under CEQA and are being provided at the benefit of the City.

O4.9 With proliferation of electric vehicles in the near future, new studies are anticipated with a balance of charging convenience and access between uses (office, retail, residential) is priority in compliance with applicable policies and standards. The Project would comply with Standard Conditions (SC) AQ-6 and GHG-4 which would facilitate future installation of electric vehicle supply equipment. Furthermore, residential construction shall comply with §4.106.4 (residential electric vehicle charging) of the California Green Building Standards Code Part 11 and nonresidential construction shall comply with §5.106.5.3 (nonresidential electric vehicle charging) of the California Green Building Standards Code Part 11; refer to ***Section 4.2, Air Quality,*** **Page 4.2-27** and ***Section 4.4, Greenhouse Gas Emissions,*** **Page 4.4-22**, of the Draft SEIR.

Additionally, the Project would comply to the applicable transportation measures in the City of Moreno Valley's Climate Action Plan. Measure TR-9 considers requiring new multi-family residential and mixed-use development to reduce the need for external trips by providing useful services, such as electric vehicle infrastructure.

Further, site specific development would evaluate EV charging facilities at which time the type, number, and location of EV chargers and EV parking stalls would be determined.

O4.10 Refer to **Response O4.9** regarding EV chargers. Tier 4 construction equipment is required in Draft SEIR **MM AQ-1** (see **Pages 1-6** and **4.2-27** through **4.2-28**, of the Draft SEIR). Requirements for Tier 4 Final equipment shall be included in applicable bid documents and successful contractor(s) must demonstrate the ability to supply such equipment. A copy of each unit's Best Available Control Technology (BACT) documentation (certified tier specification or model year specification), and CARB or SCAQMD operating permit (if applicable) shall be provided to the City at the time of mobilization of each applicable unit of equipment.

O4.11 Refer to **Response O4.10** regarding Tier 4 equipment.

O4.12 The comments regarding the efficacy of the City's 2021 Climate Action Plan do not raise any substantive issues regarding the adequacy of the Draft SEIR and are noted for the record. However, regarding ride sharing, Draft SEIR **MM AQ-3** addresses transportation demand management (TDM) measures, including ride-matching assistance, preferential carpool parking, flexible work schedules for carpools, half-time transportation coordinators, providing a website or message board for coordinating rides, designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles, and including bicycle end of trip facilities for non-residential uses. Additionally, the Project Applicant is required to notify and offer to the tenant or prospective tenant, materials describing public transit, ridesharing, and nonmotorized commuting opportunities in the vicinity of the development for residential units. The materials shall be approved by the City of Moreno Valley. The materials shall be provided no later than the time the rental agreement is executed. See Draft SEIR **Pages 1-6** through **1-7** and **Pages 4.2-28** through **4.2-29**.

O4.13 The Project would comply with mitigations measures **MM GHG-1** and **MM GHG-2**. Specifically, **MM GHG-1** would require the Project to reduce overall on-site energy consumption by 20 percent by implementing additional measures, such as 1) installing solar photovoltaic panels or other sources of renewable energy generation on-site; or 2) otherwise acquire energy from the local utility that has been generated by renewable sources. These mitigation measures reduce the Project's operational energy GHG emissions by approximately 24.86 percent, refer to ***Table 4.4-3: Operational Greenhouse Gas Emissions*** of the Draft SEIR. Additionally, due Senate Bill 100, which sets the State's renewable portfolio of energy production at 60 percent by 2030, more and more of the State's energy supply shall be generated by renewable technologies. Furthermore, as time progresses and technologies advance, energy efficiencies of building materials, equipment, and machines continue to improve, further reducing strain on the California energy supply. Additionally, the individual plot developer(s) may independently install solar energy generation infrastructure.

Regarding the Project's impacts to energy, refer to ***Section 7.0, Effects Found not to be Significant***¸ of the Draft SEIR.

Regarding the use of natural gas appliance, refer to **Response O3.1**.

Regarding indoor air quality, refer to **Response O3.1**.

O4.15 Regarding the availability of the SP-200 and Specific Plan Amendment, refer to **Responses O1.1** and **O4.14**. Regarding the Traffic Impact Analysis, an updated traffic impact analysis (August TIA) has been provided as **Appendix A** to this Final SEIR, see also **Response O1.3**. The updated information consists of minor information changes and information that was inadvertently omitted from the Traffic Impact Analysis that appeared as Appendix G to the Draft SEIR. Pursuant to Senate Bill 743, operational impacts are no longer a basis for significance under CEQA. The updated Traffic Impact Analysis does not include any changes to the vehicle miles traveled analysis other than that which was provided in Appendix G to the Draft SEIR and does not include any information that changes the transportation impact analysis in ***Section 4.7, Transportation*** of the Draft SEIR.

O4.15 Regarding the availability of the SP-200 and Specific Plan Amendment, refer to **Responses O1.1** and **O4.14**. Regarding the Traffic Impact Analysis, an updated traffic impact analysis has been provided as **Appendix A** to this Final SEIR, see also **Response O1.3**. The updated information consists of minor information changes and information that was inadvertently omitted from the Traffic Impact Analysis that appeared as Appendix G to the Draft SEIR. Pursuant to Senate Bill 743, operational impacts are no longer a basis for significance under CEQA. The updated Traffic Impact Analysis does not include any changes to the vehicle miles traveled analysis other than that which was provided in Appendix G to the Draft SEIR and does not include any information that changes the transportation impact analysis in ***Section 4.7, Transportation*** of the Draft SEIR.

O4.16 This comment does not raise any substantive issues regarding the adequacy of the Draft SEIR. This comment is noted for the record and no further response is needed.

Regarding the use of biofilters within the Project, refer to **Response O1.18**.

Comment Letter O5 – Southwest Mountain States Carpenters

Comment Letter O5

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VIA E-MAIL

January 10, 2023

Julia Descoteaux
Senior Planner, City of Moreno Valley
14177 Frederick Street
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RE: City of Moreno Valley's Moreno Valley Mall Redevelopment Project (SCH#: 2022040136).

Dear Julia Descoteaux,

On behalf of the Southwest Mountain States Regional Council of Carpenters ("**Southwest Mountain States Carpenters**" or "**SWMSRCC**"), my Office is submitting these comments for the City of Moreno Valley's ("**City**") Draft Subsequent Environmental Impact Report for the Moreno Valley Mall Redevelopment Project ("**Project**").

The Southwest Mountain States Carpenters is a labor union representing 63,000 union carpenters in 10 states, including California, and has a strong interest in well-ordered land use planning and in addressing the environmental impacts of development projects.

Individual members of SWMSRCC live, work, and recreate in the City and surrounding communities and would be directly affected by the Project's environmental impacts. 1

The Southwest Mountain States Carpenters expressly reserves the right to supplement these comments at or prior to hearings on the Project, and at any later hearing and proceeding related to this Project. Gov. Code, § 65009, subd. (b); Pub. Res. Code, § 21177, subd. (a); see *Bakersfield Citizens for Local Control v. Bakersfield* (2004) 124 Cal.App.4th 1184, 1199-1203; see also *Galante Vineyards v. Monterey Water Dist.* (1997) 60 Cal.App.4th 1109, 1121.

The Southwest Mountain States Carpenters incorporates by reference all comments raising issues regarding the environmental documents submitted prior to certification of the Subsequent Environmental Impact Report ("**DSEIR**") for the Project. See *Citizens for Clean Energy v City of Woodland* (2014) 225 Cal.App.4th 173, 191 (finding that any party who has objected to the project's environmental documentation may assert any issue timely raised by other parties).

Moreover, the Southwest Mountain States Carpenters requests that the City provide notice for any and all notices referring or related to the Project issued under the California Environmental Quality Act ("**CEQA**") (Pub. Res. Code, § 21000 *et seq.*), and the California Planning and Zoning Law ("**Planning and Zoning Law**") (Gov. Code, §§ 65000–65010). California Public Resources Code Sections 21092.2, and 21167(f) and California Government Code Section 65092 require agencies to mail such notices to any person who has filed a written request for them with the clerk of the agency's governing body. 1 cont.

I. THE CITY SHOULD REQUIRE THE USE OF A LOCAL WORKFORCE TO BENEFIT THE COMMUNITY'S ECONOMIC DEVELOPMENT AND ENVIRONMENT.

The City should require the Project to be built using local workers who have graduated from a Joint Labor-Management Apprenticeship Program approved by the State of California, have at least as many hours of on-the-job experience in the applicable craft which would be required to graduate from such a state-approved apprenticeship training program, or who are registered apprentices in a state-approved apprenticeship training program. 2

Community benefits such as local hire can also be helpful to reduce environmental impacts and improve the positive economic impact of the Project. Local hire provisions requiring that a certain percentage of workers reside within 10 miles or less of the Project site can reduce the length of vendor trips, reduce greenhouse gas emissions, and provide localized economic benefits. As environmental consultants Matt Hagemann and Paul E. Rosenfeld note:

> [A]ny local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the

> reduction would vary based on the location and urbanization level of the project site.

March 8, 2021 SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling.

Workforce requirements promote the development of skilled trades that yield sustainable economic development. As the California Workforce Development Board and the University of California, Berkeley Center for Labor Research and Education concluded:

> [L]abor should be considered an investment rather than a cost—and investments in growing, diversifying, and upskilling California's workforce can positively affect returns on climate mitigation efforts. In other words, well-trained workers are key to delivering emissions reductions and moving California closer to its climate targets.[1]

2 cont.

Furthermore, workforce policies have significant environmental benefits given that they improve an area's jobs-housing balance, decreasing the amount and length of job commutes and the associated greenhouse gas ("**GHG**") emissions. In fact, on May 7, 2021, the South Coast Air Quality Management District found that that the "[u]se of a local state-certified apprenticeship program" can result in air pollutant reductions.[2]

Locating jobs closer to residential areas can have significant environmental benefits. As the California Planning Roundtable noted in 2008:

> People who live and work in the same jurisdiction would be more likely to take transit, walk, or bicycle to work than residents of less balanced communities and their vehicle trips would be shorter. Benefits would

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[1] California Workforce Development Board (2020) Putting California on the High Road: A Jobs and Climate Action Plan for 2030 at p. ii, *available at* https://laborcenter.berkeley.edu/wp-content/uploads/2020/09/Putting-California-on-the-High-Road.pdf.

[2] South Coast Air Quality Management District (May 7, 2021) Certify Final Environmental Assessment and Adopt Proposed Rule 2305 – Warehouse Indirect Source Rule – Warehouse Actions and Investments to Reduce Emissions Program, and Proposed Rule 316 – Fees for Rule 2305, Submit Rule 2305 for Inclusion Into the SIP, and Approve Supporting Budget Actions, *available at* http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2021/2021-May7-027.pdf?sfvrsn=10.

> include potential reductions in both vehicle miles traveled and vehicle hours traveled.[3]

Moreover, local hire mandates and skill-training are critical facets of a strategy to reduce vehicle miles traveled ("**VMT**"). As planning experts Robert Cervero and Michael Duncan have noted, simply placing jobs near housing stock is insufficient to achieve VMT reductions given that the skill requirements of available local jobs must match those held by local residents.[4] Some municipalities have even tied local hire and other workforce policies to local development permits to address transportation issues. Cervero and Duncan note that:

> In nearly built-out Berkeley, CA, the approach to balancing jobs and housing is to create local jobs rather than to develop new housing. The city's First Source program encourages businesses to hire local residents, especially for entry- and intermediate-level jobs, and sponsors vocational training to ensure residents are employment-ready. While the program is voluntary, some 300 businesses have used it to date, placing more than 3,000 city residents in local jobs since it was launched in 1986. When needed, these carrots are matched by sticks, since the city is not shy about negotiating corporate participation in First Source as a condition of approval for development permits.

2 cont.

Recently, the State of California verified its commitment towards workforce development through the Affordable Housing and High Road Jobs Act of 2022, otherwise known as Assembly Bill No. 2011 ("**AB2011**"). AB2011 amended the Planning and Zoning Law to allow ministerial, by-right approval for projects being built alongside commercial corridors that meet affordability and labor requirements.

The City should consider utilizing local workforce policies and requirements to benefit the local area economically and to mitigate greenhouse gas, improve air quality, and reduce transportation impacts.

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[3] California Planning Roundtable (2008) Deconstructing Jobs-Housing Balance at p. 6, *available at* https://cproundtable.org/static/media/uploads/publications/cpr-jobs-housing.pdf

[4] Cervero, Robert and Duncan, Michael (2006) Which Reduces Vehicle Travel More: Jobs-Housing Balance or Retail-Housing Mixing? Journal of the American Planning Association 72 (4), 475-490, 482, *available at* http://reconnectingamerica.org/assets/Uploads/UTCT-825.pdf.

II. THE CITY SHOULD IMPOSE TRAINING REQUIREMENTS FOR THE PROJECT'S CONSTRUCTION ACTIVITIES TO PREVENT COMMUNITY SPREAD OF COVID-19 AND OTHER INFECTIOUS DISEASES.

Construction work has been defined as a Lower to High-risk activity for COVID-19 spread by the Occupations Safety and Health Administration. Recently, several construction sites have been identified as sources of community spread of COVID-19.[5]

Southwest Mountain States Carpenters recommend that the Lead Agency adopt additional requirements to mitigate public health risks from the Project's construction activities. SWMSRCC requests that the Lead Agency require safe on-site construction work practices as well as training and certification for any construction workers on the Project Site.

In particular, based upon Southwest Mountain States Carpenters' experience with safe construction site work practices, SWMSRCC recommends that the Lead Agency require that while construction activities are being conducted at the Project Site: 3

Construction Site Design:

- The Project Site will be limited to two controlled entry points.
- Entry points will have temperature screening technicians taking temperature readings when the entry point is open.
- The Temperature Screening Site Plan shows details regarding access to the Project Site and Project Site logistics for conducting temperature screening.
- A 48-hour advance notice will be provided to all trades prior to the first day of temperature screening.
- The perimeter fence directly adjacent to the entry points will be clearly marked indicating the appropriate 6-foot social

[5] Santa Clara County Public Health (June 12, 2020) COVID-19 CASES AT CONSTRUCTION SITES HIGHLIGHT NEED FOR CONTINUED VIGILANCE IN SECTORS THAT HAVE REOPENED, *available at* https://www.sccgov.org/sites/covid19/Pages/press-release-06-12-2020-cases-at-construction-sites.aspx.

distancing position for when you approach the screening area. Please reference the Apex temperature screening site map for additional details.

- There will be clear signage posted at the project site directing you through temperature screening.
- Provide hand washing stations throughout the construction site.

Testing Procedures:

- The temperature screening being used are non-contact devices.
- Temperature readings will not be recorded.
- Personnel will be screened upon entering the testing center and should only take 1-2 seconds per individual.
- Hard hats, head coverings, sweat, dirt, sunscreen or any other cosmetics must be removed on the forehead before temperature screening. 3 cont.
- Anyone who refuses to submit to a temperature screening or does not answer the health screening questions will be refused access to the Project Site.
- Screening will be performed at both entrances from 5:30 am to 7:30 am.; main gate [ZONE 1] and personnel gate [ZONE 2]
- After 7:30 am only the main gate entrance [ZONE 1] will continue to be used for temperature testing for anybody gaining entry to the project site such as returning personnel, deliveries, and visitors.
- If the digital thermometer displays a temperature reading above 100.0 degrees Fahrenheit, a second reading will be taken to verify an accurate reading.
- If the second reading confirms an elevated temperature, DHS will instruct the individual that he/she will not be

allowed to enter the Project Site. DHS will also instruct the individual to promptly notify his/her supervisor and his/her human resources (HR) representative and provide them with a copy of Annex A.

Planning

- Require the development of an Infectious Disease Preparedness and Response Plan that will include basic infection prevention measures (requiring the use of personal protection equipment), policies and procedures for prompt identification and isolation of sick individuals, social distancing (prohibiting gatherings of no more than 10 people including all-hands meetings and all-hands lunches) communication and training and workplace controls that meet standards that may be promulgated by the Center for Disease Control, Occupational Safety and Health Administration, Cal/OSHA, California Department of Public Health or applicable local public health agencies.[6] 3 cont.

The United Brotherhood of Carpenters and Carpenters International Training Fund has developed COVID-19 Training and Certification to ensure that Carpenter union members and apprentices conduct safe work practices. The Agency should require that all construction workers undergo COVID-19 Training and Certification before being allowed to conduct construction activities at the Project Site.

Southwest Mountain States Carpenters has also developed a rigorous Infection Control Risk Assessment ("**ICRA**") training program to ensure it delivers a workforce that understands how to identify and control infection risks by implementing protocols to

[6] *See also* The Center for Construction Research and Training, North America's Building Trades Unions (April 27 2020) NABTU and CPWR COVIC-19 Standards for U.S Constructions Sites, *available at* https://www.cpwr.com/sites/default/files/NABTU_CPWR_Standards_COVID-19.pdf; Los Angeles County Department of Public Works (2020) Guidelines for Construction Sites During COVID-19 Pandemic, *available at* https://dpw.lacounty.gov/building-and-safety/docs/pw_guidelines-construction-sites.pdf.

protect themselves and all others during renovation and construction projects in healthcare environments.[7]

ICRA protocols are intended to contain pathogens, control airflow, and protect patients during the construction, maintenance and renovation of healthcare facilities. ICRA protocols prevent cross contamination, minimizing the risk of secondary infections in patients at hospital facilities. 3 cont.

The City should require the Project to be built using a workforce trained in ICRA protocols.

III. THE PROJECT WOULD BE APPROVED IN VIOLATION OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT.

A. Background Concerning Environmental Impact Reports.

The California Environmental Quality Act is a California statute designed to inform decision-makers and the public about the potential significant environmental effects of a project. 14 California Code of Regulations ("**CEQA Guidelines**"), § 15002, subd. (a)(1).[8] At its core, its purpose is to "inform the public and its responsible officials of the environmental consequences of their decisions *before* they are made." *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564.

CEQA directs public agencies to avoid or reduce environmental damage, when possible, by requiring alternatives or mitigation measures. CEQA Guidelines, § 15002, subds. (a)(2)-(3); see also *Berkeley Keep Jets Over the Bay Committee v. Board of Port Comes* (2001) 91 Cal.App.4th 1344, 1354; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553; *Laurel Heights Improvement Assn.*, 47 Cal.3d at p. 400. The EIR serves to provide public agencies and the public in general with information about the effect that a proposed project is likely to have on the environment and to "identify ways that environmental damage can be avoided or significantly reduced." CEQA Guidelines, § 15002, subd. (a)(2). If the project has a significant effect on the environment, the agency may approve the project only upon finding that it has 4

[7] For details concerning Southwest Carpenters's ICRA training program, *see* https://icrahealthcare.com/.

[8] The CEQA Guidelines, codified in Title 14 of the California Code of Regulations, section 15000 et seq., are regulatory guidelines promulgated by the state Natural Resources Agency for the implementation of CEQA. Cal. Pub. Res. Code, § 21083. The CEQA Guidelines are given "great weight in interpreting CEQA except when . . . clearly unauthorized or erroneous." *Center for Biological Diversity v. Dept. of Fish & Wildlife* (2015) 62 Cal.4th 204, 217.

"eliminated or substantially lessened all significant effects on the environment where feasible" and that any unavoidable significant effects on the environment are "acceptable due to overriding concerns" specified in Public Resources Code section 21081. See CEQA Guidelines, § 15092, subds. (b)(2)(A)-(B).

While the courts review an EIR using an 'abuse of discretion' standard, the reviewing court is not to *uncritically* rely on every study or analysis presented by a project proponent in support of its position. *Berkeley Jets*, 91 Cal.App.4th at p. 1355 (quoting *Laurel Heights Improvement Assn.*, 47 Cal.3d at pp. 391, 409 fn. 12) (internal quotations omitted). A clearly inadequate or unsupported study is entitled to no judicial deference. *Id.* Drawing this line and determining whether the EIR complies with CEQA's information disclosure requirements presents a question of law subject to independent review by the courts. *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 515; *Madera Oversight Coalition, Inc. v. County of Madera* (2011) 199 Cal.App.4th 48, 102, 131. As the court stated in *Berkeley Jets*, prejudicial abuse of discretion occurs if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process. 91 Cal.App.4th at p. 1355 (internal quotations omitted). 4 cont.

The preparation and circulation of an EIR is more than a set of technical hurdles for agencies and developers to overcome. *Communities for a Better Environment v. Richmond* (2010) 184 Cal.App.4th 70, 80 (quoting *Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 449-450). The EIR's function is to ensure that government officials who decide to build or approve a project do so with a full understanding of the environmental consequences and, equally important, that the public is assured those consequences have been considered. *Id.* For the EIR to serve these goals it must present information so that the foreseeable impacts of pursuing the project can be understood and weighed, and the public must be given an adequate opportunity to comment on that presentation before the decision to go forward is made. *Id.*

A strong presumption in favor of requiring preparation of an EIR is built into CEQA. This presumption is reflected in what is known as the "fair argument" standard under which an EIR must be prepared whenever substantial evidence in the record supports a fair argument that a project may have a significant effect on the environment. *Quail Botanical Gardens Found., Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1602; *Friends of "B" St.* v. *City of Hayward* (1980) 106 Cal.3d 988, 1002.

The fair argument test stems from the statutory mandate that an EIR be prepared for any project that "may have a significant effect on the environment." PRC, § 21151; see *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.App.3d 68, 75; accord *Jensen v. City of Santa Rosa* (2018) 23 Cal.App.5th 877, 884. Under this test, if a proposed project is not exempt and may cause a significant effect on the environment, the lead agency must prepare an EIR. PRC, §§ 21100 (a), 21151; CEQA Guidelines, § 15064 (a)(1), (f)(1). An EIR may be dispensed with only if the lead agency finds no substantial evidence in the initial study or elsewhere in the record that the project may have a significant effect on the environment. *Parker Shattuck Neighbors v. Berkeley City Council* (2013) 222 Cal.App.4th 768, 785. In such a situation, the agency must adopt a negative declaration. PRC, § 21080, subd. (c)(1); CEQA Guidelines, §§ 15063 (b)(2), 15064(f)(3).

"Significant effect upon the environment" is defined as "a substantial or potentially substantial adverse change in the environment." PRC, § 21068; CEQA Guidelines, § 15382. A project may have a significant effect on the environment if there is a reasonable probability that it will result in a significant impact. *No Oil, Inc.*, 13 Cal.3d at p. 83 fn. 16; see *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 309. If any aspect of the project may result in a significant impact on the environment, an EIR must be prepared even if the overall effect of the project is beneficial. CEQA Guidelines, § 15063(b)(1); see *County Sanitation Dist. No. 2 v. County of Kern* (2005) 127 Cal.App.4th 1544, 1580. 4 cont.

This standard sets a "low threshold" for preparation of an EIR. *Consolidated Irrigation Dist. v. City of Selma* (2012) 204 Cal.App.4th 187, 207; *Nelson v. County of Kern* (2010) 190 Cal.App.4th 252; *Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 928; *Bowman v. City of Berkeley* (2004) 122 Cal.App.4th 572, 580; *Citizen Action to Serve All Students v. Thornley* (1990) 222 Cal.App.3d 748, 754; *Sundstrom*, 202 Cal.App.3d at p. 310. If substantial evidence in the record supports a fair argument that the project may have a significant environmental effect, the lead agency must prepare an EIR even if other substantial evidence before it indicates the project will have no significant effect. See *Jensen,* 23 Cal.App.5th at p. 886; *Clews Land & Livestock v. City of San Diego* (2017) 19 Cal.App.5th 161, 183; *Stanislaus Audubon Society, Inc. v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 150; *Brentwood Assn. for No Drilling, Inc. v. City of Los Angeles* (1982) 134 Cal.App.3d 491; *Friends of "B" St.*, 106 Cal.App.3d 988; CEQA Guidelines, § 15064(f)(1).

B. The DSEIR Omits Information and Fails to Support its Findings on Traffic Impacts with Substantial Evidence.

The DSEIR states that the Project would not result in inadequate emergency access and concludes that any such impacts would be less than significant. DSEIR at 4.7-21. It supports this conclusion simply by stating that during construction, "[v]ehicles and equipment throughout the Project site would not be parked or placed in a manner that would impede access for emergency response vehicles." *Id.* It states that site conditions during construction "would be either maintained or left in a condition that adheres to Division of Occupational Safety and Health (OSHA) safety standards to prevent any hazardous condition that may affect construction staff and emergency responders." *Id.* It also states that the Project design will be reviewed by the City Police and Fire Departments to ensure that the Project is designed and operated in a manner that maximizes the potential for responsive police and fire services. *Id.* During the Project's operations, the DSEIR supports its less than significant finding by stating that "[t]he Project would be required to have design plans reviewed by the City of Moreno Valley and associated agencies to ensure that adequate access to-and-from the Project site for emergency vehicles would be provided" and that "the City and associated agencies would determine whether or not Project implementation would impact or interfere with the circulation of emergency vehicles along public streets that abut the Project site." *Id.* 5

The DSEIR erroneously concludes that the Project's impacts to emergency access are less than significant by deferring such analysis for after the Project is approved and the Applicant applies for approval of the Project's design concept from various local agencies. The DSEIR claims that the Project will comport with the safety standards set forth by the Division of Occupational Safety and Health but fails to specify which standards are applicable and how such standards will ensure adequate emergency access at this specific site. It provides little to no information to adequately conclude that there will be a "less than significant impact" and deferring such critical analysis to after the Project is approved does not comport with CEQA. *See San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal. App. 4th 645 (mitigation measures requiring future surveys and management plans for listed wildlife species improperly deferred analysis and rendered an EIR inadequate); *see also Preserve Wild Santee v. City of Santee* (2012) 210 Cal. App. 4th 260 (found an impermissible deferral of mitigation to address a protected species, the Quino checkerspot butterfly). The City should be required to provide such information before the Project can proceed. 5 cont.

C. The DSEIR Omits Information and Fails to Support its Findings on Utilities and Service Systems.

The Eastern Municipal Water District ("**EMWD**") will be responsible for providing water to the Project site. DSEIR at 4.8-1. "Water supplied by EMWD is imported by the Metropolitan Water District of Southern California and comes principally from two sources – Colorado River water sourced via the Colorado River Aqueduct, and water sourced from northern California via the State Water Project." *Id.* The DSEIR states that water demands for the EMWD service area are anticipated to continue increasing but that it will meet those demands because it projects additional water resource allocations through the year 2045. DSEIR at 4.8-13. It concludes that there will be a less than signficant impact to water supplies available to serve the Project. *Id.*

The City must further analyze water resource allocations given the current state of our climate. The State Water Project and Colorado River water supply are drastically decreasing. California is in a state of severe drought, and as the Director of California's Department of Water Resources ("**DWR**") stated, "[w]e are experiencing climate change whiplash in real time" and "[w]hile we had hoped for more rain and snow, DWR has been preparing for a third consecutive year of drought" by reducing State Water Project allocation to 5% of requested supplies for 2022, which is 10% less than the 15% allocation previously set by DWR. The Colorado River is also in an extreme state of drought, with water supply at historically low levels. The U.S. Department of Interior stated that "[p]rolonged drought and low runoff conditions accelerated by climate change have led to historically low water levels in Lakes Powell and Mead," and in August 2021, federal officials cut Colorado River water allocations to several southwestern states. 6

Interestingly, the DSEIR forgoes any discussion of the current state of the Colorado River and State Water Project water supply and simply claims that there is a "surplus" of water without providing any basis to support such claim. DSEIR at 4.8-13. Without a detailed assessment of the Project's water resources, it is unclear whether the City will be able to meet the Project's water demands in a reliable and sustainable manner. 7

Furthermore, the DSEIR states that the Project will require improvements and upgrades to existing infrastructure on the Project site in order to adequately serve the 8 buildout of the Project. *Id.* That is, "the proposed Project would relocate two water laterals and a portion of the water mainline to accommodate future development of which location shall be determined as part of the plot plan development." *Id.* It also states that "some water infrastructure would be relocated to accommodate the proposed development program… the existing water main and easements dedicated to EMWD along the southeast of the property would be relocated to avoid conflict with proposed developments." *Id.* The DSEIR fails to state where such infrastructure will be located and what it will entail to relocate it. It also fails to address the specific upgrades that are necessary in order to adequately serve the buildout of the Project. Such critical information is necessary to comport with CEQA and to adequately inform decisionmakers and the public of the full breadth of a deveelopment *before* a Project is approved. 8 cont.

With respect to fiber optic networks, the Project site does currently not have such connections. DSEIR at 4.8-16. The DSEIR states that individual projects would deliver these services as the infrastructure needed is made accessible in the future. "Additional conduits and infrastructure will be included with future development for future connections. Public gas and electric utilities in private drives would be relocated in the proposed private roadway, within the Project site, with appropriate easements. Service lines for new buildings would be extended from the existing and new public lines. Additionally, new developments will connect to the existing fiber optic cable network." DSEIR at 4.8-17. Again, there is no discussion about where the new public lines will be located or any environmental assessment addressing its potential impacts to the surrounding communities. 9

D. <u>The DSEIR Omits Information and Fails to Support its Finding on Hazards and Hazardous Materials with Substantial Evidence</u>

The DSEIR lacks an adequate analysis of whether the Project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. The DSEIR also lacks the necessary analysis to adequately determine whether the Project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accidence conditions involving the release of hazardous materials into the environment. During the Project's construction, "[i]mpacts related to the routine transport, use, or disposal of hazardous materials on the Project site would most likely come from motor oils, gasoline, and diesel fuel." DSEIR at 7-8. The DSEIR concludes that there will be a 10 less than significant impact to the public or the environment through the routine transport, use or disposal of such materials because "[s]hould on-site refueling occur during construction, spill kits shall be located on-site as required by the Project-specific SWPPP. Other preventative measures and BMPs are similarly required under NPDES stormwater regulations."

The DSEIR's analysis and corresponding conclusion related to hazardous materials is insuffient and does not comport with CEQA. While the Project is under construction, the mall will still be operational and visited by patrons. The DSEIR does not clearly lay out the methods it will take to shield and guard patrons from any potenital mishaps while it uses hazardous materials during construction. The DSEIR relies solely upon required regulatory measures in rendering its less than signficiant finding. However, determinations that regulatory compliance will be sufficient to prevent significant adverse impacts must be based on a project-specific analysis of potential impacts and the effect of regulatory compliance. *See Californians for Alternatives to Toxics v. Department of Food & Agric.* (2005) 136 Cal. App. 4th 1; *Ebbetts Pass Forest Watch v Department of Forestry & Fire Protection* (2008) 43 Cal. App. 4th 936, 956. Therefore, the DSEIR cannot rely upon regulatory compliance in making its less than significant impact determination without assessing and providing this Project specific information as to its anticipated use of hazardous materials and the specific safeguards it intends to adopt. 10 cont.

E. <u>The DSEIR Omits Information and Fails to Support its Finding on Public Services Impacts with Substantial Evidence.</u>

The DSEIR concludes that the Project will have a less than signficant impact to public services. For example, it states that the Project would not adversely impact police protection in the area because "[t]he MoVal 2040 GP anticipates the expansion of the Civic Center, the existing headquarters of the Moreno Valley Police Department, as well as an increase in police personnel to accommodate future development that would include the Project." DSEIR at 7-20. Similarly, with respect to fire protection services, the DSEIR turns to the MoVal 2040 Final EIR impact analysis to cover the need for such services. DSEIR at 7-19. It reads: "it should be assumed that impacts to fire protection services as a result of the Project are currently considered under the purview of the MoVal 2040 Final EIR impact analysis." *Id.* 11

The Project anticipates that approximately 6,329 persons will be added to the City as a direct result of this redevelopment. DSEIR at 5-5. The DSEIR concedes that 12 population increases as a result of this redevelopment would result in an increase in crime. DSEIR at 7-19. "To mitigate this impact, the SP-200 EIR anticipates that a private security service would alleviate an increase in crime." *Id.* It is not clear how adding private security would help alleviate the crime associated with such a drastic population increase of 6,329 people. The DSEIR also improperly evades analyzing the amount of public services it will need in order to safeguard mall patrons and the coresponding increase in persons that are anticipated to be added to the City by punting such critical analaysis to the the MoVal 2040 GP. 12 cont.

F. <u>The DSEIR Improperly Labels Mitigation Measures as "Project Design Features"</u>

The DSEIR improperly labels mitigation measures for "Project Design Features" ("**PDFs**"). Relying on the PDFs, the DSEIR concludes in many instances that the Project's impacts are less than significant and that no mitigation is required. However, it is established that "'[a]voidance, minimization and / or mitigation measure' . . . are not 'part of the project.' . . . compressing the analysis of impacts and mitigation measures into a single issue . . disregards the requirements of CEQA." *Lotus v. Department of Transportation* (2014) 223 Cal.App.4th 645, 656. When "an agency decides to incorporate mitigation measures into its significance determination, and relies on those mitigation measures to determine that no significant effects will occur, that agency must treat those measures as though there were adopted following a finding of significance." *Lotus, supra*, 223 Cal.App.4th at 652 [citing CEQA Guidelines § 15091(a)(1) and PRC § 21081(a)(1). By labeling mitigation measures as project design features, the City violates CEQA by failing to disclose "the analytic route that the agency took from the evidence to its findings." PRC § 21081.5; CCR § 15093; *Village Laguna of Laguna Beach, Inc. v. Board of Supervisors* (1982) 134 Cal.App.3d 1022, 1035 (citing *Topanga Assn for a Scenic Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 515). The DSEIR's use of "Project Design Features" further violates CEQA because such measures would not be included in the Project's Mitigation Monitoring and Reporting Program. CEQA requires lead agencies to adopt mitigation measures that are fully enforceable and to adopt a monitoring and/or reporting program to ensure that the measures are implemented to reduce the Project's significant environmental effects to the extent feasible. PRC § 21081.6; CCR § 15091(d). Therefore, using Project Design Features in lieu of mitigation measures violates CEQA. 13

Sincerely,

Armita Ariano
Attorneys for Southwest Mountain
States Regional Council of Carpenters 13 cont.

Attached:

March 8, 2021 SWAPE Letter to Mitchell M. Tsai re Local Hire Requirements and Considerations for Greenhouse Gas Modeling (Exhibit A);

Air Quality and GHG Expert Paul Rosenfeld CV (Exhibit B); and

Air Quality and GHG Expert Matt Hagemann CV (Exhibit C).

EXHIBIT A

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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March 8, 2021

Mitchell M. Tsai
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Pasadena, CA 91101

Subject: Local Hire Requirements and Considerations for Greenhouse Gas Modeling

Dear Mr. Tsai,

Soil Water Air Protection Enterprise ("SWAPE") is pleased to provide the following draft technical report explaining the significance of worker trips required for construction of land use development projects with respect to the estimation of greenhouse gas ("GHG") emissions. The report will also discuss the potential for local hire requirements to reduce the length of worker trips, and consequently, reduced or mitigate the potential GHG impacts.

Worker Trips and Greenhouse Gas Calculations

The California Emissions Estimator Model ("CalEEMod") is a "statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and greenhouse gas (GHG) emissions associated with both construction and operations from a variety of land use projects."[1] CalEEMod quantifies construction-related emissions associated with land use projects resulting from off-road construction equipment; on-road mobile equipment associated with workers, vendors, and hauling; fugitive dust associated with grading, demolition, truck loading, and on-road vehicles traveling along paved and unpaved roads; and architectural coating activities; and paving.[2]

The number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[3]

[1] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[2] "California Emissions Estimator Model." CAPCOA, 2017, *available at:* http://www.aqmd.gov/caleemod/home.
[3] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.

Specifically, the number and length of vehicle trips is utilized to estimate the vehicle miles travelled ("VMT") associated with construction. Then, utilizing vehicle-class specific EMFAC 2014 emission factors, CalEEMod calculates the vehicle exhaust, evaporative, and dust emissions resulting from construction-related VMT, including personal vehicles for worker commuting.[4]

Specifically, in order to calculate VMT, CalEEMod multiplies the average daily trip rate by the average overall trip length (see excerpt below):

> "$VMT_d = \Sigma(\text{Average Daily Trip Rate}_i * \text{Average Overall Trip Length}_i)_n$
>
> Where:
>
> n = Number of land uses being modeled."[5]

Furthermore, to calculate the on-road emissions associated with worker trips, CalEEMod utilizes the following equation (see excerpt below):

> "$\text{Emissions}_{pollutant} = VMT * EF_{running,pollutant}$
>
> Where:
>
> $\text{Emissions}_{pollutant}$ = emissions from vehicle running for each pollutant
>
> VMT = vehicle miles traveled
>
> $EF_{running,pollutant}$ = emission factor for running emissions."[6]

Thus, there is a direct relationship between trip length and VMT, as well as a direct relationship between VMT and vehicle running emissions. In other words, when the trip length is increased, the VMT and vehicle running emissions increase as a result. Thus, vehicle running emissions can be reduced by decreasing the average overall trip length, by way of a local hire requirement or otherwise.

Default Worker Trip Parameters and Potential Local Hire Requirements

As previously discussed, the number, length, and vehicle class of worker trips are utilized by CalEEMod to calculate emissions associated with the on-road vehicle trips required to transport workers to and from the Project site during construction.[7] In order to understand how local hire requirements and associated worker trip length reductions impact GHG emissions calculations, it is important to consider the CalEEMod default worker trip parameters. CalEEMod provides recommended default values based on site-specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality Act ("CEQA") requires that such changes be justified by substantial evidence.[8] The default number of construction-related worker trips is calculated by multiplying the

[4] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14-15.
[5] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 23.
[6] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[7] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[8] CalEEMod User Guide, *available at:* http://www.caleemod.com/, p. 1, 9.

number of pieces of equipment for all phases by 1.25, with the exception of worker trips required for the building construction and architectural coating phases.[9] Furthermore, the worker trip vehicle class is a 50/25/25 percent mix of light duty autos, light duty truck class 1 and light duty truck class 2, respectively."[10] Finally, the default worker trip length is consistent with the length of the operational home-to-work vehicle trips.[11] The operational home-to-work vehicle trip lengths are:

> "[B]ased on the *location* and *urbanization* selected on the project characteristic screen. These values were *supplied by the air districts or use a default average for the state*. Each district (or county) also assigns trip lengths for urban and rural settings" (emphasis added). [12]

Thus, the default worker trip length is based on the location and urbanization level selected by the User when modeling emissions. The below table shows the CalEEMod default rural and urban worker trip lengths by air basin (see excerpt below and Attachment A).[13]

Worker Trip Length by Air Basin		
Air Basin	**Rural (miles)**	**Urban (miles)**
Great Basin Valleys	16.8	10.8
Lake County	16.8	10.8
Lake Tahoe	16.8	10.8
Mojave Desert	16.8	10.8
Mountain Counties	16.8	10.8
North Central Coast	17.1	12.3
North Coast	16.8	10.8
Northeast Plateau	16.8	10.8
Sacramento Valley	16.8	10.8
Salton Sea	14.6	11
San Diego	16.8	10.8
San Francisco Bay Area	10.8	10.8
San Joaquin Valley	16.8	10.8
South Central Coast	16.8	10.8
South Coast	19.8	14.7
Average	**16.47**	**11.17**
Minimum	**10.80**	**10.80**
Maximum	**19.80**	**14.70**
Range	**9.00**	**3.90**

[9] "CalEEMod User's Guide." CAPCOA, November 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4, p. 34.
[10] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 15.
[11] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 14.
[12] "Appendix A Calculation Details for CalEEMod." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/02_appendix-a2016-3-2.pdf?sfvrsn=6, p. 21.
[13] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-84 – D-86.

As demonstrated above, default rural worker trip lengths for air basins in California vary from 10.8- to 19.8-miles, with an average of 16.47 miles. Furthermore, default urban worker trip lengths vary from 10.8- to 14.7-miles, with an average of 11.17 miles. Thus, while default worker trip lengths vary by location, default urban worker trip lengths tend to be shorter in length. Based on these trends evident in the CalEEMod default worker trip lengths, we can reasonably assume that the efficacy of a local hire requirement is especially dependent upon the urbanization of the project site, as well as the project location.

Practical Application of a Local Hire Requirement and Associated Impact

To provide an example of the potential impact of a local hire provision on construction-related GHG emissions, we estimated the significance of a local hire provision for the Village South Specific Plan ("Project") located in the City of Claremont ("City"). The Project proposed to construct 1,000 residential units, 100,000-SF of retail space, 45,000-SF of office space, as well as a 50-room hotel, on the 24-acre site. The Project location is classified as Urban and lies within the Los Angeles-South Coast County. As a result, the Project has a default worker trip length of 14.7 miles.[14] In an effort to evaluate the potential for a local hire provision to reduce the Project's construction-related GHG emissions, we prepared an updated model, reducing all worker trip lengths to 10 miles (see Attachment B). Our analysis estimates that if a local hire provision with a 10-mile radius were to be implemented, the GHG emissions associated with Project construction would decrease by approximately 17% (see table below and Attachment C).

Local Hire Provision Net Change	
Without Local Hire Provision	
Total Construction GHG Emissions (MT CO_2e)	3,623
Amortized Construction GHG Emissions (MT CO_2e/year)	120.77
With Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,024
Amortized Construction GHG Emissions (MT CO_2e/year)	100.80
% Decrease in Construction-related GHG Emissions	***17%***

As demonstrated above, by implementing a local hire provision requiring 10 mile worker trip lengths, the Project could reduce potential GHG emissions associated with construction worker trips. More broadly, any local hire requirement that results in a decreased worker trip length from the default value has the potential to result in a reduction of construction-related GHG emissions, though the significance of the reduction would vary based on the location and urbanization level of the project site.

This serves as an example of the potential impacts of local hire requirements on estimated project-level GHG emissions, though it does not indicate that local hire requirements would result in reduced construction-related GHG emission for all projects. As previously described, the significance of a local hire requirement depends on the worker trip length enforced and the default worker trip length for the project's urbanization level and location.

[14] "Appendix D Default Data Tables." CAPCOA, October 2017, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/05_appendix-d2016-3-2.pdf?sfvrsn=4, p. D-85.

4

Disclaimer

SWAPE has received limited discovery. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,

M Hagemann

Matt Hagemann, P.G., C.Hg.

Paul Rosenfeld

Paul E. Rosenfeld, Ph.D.

5

Attachment A

Location Type	Location Name	Rural H-W (miles)	Urban H-W (miles)
Air Basin	Great Basin	16.8	10.8
Air Basin	Lake County	16.8	10.8
Air Basin	Lake Tahoe	16.8	10.8
Air Basin	Mojave Desert	16.8	10.8
Air Basin	Mountain	16.8	10.8
Air Basin	North Central	17.1	12.3
Air Basin	North Coast	16.8	10.8
Air Basin	Northeast	16.8	10.8
Air Basin	Sacramento	16.8	10.8
Air Basin	Salton Sea	14.6	11
Air Basin	San Diego	16.8	10.8
Air Basin	San Francisco	10.8	10.8
Air Basin	San Joaquin	16.8	10.8
Air Basin	South Central	16.8	10.8
Air Basin	South Coast	19.8	14.7
Air District	Amador County	16.8	10.8
Air District	Antelope Valley	16.8	10.8
Air District	Bay Area AQMD	10.8	10.8
Air District	Butte County	12.54	12.54
Air District	Calaveras	16.8	10.8
Air District	Colusa County	16.8	10.8
Air District	El Dorado	16.8	10.8
Air District	Feather River	16.8	10.8
Air District	Glenn County	16.8	10.8
Air District	Great Basin	16.8	10.8
Air District	Imperial County	10.2	7.3
Air District	Kern County	16.8	10.8
Air District	Lake County	16.8	10.8
Air District	Lassen County	16.8	10.8
Air District	Mariposa	16.8	10.8
Air District	Mendocino	16.8	10.8
Air District	Modoc County	16.8	10.8
Air District	Mojave Desert	16.8	10.8
Air District	Monterey Bay	16.8	10.8
Air District	North Coast	16.8	10.8
Air District	Northern Sierra	16.8	10.8
Air District	Northern	16.8	10.8
Air District	Placer County	16.8	10.8
Air District	Sacramento	15	10

Air District	San Diego	16.8	10.8
Air District	San Joaquin	16.8	10.8
Air District	San Luis Obispo	13	13
Air District	Santa Barbara	8.3	8.3
Air District	Shasta County	16.8	10.8
Air District	Siskiyou County	16.8	10.8
Air District	South Coast	19.8	14.7
Air District	Tehama County	16.8	10.8
Air District	Tuolumne	16.8	10.8
Air District	Ventura County	16.8	10.8
Air District	Yolo/Solano	15	10
County	Alameda	10.8	10.8
County	Alpine	16.8	10.8
County	Amador	16.8	10.8
County	Butte	12.54	12.54
County	Calaveras	16.8	10.8
County	Colusa	16.8	10.8
County	Contra Costa	10.8	10.8
County	Del Norte	16.8	10.8
County	El Dorado-Lake	16.8	10.8
County	El Dorado-	16.8	10.8
County	Fresno	16.8	10.8
County	Glenn	16.8	10.8
County	Humboldt	16.8	10.8
County	Imperial	10.2	7.3
County	Inyo	16.8	10.8
County	Kern-Mojave	16.8	10.8
County	Kern-San	16.8	10.8
County	Kings	16.8	10.8
County	Lake	16.8	10.8
County	Lassen	16.8	10.8
County	Los Angeles-	16.8	10.8
County	Los Angeles-	19.8	14.7
County	Madera	16.8	10.8
County	Marin	10.8	10.8
County	Mariposa	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Mendocino-	16.8	10.8
County	Merced	16.8	10.8
County	Modoc	16.8	10.8
County	Mono	16.8	10.8
County	Monterey	16.8	10.8
County	Napa	10.8	10.8

County	Nevada	16.8	10.8
County	Orange	19.8	14.7
County	Placer-Lake	16.8	10.8
County	Placer-Mountain	16.8	10.8
County	Placer-	16.8	10.8
County	Plumas	16.8	10.8
County	Riverside-	16.8	10.8
County	Riverside-	19.8	14.7
County	Riverside-Salton	14.6	11
County	Riverside-South	19.8	14.7
County	Sacramento	15	10
County	San Benito	16.8	10.8
County	San Bernardino-	16.8	10.8
County	San Bernardino-	19.8	14.7
County	San Diego	16.8	10.8
County	San Francisco	10.8	10.8
County	San Joaquin	16.8	10.8
County	San Luis Obispo	13	13
County	San Mateo	10.8	10.8
County	Santa Barbara-	8.3	8.3
County	Santa Barbara-	8.3	8.3
County	Santa Clara	10.8	10.8
County	Santa Cruz	16.8	10.8
County	Shasta	16.8	10.8
County	Sierra	16.8	10.8
County	Siskiyou	16.8	10.8
County	Solano-	15	10
County	Solano-San	16.8	10.8
County	Sonoma-North	16.8	10.8
County	Sonoma-San	10.8	10.8
County	Stanislaus	16.8	10.8
County	Sutter	16.8	10.8
County	Tehama	16.8	10.8
County	Trinity	16.8	10.8
County	Tulare	16.8	10.8
County	Tuolumne	16.8	10.8
County	Ventura	16.8	10.8
County	Yolo	15	10
County	Yuba	16.8	10.8
Statewide	Statewide	16.8	10.8

Worker Trip Length by Air Basin		
Air Basin	**Rural (miles)**	**Urban (miles)**
Great Basin Valleys	16.8	10.8
Lake County	16.8	10.8
Lake Tahoe	16.8	10.8
Mojave Desert	16.8	10.8
Mountain Counties	16.8	10.8
North Central Coast	17.1	12.3
North Coast	16.8	10.8
Northeast Plateau	16.8	10.8
Sacramento Valley	16.8	10.8
Salton Sea	14.6	11
San Diego	16.8	10.8
San Francisco Bay Area	10.8	10.8
San Joaquin Valley	16.8	10.8
South Central Coast	16.8	10.8
South Coast	19.8	14.7
Average	**16.47**	**11.17**
Mininum	**10.80**	**10.80**
Maximum	**19.80**	**14.70**
Range	**9.00**	**3.90**

Attachment B

Village South Specific Plan (Proposed)
Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

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tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1713	1.8242	1.1662	2.4000e-003	0.4169	0.0817	0.4986	0.1795	0.0754	0.2549	0.0000	213.1969	213.1969	0.0601	0.0000	214.6993
2022	0.6904	4.1142	6.1625	0.0189	1.3058	0.1201	1.4259	0.3460	0.1128	0.4588	0.0000	1,721.6826	1,721.6826	0.1294	0.0000	1,724.9187
2023	0.6148	3.3649	5.6747	0.0178	1.1963	0.0996	1.2959	0.3203	0.0935	0.4138	0.0000	1,627.5295	1,627.5295	0.1185	0.0000	1,630.4925
2024	4.1619	0.1335	0.2810	5.9000e-004	0.0325	6.4700e-003	0.0390	8.6300e-003	6.0400e-003	0.0147	0.0000	52.9078	52.9078	8.0200e-003	0.0000	53.1082
Maximum	**4.1619**	**4.1142**	**6.1625**	**0.0189**	**1.3058**	**0.1201**	**1.4259**	**0.3460**	**0.1128**	**0.4588**	**0.0000**	**1,721.6826**	**1,721.6826**	**0.1294**	**0.0000**	**1,724.9187**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1713	1.8242	1.1662	2.4000e-003	0.4169	0.0817	0.4986	0.1795	0.0754	0.2549	0.0000	213.1967	213.1967	0.0601	0.0000	214.6991
2022	0.6904	4.1142	6.1625	0.0189	1.3058	0.1201	1.4259	0.3460	0.1128	0.4588	0.0000	1,721.6823	1,721.6823	0.1294	0.0000	1,724.9183
2023	0.6148	3.3648	5.6747	0.0178	1.1963	0.0996	1.2959	0.3203	0.0935	0.4138	0.0000	1,627.5291	1,627.5291	0.1185	0.0000	1,630.4921
2024	4.1619	0.1335	0.2810	5.9000e-004	0.0325	6.4700e-003	0.0390	8.6300e-003	6.0400e-003	0.0147	0.0000	52.9077	52.9077	8.0200e-003	0.0000	53.1082
Maximum	**4.1619**	**4.1142**	**6.1625**	**0.0189**	**1.3058**	**0.1201**	**1.4259**	**0.3460**	**0.1128**	**0.4588**	**0.0000**	**1,721.6823**	**1,721.6823**	**0.1294**	**0.0000**	**1,724.9183**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-1-2021	11-30-2021	1.4103	1.4103
2	12-1-2021	2-28-2022	1.3613	1.3613
3	3-1-2022	5-31-2022	1.1985	1.1985
4	6-1-2022	8-31-2022	1.1921	1.1921
5	9-1-2022	11-30-2022	1.1918	1.1918
6	12-1-2022	2-28-2023	1.0774	1.0774
7	3-1-2023	5-31-2023	1.0320	1.0320
8	6-1-2023	8-31-2023	1.0260	1.0260

9	9-1-2023	11-30-2023	1.0265	1.0265
10	12-1-2023	2-29-2024	2.8857	2.8857
11	3-1-2024	5-31-2024	1.6207	1.6207
		Highest	2.8857	2.8857

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

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

3.0 Construction Detail

Construction Phase

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0012	51.0012	0.0144	0.0000	51.3601
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0012**	**51.0012**	**0.0144**	**0.0000**	**51.3601**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	7.5000e-004	8.5100e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.7000e-004	0.0000	2.2251	2.2251	7.0000e-005	0.0000	2.2267
Total	**2.9000e-003**	**0.0641**	**0.0233**	**2.0000e-004**	**6.4100e-003**	**2.1000e-004**	**6.6200e-003**	**1.7300e-003**	**2.0000e-004**	**1.9300e-003**	**0.0000**	**19.6816**	**19.6816**	**1.2800e-003**	**0.0000**	**19.7136**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0011	51.0011	0.0144	0.0000	51.3600
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0011**	**51.0011**	**0.0144**	**0.0000**	**51.3600**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	7.5000e-004	8.5100e-003	2.0000e-005	2.4700e-003	2.0000e-005	2.4900e-003	6.5000e-004	2.0000e-005	6.7000e-004	0.0000	2.2251	2.2251	7.0000e-005	0.0000	2.2267
Total	**2.9000e-003**	**0.0641**	**0.0233**	**2.0000e-004**	**6.4100e-003**	**2.1000e-004**	**6.6200e-003**	**1.7300e-003**	**2.0000e-004**	**1.9300e-003**	**0.0000**	**19.6816**	**19.6816**	**1.2800e-003**	**0.0000**	**19.7136**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7061
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7061**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	6.0000e-004	6.8100e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.7801	1.7801	5.0000e-005	0.0000	1.7814
Total	**7.7000e-004**	**6.0000e-004**	**6.8100e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.7801**	**1.7801**	**5.0000e-005**	**0.0000**	**1.7814**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7060
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7060**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.7000e-004	6.0000e-004	6.8100e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.7801	1.7801	5.0000e-005	0.0000	1.7814
Total	**7.7000e-004**	**6.0000e-004**	**6.8100e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.7801**	**1.7801**	**5.0000e-005**	**0.0000**	**1.7814**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5405	103.5405	0.0335	0.0000	104.3776
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5405**	**103.5405**	**0.0335**	**0.0000**	**104.3776**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6400e-003	1.2700e-003	0.0144	4.0000e-005	4.1600e-003	3.0000e-005	4.2000e-003	1.1100e-003	3.0000e-005	1.1400e-003	0.0000	3.7579	3.7579	1.1000e-004	0.0000	3.7607
Total	**1.6400e-003**	**1.2700e-003**	**0.0144**	**4.0000e-005**	**4.1600e-003**	**3.0000e-005**	**4.2000e-003**	**1.1100e-003**	**3.0000e-005**	**1.1400e-003**	**0.0000**	**3.7579**	**3.7579**	**1.1000e-004**	**0.0000**	**3.7607**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5403	103.5403	0.0335	0.0000	104.3775
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5403**	**103.5403**	**0.0335**	**0.0000**	**104.3775**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6400e-003	1.2700e-003	0.0144	4.0000e-005	4.1600e-003	3.0000e-005	4.2000e-003	1.1100e-003	3.0000e-005	1.1400e-003	0.0000	3.7579	3.7579	1.1000e-004	0.0000	3.7607
Total	**1.6400e-003**	**1.2700e-003**	**0.0144**	**4.0000e-005**	**4.1600e-003**	**3.0000e-005**	**4.2000e-003**	**1.1100e-003**	**3.0000e-005**	**1.1400e-003**	**0.0000**	**3.7579**	**3.7579**	**1.1000e-004**	**0.0000**	**3.7607**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.1000e-004	2.4400e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6679	0.6679	2.0000e-005	0.0000	0.6684
Total	**2.8000e-004**	**2.1000e-004**	**2.4400e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6679**	**0.6679**	**2.0000e-005**	**0.0000**	**0.6684**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

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3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.1000e-004	2.4400e-003	1.0000e-005	7.7000e-004	1.0000e-005	7.7000e-004	2.0000e-004	1.0000e-005	2.1000e-004	0.0000	0.6679	0.6679	2.0000e-005	0.0000	0.6684
Total	**2.8000e-004**	**2.1000e-004**	**2.4400e-003**	**1.0000e-005**	**7.7000e-004**	**1.0000e-005**	**7.7000e-004**	**2.0000e-004**	**1.0000e-005**	**2.1000e-004**	**0.0000**	**0.6679**	**0.6679**	**2.0000e-005**	**0.0000**	**0.6684**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1324	293.1324	0.0702	0.0000	294.8881
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1324**	**293.1324**	**0.0702**	**0.0000**	**294.8881**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.4088	0.3066	3.5305	0.0107	1.1103	8.8700e-003	1.1192	0.2949	8.1700e-003	0.3031	0.0000	966.8117	966.8117	0.0266	0.0000	967.4773
Total	**0.4616**	**2.0027**	**3.9885**	**0.0152**	**1.2243**	**0.0121**	**1.2363**	**0.3278**	**0.0112**	**0.3390**	**0.0000**	**1,408.7952**	**1,408.7952**	**0.0530**	**0.0000**	**1,410.1208**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1321	293.1321	0.0702	0.0000	294.8877
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1321**	**293.1321**	**0.0702**	**0.0000**	**294.8877**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.4088	0.3066	3.5305	0.0107	1.1103	8.8700e-003	1.1192	0.2949	8.1700e-003	0.3031	0.0000	966.8117	966.8117	0.0266	0.0000	967.4773
Total	**0.4616**	**2.0027**	**3.9885**	**0.0152**	**1.2243**	**0.0121**	**1.2363**	**0.3278**	**0.0112**	**0.3390**	**0.0000**	**1,408.7952**	**1,408.7952**	**0.0530**	**0.0000**	**1,410.1208**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2789	286.2789	0.0681	0.0000	287.9814
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2789**	**286.2789**	**0.0681**	**0.0000**	**287.9814**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.3753	0.2708	3.1696	0.0101	1.0840	8.4100e-003	1.0924	0.2879	7.7400e-003	0.2957	0.0000	909.3439	909.3439	0.0234	0.0000	909.9291
Total	**0.4135**	**1.5218**	**3.5707**	**0.0144**	**1.1953**	**9.8700e-003**	**1.2051**	**0.3200**	**9.1400e-003**	**0.3292**	**0.0000**	**1,327.3369**	**1,327.3369**	**0.0462**	**0.0000**	**1,328.4916**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2785	286.2785	0.0681	0.0000	287.9811
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2785**	**286.2785**	**0.0681**	**0.0000**	**287.9811**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.3753	0.2708	3.1696	0.0101	1.0840	8.4100e-003	1.0924	0.2879	7.7400e-003	0.2957	0.0000	909.3439	909.3439	0.0234	0.0000	909.9291
Total	**0.4135**	**1.5218**	**3.5707**	**0.0144**	**1.1953**	**9.8700e-003**	**1.2051**	**0.3200**	**9.1400e-003**	**0.3292**	**0.0000**	**1,327.3369**	**1,327.3369**	**0.0462**	**0.0000**	**1,328.4916**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

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3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.7000e-004	3.1200e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8963	0.8963	2.0000e-005	0.0000	0.8968
Total	**3.7000e-004**	**2.7000e-004**	**3.1200e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8963**	**0.8963**	**2.0000e-005**	**0.0000**	**0.8968**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.7000e-004	2.7000e-004	3.1200e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	0.8963	0.8963	2.0000e-005	0.0000	0.8968
Total	**3.7000e-004**	**2.7000e-004**	**3.1200e-003**	**1.0000e-005**	**1.0700e-003**	**1.0000e-005**	**1.0800e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**0.8963**	**0.8963**	**2.0000e-005**	**0.0000**	**0.8968**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	4.1000e-004	4.9200e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.4697	1.4697	4.0000e-005	0.0000	1.4706
Total	**5.9000e-004**	**4.1000e-004**	**4.9200e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.4697**	**1.4697**	**4.0000e-005**	**0.0000**	**1.4706**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	4.1000e-004	4.9200e-003	2.0000e-005	1.8100e-003	1.0000e-005	1.8200e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.4697	1.4697	4.0000e-005	0.0000	1.4706
Total	**5.9000e-004**	**4.1000e-004**	**4.9200e-003**	**2.0000e-005**	**1.8100e-003**	**1.0000e-005**	**1.8200e-003**	**4.8000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.4697**	**1.4697**	**4.0000e-005**	**0.0000**	**1.4706**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0101	6.9900e-003	0.0835	2.8000e-004	0.0307	2.3000e-004	0.0309	8.1500e-003	2.2000e-004	8.3700e-003	0.0000	24.9407	24.9407	6.1000e-004	0.0000	24.9558
Total	**0.0101**	**6.9900e-003**	**0.0835**	**2.8000e-004**	**0.0307**	**2.3000e-004**	**0.0309**	**8.1500e-003**	**2.2000e-004**	**8.3700e-003**	**0.0000**	**24.9407**	**24.9407**	**6.1000e-004**	**0.0000**	**24.9558**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0101	6.9900e-003	0.0835	2.8000e-004	0.0307	2.3000e-004	0.0309	8.1500e-003	2.2000e-004	8.3700e-003	0.0000	24.9407	24.9407	6.1000e-004	0.0000	24.9558
Total	**0.0101**	**6.9900e-003**	**0.0835**	**2.8000e-004**	**0.0307**	**2.3000e-004**	**0.0309**	**8.1500e-003**	**2.2000e-004**	**8.3700e-003**	**0.0000**	**24.9407**	**24.9407**	**6.1000e-004**	**0.0000**	**24.9558**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Unmitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

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	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.6465	2,512.6465	0.1037	0.0215	2,521.6356
NaturalGas Mitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478
NaturalGas Unmitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.4267	1,383.4267	0.0265	0.0254	1,391.6478

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

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5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Unmitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

7.0 Water Detail

7.1 Mitigation Measures Water

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	585.8052	3.0183	0.0755	683.7567
Unmitigated	585.8052	3.0183	0.0755	683.7567

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	207.8079	12.2811	0.0000	514.8354
Unmitigated	207.8079	12.2811	0.0000	514.8354

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

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8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)
Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2769	46.4588	31.6840	0.0643	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,234.7974	6,234.7974	1.9495	0.0000	6,283.5352
2022	5.3304	38.8967	49.5629	0.1517	9.8688	1.6366	10.7727	3.6558	1.5057	5.1615	0.0000	15,251.5674	15,251.5674	1.9503	0.0000	15,278.5288
2023	4.8957	26.3317	46.7567	0.1472	9.8688	0.7794	10.6482	2.6381	0.7322	3.3702	0.0000	14,807.5269	14,807.5269	1.0250	0.0000	14,833.1521
2024	237.1630	9.5575	15.1043	0.0244	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,361.3989	2,361.3989	0.7177	0.0000	2,379.3421
Maximum	**237.1630**	**46.4588**	**49.5629**	**0.1517**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**15,251.5674**	**15,251.5674**	**1.9503**	**0.0000**	**15,278.5288**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2769	46.4588	31.6840	0.0643	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,234.797 4	6,234.797 4	1.9495	0.0000	6,283.535 2
2022	5.3304	38.8967	49.5629	0.1517	9.8688	1.6366	10.7727	3.6558	1.5057	5.1615	0.0000	15,251.56 74	15,251.56 74	1.9503	0.0000	15,278.52 88
2023	4.8957	26.3317	46.7567	0.1472	9.8688	0.7794	10.6482	2.6381	0.7322	3.3702	0.0000	14,807.52 69	14,807.52 69	1.0250	0.0000	14,833.15 20
2024	237.1630	9.5575	15.1043	0.0244	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,361.398 9	2,361.398 9	0.7177	0.0000	2,379.342 1
Maximum	**237.1630**	**46.4588**	**49.5629**	**0.1517**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**15,251.56 74**	**15,251.56 74**	**1.9503**	**0.0000**	**15,278.52 88**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

<u>Unmitigated Construction On-Site</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.241 3	1,292.241 3	0.0877		1,294.433 7
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.1916**	**4.1394**	**1.5644**	**0.0136**	**0.4346**	**0.0139**	**0.4485**	**0.1176**	**0.0133**	**0.1309**		**1,463.056 8**	**1,463.056 8**	**0.0927**		**1,465.375 0**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.2413	1,292.2413	0.0877		1,294.4337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0643	0.0442	0.6042	1.7100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		170.8155	170.8155	5.0300e-003		170.9413
Total	**0.1916**	**4.1394**	**1.5644**	**0.0136**	**0.4346**	**0.0139**	**0.4485**	**0.1176**	**0.0133**	**0.1309**		**1,463.0568**	**1,463.0568**	**0.0927**		**1,465.3750**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.0772**	**0.0530**	**0.7250**	**2.0600e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**204.9786**	**204.9786**	**6.0400e-003**		**205.1296**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	**0.0772**	**0.0530**	**0.7250**	**2.0600e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**204.9786**	**204.9786**	**6.0400e-003**		**205.1296**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217
Total	**0.0857**	**0.0589**	**0.8056**	**2.2900e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**227.7540**	**227.7540**	**6.7100e-003**		**227.9217**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0857	0.0589	0.8056	2.2900e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		227.7540	227.7540	6.7100e-003		227.9217
Total	**0.0857**	**0.0589**	**0.8056**	**2.2900e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**227.7540**	**227.7540**	**6.7100e-003**		**227.9217**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0803	0.0532	0.7432	2.2100e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		219.7425	219.7425	6.0600e-003		219.8941
Total	**0.0803**	**0.0532**	**0.7432**	**2.2100e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**219.7425**	**219.7425**	**6.0600e-003**		**219.8941**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0803	0.0532	0.7432	2.2100e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		219.7425	219.7425	6.0600e-003		219.8941
Total	**0.0803**	**0.0532**	**0.7432**	**2.2100e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**219.7425**	**219.7425**	**6.0600e-003**		**219.8941**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.548 2	3,896.548 2	0.2236		3,902.138 4
Worker	3.2162	2.1318	29.7654	0.0883	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,800.685 7	8,800.685 7	0.2429		8,806.758 2
Total	**3.6242**	**15.3350**	**33.1995**	**0.1247**	**9.8688**	**0.0949**	**9.9637**	**2.6381**	**0.0883**	**2.7263**		**12,697.23 39**	**12,697.23 39**	**0.4665**		**12,708.89 66**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.548 2	3,896.548 2	0.2236		3,902.138 4
Worker	3.2162	2.1318	29.7654	0.0883	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,800.685 7	8,800.685 7	0.2429		8,806.758 2
Total	**3.6242**	**15.3350**	**33.1995**	**0.1247**	**9.8688**	**0.0949**	**9.9637**	**2.6381**	**0.0883**	**2.7263**		**12,697.23 39**	**12,697.23 39**	**0.4665**		**12,708.89 66**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.8762	3,773.8762	0.1982		3,778.8300
Worker	3.0203	1.9287	27.4113	0.0851	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		8,478.4408	8,478.4408	0.2190		8,483.9160
Total	**3.3229**	**11.9468**	**30.5127**	**0.1203**	**9.8688**	**0.0797**	**9.9485**	**2.6381**	**0.0738**	**2.7118**		**12,252.3170**	**12,252.3170**	**0.4172**		**12,262.7460**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.876 2	3,773.876 2	0.1982		3,778.830 0
Worker	3.0203	1.9287	27.4113	0.0851	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		8,478.440 8	8,478.440 8	0.2190		8,483.916 0
Total	**3.3229**	**11.9468**	**30.5127**	**0.1203**	**9.8688**	**0.0797**	**9.9485**	**2.6381**	**0.0738**	**2.7118**		**12,252.31 70**	**12,252.31 70**	**0.4172**		**12,262.74 60**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.584 1**	**2,207.584 1**	**0.7140**		**2,225.433 6**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0566	0.0361	0.5133	1.5900e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		158.7723	158.7723	4.1000e-003		158.8748
Total	**0.0566**	**0.0361**	**0.5133**	**1.5900e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**158.7723**	**158.7723**	**4.1000e-003**		**158.8748**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

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3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0566	0.0361	0.5133	1.5900e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		158.7723	158.7723	4.1000e-003		158.8748
Total	**0.0566**	**0.0361**	**0.5133**	**1.5900e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**158.7723**	**158.7723**	**4.1000e-003**		**158.8748**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0535	0.0329	0.4785	1.5400e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		153.8517	153.8517	3.7600e-003		153.9458
Total	**0.0535**	**0.0329**	**0.4785**	**1.5400e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**153.8517**	**153.8517**	**3.7600e-003**		**153.9458**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0535	0.0329	0.4785	1.5400e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		153.8517	153.8517	3.7600e-003		153.9458
Total	**0.0535**	**0.0329**	**0.4785**	**1.5400e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**153.8517**	**153.8517**	**3.7600e-003**		**153.9458**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5707	0.3513	5.1044	0.0165	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,641.0852	1,641.0852	0.0401		1,642.0886
Total	**0.5707**	**0.3513**	**5.1044**	**0.0165**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,641.0852**	**1,641.0852**	**0.0401**		**1,642.0886**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.5707	0.3513	5.1044	0.0165	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,641.085 2	1,641.085 2	0.0401		1,642.088 6
Total	**0.5707**	**0.3513**	**5.1044**	**0.0165**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,641.085 2**	**1,641.085 2**	**0.0401**		**1,642.088 6**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Unmitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

6.0 Area Detail

6.1 Mitigation Measures Area

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

<u>**Unmitigated**</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82
tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2865	46.4651	31.6150	0.0642	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,221.4937	6,221.4937	1.9491	0.0000	6,270.2214
2022	5.7218	38.9024	47.3319	0.1455	9.8688	1.6366	10.7736	3.6558	1.5057	5.1615	0.0000	14,630.3099	14,630.3099	1.9499	0.0000	14,657.2663
2023	5.2705	26.4914	44.5936	0.1413	9.8688	0.7800	10.6488	2.6381	0.7328	3.3708	0.0000	14,210.3424	14,210.3424	1.0230	0.0000	14,235.9160
2024	237.2328	9.5610	15.0611	0.0243	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,352.4178	2,352.4178	0.7175	0.0000	2,370.3550
Maximum	**237.2328**	**46.4651**	**47.3319**	**0.1455**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**14,630.3099**	**14,630.3099**	**1.9499**	**0.0000**	**14,657.2663**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2865	46.4651	31.6150	0.0642	18.2675	2.0461	20.3135	9.9840	1.8824	11.8664	0.0000	6,221.4937	6,221.4937	1.9491	0.0000	6,270.2214
2022	5.7218	38.9024	47.3319	0.1455	9.8688	1.6366	10.7736	3.6558	1.5057	5.1615	0.0000	14,630.3099	14,630.3099	1.9499	0.0000	14,657.2663
2023	5.2705	26.4914	44.5936	0.1413	9.8688	0.7800	10.6488	2.6381	0.7328	3.3708	0.0000	14,210.3424	14,210.3424	1.0230	0.0000	14,235.9160
2024	237.2328	9.5610	15.0611	0.0243	1.7884	0.4698	1.8628	0.4743	0.4322	0.5476	0.0000	2,352.4178	2,352.4178	0.7175	0.0000	2,370.3550
Maximum	**237.2328**	**46.4651**	**47.3319**	**0.1455**	**18.2675**	**2.0461**	**20.3135**	**9.9840**	**1.8824**	**11.8664**	**0.0000**	**14,630.3099**	**14,630.3099**	**1.9499**	**0.0000**	**14,657.2663**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.855 5	1,269.855 5	0.0908		1,272.125 2
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.2019**	**4.1943**	**1.5706**	**0.0133**	**0.4346**	**0.0141**	**0.4487**	**0.1176**	**0.0135**	**0.1311**		**1,430.693 2**	**1,430.693 2**	**0.0955**		**1,433.081 2**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.8555	1,269.8555	0.0908		1,272.1252
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0489	0.5524	1.6100e-003	0.1677	1.3500e-003	0.1690	0.0445	1.2500e-003	0.0457		160.8377	160.8377	4.7300e-003		160.9560
Total	**0.2019**	**4.1943**	**1.5706**	**0.0133**	**0.4346**	**0.0141**	**0.4487**	**0.1176**	**0.0135**	**0.1311**		**1,430.6932**	**1,430.6932**	**0.0955**		**1,433.0812**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.0858**	**0.0587**	**0.6629**	**1.9400e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**193.0052**	**193.0052**	**5.6800e-003**		**193.1472**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

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3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	**0.0858**	**0.0587**	**0.6629**	**1.9400e-003**	**0.2012**	**1.6300e-003**	**0.2028**	**0.0534**	**1.5000e-003**	**0.0549**		**193.0052**	**193.0052**	**5.6800e-003**		**193.1472**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.0954**	**0.0652**	**0.7365**	**2.1500e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**214.4502**	**214.4502**	**6.3100e-003**		**214.6080**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0954	0.0652	0.7365	2.1500e-003	0.2236	1.8100e-003	0.2254	0.0593	1.6600e-003	0.0610		214.4502	214.4502	6.3100e-003		214.6080
Total	**0.0954**	**0.0652**	**0.7365**	**2.1500e-003**	**0.2236**	**1.8100e-003**	**0.2254**	**0.0593**	**1.6600e-003**	**0.0610**		**214.4502**	**214.4502**	**6.3100e-003**		**214.6080**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0896	0.0589	0.6784	2.0800e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		206.9139	206.9139	5.7000e-003		207.0563
Total	**0.0896**	**0.0589**	**0.6784**	**2.0800e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**206.9139**	**206.9139**	**5.7000e-003**		**207.0563**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0896	0.0589	0.6784	2.0800e-003	0.2236	1.7500e-003	0.2253	0.0593	1.6100e-003	0.0609		206.9139	206.9139	5.7000e-003		207.0563
Total	**0.0896**	**0.0589**	**0.6784**	**2.0800e-003**	**0.2236**	**1.7500e-003**	**0.2253**	**0.0593**	**1.6100e-003**	**0.0609**		**206.9139**	**206.9139**	**5.7000e-003**		**207.0563**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	3.5872	2.3593	27.1680	0.0832	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,286.9013	8,286.9013	0.2282		8,292.6058
Total	**4.0156**	**15.5266**	**30.9685**	**0.1186**	**9.8688**	**0.0957**	**9.9645**	**2.6381**	**0.0891**	**2.7271**		**12,075.9763**	**12,075.9763**	**0.4663**		**12,087.6341**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.075 0	3,789.075 0	0.2381		3,795.028 3
Worker	3.5872	2.3593	27.1680	0.0832	8.9533	0.0701	9.0234	2.3745	0.0646	2.4390		8,286.901 3	8,286.901 3	0.2282		8,292.605 8
Total	**4.0156**	**15.5266**	**30.9685**	**0.1186**	**9.8688**	**0.0957**	**9.9645**	**2.6381**	**0.0891**	**2.7271**		**12,075.97 63**	**12,075.97 63**	**0.4663**		**12,087.63 41**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.400 7	3,671.400 7	0.2096		3,676.641 7
Worker	3.3795	2.1338	24.9725	0.0801	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		7,983.731 8	7,983.731 8	0.2055		7,988.868 3
Total	**3.6978**	**12.1065**	**28.3496**	**0.1144**	**9.8688**	**0.0803**	**9.9491**	**2.6381**	**0.0743**	**2.7124**		**11,655.13 25**	**11,655.13 25**	**0.4151**		**11,665.50 99**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.4007	3,671.4007	0.2096		3,676.6417
Worker	3.3795	2.1338	24.9725	0.0801	8.9533	0.0681	9.0214	2.3745	0.0627	2.4372		7,983.7318	7,983.7318	0.2055		7,988.8683
Total	**3.6978**	**12.1065**	**28.3496**	**0.1144**	**9.8688**	**0.0803**	**9.9491**	**2.6381**	**0.0743**	**2.7124**		**11,655.1325**	**11,655.1325**	**0.4151**		**11,665.5099**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0633	0.0400	0.4677	1.5000e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		149.5081	149.5081	3.8500e-003		149.6043
Total	**0.0633**	**0.0400**	**0.4677**	**1.5000e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**149.5081**	**149.5081**	**3.8500e-003**		**149.6043**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0633	0.0400	0.4677	1.5000e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1700e-003	0.0456		149.5081	149.5081	3.8500e-003		149.6043
Total	**0.0633**	**0.0400**	**0.4677**	**1.5000e-003**	**0.1677**	**1.2800e-003**	**0.1689**	**0.0445**	**1.1700e-003**	**0.0456**		**149.5081**	**149.5081**	**3.8500e-003**		**149.6043**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0601	0.0364	0.4354	1.4500e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		144.8706	144.8706	3.5300e-003		144.9587
Total	**0.0601**	**0.0364**	**0.4354**	**1.4500e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**144.8706**	**144.8706**	**3.5300e-003**		**144.9587**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0601	0.0364	0.4354	1.4500e-003	0.1677	1.2600e-003	0.1689	0.0445	1.1600e-003	0.0456		144.8706	144.8706	3.5300e-003		144.9587
Total	**0.0601**	**0.0364**	**0.4354**	**1.4500e-003**	**0.1677**	**1.2600e-003**	**0.1689**	**0.0445**	**1.1600e-003**	**0.0456**		**144.8706**	**144.8706**	**3.5300e-003**		**144.9587**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.6406	0.3886	4.6439	0.0155	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,545.286 0	1,545.286 0	0.0376		1,546.226 2
Total	**0.6406**	**0.3886**	**4.6439**	**0.0155**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,545.286 0**	**1,545.286 0**	**0.0376**		**1,546.226 2**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.6406	0.3886	4.6439	0.0155	1.7884	0.0134	1.8018	0.4743	0.0123	0.4866		1,545.286 0	1,545.286 0	0.0376		1,546.226 2
Total	**0.6406**	**0.3886**	**4.6439**	**0.0155**	**1.7884**	**0.0134**	**1.8018**	**0.4743**	**0.0123**	**0.4866**		**1,545.286 0**	**1,545.286 0**	**0.0376**		**1,546.226 2**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.80 05	47,917.80 05	2.1953		47,972.68 39
Unmitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.80 05	47,917.80 05	2.1953		47,972.68 39

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)
Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1704	1.8234	1.1577	2.3800e-003	0.4141	0.0817	0.4958	0.1788	0.0754	0.2542	0.0000	210.7654	210.7654	0.0600	0.0000	212.2661
2022	0.5865	4.0240	5.1546	0.0155	0.9509	0.1175	1.0683	0.2518	0.1103	0.3621	0.0000	1,418.6554	1,418.6554	0.1215	0.0000	1,421.6925
2023	0.5190	3.2850	4.7678	0.0147	0.8497	0.0971	0.9468	0.2283	0.0912	0.3195	0.0000	1,342.4412	1,342.4412	0.1115	0.0000	1,345.2291
2024	4.1592	0.1313	0.2557	5.0000e-004	0.0221	6.3900e-003	0.0285	5.8700e-003	5.9700e-003	0.0118	0.0000	44.6355	44.6355	7.8300e-003	0.0000	44.8311
Maximum	**4.1592**	**4.0240**	**5.1546**	**0.0155**	**0.9509**	**0.1175**	**1.0683**	**0.2518**	**0.1103**	**0.3621**	**0.0000**	**1,418.6554**	**1,418.6554**	**0.1215**	**0.0000**	**1,421.6925**

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2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1704	1.8234	1.1577	2.3800e-003	0.4141	0.0817	0.4958	0.1788	0.0754	0.2542	0.0000	210.7651	210.7651	0.0600	0.0000	212.2658
2022	0.5865	4.0240	5.1546	0.0155	0.9509	0.1175	1.0683	0.2518	0.1103	0.3621	0.0000	1,418.6550	1,418.6550	0.1215	0.0000	1,421.6921
2023	0.5190	3.2850	4.7678	0.0147	0.8497	0.0971	0.9468	0.2283	0.0912	0.3195	0.0000	1,342.4409	1,342.4409	0.1115	0.0000	1,345.2287
2024	4.1592	0.1313	0.2557	5.0000e-004	0.0221	6.3900e-003	0.0285	5.8700e-003	5.9700e-003	0.0118	0.0000	44.6354	44.6354	7.8300e-003	0.0000	44.8311
Maximum	**4.1592**	**4.0240**	**5.1546**	**0.0155**	**0.9509**	**0.1175**	**1.0683**	**0.2518**	**0.1103**	**0.3621**	**0.0000**	**1,418.6550**	**1,418.6550**	**0.1215**	**0.0000**	**1,421.6921**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-1-2021	11-30-2021	1.4091	1.4091
2	12-1-2021	2-28-2022	1.3329	1.3329
3	3-1-2022	5-31-2022	1.1499	1.1499
4	6-1-2022	8-31-2022	1.1457	1.1457
5	9-1-2022	11-30-2022	1.1415	1.1415
6	12-1-2022	2-28-2023	1.0278	1.0278
7	3-1-2023	5-31-2023	0.9868	0.9868
8	6-1-2023	8-31-2023	0.9831	0.9831

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9	9-1-2023	11-30-2023	0.9798	0.9798
10	12-1-2023	2-29-2024	2.8757	2.8757
11	3-1-2024	5-31-2024	1.6188	1.6188
		Highest	2.8757	2.8757

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Energy	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	3,896.0732	3,896.0732	0.1303	0.0468	3,913.2833
Mobile	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.4986	7,620.4986	0.3407	0.0000	7,629.0162
Waste						0.0000	0.0000		0.0000	0.0000	207.8079	0.0000	207.8079	12.2811	0.0000	514.8354
Water						0.0000	0.0000		0.0000	0.0000	29.1632	556.6420	585.8052	3.0183	0.0755	683.7567
Total	**6.8692**	**9.5223**	**30.3407**	**0.0914**	**7.7979**	**0.2260**	**8.0240**	**2.0895**	**0.2219**	**2.3114**	**236.9712**	**12,294.1807**	**12,531.1519**	**15.7904**	**0.1260**	**12,963.4751**

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

3.0 Construction Detail

Construction Phase

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0012	51.0012	0.0144	0.0000	51.3601
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0012**	**51.0012**	**0.0144**	**0.0000**	**51.3601**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.3000e-004	6.0900e-003	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5281	1.5281	5.0000e-005	0.0000	1.5293
Total	**2.6500e-003**	**0.0639**	**0.0209**	**2.0000e-004**	**5.6200e-003**	**2.0000e-004**	**5.8200e-003**	**1.5300e-003**	**1.9000e-004**	**1.7200e-003**	**0.0000**	**18.9847**	**18.9847**	**1.2600e-003**	**0.0000**	**19.0161**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0496	0.0000	0.0496	7.5100e-003	0.0000	7.5100e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0475	0.4716	0.3235	5.8000e-004		0.0233	0.0233		0.0216	0.0216	0.0000	51.0011	51.0011	0.0144	0.0000	51.3600
Total	**0.0475**	**0.4716**	**0.3235**	**5.8000e-004**	**0.0496**	**0.0233**	**0.0729**	**7.5100e-003**	**0.0216**	**0.0291**	**0.0000**	**51.0011**	**51.0011**	**0.0144**	**0.0000**	**51.3600**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.9300e-003	0.0634	0.0148	1.8000e-004	3.9400e-003	1.9000e-004	4.1300e-003	1.0800e-003	1.8000e-004	1.2600e-003	0.0000	17.4566	17.4566	1.2100e-003	0.0000	17.4869
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.2000e-004	5.3000e-004	6.0900e-003	2.0000e-005	1.6800e-003	1.0000e-005	1.6900e-003	4.5000e-004	1.0000e-005	4.6000e-004	0.0000	1.5281	1.5281	5.0000e-005	0.0000	1.5293
Total	**2.6500e-003**	**0.0639**	**0.0209**	**2.0000e-004**	**5.6200e-003**	**2.0000e-004**	**5.8200e-003**	**1.5300e-003**	**1.9000e-004**	**1.7200e-003**	**0.0000**	**18.9847**	**18.9847**	**1.2600e-003**	**0.0000**	**19.0161**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7061
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7061**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	4.3000e-004	4.8700e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2225	1.2225	4.0000e-005	0.0000	1.2234
Total	**5.8000e-004**	**4.3000e-004**	**4.8700e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.2225**	**1.2225**	**4.0000e-005**	**0.0000**	**1.2234**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0389	0.4050	0.2115	3.8000e-004		0.0204	0.0204		0.0188	0.0188	0.0000	33.4357	33.4357	0.0108	0.0000	33.7060
Total	**0.0389**	**0.4050**	**0.2115**	**3.8000e-004**	**0.1807**	**0.0204**	**0.2011**	**0.0993**	**0.0188**	**0.1181**	**0.0000**	**33.4357**	**33.4357**	**0.0108**	**0.0000**	**33.7060**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.8000e-004	4.3000e-004	4.8700e-003	1.0000e-005	1.3400e-003	1.0000e-005	1.3500e-003	3.6000e-004	1.0000e-005	3.7000e-004	0.0000	1.2225	1.2225	4.0000e-005	0.0000	1.2234
Total	**5.8000e-004**	**4.3000e-004**	**4.8700e-003**	**1.0000e-005**	**1.3400e-003**	**1.0000e-005**	**1.3500e-003**	**3.6000e-004**	**1.0000e-005**	**3.7000e-004**	**0.0000**	**1.2225**	**1.2225**	**4.0000e-005**	**0.0000**	**1.2234**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5405	103.5405	0.0335	0.0000	104.3776
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5405**	**103.5405**	**0.0335**	**0.0000**	**104.3776**

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3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2200e-003	9.0000e-004	0.0103	3.0000e-005	2.8300e-003	2.0000e-005	2.8600e-003	7.5000e-004	2.0000e-005	7.8000e-004	0.0000	2.5808	2.5808	8.0000e-005	0.0000	2.5828
Total	**1.2200e-003**	**9.0000e-004**	**0.0103**	**3.0000e-005**	**2.8300e-003**	**2.0000e-005**	**2.8600e-003**	**7.5000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5808**	**2.5808**	**8.0000e-005**	**0.0000**	**2.5828**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1741	0.0000	0.1741	0.0693	0.0000	0.0693	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0796	0.8816	0.5867	1.1800e-003		0.0377	0.0377		0.0347	0.0347	0.0000	103.5403	103.5403	0.0335	0.0000	104.3775
Total	**0.0796**	**0.8816**	**0.5867**	**1.1800e-003**	**0.1741**	**0.0377**	**0.2118**	**0.0693**	**0.0347**	**0.1040**	**0.0000**	**103.5403**	**103.5403**	**0.0335**	**0.0000**	**104.3775**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2200e-003	9.0000e-004	0.0103	3.0000e-005	2.8300e-003	2.0000e-005	2.8600e-003	7.5000e-004	2.0000e-005	7.8000e-004	0.0000	2.5808	2.5808	8.0000e-005	0.0000	2.5828
Total	**1.2200e-003**	**9.0000e-004**	**0.0103**	**3.0000e-005**	**2.8300e-003**	**2.0000e-005**	**2.8600e-003**	**7.5000e-004**	**2.0000e-005**	**7.8000e-004**	**0.0000**	**2.5808**	**2.5808**	**8.0000e-005**	**0.0000**	**2.5828**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	1.7400e-003	1.0000e-005	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4587	0.4587	1.0000e-005	0.0000	0.4590
Total	**2.1000e-004**	**1.5000e-004**	**1.7400e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4587**	**0.4587**	**1.0000e-005**	**0.0000**	**0.4590**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0807	0.0000	0.0807	0.0180	0.0000	0.0180	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0127	0.1360	0.1017	2.2000e-004		5.7200e-003	5.7200e-003		5.2600e-003	5.2600e-003	0.0000	19.0871	19.0871	6.1700e-003	0.0000	19.2414
Total	**0.0127**	**0.1360**	**0.1017**	**2.2000e-004**	**0.0807**	**5.7200e-003**	**0.0865**	**0.0180**	**5.2600e-003**	**0.0233**	**0.0000**	**19.0871**	**19.0871**	**6.1700e-003**	**0.0000**	**19.2414**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.1000e-004	1.5000e-004	1.7400e-003	1.0000e-005	5.2000e-004	0.0000	5.3000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.4587	0.4587	1.0000e-005	0.0000	0.4590
Total	**2.1000e-004**	**1.5000e-004**	**1.7400e-003**	**1.0000e-005**	**5.2000e-004**	**0.0000**	**5.3000e-004**	**1.4000e-004**	**0.0000**	**1.4000e-004**	**0.0000**	**0.4587**	**0.4587**	**1.0000e-005**	**0.0000**	**0.4590**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1324	293.1324	0.0702	0.0000	294.8881
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1324**	**293.1324**	**0.0702**	**0.0000**	**294.8881**

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3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.3051	0.2164	2.5233	7.3500e-003	0.7557	6.2300e-003	0.7619	0.2007	5.7400e-003	0.2065	0.0000	663.9936	663.9936	0.0187	0.0000	664.4604
Total	**0.3578**	**1.9125**	**2.9812**	**0.0119**	**0.8696**	**9.4100e-003**	**0.8790**	**0.2336**	**8.7800e-003**	**0.2424**	**0.0000**	**1,105.9771**	**1,105.9771**	**0.0451**	**0.0000**	**1,107.1039**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2158	1.9754	2.0700	3.4100e-003		0.1023	0.1023		0.0963	0.0963	0.0000	293.1321	293.1321	0.0702	0.0000	294.8877
Total	**0.2158**	**1.9754**	**2.0700**	**3.4100e-003**		**0.1023**	**0.1023**		**0.0963**	**0.0963**	**0.0000**	**293.1321**	**293.1321**	**0.0702**	**0.0000**	**294.8877**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0527	1.6961	0.4580	4.5500e-003	0.1140	3.1800e-003	0.1171	0.0329	3.0400e-003	0.0359	0.0000	441.9835	441.9835	0.0264	0.0000	442.6435
Worker	0.3051	0.2164	2.5233	7.3500e-003	0.7557	6.2300e-003	0.7619	0.2007	5.7400e-003	0.2065	0.0000	663.9936	663.9936	0.0187	0.0000	664.4604
Total	**0.3578**	**1.9125**	**2.9812**	**0.0119**	**0.8696**	**9.4100e-003**	**0.8790**	**0.2336**	**8.7800e-003**	**0.2424**	**0.0000**	**1,105.9771**	**1,105.9771**	**0.0451**	**0.0000**	**1,107.1039**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2789	286.2789	0.0681	0.0000	287.9814
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2789**	**286.2789**	**0.0681**	**0.0000**	**287.9814**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.2795	0.1910	2.2635	6.9100e-003	0.7377	5.9100e-003	0.7436	0.1960	5.4500e-003	0.2014	0.0000	624.5363	624.5363	0.0164	0.0000	624.9466
Total	**0.3177**	**1.4420**	**2.6646**	**0.0112**	**0.8490**	**7.3700e-003**	**0.8564**	**0.2281**	**6.8500e-003**	**0.2349**	**0.0000**	**1,042.5294**	**1,042.5294**	**0.0392**	**0.0000**	**1,043.5090**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1942	1.7765	2.0061	3.3300e-003		0.0864	0.0864		0.0813	0.0813	0.0000	286.2785	286.2785	0.0681	0.0000	287.9811
Total	**0.1942**	**1.7765**	**2.0061**	**3.3300e-003**		**0.0864**	**0.0864**		**0.0813**	**0.0813**	**0.0000**	**286.2785**	**286.2785**	**0.0681**	**0.0000**	**287.9811**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0382	1.2511	0.4011	4.3000e-003	0.1113	1.4600e-003	0.1127	0.0321	1.4000e-003	0.0335	0.0000	417.9930	417.9930	0.0228	0.0000	418.5624
Worker	0.2795	0.1910	2.2635	6.9100e-003	0.7377	5.9100e-003	0.7436	0.1960	5.4500e-003	0.2014	0.0000	624.5363	624.5363	0.0164	0.0000	624.9466
Total	**0.3177**	**1.4420**	**2.6646**	**0.0112**	**0.8490**	**7.3700e-003**	**0.8564**	**0.2281**	**6.8500e-003**	**0.2349**	**0.0000**	**1,042.5294**	**1,042.5294**	**0.0392**	**0.0000**	**1,043.5090**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.2300e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6156	0.6156	2.0000e-005	0.0000	0.6160
Total	**2.8000e-004**	**1.9000e-004**	**2.2300e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6156**	**0.6156**	**2.0000e-005**	**0.0000**	**0.6160**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.7100e-003	0.0663	0.0948	1.5000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	13.0175	13.0175	4.2100e-003	0.0000	13.1227
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**6.7100e-003**	**0.0663**	**0.0948**	**1.5000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**13.0175**	**13.0175**	**4.2100e-003**	**0.0000**	**13.1227**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	1.9000e-004	2.2300e-003	1.0000e-005	7.3000e-004	1.0000e-005	7.3000e-004	1.9000e-004	1.0000e-005	2.0000e-004	0.0000	0.6156	0.6156	2.0000e-005	0.0000	0.6160
Total	**2.8000e-004**	**1.9000e-004**	**2.2300e-003**	**1.0000e-005**	**7.3000e-004**	**1.0000e-005**	**7.3000e-004**	**1.9000e-004**	**1.0000e-005**	**2.0000e-004**	**0.0000**	**0.6156**	**0.6156**	**2.0000e-005**	**0.0000**	**0.6160**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

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3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.9000e-004	3.5100e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0094	1.0094	3.0000e-005	0.0000	1.0100
Total	**4.4000e-004**	**2.9000e-004**	**3.5100e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0094**	**1.0094**	**3.0000e-005**	**0.0000**	**1.0100**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0109	0.1048	0.1609	2.5000e-004		5.1500e-003	5.1500e-003		4.7400e-003	4.7400e-003	0.0000	22.0292	22.0292	7.1200e-003	0.0000	22.2073
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0109**	**0.1048**	**0.1609**	**2.5000e-004**		**5.1500e-003**	**5.1500e-003**		**4.7400e-003**	**4.7400e-003**	**0.0000**	**22.0292**	**22.0292**	**7.1200e-003**	**0.0000**	**22.2073**

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3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.4000e-004	2.9000e-004	3.5100e-003	1.0000e-005	1.2300e-003	1.0000e-005	1.2400e-003	3.3000e-004	1.0000e-005	3.4000e-004	0.0000	1.0094	1.0094	3.0000e-005	0.0000	1.0100
Total	**4.4000e-004**	**2.9000e-004**	**3.5100e-003**	**1.0000e-005**	**1.2300e-003**	**1.0000e-005**	**1.2400e-003**	**3.3000e-004**	**1.0000e-005**	**3.4000e-004**	**0.0000**	**1.0094**	**1.0094**	**3.0000e-005**	**0.0000**	**1.0100**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

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3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4800e-003	4.9300e-003	0.0596	1.9000e-004	0.0209	1.6000e-004	0.0211	5.5500e-003	1.5000e-004	5.7000e-003	0.0000	17.1287	17.1287	4.3000e-004	0.0000	17.1394
Total	**7.4800e-003**	**4.9300e-003**	**0.0596**	**1.9000e-004**	**0.0209**	**1.6000e-004**	**0.0211**	**5.5500e-003**	**1.5000e-004**	**5.7000e-003**	**0.0000**	**17.1287**	**17.1287**	**4.3000e-004**	**0.0000**	**17.1394**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	4.1372					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.1600e-003	0.0213	0.0317	5.0000e-005		1.0700e-003	1.0700e-003		1.0700e-003	1.0700e-003	0.0000	4.4682	4.4682	2.5000e-004	0.0000	4.4745
Total	**4.1404**	**0.0213**	**0.0317**	**5.0000e-005**		**1.0700e-003**	**1.0700e-003**		**1.0700e-003**	**1.0700e-003**	**0.0000**	**4.4682**	**4.4682**	**2.5000e-004**	**0.0000**	**4.4745**

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3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.4800e-003	4.9300e-003	0.0596	1.9000e-004	0.0209	1.6000e-004	0.0211	5.5500e-003	1.5000e-004	5.7000e-003	0.0000	17.1287	17.1287	4.3000e-004	0.0000	17.1394
Total	**7.4800e-003**	**4.9300e-003**	**0.0596**	**1.9000e-004**	**0.0209**	**1.6000e-004**	**0.0211**	**5.5500e-003**	**1.5000e-004**	**5.7000e-003**	**0.0000**	**17.1287**	**17.1287**	**4.3000e-004**	**0.0000**	**17.1394**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.498 6	7,620.498 6	0.3407	0.0000	7,629.016 2
Unmitigated	1.5857	7.9962	19.1834	0.0821	7.7979	0.0580	7.8559	2.0895	0.0539	2.1434	0.0000	7,620.498 6	7,620.498 6	0.3407	0.0000	7,629.016 2

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.646 5	2,512.646 5	0.1037	0.0215	2,521.635 6
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	2,512.646 5	2,512.646 5	0.1037	0.0215	2,521.635 6
NaturalGas Mitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.426 7	1,383.426 7	0.0265	0.0254	1,391.647 8
NaturalGas Unmitigated	0.1398	1.2312	0.7770	7.6200e-003		0.0966	0.0966		0.0966	0.0966	0.0000	1,383.426 7	1,383.426 7	0.0265	0.0254	1,391.647 8

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	408494	2.2000e-003	0.0188	8.0100e-003	1.2000e-004		1.5200e-003	1.5200e-003		1.5200e-003	1.5200e-003	0.0000	21.7988	21.7988	4.2000e-004	4.0000e-004	21.9284
Apartments Mid Rise	1.30613e+007	0.0704	0.6018	0.2561	3.8400e-003		0.0487	0.0487		0.0487	0.0487	0.0000	696.9989	696.9989	0.0134	0.0128	701.1408
General Office Building	468450	2.5300e-003	0.0230	0.0193	1.4000e-004		1.7500e-003	1.7500e-003		1.7500e-003	1.7500e-003	0.0000	24.9983	24.9983	4.8000e-004	4.6000e-004	25.1468
High Turnover (Sit Down Restaurant)	8.30736e+006	0.0448	0.4072	0.3421	2.4400e-003		0.0310	0.0310		0.0310	0.0310	0.0000	443.3124	443.3124	8.5000e-003	8.1300e-003	445.9468
Hotel	1.74095e+006	9.3900e-003	0.0853	0.0717	5.1000e-004		6.4900e-003	6.4900e-003		6.4900e-003	6.4900e-003	0.0000	92.9036	92.9036	1.7800e-003	1.7000e-003	93.4557
Quality Restaurant	1.84608e+006	9.9500e-003	0.0905	0.0760	5.4000e-004		6.8800e-003	6.8800e-003		6.8800e-003	6.8800e-003	0.0000	98.5139	98.5139	1.8900e-003	1.8100e-003	99.0993
Regional Shopping Center	91840	5.0000e-004	4.5000e-003	3.7800e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.9009	4.9009	9.0000e-005	9.0000e-005	4.9301
Total		**0.1398**	**1.2312**	**0.7770**	**7.6200e-003**		**0.0966**	**0.0966**		**0.0966**	**0.0966**	**0.0000**	**1,383.4268**	**1,383.4268**	**0.0265**	**0.0254**	**1,391.6478**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	106010	33.7770	1.3900e-003	2.9000e-004	33.8978
Apartments Mid Rise	3.94697e+006	1,257.5879	0.0519	0.0107	1,262.0869
General Office Building	584550	186.2502	7.6900e-003	1.5900e-003	186.9165
High Turnover (Sit Down Restaurant)	1.58904e+006	506.3022	0.0209	4.3200e-003	508.1135
Hotel	550308	175.3399	7.2400e-003	1.5000e-003	175.9672
Quality Restaurant	353120	112.5116	4.6500e-003	9.6000e-004	112.9141
Regional Shopping Center	756000	240.8778	9.9400e-003	2.0600e-003	241.7395
Total		**2,512.6465**	**0.1037**	**0.0215**	**2,521.6356**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835
Unmitigated	5.1437	0.2950	10.3804	1.6700e-003		0.0714	0.0714		0.0714	0.0714	0.0000	220.9670	220.9670	0.0201	3.7400e-003	222.5835

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.4137					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.3998					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0206	0.1763	0.0750	1.1200e-003		0.0143	0.0143		0.0143	0.0143	0.0000	204.1166	204.1166	3.9100e-003	3.7400e-003	205.3295
Landscaping	0.3096	0.1187	10.3054	5.4000e-004		0.0572	0.0572		0.0572	0.0572	0.0000	16.8504	16.8504	0.0161	0.0000	17.2540
Total	**5.1437**	**0.2950**	**10.3804**	**1.6600e-003**		**0.0714**	**0.0714**		**0.0714**	**0.0714**	**0.0000**	**220.9670**	**220.9670**	**0.0201**	**3.7400e-003**	**222.5835**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	585.8052	3.0183	0.0755	683.7567
Unmitigated	585.8052	3.0183	0.0755	683.7567

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	1.62885 / 1.02688	10.9095	0.0535	1.3400e-003	12.6471
Apartments Mid Rise	63.5252 / 40.0485	425.4719	2.0867	0.0523	493.2363
General Office Building	7.99802 / 4.90201	53.0719	0.2627	6.5900e-003	61.6019
High Turnover (Sit Down Restaurant)	10.9272 / 0.697482	51.2702	0.3580	8.8200e-003	62.8482
Hotel	1.26834 / 0.140927	6.1633	0.0416	1.0300e-003	7.5079
Quality Restaurant	2.42827 / 0.154996	11.3934	0.0796	1.9600e-003	13.9663
Regional Shopping Center	4.14806 / 2.54236	27.5250	0.1363	3.4200e-003	31.9490
Total		**585.8052**	**3.0183**	**0.0755**	**683.7567**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	207.8079	12.2811	0.0000	514.8354
Unmitigated	207.8079	12.2811	0.0000	514.8354

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	11.5	2.3344	0.1380	0.0000	5.7834
Apartments Mid Rise	448.5	91.0415	5.3804	0.0000	225.5513
General Office Building	41.85	8.4952	0.5021	0.0000	21.0464
High Turnover (Sit Down Restaurant)	428.4	86.9613	5.1393	0.0000	215.4430
Hotel	27.38	5.5579	0.3285	0.0000	13.7694
Quality Restaurant	7.3	1.4818	0.0876	0.0000	3.6712
Regional Shopping Center	58.8	11.9359	0.7054	0.0000	29.5706
Total		**207.8079**	**12.2811**	**0.0000**	**514.8354**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2561	46.4415	31.4494	0.0636	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,163.416 6	6,163.416 6	1.9475	0.0000	6,212.103 9
2022	4.5441	38.8811	40.8776	0.1240	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,493.44 03	12,493.44 03	1.9485	0.0000	12,518.57 07
2023	4.1534	25.7658	38.7457	0.1206	7.0088	0.7592	7.7679	1.8799	0.7136	2.5935	0.0000	12,150.48 90	12,150.48 90	0.9589	0.0000	12,174.46 15
2024	237.0219	9.5478	14.9642	0.0239	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,313.180 8	2,313.180 8	0.7166	0.0000	2,331.095 6
Maximum	**237.0219**	**46.4415**	**40.8776**	**0.1240**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,493.44 03**	**12,493.44 03**	**1.9485**	**0.0000**	**12,518.57 07**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2561	46.4415	31.4494	0.0636	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,163.416 6	6,163.416 6	1.9475	0.0000	6,212.103 9
2022	4.5441	38.8811	40.8776	0.1240	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,493.44 03	12,493.44 03	1.9485	0.0000	12,518.57 07
2023	4.1534	25.7658	38.7457	0.1206	7.0088	0.7592	7.7679	1.8799	0.7136	2.5935	0.0000	12,150.48 90	12,150.48 90	0.9589	0.0000	12,174.46 15
2024	237.0219	9.5478	14.9642	0.0239	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,313.180 8	2,313.180 8	0.7166	0.0000	2,331.095 5
Maximum	**237.0219**	**46.4415**	**40.8776**	**0.1240**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,493.44 03**	**12,493.44 03**	**1.9485**	**0.0000**	**12,518.57 07**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.6034	50,306.6034	2.1807		50,361.1208
Total	**41.1168**	**67.2262**	**207.5497**	**0.6278**	**45.9592**	**2.4626**	**48.4217**	**12.2950**	**2.4385**	**14.7336**	**0.0000**	**76,811.1816**	**76,811.1816**	**2.8282**	**0.4832**	**77,025.8786**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.241 3	1,292.241 3	0.0877		1,294.433 7
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0487	0.0313	0.4282	1.1800e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		117.2799	117.2799	3.5200e-003		117.3678
Total	**0.1760**	**4.1265**	**1.3884**	**0.0131**	**0.3810**	**0.0135**	**0.3946**	**0.1034**	**0.0129**	**0.1163**		**1,409.521 2**	**1,409.521 2**	**0.0912**		**1,411.801 5**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1273	4.0952	0.9602	0.0119	0.2669	0.0126	0.2795	0.0732	0.0120	0.0852		1,292.2413	1,292.2413	0.0877		1,294.4337
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0487	0.0313	0.4282	1.1800e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		117.2799	117.2799	3.5200e-003		117.3678
Total	**0.1760**	**4.1265**	**1.3884**	**0.0131**	**0.3810**	**0.0135**	**0.3946**	**0.1034**	**0.0129**	**0.1163**		**1,409.5212**	**1,409.5212**	**0.0912**		**1,411.8015**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0584	0.0375	0.5139	1.4100e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		140.7359	140.7359	4.2200e-003		140.8414
Total	**0.0584**	**0.0375**	**0.5139**	**1.4100e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**140.7359**	**140.7359**	**4.2200e-003**		**140.8414**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0584	0.0375	0.5139	1.4100e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		140.7359	140.7359	4.2200e-003		140.8414
Total	**0.0584**	**0.0375**	**0.5139**	**1.4100e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**140.7359**	**140.7359**	**4.2200e-003**		**140.8414**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0649	0.0417	0.5710	1.5700e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		156.3732	156.3732	4.6900e-003		156.4904
Total	**0.0649**	**0.0417**	**0.5710**	**1.5700e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**156.3732**	**156.3732**	**4.6900e-003**		**156.4904**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

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3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0649	0.0417	0.5710	1.5700e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		156.3732	156.3732	4.6900e-003		156.4904
Total	**0.0649**	**0.0417**	**0.5710**	**1.5700e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**156.3732**	**156.3732**	**4.6900e-003**		**156.4904**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0607	0.0376	0.5263	1.5100e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		150.8754	150.8754	4.2400e-003		150.9813
Total	**0.0607**	**0.0376**	**0.5263**	**1.5100e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**150.8754**	**150.8754**	**4.2400e-003**		**150.9813**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0607	0.0376	0.5263	1.5100e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		150.8754	150.8754	4.2400e-003		150.9813
Total	**0.0607**	**0.0376**	**0.5263**	**1.5100e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**150.8754**	**150.8754**	**4.2400e-003**		**150.9813**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.548 2	3,896.548 2	0.2236		3,902.138 4
Worker	2.4299	1.5074	21.0801	0.0607	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		6,042.558 5	6,042.558 5	0.1697		6,046.800 0
Total	**2.8378**	**14.7106**	**24.5142**	**0.0971**	**7.0087**	**0.0741**	**7.0828**	**1.8799**	**0.0691**	**1.9490**		**9,939.106 7**	**9,939.106 7**	**0.3933**		**9,948.938 4**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.333 6	2,554.333 6	0.6120		2,569.632 2
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.333 6**	**2,554.333 6**	**0.6120**		**2,569.632 2**

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4079	13.2032	3.4341	0.0364	0.9155	0.0248	0.9404	0.2636	0.0237	0.2873		3,896.548 2	3,896.548 2	0.2236		3,902.138 4
Worker	2.4299	1.5074	21.0801	0.0607	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		6,042.558 5	6,042.558 5	0.1697		6,046.800 0
Total	**2.8378**	**14.7106**	**24.5142**	**0.0971**	**7.0087**	**0.0741**	**7.0828**	**1.8799**	**0.0691**	**1.9490**		**9,939.106 7**	**9,939.106 7**	**0.3933**		**9,948.938 4**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.876 2	3,773.876 2	0.1982		3,778.830 0
Worker	2.2780	1.3628	19.4002	0.0584	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,821.402 8	5,821.402 8	0.1529		5,825.225 4
Total	**2.5807**	**11.3809**	**22.5017**	**0.0936**	**7.0088**	**0.0595**	**7.0682**	**1.8799**	**0.0552**	**1.9350**		**9,595.279 0**	**9,595.279 0**	**0.3511**		**9,604.055 4**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3027	10.0181	3.1014	0.0352	0.9156	0.0116	0.9271	0.2636	0.0111	0.2747		3,773.876 2	3,773.876 2	0.1982		3,778.830 0
Worker	2.2780	1.3628	19.4002	0.0584	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,821.402 8	5,821.402 8	0.1529		5,825.225 4
Total	**2.5807**	**11.3809**	**22.5017**	**0.0936**	**7.0088**	**0.0595**	**7.0682**	**1.8799**	**0.0552**	**1.9350**		**9,595.279 0**	**9,595.279 0**	**0.3511**		**9,604.055 4**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.584 1**	**2,207.584 1**	**0.7140**		**2,225.433 6**

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0427	0.0255	0.3633	1.0900e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		109.0150	109.0150	2.8600e-003		109.0866
Total	**0.0427**	**0.0255**	**0.3633**	**1.0900e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**109.0150**	**109.0150**	**2.8600e-003**		**109.0866**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day							lb/day			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0427	0.0255	0.3633	1.0900e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		109.0150	109.0150	2.8600e-003		109.0866
Total	**0.0427**	**0.0255**	**0.3633**	**1.0900e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**109.0150**	**109.0150**	**2.8600e-003**		**109.0866**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day							lb/day			
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

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3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0403	0.0233	0.3384	1.0600e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		105.6336	105.6336	2.6300e-003		105.6992
Total	**0.0403**	**0.0233**	**0.3384**	**1.0600e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**105.6336**	**105.6336**	**2.6300e-003**		**105.6992**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0403	0.0233	0.3384	1.0600e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		105.6336	105.6336	2.6300e-003		105.6992
Total	**0.0403**	**0.0233**	**0.3384**	**1.0600e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**105.6336**	**105.6336**	**2.6300e-003**		**105.6992**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

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3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4296	0.2481	3.6098	0.0113	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,126.7583	1,126.7583	0.0280		1,127.4583
Total	**0.4296**	**0.2481**	**3.6098**	**0.0113**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,126.7583**	**1,126.7583**	**0.0280**		**1,127.4583**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4296	0.2481	3.6098	0.0113	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,126.7583	1,126.7583	0.0280		1,127.4583
Total	**0.4296**	**0.2481**	**3.6098**	**0.0113**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,126.7583**	**1,126.7583**	**0.0280**		**1,127.4583**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.60 34	50,306.60 34	2.1807		50,361.12 08
Unmitigated	9.8489	45.4304	114.8495	0.4917	45.9592	0.3360	46.2951	12.2950	0.3119	12.6070		50,306.60 34	50,306.60 34	2.1807		50,361.12 08

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.983 2	8,355.983 2	0.1602	0.1532	8,405.638 7

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.916 4	4,209.916 4	0.0807	0.0772	4,234.933 9
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.634 2	2,677.634 2	0.0513	0.0491	2,693.546 0
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.983 2**	**8,355.983 2**	**0.1602**	**0.1532**	**8,405.638 7**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Summer

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.916 4	4,209.916 4	0.0807	0.0772	4,234.933 9
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.634 2	2,677.634 2	0.0513	0.0491	2,693.546 0
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.983 2**	**8,355.983 2**	**0.1602**	**0.1532**	**8,405.638 7**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Village South Specific Plan (Proposed)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	45.00	1000sqft	1.03	45,000.00	0
High Turnover (Sit Down Restaurant)	36.00	1000sqft	0.83	36,000.00	0
Hotel	50.00	Room	1.67	72,600.00	0
Quality Restaurant	8.00	1000sqft	0.18	8,000.00	0
Apartments Low Rise	25.00	Dwelling Unit	1.56	25,000.00	72
Apartments Mid Rise	975.00	Dwelling Unit	25.66	975,000.00	2789
Regional Shopping Center	56.00	1000sqft	1.29	56,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2028
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Project Characteristics - Consistent with the DEIR's model.

Land Use - See SWAPE comment regarding residential and retail land uses.

Construction Phase - See SWAPE comment regarding individual construction phase lengths.

Demolition - Consistent with the DEIR's model. See SWAPE comment regarding demolition.

Vehicle Trips - Saturday trips consistent with the DEIR's model. See SWAPE comment regarding weekday and Sunday trips.

Woodstoves - Woodstoves and wood-burning fireplaces consistent with the DEIR's model. See SWAPE comment regarding gas fireplaces.

Energy Use -

Construction Off-road Equipment Mitigation - See SWAPE comment on construction-related mitigation.

Area Mitigation - See SWAPE comment regarding operational mitigation measures.

Water Mitigation - See SWAPE comment regarding operational mitigation measures.

Trips and VMT - Local hire provision

Table Name	Column Name	Default Value	New Value
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	1.25	0.00
tblFireplaces	NumberWood	48.75	0.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblTripsAndVMT	WorkerTripLength	14.70	10.00
tblVehicleTrips	ST_TR	7.16	6.17
tblVehicleTrips	ST_TR	6.39	3.87
tblVehicleTrips	ST_TR	2.46	1.39
tblVehicleTrips	ST_TR	158.37	79.82

tblVehicleTrips	ST_TR	8.19	3.75
tblVehicleTrips	ST_TR	94.36	63.99
tblVehicleTrips	ST_TR	49.97	10.74
tblVehicleTrips	SU_TR	6.07	6.16
tblVehicleTrips	SU_TR	5.86	4.18
tblVehicleTrips	SU_TR	1.05	0.69
tblVehicleTrips	SU_TR	131.84	78.27
tblVehicleTrips	SU_TR	5.95	3.20
tblVehicleTrips	SU_TR	72.16	57.65
tblVehicleTrips	SU_TR	25.24	6.39
tblVehicleTrips	WD_TR	6.59	5.83
tblVehicleTrips	WD_TR	6.65	4.13
tblVehicleTrips	WD_TR	11.03	6.41
tblVehicleTrips	WD_TR	127.15	65.80
tblVehicleTrips	WD_TR	8.17	3.84
tblVehicleTrips	WD_TR	89.95	62.64
tblVehicleTrips	WD_TR	42.70	9.43
tblWoodstoves	NumberCatalytic	1.25	0.00
tblWoodstoves	NumberCatalytic	48.75	0.00
tblWoodstoves	NumberNoncatalytic	1.25	0.00
tblWoodstoves	NumberNoncatalytic	48.75	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2621	46.4460	31.4068	0.0635	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,154.3377	6,154.3377	1.9472	0.0000	6,203.0186
2022	4.7966	38.8851	39.6338	0.1195	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,035.3440	12,035.3440	1.9482	0.0000	12,060.6013
2023	4.3939	25.8648	37.5031	0.1162	7.0088	0.7598	7.7685	1.8799	0.7142	2.5940	0.0000	11,710.4080	11,710.4080	0.9617	0.0000	11,734.4497
2024	237.0656	9.5503	14.9372	0.0238	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,307.0517	2,307.0517	0.7164	0.0000	2,324.9627
Maximum	**237.0656**	**46.4460**	**39.6338**	**0.1195**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,035.3440**	**12,035.3440**	**1.9482**	**0.0000**	**12,060.6013**

2.1 Overall Construction (Maximum Daily Emission)

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2621	46.4460	31.4068	0.0635	18.2032	2.0456	20.2488	9.9670	1.8820	11.8490	0.0000	6,154.3377	6,154.3377	1.9472	0.0000	6,203.0186
2022	4.7966	38.8851	39.6338	0.1195	8.8255	1.6361	10.4616	3.6369	1.5052	5.1421	0.0000	12,035.3440	12,035.3440	1.9482	0.0000	12,060.6013
2023	4.3939	25.8648	37.5031	0.1162	7.0088	0.7598	7.7685	1.8799	0.7142	2.5940	0.0000	11,710.4080	11,710.4080	0.9617	0.0000	11,734.4497
2024	237.0656	9.5503	14.9372	0.0238	1.2171	0.4694	1.2875	0.3229	0.4319	0.4621	0.0000	2,307.0517	2,307.0517	0.7164	0.0000	2,324.9627
Maximum	**237.0656**	**46.4460**	**39.6338**	**0.1195**	**18.2032**	**2.0456**	**20.2488**	**9.9670**	**1.8820**	**11.8490**	**0.0000**	**12,035.3440**	**12,035.3440**	**1.9482**	**0.0000**	**12,060.6013**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Energy	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
Mobile	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Total	**40.7912**	**67.7872**	**202.7424**	**0.6043**	**45.9592**	**2.4640**	**48.4231**	**12.2950**	**2.4399**	**14.7349**	**0.0000**	**74,422.3787**	**74,422.3787**	**2.8429**	**0.4832**	**74,637.4417**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	9/1/2021	10/12/2021	5	30	
2	Site Preparation	Site Preparation	10/13/2021	11/9/2021	5	20	
3	Grading	Grading	11/10/2021	1/11/2022	5	45	
4	Building Construction	Building Construction	1/12/2022	12/12/2023	5	500	
5	Paving	Paving	12/13/2023	1/30/2024	5	35	
6	Architectural Coating	Architectural Coating	1/31/2024	3/19/2024	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 112.5

Acres of Paving: 0

Residential Indoor: 2,025,000; Residential Outdoor: 675,000; Non-Residential Indoor: 326,400; Non-Residential Outdoor: 108,800; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	458.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	801.00	143.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	160.00	0.00	0.00	10.00	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**		**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.855 5	1,269.855 5	0.0908		1,272.125 2
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0532	0.0346	0.3963	1.1100e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		110.4707	110.4707	3.3300e-003		110.5539
Total	**0.1835**	**4.1800**	**1.4144**	**0.0128**	**0.3810**	**0.0137**	**0.3948**	**0.1034**	**0.0131**	**0.1165**		**1,380.326 2**	**1,380.326 2**	**0.0941**		**1,382.679 1**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3074	0.0000	3.3074	0.5008	0.0000	0.5008			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	**3.1651**	**31.4407**	**21.5650**	**0.0388**	**3.3074**	**1.5513**	**4.8588**	**0.5008**	**1.4411**	**1.9419**	**0.0000**	**3,747.944 9**	**3,747.944 9**	**1.0549**		**3,774.317 4**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.1304	4.1454	1.0182	0.0117	0.2669	0.0128	0.2797	0.0732	0.0122	0.0854		1,269.855 5	1,269.855 5	0.0908		1,272.125 2
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0532	0.0346	0.3963	1.1100e-003	0.1141	9.5000e-004	0.1151	0.0303	8.8000e-004	0.0311		110.4707	110.4707	3.3300e-003		110.5539
Total	**0.1835**	**4.1800**	**1.4144**	**0.0128**	**0.3810**	**0.0137**	**0.3948**	**0.1034**	**0.0131**	**0.1165**		**1,380.326 2**	**1,380.326 2**	**0.0941**		**1,382.679 1**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.656 9	3,685.656 9	1.1920		3,715.457 3
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.656 9**	**3,685.656 9**	**1.1920**		**3,715.457 3**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0638	0.0415	0.4755	1.3300e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		132.5649	132.5649	3.9900e-003		132.6646
Total	**0.0638**	**0.0415**	**0.4755**	**1.3300e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**132.5649**	**132.5649**	**3.9900e-003**		**132.6646**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0638	0.0415	0.4755	1.3300e-003	0.1369	1.1400e-003	0.1381	0.0363	1.0500e-003	0.0374		132.5649	132.5649	3.9900e-003		132.6646
Total	**0.0638**	**0.0415**	**0.4755**	**1.3300e-003**	**0.1369**	**1.1400e-003**	**0.1381**	**0.0363**	**1.0500e-003**	**0.0374**		**132.5649**	**132.5649**	**3.9900e-003**		**132.6646**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0709	0.0462	0.5284	1.4800e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		147.2943	147.2943	4.4300e-003		147.4051
Total	**0.0709**	**0.0462**	**0.5284**	**1.4800e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**147.2943**	**147.2943**	**4.4300e-003**		**147.4051**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0709	0.0462	0.5284	1.4800e-003	0.1521	1.2700e-003	0.1534	0.0404	1.1700e-003	0.0415		147.2943	147.2943	4.4300e-003		147.4051
Total	**0.0709**	**0.0462**	**0.5284**	**1.4800e-003**	**0.1521**	**1.2700e-003**	**0.1534**	**0.0404**	**1.1700e-003**	**0.0415**		**147.2943**	**147.2943**	**4.4300e-003**		**147.4051**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0665	0.0416	0.4861	1.4300e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		142.1207	142.1207	4.0000e-003		142.2207
Total	**0.0665**	**0.0416**	**0.4861**	**1.4300e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**142.1207**	**142.1207**	**4.0000e-003**		**142.2207**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6733**	**1.6349**	**10.3082**	**3.5965**	**1.5041**	**5.1006**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

3.4 Grading - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0665	0.0416	0.4861	1.4300e-003	0.1521	1.2300e-003	0.1534	0.0404	1.1300e-003	0.0415		142.1207	142.1207	4.0000e-003		142.2207
Total	**0.0665**	**0.0416**	**0.4861**	**1.4300e-003**	**0.1521**	**1.2300e-003**	**0.1534**	**0.0404**	**1.1300e-003**	**0.0415**		**142.1207**	**142.1207**	**4.0000e-003**		**142.2207**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	2.6620	1.6677	19.4699	0.0571	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		5,691.9354	5,691.9354	0.1602		5,695.9408
Total	**3.0904**	**14.8350**	**23.2704**	**0.0926**	**7.0087**	**0.0749**	**7.0836**	**1.8799**	**0.0699**	**1.9498**		**9,481.0104**	**9,481.0104**	**0.3984**		**9,490.9691**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4284	13.1673	3.8005	0.0354	0.9155	0.0256	0.9412	0.2636	0.0245	0.2881		3,789.0750	3,789.0750	0.2381		3,795.0283
Worker	2.6620	1.6677	19.4699	0.0571	6.0932	0.0493	6.1425	1.6163	0.0454	1.6617		5,691.9354	5,691.9354	0.1602		5,695.9408
Total	**3.0904**	**14.8350**	**23.2704**	**0.0926**	**7.0087**	**0.0749**	**7.0836**	**1.8799**	**0.0699**	**1.9498**		**9,481.0104**	**9,481.0104**	**0.3984**		**9,490.9691**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

3.5 Building Construction - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.400 7	3,671.400 7	0.2096		3,676.641 7
Worker	2.5029	1.5073	17.8820	0.0550	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,483.797 4	5,483.797 4	0.1442		5,487.402 0
Total	**2.8211**	**11.4799**	**21.2591**	**0.0893**	**7.0088**	**0.0601**	**7.0688**	**1.8799**	**0.0557**	**1.9356**		**9,155.198 1**	**9,155.198 1**	**0.3538**		**9,164.043 7**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.209 9	2,555.209 9	0.6079		2,570.406 1
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.209 9**	**2,555.209 9**	**0.6079**		**2,570.406 1**

3.5 Building Construction - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3183	9.9726	3.3771	0.0343	0.9156	0.0122	0.9277	0.2636	0.0116	0.2752		3,671.400 7	3,671.400 7	0.2096		3,676.641 7
Worker	2.5029	1.5073	17.8820	0.0550	6.0932	0.0479	6.1411	1.6163	0.0441	1.6604		5,483.797 4	5,483.797 4	0.1442		5,487.402 0
Total	**2.8211**	**11.4799**	**21.2591**	**0.0893**	**7.0088**	**0.0601**	**7.0688**	**1.8799**	**0.0557**	**1.9356**		**9,155.198 1**	**9,155.198 1**	**0.3538**		**9,164.043 7**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.584 1	2,207.584 1	0.7140		2,225.433 6
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**		**2,207.584 1**	**2,207.584 1**	**0.7140**		**2,225.433 6**

3.6 Paving - 2023

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day							lb/day			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0282	0.3349	1.0300e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		102.6928	102.6928	2.7000e-003		102.7603
Total	**0.0469**	**0.0282**	**0.3349**	**1.0300e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**102.6928**	**102.6928**	**2.7000e-003**		**102.7603**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category						lb/day							lb/day			
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.0327**	**10.1917**	**14.5842**	**0.0228**		**0.5102**	**0.5102**		**0.4694**	**0.4694**	**0.0000**	**2,207.5841**	**2,207.5841**	**0.7140**		**2,225.4336**

3.6 Paving - 2023

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0469	0.0282	0.3349	1.0300e-003	0.1141	9.0000e-004	0.1150	0.0303	8.3000e-004	0.0311		102.6928	102.6928	2.7000e-003		102.7603
Total	**0.0469**	**0.0282**	**0.3349**	**1.0300e-003**	**0.1141**	**9.0000e-004**	**0.1150**	**0.0303**	**8.3000e-004**	**0.0311**		**102.6928**	**102.6928**	**2.7000e-003**		**102.7603**

3.6 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310		2,207.547 2	2,207.547 2	0.7140		2,225.396 3
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**		**2,207.547 2**	**2,207.547 2**	**0.7140**		**2,225.396 3**

3.6 Paving - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0444	0.0257	0.3114	1.0000e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		99.5045	99.5045	2.4700e-003		99.5663
Total	**0.0444**	**0.0257**	**0.3114**	**1.0000e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**99.5045**	**99.5045**	**2.4700e-003**		**99.5663**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9882	9.5246	14.6258	0.0228		0.4685	0.4685		0.4310	0.4310	0.0000	2,207.5472	2,207.5472	0.7140		2,225.3963
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9882**	**9.5246**	**14.6258**	**0.0228**		**0.4685**	**0.4685**		**0.4310**	**0.4310**	**0.0000**	**2,207.5472**	**2,207.5472**	**0.7140**		**2,225.3963**

3.6 Paving - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0444	0.0257	0.3114	1.0000e-003	0.1141	8.8000e-004	0.1150	0.0303	8.1000e-004	0.0311		99.5045	99.5045	2.4700e-003		99.5663
Total	**0.0444**	**0.0257**	**0.3114**	**1.0000e-003**	**0.1141**	**8.8000e-004**	**0.1150**	**0.0303**	**8.1000e-004**	**0.0311**		**99.5045**	**99.5045**	**2.4700e-003**		**99.5663**

3.7 Architectural Coating - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609		281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**		**281.4481**	**281.4481**	**0.0159**		**281.8443**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

3.7 Architectural Coating - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4734	0.2743	3.3220	0.0107	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,061.381 8	1,061.381 8	0.0264		1,062.041 0
Total	**0.4734**	**0.2743**	**3.3220**	**0.0107**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,061.381 8**	**1,061.381 8**	**0.0264**		**1,062.041 0**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	236.4115					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1808	1.2188	1.8101	2.9700e-003		0.0609	0.0609		0.0609	0.0609	0.0000	281.4481	281.4481	0.0159		281.8443
Total	**236.5923**	**1.2188**	**1.8101**	**2.9700e-003**		**0.0609**	**0.0609**		**0.0609**	**0.0609**	**0.0000**	**281.4481**	**281.4481**	**0.0159**		**281.8443**

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Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

3.7 Architectural Coating - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4734	0.2743	3.3220	0.0107	1.2171	9.4300e-003	1.2266	0.3229	8.6800e-003	0.3315		1,061.381 8	1,061.381 8	0.0264		1,062.041 0
Total	**0.4734**	**0.2743**	**3.3220**	**0.0107**	**1.2171**	**9.4300e-003**	**1.2266**	**0.3229**	**8.6800e-003**	**0.3315**		**1,061.381 8**	**1,061.381 8**	**0.0264**		**1,062.041 0**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839
Unmitigated	9.5233	45.9914	110.0422	0.4681	45.9592	0.3373	46.2965	12.2950	0.3132	12.6083		47,917.8005	47,917.8005	2.1953		47,972.6839

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	145.75	154.25	154.00	506,227	506,227
Apartments Mid Rise	4,026.75	3,773.25	4075.50	13,660,065	13,660,065
General Office Building	288.45	62.55	31.05	706,812	706,812
High Turnover (Sit Down Restaurant)	2,368.80	2,873.52	2817.72	3,413,937	3,413,937
Hotel	192.00	187.50	160.00	445,703	445,703
Quality Restaurant	501.12	511.92	461.20	707,488	707,488
Regional Shopping Center	528.08	601.44	357.84	1,112,221	1,112,221
Total	8,050.95	8,164.43	8,057.31	20,552,452	20,552,452

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Hotel	16.60	8.40	6.90	19.40	61.60	19.00	58	38	4
Quality Restaurant	16.60	8.40	6.90	12.00	69.00	19.00	38	18	44
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Apartments Mid Rise	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
General Office Building	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
High Turnover (Sit Down Restaurant)	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Hotel	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Quality Restaurant	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821
Regional Shopping Center	0.543088	0.044216	0.209971	0.116369	0.014033	0.006332	0.021166	0.033577	0.002613	0.001817	0.005285	0.000712	0.000821

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387
NaturalGas Unmitigated	0.7660	6.7462	4.2573	0.0418		0.5292	0.5292		0.5292	0.5292		8,355.9832	8,355.9832	0.1602	0.1532	8,405.6387

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1119.16	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35784.3	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1283.42	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22759.9	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4769.72	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5057.75	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	251.616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Low Rise	1.11916	0.0121	0.1031	0.0439	6.6000e-004		8.3400e-003	8.3400e-003		8.3400e-003	8.3400e-003		131.6662	131.6662	2.5200e-003	2.4100e-003	132.4486
Apartments Mid Rise	35.7843	0.3859	3.2978	1.4033	0.0211		0.2666	0.2666		0.2666	0.2666		4,209.9164	4,209.9164	0.0807	0.0772	4,234.9339
General Office Building	1.28342	0.0138	0.1258	0.1057	7.5000e-004		9.5600e-003	9.5600e-003		9.5600e-003	9.5600e-003		150.9911	150.9911	2.8900e-003	2.7700e-003	151.8884
High Turnover (Sit Down Restaurant)	22.7599	0.2455	2.2314	1.8743	0.0134		0.1696	0.1696		0.1696	0.1696		2,677.6342	2,677.6342	0.0513	0.0491	2,693.5460
Hotel	4.76972	0.0514	0.4676	0.3928	2.8100e-003		0.0355	0.0355		0.0355	0.0355		561.1436	561.1436	0.0108	0.0103	564.4782
Quality Restaurant	5.05775	0.0545	0.4959	0.4165	2.9800e-003		0.0377	0.0377		0.0377	0.0377		595.0298	595.0298	0.0114	0.0109	598.5658
Regional Shopping Center	0.251616	2.7100e-003	0.0247	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.6019	29.6019	5.7000e-004	5.4000e-004	29.7778
Total		**0.7660**	**6.7463**	**4.2573**	**0.0418**		**0.5292**	**0.5292**		**0.5292**	**0.5292**		**8,355.9832**	**8,355.9832**	**0.1602**	**0.1532**	**8,405.6387**

6.0 Area Detail

6.1 Mitigation Measures Area

Village South Specific Plan (Proposed) - Los Angeles-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192
Unmitigated	30.5020	15.0496	88.4430	0.0944		1.5974	1.5974		1.5974	1.5974	0.0000	18,148.5950	18,148.5950	0.4874	0.3300	18,259.1192

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.0000	18,000.0000	0.3450	0.3300	18,106.9650
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.5950**	**18,148.5950**	**0.4874**	**0.3300**	**18,259.1192**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.2670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	24.1085					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.6500	14.1000	6.0000	0.0900		1.1400	1.1400		1.1400	1.1400	0.0000	18,000.00 00	18,000.00 00	0.3450	0.3300	18,106.96 50
Landscaping	2.4766	0.9496	82.4430	4.3600e-003		0.4574	0.4574		0.4574	0.4574		148.5950	148.5950	0.1424		152.1542
Total	**30.5020**	**15.0496**	**88.4430**	**0.0944**		**1.5974**	**1.5974**		**1.5974**	**1.5974**	**0.0000**	**18,148.59 50**	**18,148.59 50**	**0.4874**	**0.3300**	**18,259.11 92**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment C

Local Hire Provision Net Change	
Without Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,623
Amortized (MT CO2e/year)	120.77
With Local Hire Provision	
Total Construction GHG Emissions (MT CO2e)	3,024
Amortized (MT CO2e/year)	100.80
% Decrease in Construction-related GHG Emissions	***17%***

EXHIBIT B

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

SOIL WATER AIR PROTECTION ENTERPRISE
2656 29th Street, Suite 201
Santa Monica, California 90405
Attn: Paul Rosenfeld, Ph.D.
Mobil: (310) 795-2335
Office: (310) 452-5555
Fax: (310) 452-5550
Email: prosenfeld@swape.com

Paul Rosenfeld, Ph.D.

Chemical Fate and Transport & Air Dispersion Modeling

Principal Environmental Chemist

Risk Assessment & Remediation Specialist

Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Thesis on wastewater treatment.

Professional Experience

Dr. Rosenfeld has over 25 years' experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from unconventional oil drilling operations, oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, and many other industrial and agricultural sources. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at dozens of sites and has testified as an expert witness on more than ten cases involving exposure to air contaminants from industrial sources.

Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex H_2O Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

Publications:

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P.**, (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

Rosenfeld, P.E. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

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Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

Rosenfeld, P.E., J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

Rosenfeld, P. E., M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

Rosenfeld P. E., J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004.* New Orleans, October 2-6, 2004.

Rosenfeld, P.E., and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

Rosenfeld, P.E., and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49(9), 171-178.

Rosenfeld, P. E., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

Rosenfeld, P.E., Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

Rosenfeld, P.E., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

Rosenfeld, P.E., and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality*. 29, 1662-1668.

Rosenfeld, P.E., C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

Rosenfeld, P.E., and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

Rosenfeld, P.E., and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld.** (1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

Rosenfeld, P. E. (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

Rosenfeld, P. E. (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

Rosenfeld, P. E. (1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

Rosenfeld, P. E. (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

Rosenfeld, P. E. (1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

Presentations:

Rosenfeld, P.E., Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

Rosenfeld, P.E. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

Rosenfeld, P.E. (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

Rosenfeld, P. E. (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld, P. E. (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

Rosenfeld P. E. (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

Rosenfeld P. E. (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

Paul Rosenfeld Ph.D. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

Paul Rosenfeld Ph.D. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

Paul Rosenfeld Ph.D. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

Paul Rosenfeld Ph.D. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

Paul Rosenfeld Ph.D. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld Ph.D. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

Paul Rosenfeld, Ph.D. (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

Paul Rosenfeld, Ph.D. (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

Rosenfeld, P. E., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

Paul Rosenfeld, Ph.D. and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

Paul Rosenfeld, Ph.D. (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

Paul Rosenfeld, Ph.D. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

Rosenfeld, P.E. and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

Rosenfeld, P.E. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

Rosenfeld. P.E. (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

Rosenfeld. P.E. (October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

Rosenfeld, P.E. (2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

Rosenfeld, P.E., C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

Rosenfeld, P.E., C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

Rosenfeld, P.E, C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

Rosenfeld, P.E., C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

Deposition and/or Trial Testimony:

In the United States District Court For The District of New Jersey
Duarte et al, *Plaintiffs,* vs. United States Metals Refining Company et. al. *Defendant.*
Case No.: 2:17-cv-01624-ES-SCM
Rosenfeld Deposition. 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk, *Plaintiffs,* vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" *Defendant.*
Case No.: 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition. 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No.: No. BC615636
Rosenfeld Deposition, 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No.: No. BC646857
Rosenfeld Deposition, 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiff vs. The 3M Company et al., Defendants
Case: No 1:16-cv-02531-RBJ
Rosenfeld Deposition, 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No 1923
Rosenfeld Deposition, 11-17-2017

In The Superior Court of the State of California In And For The County Of Contra Costa
Simons et al., Plaintiffs vs. Chevron Corporation, et al., Defendants
Cause No C12-01481
Rosenfeld Deposition, 11-20-2017

In The Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition, 8-23-2017

In The Superior Court of the State of California, For The County of Los Angeles
Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No.: LC102019 (c/w BC582154)
Rosenfeld Deposition, 8-16-2017, Trail 8-28-2018

In the Northern District Court of Mississippi, Greenville Division
Brenda J. Cooper, et al., *Plaintiffs,* vs. Meritor Inc., et al., *Defendants*
Case Number: 4:16-cv-52-DMB-JVM
Rosenfeld Deposition: July 2017

In The Superior Court of the State of Washington, County of Snohomish
Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No.: No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial, March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No.: RG14711115
Rosenfeld Deposition, September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No.: LALA002187
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Jerry Dovico, et al., Plaintiffs vs. Valley View Sine LLC, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Iowa District Court For Wapello County
Doug Pauls, et al.,, et al., Plaintiffs vs. Richard Warren, et al., Defendants
Law No,: LALA105144 - Division A
Rosenfeld Deposition, August 2015

In The Circuit Court of Ohio County, West Virginia
Robert Andrews, et al. v. Antero, et al.
Civil Action N0. 14-C-30000
Rosenfeld Deposition, June 2015

In The Third Judicial District County of Dona Ana, New Mexico
Betty Gonzalez, et al. Plaintiffs vs. Del Oro Dairy, Del Oro Real Estate LLC, Jerry Settles and Deward DeRuyter, Defendants
Rosenfeld Deposition: July 2015

In The Iowa District Court For Muscatine County
Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No 4980
Rosenfeld Deposition: May 2015

In the Circuit Court of the 17th Judicial Circuit, in and For Broward County, Florida
Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case Number CACE07030358 (26)
Rosenfeld Deposition: December 2014

In the United States District Court Western District of Oklahoma
Tommy McCarty, et al., Plaintiffs, v. Oklahoma City Landfill, LLC d/b/a Southeast Oklahoma City Landfill, et al. Defendants.
Case No. 5:12-cv-01152-C
Rosenfeld Deposition: July 2014

In the County Court of Dallas County Texas
Lisa Parr et al, *Plaintiff*, vs. Aruba et al, *Defendant.*
Case Number cc-11-01650-E
Rosenfeld Deposition: March and September 2013
Rosenfeld Trial: April 2014

In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., *Plaintiffs,* vs. Republic Services, Inc., et al., *Defendants*
Case Number: 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition: October 2012

In the United States District Court of Southern District of Texas Galveston Division
Kyle Cannon, Eugene Donovan, Genaro Ramirez, Carol Sassler, and Harvey Walton, each Individually and on behalf of those similarly situated, *Plaintiffs,* vs. BP Products North America, Inc., *Defendant.*
Case 3:10-cv-00622
Rosenfeld Deposition: February 2012
Rosenfeld Trial: April 2013

In the Circuit Court of Baltimore County Maryland
Philip E. Cvach, II et al., *Plaintiffs* vs. Two Farms, Inc. d/b/a Royal Farms, Defendants
Case Number: 03-C-12-012487 OT
Rosenfeld Deposition: September 2013

EXHIBIT C

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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Geologic and Hydrogeologic Characterization
Industrial Stormwater Compliance
Investigation and Remediation Strategies
Litigation Support and Testifying Expert
CEQA Review

Education:

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

Professional Certifications:

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

Professional Experience:

Matt has 25 years of experience in environmental policy, assessment and remediation. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) while also working with permit holders to improve hydrogeologic characterization and water quality monitoring.

Matt has worked closely with U.S. EPA legal counsel and the technical staff of several states in the application and enforcement of RCRA, Safe Drinking Water Act and Clean Water Act regulations. Matt has trained the technical staff in the States of California, Hawaii, Nevada, Arizona and the Territory of Guam in the conduct of investigations, groundwater fundamentals, and sampling techniques.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2014;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

Senior Regulatory and Litigation Support Analyst:

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 100 environmental impact reports since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, Valley Fever, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at industrial facilities.
- Manager of a project to provide technical assistance to a community adjacent to a former Naval shipyard under a grant from the U.S. EPA.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.
- Expert witness on two cases involving MTBE litigation.
- Expert witness and litigation support on the impact of air toxins and hazards at a school.
- Expert witness in litigation at a former plywood plant.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.

- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

Executive Director:

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

Hydrogeology:

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

Policy:

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9. Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

Geology:

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

Teaching:

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt taught physical geology (lecture and lab and introductory geology at Golden West College in Huntington Beach, California from 2010 to 2014.

Invited Testimony, Reports, Papers and Presentations:

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

Hagemann, M.F., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

Hagemann, M.F., 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

Hagemann, M.F., 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

Hagemann, M.F., 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

Hagemann, M.F., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

Hagemann, M.F., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

Hagemann, M.F., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

Hagemann, M.F., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

Hagemann, M.F., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

Hagemann, M.F., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

Hagemann, M.F., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

Hagemann, M.F., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

Hagemann, M.F., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

Hagemann, M.F., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

Hagemann, M.F., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

Hagemann, M.F., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

Hagemann, M.F., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

Hagemann, M.F., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

Hagemann, M.F., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

Hagemann, M. F., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

Hagemann, M.F., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

Hagemann, M.F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

Hagemann, M.F., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

Hagemann, M.F., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

Other Experience:

Selected as subject matter expert for the California Professional Geologist licensing examination, 2009-2011.

Response to Comment Letter O5 – Southwest Mountain States Carpenters

O5.1 This comment does not raise any substantive issues regarding the adequacy of the Draft SEIR. The commenter requests to be included on the noticing list for all future notices referring or related to the Project related to CEQA and the California Planning and Zoning Law. The commenter has been added to the noticing and mailing list. No further response is needed.

O5.2 The commenter requests that the City include a mitigation measure to require the Project to be built using local workers (I.e., residing within 10 miles of the Project) in order to reduce vehicle miles traveled (VMT), improve jobs/housing balance and the economic performance of the Project and reduce greenhouse gas emissions.

The commenter also requests that the City require the Project to be built with construction workers who have graduated from a specified apprenticeship program in order to produce a positive economic impact of the Project. The Draft SEIR is intended to evaluate the environmental impacts of the Project. CEQA does not require an analysis of the Project's economic effects or allow mitigation measures intended to address economic characteristics of the Project. 14. Cal. Code Regs. Sections 15064(e), 15064(f)(6), 15131(a) and 15382. Accordingly, the commenter's request for the City to require construction labor requirements in order to improve economic conditions is not permissible under CEQA.

Regarding VMT for construction workers, CEQA provides the lead agency with discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled. 14. Cal. Code Regs. Sections 15064.3(b)(4). CEQA does not require a separate VMT analysis for construction worker trips or for the construction phase of the Project. The Project's Transportation Impact Analysis (TIA) was conducted in accordance with the City's Traffic Impact Analysis Preparation Guide. Additionally, the VMT analysis in the TIA concluded that the Project would have a less than significant impact related to VMT, refer to ***Section 4.7, Transportation, Impact 4.7-2***, of the Draft SEIR.

Regarding the GHG emissions from construction, according to **Table 4.4-3** of the Draft SEIR, the 30-year amortized construction GHG emissions would be 679 metric tons of carbon dioxide-equivalents (MTCO2e). This would account for approximately 6.4 percent of all GHG emissions related to the Project, including operational emissions.

The commenter included a letter from Soil Water Air Protection Enterprise (SWAPE) dated March 8, 2021, which discusses GHG emissions associated with trip lengths for construction workers traveling to the job site. The SWAPE letter provided calculations for GHG emissions reductions resulting from local hire provisions being applied to the Project's construction. The SWAPE letter concludes that if a local hire provision with a 10-mile radius were implemented, the GHG emissions associated with Project construction would decrease by approximately 17%.
mentioned in the letter from.

It should be noted that the SWAPE letter, and the calculations provided, utilized data and information related to a different project in a separate jurisdiction, the Village South Specific Plan and City of Claremont, respectively. The SWAPE letter used CalEEMod 2016 while the current version available is CalEEMod 2022.1. The SWAPE letter used EMFAC2014 data while EMFAC2021 is the latest. Therefore, the calculations do not pertain to the Project and are not based on the correct modeling.

Furthermore, the SWAPE letter states that it ran a model "reducing all worker trip lengths to 10 miles . . . " (SWAPE Letter, page 4.) Thus, the SWAPE letter assumes that a local hire program would produce 100 percent local residents as a project's construction workforce, while being located within 10 miles of the project site. In fact, most local hire programs are able to ensure than only a small percentage of construction workers reside locally. For example, the Community Workforce Agreement between the City of Moreno Valley and the construction workers union (CWA) governing public works contracts defines "Local Residents" as residing in the City of Moreno Valley or Riverside County. The CWA only requires that contractors use "best efforts" to hire local residents and sets a goal of 30 percent of the workforce be local residents. Accordingly, the commenter's suggestion that all construction workers live within 10 miles of the Project site is unrealistic.

Using the attainment of the 30 percent goal as an example of an existing local hire program and utilizing the SWAPE letter's assumption that 100 percent local resident workforce would reduce construction-related GHG emissions by 17 percent (and assuming the SWAPE letter's conclusions are transferrable to the Project), implementing a local hire program for the Project would result in a 5.1 percent reduction in construction-related GHG emissions (30 percent of 17 percent). This would represent a reduction of 34.6 MTCO2e of construction-related GHG emissions or approximately 0.32 percent of the Project's construction and operational mitigated emissions combined (10,624 MTCO2e of construction and operational GHG emissions) or approximately 0.26 percent if the Project's unmitigated emissions (13,298 MTCO2e). This would not constitute a significant reduction in GHG emissions and therefore the implementation of a local-hire provision as a mitigation measure would be ineffective in reducing GHG emissions. Furthermore, it is quite possible that the 30% goal would not be attained and the reduction in GHG emissions could be substantially less. In addition, the local hire program would require extensive record-keeping and monitoring that would not be justified in light of the insignificant reduction in GHG emissions.

O5.3 The commenter requests that the City require certain construction protocols to address the possibility of COVID-19 infections among construction worker during the construction process. This comment does not address the adequacy of the environmental analysis and/or document. This comment is noted for the record. In addition, at this time, COVID-19 public health restrictions on workplace activities functions have been repealed and are no longer in effect. If COVID-19 infections were to increase in severity, it is expected that applicable public health authorities would impose new restrictions and protocols for testing, distancing and other measures on construction sites to address these public health concerns.

O5.4 The comment provides background on the requirements in CEQA as to when the preparation of an environmental impact report is necessary. Given that Draft SEIR has been prepared for the

Project, this comment does not address the adequacy of the environmental analysis and/or document. This comment is noted for the record and no further response is needed.

O5.5 The Project does not propose any changes to the circulation network related to public roadways, refer to ***Section 3.0, Project Description*** of the Draft SEIR. The Project site is not constrained and has multiple points of ingress and egress via Town Circle, which is also accessed via multiple public roads from the east (Centerpoint Drive), south (Heritage Way and Memorial Way) and west (Campus Parkway). Additionally, the Project would be designed such that each individual land use would abut access driveways. These driveways would be designed consistent with the City of Moreno Valley Code and Specific Plan Amendment which considers roadway width to accommodate emergency response vehicles, refer to **Figure 3-4: Circulation Plan** of the Draft SEIR. Furthermore, the Project would require consistency with the Moval 2040 General Plan which includes Policy C.2-7 which requires the circulation of each development project to accommodate vehicles (including emergency vehicles and trash trucks), pedestrians, and bicycles. As noted below, the Moval 2040 General Plan policy requires Police Department and Fire Department review of the plan for adequate access.

In addition, the Draft SEIR notes that significant emergency access impacts are not anticipated during construction. Construction traffic is not expected to create high levels of congestion. Construction traffic generally begins at 7 am, prior to the AM peak hour, and is completed before the PM peak hours. As such, construction traffic would not conflict with traffic generated by the existing Moreno Valley Mall. The Project Applicant is expected to submit a construction Traffic management Control Plan for City review, which will include adequacy of ingress and egress for emergency vehicles, consistent with the City of Moreno Valley Public Works Department *Traffic Control Plan Guidelines & Checklist*. The Project site does not present any constraints or other factors that indicate that emergency access would be jeopardized during construction. The Draft SEIR points to the safety standards of the Division of Occupational Safety and Health that will apply to prevent any hazardous conditions. The Draft SEIR also notes the existing requirement set forth in the Moval 2040 General Plan Policy PPS.3-7 that requires the City's Police Department and Fire Department ensure that the Project minimizes the potential for criminal activity and fire hazards and maximizes the potential for responsive police and fire services. As a clarification, these existing legal standards and policies are not included as mitigation measures.

O5.6 A Water Supply Assessment (WSA) was prepared for the Project by the Eastern Municipal Water District (EMWD), provided as **Appendix H** to the Draft SEIR. This WSA was prepared with the existing environmental conditions taken into consideration, including the historic drought conditions in the region. EMWD, the supplier of domestic water to the Project, determined that EMWD would be able to meet Project demands in all scenarios. Refer to ***Section 4.8, Utilities and Service Systems,*** **Page 4.8-14** and on page 22 of the WSA (**Appendix H** to the Draft SEIR). EMWD has a diversified supply of water from retail and wholesale sources and includes several sources of imported water (including from the Metropolitan Water District), groundwater, desalinization and recycled water. In determining the adequacy of its supply, the WSA analyzes supply constraints in normal year, single dry year and multiple dry year conditions and thus is able to take into account fluctuations in the supply of water sources from the Colorado River Aqueduct and the State Water Project. EMWD has the capability and capacity to supply water to satisfy demand through their own projections through 2045. Additionally, according to EMWD's WSA, the cumulative demand from the Project and all other new or planned developments being tracked by EMWD would be within the level of demand accounted for in the 2020 Urban Water Management Plan.

O5.7 Refer to **Response O5.6** above regarding water supply. Additionally, ***Section 4.8 Utilities and Service Systems***, **Page 4.8-1** of the Draft SEIR describes water supplied by the EMWD is imported by the MWD and is sourced from Colorado River water from the Colorado River Aqueduct, and northern California via the State Water Project. Page 22 of the WSA concludes MWD has the ability to meet all of its member agencies' projected supplemental demand through 2045, even under a repeat of historic multiple-year drought scenarios.

O5.8 Refer to ***Section 4.8, Utilities and Service Systems***, **Figure 4.8-1, Water Plan**, **Page 4.8-24**, of the Draft SEIR, for a detailed map view of water lines and laterals that would remain in place or would be constructed that would be required for Project implementation. Domestic water infrastructure to be constructed would include, but is not limited to, 12-inch ductile iron pipe (DIP) and other service laterals from existing and proposed mains. Proposed easements shall be dedicated to EMWD for all areas where new water main is to be constructed.

O5.9 Refer to ***Section 4.8, Utilities and Service Systems***, **Page 4.8-16**, the construction of substantial new telecommunication infrastructure would not be required as the Project site is already developed with the existing Moreno Valley Mall and telecommunication services exist and serve the Project site. It is not the intent of the Project to construct new fiber optic infrastructure and is not proposed as part of the Project. Connections to and extensions of fiber optic infrastructure to the Project site would be at the discretion of property owners after the Project has been implemented, those connections and/or extensions would be subject to CEQA review. Regarding electric and gas infrastructure, refer to ***Section 7.0, Effects Found not to be Significant***, of the Draft SEIR.

O5.10 The Project would not require the routine transport, use, or disposal of hazardous materials outside of what is typical for the operation of construction equipment on an active construction site, refer to ***Section 7.0, Effects Found not to be Significant***, **Page 7-8**, of the Draft SEIR. Hazardous materials that may be used during construction include, but are not limited to, paints, solvents, oils, greases, and fuels, and would be present on-site in volumes proportionate to what is required to construct the Project. These materials would be handled in accordance with all local, state, and federal rules and regulations and with conformance to the material safety data sheets (MSDS) for each specific material. These materials would be located within staging areas when not in use. Construction fencing and other barriers would be installed surrounding the Project site, or as indicated on Project construction documents, to prevent unauthorized access by the general public. Additionally, all workers on the construction site that would use any hazardous materials present would be trained in proper handling and storage of these materials, limiting the risk of accident or upset. Due to limited use and storage of materials and restricted access to the Project site, there is a less than significant impact expected as identified in the Draft SEIR.

O5.11 Refer to **Response O1.22**.

O5.12 Refer to **Response O1.22**.

O5.13 The commenter states that the Draft SEIR improperly labels mitigation measures as Project Design Features (PDFs) and improperly relies on the PDFs. In each section of the Draft SEIR, the discussion of Impact Thresholds and Significance Criteria identifies certain PDFs that are part of the Project and are relevant to the analysis of impacts. The PDFs identified in the Draft SEIR are separate and distinct from the mitigation measures that are proposed to reduce the level of significance of the impacts. PDFs are recognized under CEQA as part of the project and a relevant factor in determining the significance of the environmental impacts. Courts have held that a PDF is an element of the project and not a mitigation measure and that the PDF can be taken into account in determining that the project did not have a significant impact. See *Banker's Hill, Hillcrest, Park W. Community Preservation Group v. City of Sand Diego* (2006) 139 Cal. App.4th 1329; and *Wollmer v. City of Berkeley* (2011) 193 Cal.App.4th 1329.

Comment Letter O6 – Southern California Gas Company

Comment Letter O6

From:	Liao, William <WLiao@socalgas.com>
Sent:	Monday, December 19, 2022 12:21 PM
To:	Julia Descoteaux
Cc:	SCG SE Region Redlands Utility Request; Leone-Wesolowski, Becky E
Subject:	MOVAL Mall Redevelopment

Warning: External Email – Watch for Email Red Flags!

Hi Julia.

I just reviewed the docs for the MOVAL Mall Redevelopment.

I have no concerns at this time, but do want to make sure that USA / Dig Alert is contacted prior to any excavations take place. Also, please make sure to contact our New Business section if plans involve new gas service, at https://www.socalgas.com/for-your-business/builder-services, to get the application process started.

Please let me know if you have any questions 😊 1

Will Liao
Region Planning Supervisor
Redlands HQ / Southeast Region
Desk: 213-244-4543
Mobile: 562-889-1981

Source: http://www.moreno-valley.ca.us/cdd/documents/about-projects.html

1

Moreno Valley Mall Redevelopment

The Project proposes revitalization and redevelopment of a portion of the existing Moreno Valley Mall (exclud existing JC Penny and Macy's parcels).

Key features of the concept plan include:

- Remodeling the overall mall site and mall interior
- Adding four multi-family residential communities totaling 1,627OU
- Adding two new hotels operating within a single hotel building
- Adding a new three-story office building of approximately 60,000SF
- Repurposing the existing food court into a pavilion style food market
- Repurposing the existing Sears building to allow for multi-tenant retail and related uses
- Redesigning the existing Theater area to include outdoor patio dining
- Adding a new parking structure
- Adding a central plaza and park integrated into the southeastern multi-family communities
- Relocating the existing transit stops
- Providing related infrastructure improvements including offsite traffic improvements

Moreno Valley Mall Redevelopment Downloads

Project Map

2

Responses to Comment Letter O6 – Southern California Gas Company

O6.1 This comment does not raise any substantive issues regarding the adequacy of the Draft SEIR. The commenter has been added to the mailing and distribution list. This comment is noted for the record and no further response is needed.

Comment Letter I1 – Natalie Schuman

Comment Letter I1

From: Natalie Schuman
To: Julia Descoteaux
Subject: Question about the Moreno Valley Mall Redevelopment
Date: Monday, November 28, 2022 3:49:48 PM

Warning: External Email – Watch for Email Red Flags!

Good afternoon Ms. Descoteaux,

I saw that the public comment period for the Moreno Valley Mall Redevelopment's DEIR is currently open but I am wondering if there are currently any hearings scheduled on this project. If not, do you have a sense of when the project's hearings would be scheduled and what bodies it would need approval from? 1

Thank you in advance for your assistance,

Natalie Schuman

Responses to Comment Letter I1 – Natalie Schuman

I1.1 This comment does not raise any substantive issues regarding the adequacy of the Draft SEIR. This comment is noted for the record and no further response is needed.

Section 3.0 Errata to the Draft SEIR

3.1 INTRODUCTION TO THE ERRATA

The Draft SEIR for the Moreno Valley Mall Redevelopment Project dated November 2022, is hereby incorporated by reference as part of the Final SEIR. Changes to the Draft SEIR are further detailed below.

In accordance with California Environmental Quality Act (CEQA) Guidelines Sections 15132 and 15088.5(b), this section of the Final Subsequent Environmental Impact Report (Final SEIR) provides additional information that provide clarification, amplification and/or insignificant modifications presented in the Draft SEIR. Changes to the Draft SEIR are noted below. The changes to the Draft SEIR do not affect the overall conclusions of the environmental document, but instead are a result of public and responsible agency comments on the Draft SEIR.

These clarifications and corrections do not warrant Draft SEIR recirculation pursuant to CEQA Guidelines Section 15088.5. As set forth further below and elaborated upon in the respective Response to Comments, none of the Errata below reflect a new significant environmental impact, a “substantial increase” in the severity of an environmental impact for which mitigation is not adopted to reduce the impact to a level of insignificance, or a new feasible Project alternative or mitigation measure considerably different from others previously analyzed that would clearly lessen significant environmental impacts but is not adopted, nor do the Errata reflect a “inadequate” or “conclusory” Draft SEIR. Changes to the Draft SEIR are listed by Section, page, paragraph, etc. to best guide the reader to the revision. Changes are identified as follows:

Changes in this Errata Section are listed by chapter, page, and (where appropriate) by paragraph. Added or modified text is shown with double underline (example) while deleted text is shown with strikethrough (~~example~~).

3.2 CHANGES TO THE DRAFT SEIR

Page 3-7, Subsection “Circulation Plan”, First Paragraph

Vehicular circulation is comprised of two components: peripheral publicly accessible roadway and internal private drives. Transit service and stops have been incorporated, along with on-street type-three bicycle lanes and pedestrian pathways. A Class III Bike Route would be provided along Town Circle from Memorial Way to Centerpoint Drive. This would connect the existing Class II Bike Lane along Memorial Way with a future Class II Bike Lane to be built by others along Centerpoint Drive. The provision of this Class III Bicycle Path is made outside of the General Plan designated bicycle circulation plan and is made to further the Project objectives of providing a mixed-use development that encourages pedestrian and bicycle use. See ***Figure 3-4, Circulation Plan*** and ***Figure 3-5, Non-Vehicular Circulation Plan***.

Page 3-7, New paragraph prior to Subsection “Water Plan”

As part of the Project, surface parking would be reduced by more than 60 percent from 34.6 acres of existing parking space to approximately 12 acres. New development of buildings, park/plaza, landscaped streets, and covered parking structures are replacing the existing parking lots that serve as heat islands.

The existing surface parking (located on Parcels 4, 6, 8, 21, and 22) will comply with the current Zoning Landscape Standards and those set forth in the SPA. Refer to ***Figure 3-6, Conceptual Open Space Plan***. In addition, as described in the SPA, bicycle end of trip facilities would be provided, such as bike lockers and bike parking locations. Furthermore, the Project would comply with the then current local, state, and federal building code requirements when development occurs. This would include the California Green Building Code requirements for electric vehicle infrastructure, such as §4.106.4 and §5.106.5.3, which set standards for electric vehicle charging stations for residential and non-residential uses, respectively.

Page 4.2-17, Subsection "Project Design Features."

In addition to applying existing standard conditions and regulatory requirements, the Project has incorporated the following Project Design Features into the SPA and TPM:

- The Project consists of redeveloping an existing developed regional mall site, which will reduce grading and construction-related emissions that would otherwise be associated with developing new regional commercial uses at an alternate site;
- The concept grading plan proposes ~~relatively minor offsite soil import/export (less than 5,000 cubic yards) and~~ the use of an on-site borrow pit, which minimizes air emissions associated with offsite truck traffic during construction; and
- ~~The Project incorporates enhancements to the existing transit stop, which will increase transit opportunities to and from the mall, reducing traffic, air quality, GHG and noise impacts.~~
- The Project shall commit to the use of electrical indoor appliances for all residential uses which would reduce the indoor air quality impacts for residential units.

Page 4.2-23, Second Paragraph, Last Sentence

However, even with the implementation of **MM AQ-1,** NO_X construction emissions would remain above SCAQMD's thresholds, therefore, impacts would remain significant~~.~~ with mitigation.

Page 4.4-16, Subsection "Project Design Features."

In addition to applying existing standard conditions and regulatory requirements, the Project has incorporated the following Project Design Features into the SPA and TPM:

- The Project consists of redeveloping an existing developed regional mall site, which would reduce grading and construction-related emissions that would otherwise be associated with constructing a new mall at the current site or developing new regional commercial uses at an alternate site;
- The concept grading plan proposes ~~relatively minor off-site soil import/export (less than 5,000 cubic yards) and~~ the use of an on-site borrow pit, which minimizes air emissions associated with off-site truck traffic during construction;
- ~~The Project incorporates enhancements to the existing transit stop, which would increase transit opportunities to and from the mall, reducing traffic, air quality, GHG and noise impacts; and~~

- The Project incorporates pedestrian-friendly walkways and open space into a mixed-use commercial retail environment, which would encourage non-vehicular transportation with corresponding reductions in traffic-related air quality, GHG and noise impacts~~.~~; and
- The Project shall commit to the use of electrical indoor appliances for all residential uses which would reduce the direct greenhouse gas emissions for residential units.

Page 4.5-19, Paragraph between Table 4.5-2: City of Moreno Valley 2040 General Plan Consistency and Table 4.5-3: City of Moreno Valley 2006 General Plan Consistency

~~This SEIR has been predicated on consistency with the MoVal 2040 GP. However, at the time of the preparation of this SEIR, the Moreno Valley 2040 General Plan is the subject of pending litigation. The ongoing litigation could potentially result in the invalidation of the MoVal 2040 GP and/or the MoVal 2040 GP Final EIR. For this reason, the SPA refers to both General Plan Land Use and Zoning designations. In addition, consistency with the policies and goals of the 2006 General Plan is demonstrated in **_Table 4.5-3, City of Moreno Valley 2006 General Plan Consistency_** (should the MoVal 2040 GP or Final EIR be set aside).~~

This SEIR has been predicated on consistency with the MoVal 2040 GP. However, at the time of the preparation of this SEIR, the Moreno Valley 2040 General Plan is the subject of pending litigation. Therefore, the Project does not propose to and would not tier off the City's CAP which is subject to pending litigation. The Project has been deemed to be consistent with the 2006 General Plan and the 2040 MoVal General Plan, as described in **_Table 4.5-2, City of Moreno Valley 2040 General Plan Consistency_** and **_Table 4.5-3, City of Moreno Valley 2006 General Plan Consistency_** of the Draft SEIR.

Page 4.6-13, Subsection "Project Design Features."

In addition to applying existing standard conditions and regulatory requirements, the Project has incorporated the following Project Design Features into the SPA and TPM:

- The Project consists of redeveloping an existing developed regional mall site, which will reduce grading and construction-related noise that would otherwise be associated with constructing a new mall at the current site or developing new regional commercial uses at an alternate site;
- The concept grading plan proposes ~~relatively minor off-site soil import/export (less than 5,000 cubic yards) and~~ the use of an on-site borrow pit, which minimizes noise impacts associated with off-site truck traffic during construction; and
- ~~The Project incorporates enhancements to the existing transit stop, which will increase transit opportunities to and from the mall, reducing traffic, air quality, GHG and noise impacts; and~~
- The Project incorporates pedestrian-friendly walkways and open space into a mixed-use commercial retail environment, which will encourage non-vehicular transportation with corresponding reductions in traffic-related air quality, GHG and noise impacts.

Page 4.7-10, Subsection "Project Design Features."

In addition to applying existing standard conditions and regulatory requirements, the Project has incorporated the following Project Design Features into the SPA and TPM:

- The Project consists of redeveloping an existing developed regional mall site, which will reduce grading and construction-related traffic that would otherwise be associated with constructing a new mall at the current site or developing new regional commercial uses at an alternate site;
- The concept grading plan proposes ~~relatively minor off-site soil import/export (less than 5,000 cubic yards) and~~ the use of an on-site borrow pit, which minimizes off-site truck traffic during construction; and
- ~~The Project incorporates enhancements to the existing transit stop, which will increase transit opportunities to and from the mall, encouraging non-vehicular transportation and thereby reducing traffic impacts; and~~
- The Project incorporates pedestrian-friendly walkways and open space into a mixed-use commercial retail environment, which will encourage non-vehicular transportation with corresponding reductions in traffic-related air quality, GHG and noise impacts.

Page 4.7-20, Impact 4.7-3

Impact 4.7-3: ***Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?***

Level of Significance: Less than Significant Impact ~~with Mitigation Incorporated~~

Page 4.8-12, Subsection "Project Design Features."

In addition to applying existing standard conditions and regulatory requirements, the Project has incorporated the following Project Design Features into the SPA and TPM:

- The Project consists of redeveloping an existing developed regional mall site, which will reduce the need for new or modified infrastructure that would otherwise be associated with constructing a new mall at the current site or developing new regional commercial uses at an alternate site~~.~~; and
- The Project shall commit to the use of electrical indoor appliances for all residential uses which would reduce the direct consumption of natural gas resources for residential units.

Page 7-21, First Paragraph, Fourth Sentence

The school districts serving the City qualify for ~~Level 2~~ Level 1 fees, which equivalate to ~~$4.66~~ $4.79 per square foot for new residential projects and ~~$0.66~~ $0.78 per square foot for commercial/industrial projects.

Appendix A

Moreno Valley Mall Redevelopment

Traffic Impact Analysis, August 19, 2022

MORENO VALLEY MALL REDEVELOPMENT TRAFFIC IMPACT ANALYSIS

MORENO VALLEY, CA

August 19, 2022

Moreno Valley Mall Redevelopment Traffic Impact Analysis

Moreno Valley, CA

Prepared for:
Moreno Valley Mall Holdings, LLC
22500 Town Circle
Moreno Valley, CA 92553

Prepared by:
Kittelson & Associates, Inc.
750 The City Drive, Suite 410
Orange, CA 92868
714.468.1997

Prepared by:
Fernando Sotelo, TE
Associate Engineer
Kelly Laustsen
Associate Engineer

Project Number 26887

August 19, 2022

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Section 1

Executive Summary

EXECUTIVE SUMMARY

This report presents the results of the Traffic Impact Analysis (TIA) and vehicle miles traveled (VMT) analysis for the proposed Moreno Valley Mall (MVM) Redevelopment (project) located immediately south of State Route 60 and between Day Street and Frederick Street, just east of Interstate 215.

PROJECT OVERVIEW

The project includes new development on the east and north side of the MVM, and redevelopment of some existing spaces. A detailed project description is included in *Section 2: Introduction*. For the purpose of estimating project trips, key project elements include:

- Two hotels totaling 270 rooms.
- Four residential buildings with a total of 1,627 apartment units.
- A 60,000 square foot office building.
- Plaza level retail in three of the residential buildings for a total of 40,000 square feet.
- Removal of the existing 16,344 square foot auto center.

The Project is expected to generate net 9,968 weekday daily vehicle trips, 820 weekday AM peak hour vehicle trips, and 863 weekday PM peak hour vehicle trips. During a Saturday, the project is expected to generate 9,770 daily trips and 868 midday peak hour trips.

The project will be served by Town Circle, which provides access to the surrounding transportation network via Campus Parkway, Memorial Parkway, Heritage Way, and Centerpoint Drive. As shown in the site plan in Figure 2, a fourth leg will be added to the existing three-legged intersections on Town Circle at Heritage Way and Centerpoint Drive to serve trips to and from the site. In addition, existing access points along Town Circle will be condensed into a few key locations to serve the site.

FINDINGS

CEQA VMT IMPACT ANALYSIS

Historically, CEQA transportation analyses of individual projects determined impacts in the circulation system in terms of roadway delay and/or capacity at specific locations. Auto delay, LOS, and other similar measures of vehicular capacity or traffic congestion are no longer a basis for determining significant impacts under CEQA. With SB743, VMT became the metric to evaluate a project's significant transportation impacts.

A VMT analysis was prepared for the project based on the metrics, thresholds, and criteria outlined in the City's transportation analysis guidelines to evaluate land use and transportation projects from a VMT standpoint. As part of its VMT guidelines, the City has adopted screening criteria, which can be used to quickly identify when a project or a portion of a mixed-use project should be expected to cause a less-than-significant impact related to VMT and would not require a detailed VMT analysis. Based on a review of the City's VMT screening criteria, this mixed-use project's retail and hotel portions can be screened out of a VMT analysis under the City's project type screening. The retail portion is less than 50,000 square feet and would primarily serve local residential uses; the hotel portion is intended to be a local-serving (non-destination) hotel. The remaining components of this mixed-use project (residential and office) would not be screened out and would require a VMT analysis using their respective impact thresholds of significance. Given that the mixed-use project's residential and office components do not screen out, they must undergo a VMT impact assessment under City guidelines. Potential project VMT impacts were assessed using the RIVTAM model. The following summarizes the results of the VMT analysis for the residential and office components of the project:

- **Residential Component**: According to the RIVTAM model's interpolated data, the existing average citywide VMT per capita is 15.60 VMT per capita; the proposed project is expected to generate 9.41 VMT per capita. Given that the VMT per capita for the project's residential component does not exceed the citywide VMT per capita, then the project's residential component is expected to result in **less-than-significant VMT impacts**.
- **Office Component**: According to the RIVTAM model's interpolated data, the existing average citywide VMT per employee is 4.54 VMT per employee; the proposed project is expected to generate 3.05 VMT per employee. Given that the VMT per employee for the project's office component does not exceed the citywide VMT per employee, then the project's office component is expected to result in **less-than-significant VMT impacts**. (Note, the RIVTAM model did not exhibit sensitivity to home-based work trips in the project's office component TAZ. Therefore, the work VMT per employee for the area bound by Towngate Boulevard, Day Street, Frederick Street, and SR-60 was used instead).

A cumulative impact consists of an impact which is created as a result of the combination of the project with other projects causing related impacts. A project has cumulatively considerable environmental effects (i.e., is significant) when the incremental effects of the project are significant when viewed in connection with the effects of other projects, including probable future projects. Potential cumulative VMT impacts were assessed under horizon year 2040 conditions per City's guidelines. All project components, including the residential and office portions are anticipated to result in **less-than-significant cumulative VMT impacts**.

Given that the project's retail and hotel components were screened out of a VMT analysis and the residential and office components resulted in less-than-significant VMT impacts and less-than-significant cumulative VMT impacts, **no mitigation measures are needed**.

NON-CEQA OPERATIONAL ANALYSIS

An operational analysis was conducted to review roadway operations and needed improvements. Per SB743, roadway capacity such as intersection and roadway LOS is no longer a criteria to identify potential transportation impacts under CEQA. The following was not prepared as part of the environmental review under CEQA; the improvements identified below are meant to meet target LOS for roadways and intersections to reduce traffic congestion, rather than mitigation measures to reduce a potential significant environmental impacts. The TIA studied operations at twenty existing intersection, five future access points, seven roadways, and four freeway mainline segments under the following scenarios:

- Existing conditions, based on counts conducted in 2021 and 2022
- Year 2026 background conditions, which accounts for cumulative projects and an annual growth of 1.5% across all study intersections, roadways, and freeway segments
- Year 2026 total traffic conditions, which adds trips generated by the proposed project to the background volumes
- Year 2040 background conditions, which accounts for expected growth in traffic volumes based on the RIVTAM model and cumulative projects
- Year 2040 total traffic conditions, which adds trips generated by the proposed project to the background volumes

The findings of the operational assessment are described below for the study intersections, roadways, and freeway segments.

Intersection Operations

Table 1 presents the ten intersections not meeting LOS standards in one or more analysis scenarios, including the time periods the standards are not met. The intersections in the table meet the criteria set by the City of Moreno Valley and Riverside for when a project should identify improvements. These criteria are described in *Section 3: Methodology and Evaluation Criteria*.

Table 1. Intersections not Meeting Standards

Intersection	Juris-diction	Traffic Control	LOS Std	Peak Hours *not* Meeting Standards (LOS) Existing	2026 Back-ground	2026 Total Traffic	2040 Back-ground	2040 Total Traffic
1. I-215 Ramps/ Eucalyptus Ave	Caltrans	Signal	E	-	-	PM (F)	-	-
2. Valley Springs Pkwy/ Eucalyptus Ave	Riverside	Signal	D	-	PM (F), Sat Mid (F)	PM (F), Sat Mid (F)	AM (E), PM (F), Sat Mid (F)	AM (E), PM (F), Sat Mid (F)
5. Day St/ Canyon Springs Pkwy	Riverside	Signal	D	Sat Mid (E)	Sat Mid (F)	PM (E), Sat Mid (F)	PM (E), Sat Mid (F)	PM (F), Sat Mid (F)
6. Day St/ Campus Pkwy	Riverside	Signal	D	-	Sat Mid (E)	Sat Mid (E)	PM (E), Sat Mid (F)	PM (E), Sat Mid (F)
7. Day St/ Eucalyptus Ave	Riverside	Signal	D	-	-	-	AM (F), PM (F), Sat Mid (F)	AM (F), PM (F), Sat Mid (F)
9. Memorial Way/Town Cir	MV	AWSC	D	-	-	Sat Mid (E)	Sat Mid (E)	Sat Mid (E)
12. Heritage Way/Town Circ	MV	AWSC	D	-	-	Sat Mid (E)	-	Sat Mid (E)
16. Frederick St/ SR-60 EB Off-Ramp – Sunnymead Blvd	Caltrans	Signal	E	-	-	-	Sat Mid (F)	Sat Mid (F)
19. Frederick St/ Eucalyptus Ave	MV	Signal	D	-	-	-	-	PM (E)

Roadway Segment Operations

All roadway segments studied meet LOS standards under existing conditions. Under both background and total traffic conditions in 2026, one of the segments on Day Street is projected to not meet standards on either a weekday or Saturday. In 2040, segments on both Day Street and Frederick Street are projected to not meet standards under either background or total traffic conditions.

One segment meets the City of Moreno Valley's threshold for when a project should identify improvements on a roadway segment, which is when the project adds traffic more than 5% of the roadway capacity. This is the segment on Frederick Street between Towngate Boulevard and Eucalyptus Avenue. Frederick Street is four lanes with a median and turn lanes. Given the lack of right-of-way for widening Frederick Street, the project could contribute to ITS (intelligent transport system) improvements on Frederick Street, such as fiber optic interconnect, CCTV, or traffic signal controller improvements to improve operations.

Freeway Operations

All freeway segments of SR-60 and I-215 analyzed are forecasted to operate at a LOS D or better during all peak periods in all scenarios.

RECOMMENDED IMPROVEMENTS

Table 2 lists potential improvements, by location, for the intersections and roadway segment where the project meets the City of Riverside or Moreno Valley thresholds for identifying improvements to offset the increase in delay (for intersections) or volume-to-capacity ratio (for roadways) with the project. This initial list of improvements will be discussed with the appropriate agencies and refined accordingly.

Table 2. Recommended Improvements

Location	Jurisdiction	Scenarios not Meeting Standards	Proposed Improvement with Site Development	Cost Estimate	Project Fair Share
1. I-215 Ramps/ Eucalyptus Ave	Caltrans	2026 Total Traffic	None (operations improved with signal retiming)	N/A	N/A
2. Valley Springs Pkwy/ Eucalyptus Ave	Riverside	2026 Background, 2026 Total Traffic, 2040 Background, 2040 Total Traffic	Fair share payment towards overlap phasing for the southbound right turn movement	$125,000	$10,875 (8.7%)
5. Day St/ Canyon Springs Pkwy	Riverside	Existing, 2026 Background, 2026 Total Traffic, 2040 Background, 2040 Total Traffic	Fair share payment towards overlap phasing for the westbound right turn movement	$30,000	$2,940 (9.8%)
6. Day St/ Campus Pkwy	Riverside	2026 Background, 2026 Total Traffic, 2040 Background, 2040 Total Traffic	Fair share payment towards overlap phasing for the westbound right turn movement	$30,000	$3,660 (12.2%)
7. Day St/ Eucalyptus Ave	Riverside	2040 Background, 2040 Total Traffic	None (planned City widening, meets standards in 2026)	N/A	N/A
8. Town Cir/ Campus Pkwy	Moreno Valley	None	Installation of a traffic signal	$625,000 (applicant to install signal)	
9. Memorial Way/Town Cir	Moreno Valley	2026 Total Traffic, 2040 Background, 2040 Total Traffic	Installation of a traffic signal	$625,000 (applicant to install signal)	
12. Heritage Way/Town Circ	Moreno Valley	2026 Total Traffic, 2040 Total Traffic	Installation of a traffic signal	$625,000 (applicant to install signal)	
16. Frederick St/ SR-60 EB Off-Ramp – Sunnymead Blvd	Caltrans	2040 Background, 2040 Total Traffic	Fair share payment towards signal coordination on Frederick Street between Hemlock Ave and Eucalyptus Ave.	$425,000	$92,225 (21.7%)
19. Frederick St/ Eucalyptus Ave	Moreno Valley	2040 Total Traffic			
Roadway segment: Frederick St between Towngate Blvd and Eucalyptus Ave	Moreno Valley	2040 Background, 2040 Total Traffic			
				Total:	**$109,700**

In summary, the following improvements and payments are recommended with site development:

- Installation of a traffic signal at Town Circle/Campus Parkway (intersection 8)

- Installation of a traffic signal at Memorial Way/Town Circle (intersection 9)
- Installation of a traffic signal at Heritage Way/Town Circle (intersection 12)
- Total project fair share payment of $109,700, including:
  - $10,875 towards overlap phasing for the southbound right turn movement at Valley Springs Parkway/Eucalyptus Avenue (intersection 2)
  - $2,940 towards overlap phasing for the westbound right turn movement at Day Street/Canyon Springs Parkway (intersection 5)
  - $3,660 towards overlap phasing for the westbound right turn movement at Day Street/Campus Parkway (intersection 6)
  - $92,225 towards signal coordination on Frederick Street between Hemlock Avenue (intersection 14) and Eucalyptus Avenue (intersection 19)

Section 2
Introduction

INTRODUCTION

This report presents the methodology, development plans, operations analysis findings, and recommended mitigation measures for the Moreno Valley Mall Redevelopment.

PURPOSE

This report satisfies the requirements for a traffic impact analysis (TIA) as outlined in the City of Moreno Valley Transportation Engineering Division Transportation Impact Analysis Preparation Guide (Reference 1), including both a level of service (LOS) assessment and a vehicle miles traveled (VMT) assessment. It fulfils the requirements per the California Environmental Quality Act (CEQA), which includes identifying whether the project may significantly increase VMT, and identifies whether the project is consistent with programs, plans, ordinances, and policies related to pedestrian, bicyclist, and transit facilities. The scope of the TIA was developed through conversations with City of Moreno Valley Staff, as well as information provided by the City of Riverside and Caltrans. The approved Scoping Memo for the project is included in Appendix A.

PROPOSED PROJECT

LOCATION

The Project consists of revitalization and redevelopment of a portion of the existing Moreno Valley Mall (MVM), located at 22500 Town Circle in the City of Moreno Valley. The revitalization and redevelopment project excludes the existing JC Penny and Macy's parcels.

The MVM is bounded by a loop road (Town Circle), located just south of the SR-60 and east of the I-215. Regional access is from Frederick Street from the east, Day Street from the west, and Eucalyptus Avenue/Towngate Boulevard to the south. The site vicinity is shown in Figure 1.

Figure 1. Site Vicinity

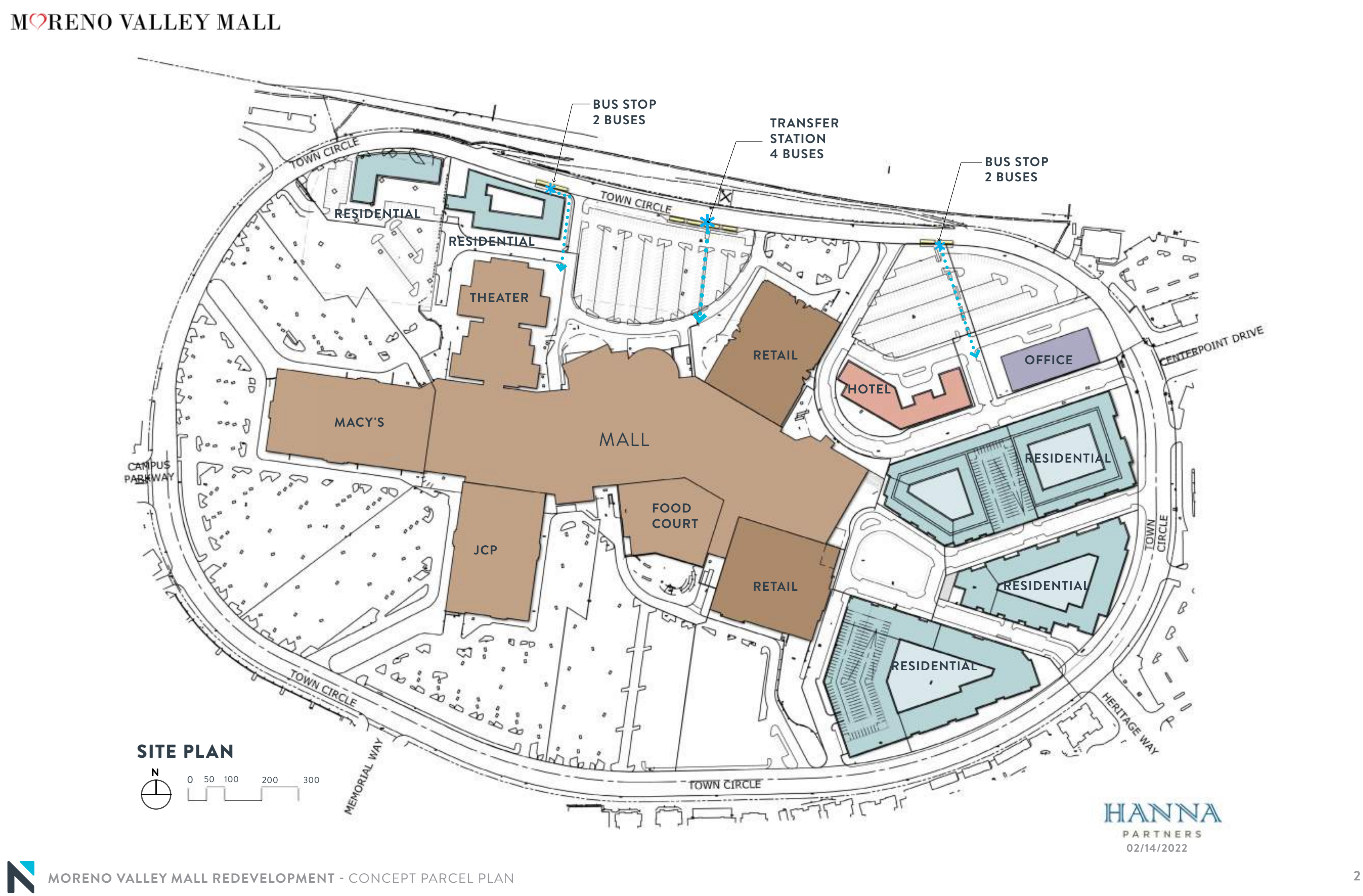
PROJECT DESCRIPTION

The project includes new development on the east and northwest side of the MVM, and redevelopment of some existing spaces. Key project elements include:

- Mall Revitalization – the existing mall will be re-modeled with enhanced interiors elements and certain facade improvements, in addition to repurposing the existing Gottschalks building as new retail, and repurposing the existing Sears building for multi-tenant retail and related uses (see below).
- Multifamily Units – approximately 1,627 multi-family (MF) dwelling units, including four MF communities in the southeastern mall area totaling 1,377 DU and a MF community in the northwest mall area totaling 250 DU). The buildings in the southeastern mall area would include approximately 40,000 square feet of first floor retail.
- Hospitality District – two hotel operations (Hotel A and Hotel B) within a single hotel building totaling 270 hotel rooms and a restaurant and conference center in the eastern mall entrance area.
- Office – to define the primary entry from Centerpoint Drive, one office building consisting of 60,000 square feet of 3 levels or more is proposed to allow for the expansion of employment opportunities within the City of Moreno Valley. The office space provides the potential for medical offices, educational, or professional services development.
- Food Market – the existing “Food Court” will be redeveloped into a new interior and exterior “pavilion” style Food Market, in conjunction with redesigning the existing Sears building to allow for multi-tenant retail and related uses.
- Theater and Dining District – the existing interior and exterior area between the existing cinema and the former Gottschaulks building will be redesigned to include outdoor dining on a patio.
- New Parking Structures – a new parking structure is proposed adjacent to the existing Gottschalks building as well as adjacent to proposed residential buildings. The existing single level podium parking east of the theater will remain.
- Open Space Improvements – A central plaza and public open space will be developed to provide for a community gathering place and connect pedestrian access to the Moreno Valley Mall and surrounding proposed buildings.
- Infrastructure Updates – multiple transit stations are proposed to be dispersed and relocated to the north perimeter of the property to serve and connect various user destinations. Type and number may be adjusted with the intent to maintain ring road transfer stops and pedestrian connections.

Access to the site is provided via Town Circle, which is connected to the broader roadway network via Campus Parkway on the west, Centerpoint Drive to the east, and Memorial Way and Heritage Way to the south.

Construction is expected to be initiated in mid-2023, with individual uses completed between early 2024 and 2026. The site plan is provided in Figure 2.



Received from Nelson Worldwide on April 21, 2022

Proposed Site Plan
Moreno Valley Mall Redevelopment
Moreno Valley, CA

Figure 2

H:\26\26887 - Moreno Valley Redevelopment TIA\figures\26887_Moreno Valley TIA Figures_up.dwg Apr 14, 2022 - 10:15pm - klaustsen Layout Tab: 2_Site Plan

LAND USE AND ZONING

The existing zoning is Commercial, which includes a range of commercial uses. As shown in the City of Moreno Valley's Zoning Map[1] (Reference 2), the project site future zoning is Center Mixed Use and Mixed-Use and is envisioned to be integrated, pedestrian oriented places with a mix of uses including retail, dining, entertainment, offices, lodging, high density residential, recreational, and cultural facilities that cater to both motorists passing through and residents of surrounding neighborhoods. The SPA, upon adoption by the City Council, would become the zoning for the property and would define the allowable uses within its boundaries.

MVM has evolved over several decades, from the original shopping center to the present mall of approximately 83 acres with approximately 1.03-million square feet of existing commercial uses. MVM makes up Planning Area 2 (PA2) within the Towngate 200 Specific Plan (SP-200), which was originally approved by the City Council on October 27, 1987, and subsequently amended. Amendment 3, approved in 1991, re-targeted PA2 land use to more commercial retail uses.

This Specific Plan Amendment (SPA) is a modification to SP-200, creating PA 2A that will consist of approximately 61.4-acres, with private internal driveways, parking facilities, private and public infrastructure. The SPA will establish the standards and guideline for further development and redevelopment of PA 2A.

The SPA designation further defines the Center Mixed Use as Regional/Mixed-use Commercial, described as providing the commercial needs of the region, as well as the neighborhood and community and serves as the focal point of the community – connecting the Civic Center, Town Center and residential uses. Alternative uses permitted other than a commercial can be uses specified under Highway, Mixed Use, and Community Commercial and Office within the Towngate 200 Specific Plan.

The General Plan allows the Floor Area Ratio (FAR) to be calculated on a site. The General Plan's Center Mixed Use designation would allow up to 3.34-million square feet of mixed uses, inclusive of 2,150 residential uses, based on the maximum FAR of 1.25 and maximum of 30 units per acre over 61.4-acres of PA2. As proposed, the PA2 redevelopment falls within the maximum allowed in the General Plan. No General Plan Amendment is required or proposed.

STUDY AREA

The study area includes intersections and roadways within the City of Riverside and Moreno Valley, identified through the scoping process with Moreno Valley and included in the Scoping Agreement in Appendix A. Study intersections are listed below, with the jurisdiction shown in parentheses, where Moreno Valley is abbreviated as MV.

1. I-215 Freeway Ramps/Eucalyptus Avenue (Caltrans)
2. Valley Springs/Eucalyptus Avenue (Riverside)
3. Day Street/SR-60 WB Ramps (Caltrans)
4. Day Street/SR-60 EB Ramps (Caltrans)
5. Day Street/Canyon Springs Parkway (Riverside)
6. Day Street/Campus Parkway (Riverside)
7. Day Street/Eucalyptus Avenue (Riverside)
8. Town Circle/Campus Parkway (Moreno Valley)
9. Memorial Way/Town Circle (MV)
10. Memorial Way-Eucalyptus Avenue/ Towngate Boulevard (MV)
11. Town Circle/Centerpoint Drive (MV)
12. Heritage Way/Town Circle (MV)
13. Heritage Way/Towngate Boulevard (MV)
14. Pigeon Pass Road/Hemlock Avenue (MV)
15. Frederick Street/SR-60 EB On-Ramp (Caltrans)
16. Frederick Street/SR-60 EB Off-Ramp–Sunnymead Boulevard (Caltrans)
17. Frederick Street/Centerpoint Drive (MV)
18. Frederick Street/Towngate Boulevard (MV)
19. Frederick Street/Eucalyptus Avenue (MV)
20. SR-60 WB Off Ramp/Hemlock Avenue (Caltrans)

[1] Available at https://moval.gov/city_hall/general-plan2040/NewZoning.pdf

Study roadways are:

A. Day Street, with segments analyzed between the SR-60 WB Ramp and Eucalyptus Avenue (Riverside)
B. Eucalyptus Avenue, with segments analyzed from the I-215 Ramps to Towngate Boulevard (Riverside/MV)
C. Town Circle from Campus Parkway to Centerpoint Drive (MV)
D. Centerpoint Drive between Town Circle and Frederick Street (MV)
E. Towngate Boulevard between Eucalyptus Avenue and Frederick Street (MV)
F. Pigeon Pass Road between Hemlock Avenue and Sunnymead Boulevard (MV)
G. Frederick Street, with segments analyzed between Sunnymead Boulevard and Eucalyptus Avenue (MV)

Study freeway mainline segments are:

a) SR-60 between the Day Street Ramp (Caltrans)
b) SR-60 east of the Frederick Street Ramps (Caltrans)
c) I-215 from SR-60 to Eucalyptus Avenue Ramps (Caltrans)
d) I-215 south of the Eucalyptus Avenue Ramps (Caltrans)

The freeway mainline segments were selected based on where volume data is available from the Caltrans Performance Measurement System (PeMS) and where the site adds the most significant number of vehicle trips.

ANALYSIS SCENARIOS

The TIA includes an assessment of study intersection and roadway operations during the weekday AM peak hour, weekday PM peak hour, and Saturday midday peak hour under the following analysis scenarios:

- Existing Conditions
- 2026 Conditions without Project (Opening Year)
- 2026 Conditions with Project (Opening Year)
- 2040 Conditions without Project (General Plan Build-Out)
- 2040 Conditions with Project (General Plan Build-Out)

Section 3

Roadway Capacity Analyses Methodologies

METHODOLOGY AND EVALUATION CRITERIA

This section provides an overview of the methodology for the transportation analysis related to roadway capacity. The following discusses the analysis software and approach as well as the performance standards and evaluation criteria for the level of service analyses. The vehicle miles traveled impact analyses are discussed in *Section 13: Vehicle Miles Traveled (VMT) Analysis*.

ANALYSIS SOFTWARE AND APPROACH

All intersection operations analyses described in this report were performed in accordance with the procedures stated in the 6th Edition Highway Capacity Manual (HCM, Reference 3) using Synchro 10 software, with the exception of the SR-60 WB Off Ramp/Hemlock Avenue intersection. Synchro is unable to analyze shared left and through lanes using the 6th Edition of the HCM, so this intersection was assessed using the 2000 Edition of the HCM.

Peak 15-minute flow rates were used in the evaluation of all intersection levels of service to provide analyses based on a reasonable worst-case scenario. The peak hours were identified as the worse four consecutive 15-minute periods between 7 and 9 AM and between 4 and 6 PM on weekdays, and between 1 to 3 PM on Saturdays. These represent the critical time periods for evaluation based on peak demand on the surrounding transportation system and the peak demand associated with the project. Using the peak 15-minute flow rate ensures that this analysis is based on a reasonable worst-case scenario. For this reason, the analysis reflects conditions that are only likely to occur for 15 minutes out of each average peak hour. During all other periods, the transportation system likely will operate under conditions better than the conditions described in this report.

Per the City of Moreno Valley Transportation Impact Analysis Preparation Guide (Reference 1), the following were used in the analysis:

- Saturation flow rate HCM default of 1,900 passenger cars per hour lane per lane.
- Heavy vehicle factor HCM default of 3%.
- Lane width HCM default of 12 feet.
- Grade based on estimate from Google Earth, based on HCM default values for flat (0%), moderate (3%) and steep (6%).
- Speeds based on posted speed limits.
- Turn bay lengths based on striped storage length measured from Google Earth.
- Existing signal timing based on current plans, included in Appendix B. Cycle lengths and split times were optimized for the year 2040 analysis, with an upper limit of 120 seconds for the cycle length.
- Intersection peak hour factors based on count data for existing conditions and set to 0.95 for future conditions where existing peak hour factors are less than 0.95.
- Pedestrian and bicycle crossing volumes based on count data.
- No adjustments made for on-street parking or buses.

The freeway mainline segments were assessed using Highway Capacity Software (HCS) 7, which implements the 6th Edition of the HCM.

INTERSECTION ANALYSIS

INTERSECTION LEVEL OF SERVICE

Operations at the study intersections were assessed to determine both level-of-service (LOS) and volume-to-capacity ratio. Both Riverside and Moreno Valley use performance standards based on LOS. LOS describes the operating conditions experienced by users of a facility. Level of service (LOS) is a qualitative measure of the effect of several factors, including speed, travel time, traffic interruptions, freedom to maneuver, driving comfort, and convenience. Levels of service are designated "A" through "F," from best to worst, which cover the entire range of traffic operations that might occur. LOS A through E generally represent traffic volumes at less than roadway capacity while LOS F represents over capacity or forced flow conditions. In general, LOS D or better is considered acceptable while LOS E and LOS F are not. These conditions are generally described in Table 3.

Table 3. General Level of Service Definitions

LOS	Description
A	**Free Flow or Insignificant Delays:** Vehicles are completely unimpeded in their ability to maneuver within the traffic stream. Control delay at signalized intersections is minimal.
B	**Stable Operation or Minimal Delays**: The ability to maneuver within the traffic stream is only slightly restricted, and control delay at signalized intersections are not significant.
C	**Stable Operation or Acceptable Delays**: The ability to maneuver and change lanes is somewhat restricted, and average travel speeds may be about 5 percent of the free flow speed.
D	**Approaching Unstable or Tolerable Delays**: Small increases in flow may cause substantial increases in delay and decreases in travel speed.
E	**Unstable Operation or Significant Delays:** Significant delays may occur, and average travel speeds may be 33 percent or less of the free flow speed.
F	**Forced Flow or Excessive Delays**: Congestion, high delays, and extensive queuing occur at critical signalized intersections with urban street flow at extremely low speeds.

Source: *Highway Capacity Manual*, Transportation Research Board, Washington D.C., 2016

Intersection analysis was conducted using the operational methodology outlined in the HCM at all intersections, as operationalized by the Synchro version 10 software tool. The HCM procedure calculates a weighted average stop delay in seconds per vehicle at a signalized and all-way stop-controlled intersections and assigns a level of service designation based on the delay. At two-way stop-controlled intersections, LOS is defined for each minor-street movement and the major-street left turns, as opposed to the intersection as a whole (given that major-street through vehicles are assumed to experience zero delay). Table 4 presents the relationship of average delay to level of service for signalized intersections, two-way stop-controlled (TWSC) intersections, and all-way stop-controlled (AWSC) intersections. As shown, the thresholds are different at TWSC and AWSC intersections compared to signals, because user perceptions differ among transportation facility types and "unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable than they are at signals" (Reference 3).

Table 4. Intersection Level of Service Definitions

LOS	Average Delay Per Vehicle (Seconds)	
	Signal	TWSC/AWSC
A	≤10.0	≤10.0
B	>10.0 and ≤20.0	>10.0 and ≤15.0
C	>20.0 and ≤35.0	>15.0 and ≤25.0
D	>35.0 and ≤55.0	>25.0 and ≤35.0
E	>55.0 and ≤80.0	>35.0 and ≤50.0
F	>80.0	>50.0

Source: Highway Capacity Manual 6th Edition (Reference 3)

INTERSECTION QUEUES

Expected intersection queues and how they compare to intersection geometry and available queue storage influences traffic operations. The 95th percentile queues, as reported by Synchro 10, were used to assess queuing at all study intersections. The 95th percentile queue lengths represent the maximum back of queue that are statistically not exceeded in 95% of intersection operating cycles. The queue storage was estimated based on the striped queue storage shown in Google Earth.

ROADWAY SEGMENT ANALYSIS

Moreno Valley and Riverside each define roadway level of service based on daily volume thresholds and the type of roadway, as shown in Table 5 and Table 6.

Table 5. Moreno Valley Roadway Segment Capacity

Type of Roadway	Level of Service*				
	A	B	C	D	E
6 Lane Divided Arterial	33,900	39,400	45,000	50,600	56,300
4 Lane Divided Arterial	22,500	26,300	30,000	33,800	37,500
4 Lane Undivided Arterial	15,000	17,500	20,000	22,500	25,000
2 Lane Industrial Collector	7,500	8,800	10,000	11,300	12,500
2 Lane Undivided Residential	N/A	N/A	N/A	N/A	2,000

* - Maximum Average Daily Traffic (ADT)
NOTE: These roadway capacities are "rule of thumb" estimates for planning purposes. The LOS "E" service volumes are estimated maximum daily capacity for respective classifications. Capacity is affected by such factors as intersections (spacing, configuration, and control features), degree of access control, roadway grades, design geometrics (horizontal and vertical alignment standards), sight distance, vehicle mix (truck and bus traffic), and pedestrian and bicycle traffic.
Source: City of Moreno Valley TIA Preparation Guide (Reference 1)

Table 6. City of Riverside Roadway Segment Capacity (1)

Roadway Classification	Number of Lanes	Two-Way Traffic Volumes (ADT)(2)		
		Service Level C	Service Level D	Service Level E
Local	2	2,500-2,799	2,800-3,099	3,100+
Collector (66' or 80')	2	9,900-11,199	11,200-12,499	12,500+
Arterial (3)	2	14,400-16,199	16,200-17,999	18,000+
Arterial (88')	4	16,800-19,399	19,400-21,199	22,000+
Arterial (100)	4	26,200-29,599	29,600-32,999	33,000+
Arterial (120')	6	38,700-44,099	44,100-49,499	49,500+
Arterial (144')	8	50,600-57,799	57,800-64,999	65,000+

(l) All capacity figures are based on optimum condition and are intended as guidelines for planning purposes only
(2) Maximum two-way ADT values are based on the 1999 Modified Highway Capacity Manual Level of Service Tables
(3) Two-lane roadways designated as future arterials that conform to arterial design standards for vertical and horizontal alignments are analyzed as arterials
Source: City of Riverside TIA Guidelines (Reference 4)

FREEWAY MAINLINE ANALYSIS

The freeway analysis was conducted using the software HCS 7 to implement the HCM 6th Edition methodology for basic freeway segments. This methodology analyzes a uniform section of roadway by direction (e.g. northbound, southbound, eastbound, or westbound).

For the freeway segments, the HCM defines LOS based on density, expressed in vehicles per mile per lane (pc/mi/ln). As stated in the HCM, "density describes a motorist's proximity to other vehicles and is related to a motorist's freedom to maneuver within the traffic stream." While LOS A describes free-flow operations, LOS F describes unstable flow. Table 7 provides the LOS criteria for basic freeway segments.

Table 7: Level of Service Criteria for Basic Freeway Segments

LOS	Density (pc/mi/ln)
A	≤11
B	>11–18
C	>18–26
D	>26–35
E	>35–45
F	Demand exceeds capacity OR density >45

Notes: LOS = level of service, pc/mi/ln = passenger cars per mile per lane
Source: Highway Capacity Manual 6th Edition (Reference 3)

PERFORMANCE STANDARDS AND EVALUATION CRITERIA

The following refers to the roadway capacity analyses performance standards and evaluation criteria. The analyses performed to evaluate vehicle miles traveled is included in *Section 13: Vehicle Miles Traveled (VMT) Analysis*.

MORENO VALLEY

Per the City of Moreno Valley *Transportation Impact Analysis Preparation Guide*, the City of Moreno Valley General Plan has established minimum Level of Service standards for its roadway network. As stated in the TIA Preparation Guide, "LOS D is applicable to intersections that are adjacent to freeway on/off ramps, and adjacent to employment generating land uses. LOS C is applicable to all other intersections. For boundary intersections, LOS D is assumed to be acceptable."

The guide also provides guidance for when projects shall identify improvements to intersections and roadways, noted below.

Signalized Intersections

- "Any signalized study intersection operating at acceptable LOS without project traffic in which the addition of project traffic causes the intersection to degrade to unacceptable LOS shall identify improvements to provide acceptable LOS.
- Any signalized study intersection that is operating at unacceptable LOS without project traffic where the project increases delay by 5.0 or more seconds shall identify improvements to offset the increase in delay."

Unsignalized Intersections

At unsignalized intersections, the guide states that "an operational improvement would be required if the study determines that either section a) or both sections b) and c) occur:

> a) The addition of project related traffic causes the intersection to degrade from an acceptable LOS to unacceptable LOS.
>
> OR
>
> b) The project adds 5.0 seconds or more of delay to an intersection that is already projected to operate without project traffic at unacceptable LOS,
>
> AND
>
> c) The intersection meets the peak hour traffic signal warrant after the addition of project traffic.

If the conditions above are satisfied, improvements should be identified that achieve "LOS D or better for case a) above or to pre-project LOS and delay for case b) above."

Roadway Segments

The guide provides the following for roadway segments:

- "Any study roadway segment operating at acceptable LOS without project traffic in which the addition of project traffic causes the segment to degrade to unacceptable LOS should identify improvements to achieve acceptable LOS.
- Any roadway segment that operates at unacceptable LOS in the no project scenario where the project adds traffic in excess of 5% of the roadway capacity (e.g. a volume-to-capacity ratio increase of 0.05) should identify improvements to add capacity to the segment."

RIVERSIDE

The following criteria applies for study intersections and roadways within City of Riverside jurisdiction, which are listed in Table 6. The City of Riverside provides performance criteria in the Riverside General Plan 2025 (Reference 5). It states that "The City will strive to maintain LOS D or better on arterial streets wherever possible. At some key locations, such as City arterial roadways which are used as a freeway bypass by regional through traffic and at heavily traveled freeway interchanges, LOS E may be acceptable as determined on a case-by-case basis. Locations that may warrant the LOS E standard include portions of Arlington Avenue/Alessandro Boulevard, Van Buren Boulevard throughout the City, portions of La Sierra Avenue and selected freeway interchanges."

As stated in the City's Traffic impact Analysis Guidelines (Reference 4), "operational improvements are required when the addition of project related trips causes either peak hour LOS to degrade from acceptable (A through D) to unacceptable levels (E or F) or the peak hour delay to increase as follows:

- LOS A/B By 10 seconds
- LOS C By 8 seconds
- LOS D By 5 seconds
- LOS E By 2 seconds
- LOS F By 1 seconds"

For roadway segments, the guide states that "the following roadway segments should be considered and improvements recommended if the project exceeds the noted operation goals:

- Any study roadway segment operating at a LOS D or better without project traffic in which the addition of project traffic causes the segment to degrade to an LOS E or F should identify improvements to achieve LOS D.
- Any roadway segment that operates unacceptably in the no project scenario where the project adds traffic in excess of 5% of the roadway capacity (e.g. a volume-to-capacity ratio increase of 0.05) should identify operation improvements (such as fiber optic interconnect, CCTV, traffic signal controller improvements) to improve operations."

CALTRANS

Freeway segments and intersections associated with freeway on- and off-ramps fall under Caltrans jurisdiction. Caltrans updated its guidance in 2020 to include metrics to evaluate transportation impacts based on vehicle miles traveled (VMT) and no longer sets a minimum acceptable LOS for its facilities. Based on the Caltrans *Vehicle Miles Traveled-Focused Transportation Impact Study Guide* (Reference 6), Caltrans is transitioning away from LOS performance standards and instead focused on VMT to identify significant impacts.

> "For land use projects and plans, automobile delay is no longer considered a significant impact on the environment under CEQA (SB 743, 2013). Caltrans review of land use projects and plans is focused on a VMT metric, consistent with changes to the CEQA Guidelines (California Code of Regulations Section 15064.3(b)(1)). This VMT-focused TISG provides a foundation for review of how lead agencies apply the VMT metric to CEQA project analysis.
>
> Beyond or in addition to the use of the VMT metric, determining how the State Highway System may otherwise be affected by a land use project may still be necessary at times, particularly as it relates to the safety of the traveling public. Additional future guidance will include the basis for requesting transportation impact analysis that is not based on VMT. This guidance will include a simplified safety analysis approach that reduces risks to all road users and focuses on multi-modal conflict analysis as well as access management issues. With this guidance the Department will transition away from requesting LOS or other vehicle operations analyses of land use projects."

In the absence of a LOS standard from Caltrans, at the ramp intersections the LOS standards for Riverside County from the Riverside County Long Range Transportation Study (Reference 7) were used. The study states:

> "Most local agencies in Riverside County and Caltrans have adopted Level of Service (LOS) standards of "C" or "D" to maintain a desired LOS for the local circulation system. To address CMP requirements, RCTC approved a minimum traffic LOS standard of "E.""

Caltrans no longer uses a LOS standard to evaluate impacts for its facilities under CEQA, and as previously stated the City of Riverside allows LOS E at certain freeway interchanges intersections. Therefore for the purpose of this analysis, and consistent with the LOS E standard historically used in RCTC's CMP, LOS E is acceptable for freeway intersections under Caltrans jurisdiction.

PERFORMANCE STANDARDS TABLE

The jurisdiction, traffic control or classification, and performance standard for each study intersection and segment are provided in Table 8.

Table 8. Study Intersection and Segment Performance Standards

Study Intersection/Segment	Jurisdiction	Traffic Control/ Classification	Performance Standard
1. I-215 Freeway Ramps/Eucalyptus Avenue	Caltrans	Signalized	E
2. Valley Springs/Eucalyptus Avenue	Riverside	Signalized	D
3. Day Street/SR-60 WB Ramps	Caltrans	Signalized	E
4. Day Street/SR-60 EB Ramps	Caltrans	Signalized	E
5. Day Street/Canyon Springs Parkway	Riverside	Signalized	D
6. Day Street/Campus Parkway	Riverside	Signalized	D
7. Day Street/Eucalyptus Avenue	Riverside	Signalized	D
8. Town Circle/Campus Parkway	Moreno Valley	All-way-stop-control	D
9. Memorial Way/Town Circle	Moreno Valley	All-way-stop-control	D
10. Memorial Way-Eucalyptus Avenue/Towngate Boulevard	Moreno Valley	Signalized	D
11. Town Circle/Centerpoint Drive	Moreno Valley	Signalized	D
12. Heritage Way/Town Circle	Moreno Valley	All-way-stop-control	D
13. Heritage Way/Towngate Boulevard	Moreno Valley	Signalized	D
14. Pigeon Pass Road/Hemlock Road	Moreno Valley	Signalized	D
15. Frederick Street/SR-60 EB On-Ramp	Caltrans	Signalized	E
16. Frederick Street/ SR-60 EB Off-Ramp – Sunnymead Boulevard	Caltrans	Signalized	E
17. Frederick Street/Centerpoint Drive	Moreno Valley	Signalized	D
18. Frederick Street/Towngate Boulevard	Moreno Valley	Signalized	D
19. Frederick Street/Eucalyptus Avenue	Moreno Valley	Signalized	D
20. SR-60 WB Off Ramp/Hemlock Avenue	Caltrans	Signalized	E
A. Day Street between the SR-60 WB Ramp and Eucalyptus Avenue	Riverside	Arterial 120'	D
B1. Eucalyptus Avenue from I-215 Ramps to Day Street	Riverside	Arterial 120'	D
B2. Eucalyptus Avenue from Day Street to Towngate Boulevard	Moreno Valley	4 Lane Divided Arterial	D
C. Town Circle from Campus Parkway to Centerpoint Drive	Moreno Valley	Not shown (4 Lane Undivided Arterial)[1]	D
D. Centerpoint Drive between Town Circle and Frederick Street	Moreno Valley	Not shown (6 Lane Divided Arterial)[1]	D
E. Towngate Boulevard between Eucalyptus Avenue and Frederick Street	Moreno Valley	4 Lane Divided Arterial	D
F. Pigeon Pass Road between Hemlock Avenue and Sunnymead Boulevard	Moreno Valley	6 Lane Divided Arterial[2]	D
G1. Frederick Street between Sunnymead Boulevard and Centerpoint Drive	Moreno Valley	6 Lane Divided Arterial[2]	D

Study Intersection/Segment	Jurisdiction	Traffic Control/ Classification	Performance Standard
G2. Frederick Street between Centerpoint Drive and Eucalyptus Avenue	Moreno Valley	4 Lane Divided Arterial	D
(a) SR-60 between the Day Street Ramps	Caltrans	Freeway/ Expressway	N/A
(b) SR-60 east of the Frederick Street Ramps	Caltrans	Freeway/ Expressway	N/A
(c) I-215 from SR-60 to Eucalyptus Avenue Ramps	Caltrans	Interstate	N/A
(d) I-215 south of the Eucalyptus Avenue Ramps	Caltrans	Interstate	N/A

N/A – not applicable, as Caltrans has moved away from LOS criteria
1 These roadways are not classified on the City of Moreno Valley's Circulation Diagram. The segment LOS was determined using the classification that most closely matches the cross-section.
2 Given the long turn lanes and auxiliary lanes through these sections, the segment LOS was determined using the 6 Lane Arterial classification.

Queuing Evaluation Criteria

Riverside and Caltrans have not set specific thresholds to determine impacts related to queueing. The City of Moreno Valley TIA Guidelines states that "the TIA shall examine the impacts on queue lengths, need for additional queuing area, and access to turn lanes or intersections and/or site access driveways." For the purpose of this analysis, queuing conditions are considered substantial if trips generated by the Project cause the 95th percentile queue lengths at nearby intersections to exceed the available capacity. Potential improvements at locations where 95th percentile queues exceed available storage, as well as the influence of the project on queues, are discussed in *Section 12: Findings and Recommendations*.

Section 4

Existing Roadway Network and Traffic Conditions

EXISTING ROADWAY NETWORK AND TRAFFIC CONDITIONS

This section provides a summary of the existing roadway network, including operations at the study intersections, roadway segments, and freeway mainline segments.

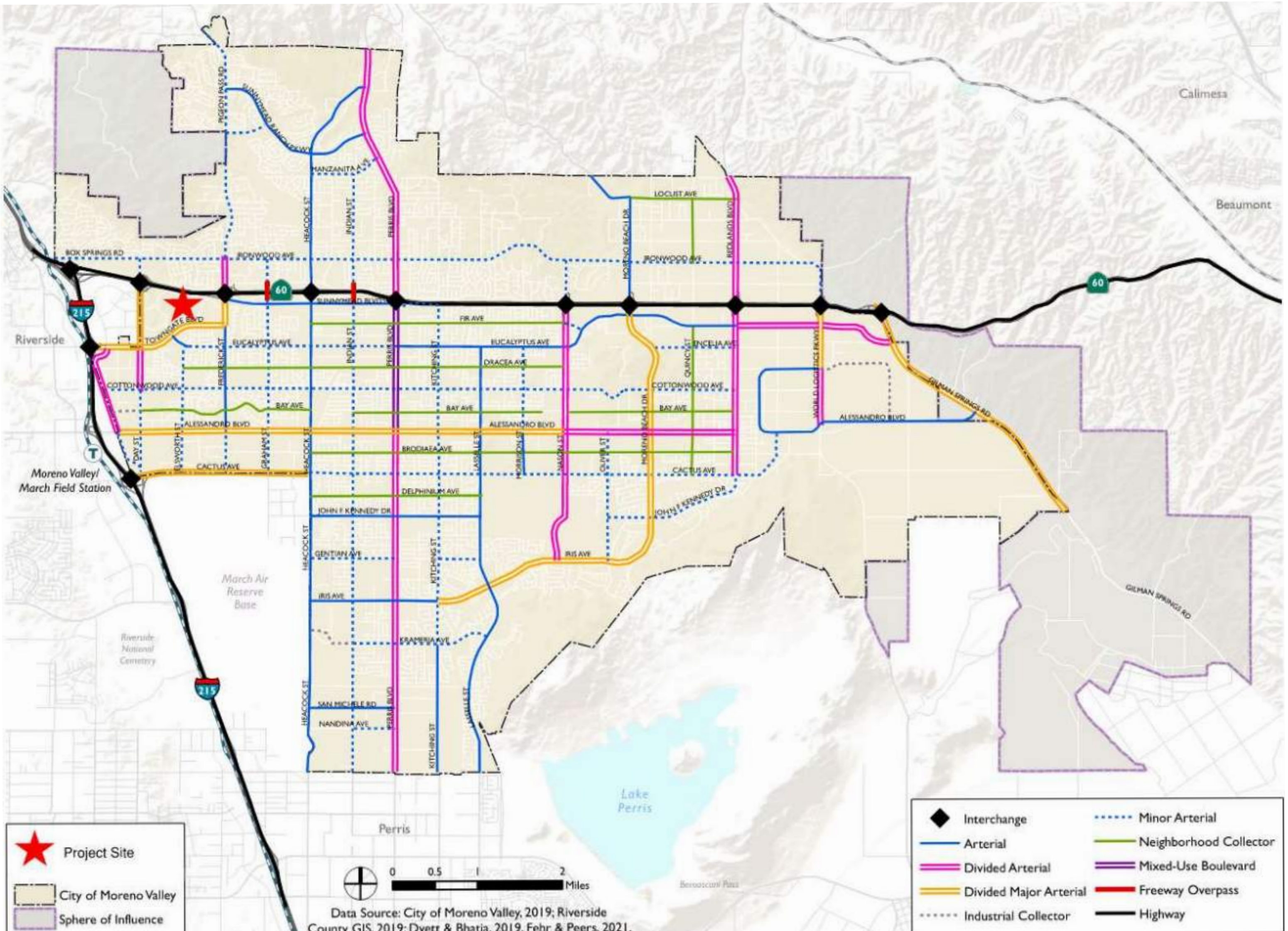
In consultation with City of Moreno Valley staff as detailed in the scoping agreement, a total of 20 intersections, six roadway segments, and four freeway segments were selected for the purposes of this analysis, as discussed in *Section 2: Introduction*.

The roadway system in the study area consists of several roadway functional classification categories as categorized in the City of Moreno Valley General Plan Circulation Element (Reference 8) and illustrated in Figure 3. A description of the roadway functional classifications, as defined in the General Plan Circulation Element, and corresponding study roadways are listed below:

- **Freeways** generally provide high-speed, high-capacity inter-regional access, and are controlled by the California Department of Transportation (Caltrans); improvements in Riverside County are programmed through the Riverside County Transportation Commission (RCTC). Within the study area, State Route 60 (SR-60) has three to four travel lanes in each direction as well as auxiliary weaving lanes. There are SR-60 on- and off-ramps at Day Street and at Pigeon Pass Road/Frederick Street. Within the study area, Interstate 215 (I-215) has three travel lanes in the northbound direction and three to four travel lanes in the southbound direction. There are I-215 ramps at Eastridge Avenue/Eucalyptus Avenue.
- **Divided major arterials** generally consist of up to 134 feet of right-of-way; in the study area, they have two to three travel lanes in each direction with a two-way left-turn lane or a raised median. Within the study area, divided major arterials consist of Day Street (between SR-60 and Eucalyptus Avenue), Eucalyptus Avenue, Towngate Boulevard, and Frederick Street (between SR-60 and Towngate Boulevard).
- **Divided arterials** generally consist of up to 110 feet of right-of-way; in the study area, they have one to two lanes in each direction and can include a two-way left-turn lane. Within the study area, divided arterials consist of Pigeon Pass Road (between Ironwood Avenue and SR-60), Day Street (between Eucalyptus Avenue and Cottonwood Avenue), and Old 215 Frontage Road (south of Eucalyptus Avenue).
- **Arterials** generally consist of up to 100 feet of right-of-way; in the study area, they have two lanes in each direction with a two-way left-turn lane. Within the study area, arterials consist of Eucalyptus Avenue (between Towngate Boulevard and Elsworth Street) and Frederick Street (south of Eucalyptus Avenue).
- **Minor arterials** generally consist of up to 88 feet of right-of-way; in the study area, they have one to two lanes in each direction and can include a two-way left-turn lane. Within the study area, minor arterials consist of Day Street (north of SR-60), Elsworth Street (south of Eucalyptus Avenue), and Eucalyptus Avenue (east of Elsworth Street).
- **Neighborhood collectors** are residential streets that prioritize low vehicle speeds and low-stress bicycle and pedestrian use on parallel route to arterials. Within the study area, Dracaea Street (east of Elsworth Street) is a neighborhood collector with one travel lane in each direction without a raised median or two-way left-turn lane.

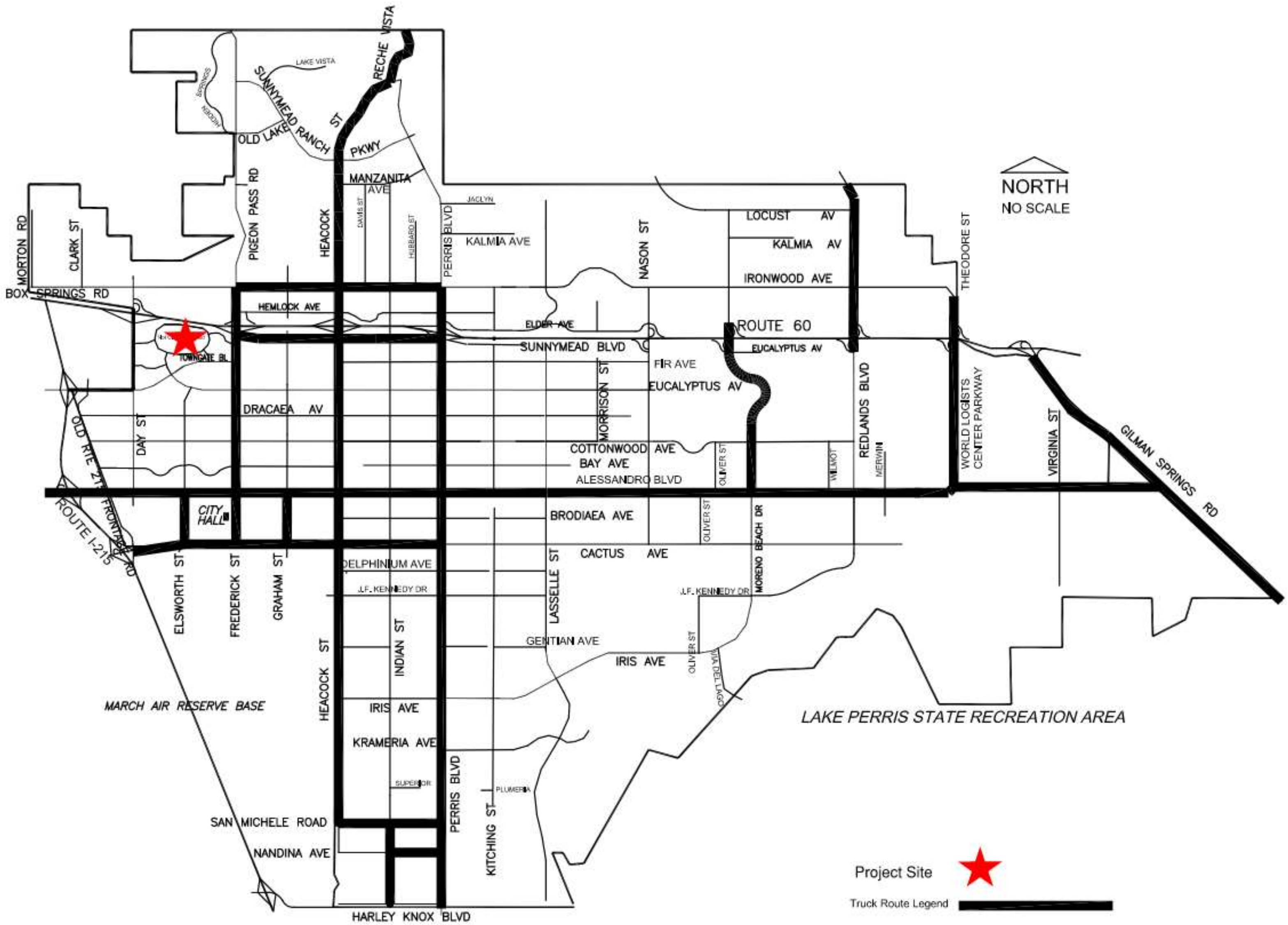
The City of Moreno Valley designates truck routes along several arterials throughout the city. Trucks over three tons are restricted to these specific routes that help facilitate goods movement throughout the city and connecting to SR-60 and I-215. In the study area, City-designated truck routes consist of Frederick Street (south of Ironwood Avenue) and Sunnymead Boulevard (east of Frederick Street), as shown in Figure 4.

Figure 3. City of Moreno Valley General Plan Circulation Diagram



Source: City of Moreno Valley General Plan 20240 (Reference 8)

Figure 4. City-Designated Truck Routes



Source: City of Moreno Valley General Plan 20240 (Reference 8)

Each of the study roadways is listed in Table 9, along with the jurisdiction, number of lanes, classification, posted speed limit, and multimodal facilities. The classifications are based on the Master Plan of Roadways in the Riverside General Plan 2025 (Reference 5) and the Circulation Element of the Moreno Valley General Plan 2040 (Reference 8).

Table 9. Study Roadway Characteristics

Roadway	Jurisdiction	Number of Lanes	Classification	Posted Speed Limit (mph)	Side-walks	Bike lanes
Interstate 215	Caltrans	6	Interstate	70	No	No
Eucalyptus Avenue	Riverside/ Moreno Valley[1]	4-5	Arterial (120')/Divided Major Arterial/Arterial	35-40	Partial	Partial
Old 215 Frontage Road	Moreno Valley	4	Divided Arterial	50	No	No
Valley Springs Parkway	Riverside	6	Not Listed	35	Yes	No
Day Street	Riverside/ Moreno Valley[2]	5-6	Arterial (120')	40	Yes	No
State Route 60	Caltrans	6	Freeway/Expressway	65	No	No
Canyon Springs Parkway	Riverside	6	Not Listed	35	Yes	No
Campus Parkway	Moreno Valley	4-6	Not Listed	Not Posted	Yes	Partial
Town Circle	Moreno Valley	4-5	Not Listed	30	Partial	Partial
Memorial Parkway	Moreno Valley	4	Not Listed	Not Posted	Yes	Yes
Towngate Boulevard	Moreno Valley	4	Divded Major Arterial	40	Yes	Yes
Centerpoint Drive	Moreno Valley	6	Not Listed	30	Yes	No
Heritage Way	Moreno Valley	5	Not Listed	Not Posted	Yes	No
Pigeon Pass Road	Moreno Valley	5	Divided Arterial	40	Yes	Partial
Hemlock Avenue	Moreno Valley	2-4	Not Listed	35	Yes	No
Frederick Street	Moreno Valley	4-5	Divided Major Arterial/Arterial	40	Yes	Yes
Sunnymead Boulevard	Moreno Valley	4	Arterial	35	Yes	Yes

[1]Eucalyptus Avenue is within Riverside's jurisdiction west of Day Street
[2]Day Street is within Riverside's jurisdiction north of Eucalyptus Avenue

EXISTING TRAFFIC CONDITIONS

The existing intersection and roadway segment analyses are based on traffic counts collected in December 2021 and February 2022. Data was collected on Wednesday, December 8, 2021, Saturday, December 11, 2021. Subsequently, the City requested to expand the study area and therefore additional traffic counts were taken at one intersection (#13) and a few roadway segments on Tuesday, March 1, 2022, Saturday, February 26, 2022. At the study intersections, data was collected on weekdays from 7 AM to 9 AM and from 4 PM to 6 PM, and on Saturday from 11 AM to 1 PM. Because the traffic counts were requested before approval of the scoping agreement, manual adjustments were made to adjust volumes to peak hour conditions, as described in the following page. The peak hour intersection counts include total vehicle volumes by movement, vehicles turning right-on-red and pedestrian and bicycle crossing volumes, all recorded in 15-minute intervals. The intersection turn movement count data is provided in Appendix C.

Roadway segment counts were also collected in the study area on weekdays and Saturdays for the following roadway segments:

- Day Street just north of Canyon Springs Parkway
- Centerpoint Drive just west of Frederick Street
- Towngate Boulevard just west of Frederick Street
- Frederick Street just north of Centerpoint Drive
- Frederick Street just north of Eucalyptus Avenue

The roadways segment count data is provided in Appendix D.

Given the timing of the count data near the holidays, as well as the commercial uses in the study area, the counts are expected to be represent higher than typical traffic conditions. When compared to the City of Moreno Valley traffic counts from 2017, available on the City's website, the 24-hour segment counts collected were significantly higher (considering a typical 1-2% annual growth rate), as shown in Table 10. The traffic counts taken in December 2021 and February/March of 2022 represent a conservative estimate of existing (baseline) traffic conditions.

Table 10. Daily Count Comparison

Roadway Segment	2017 Traffic Count	December 2021 Weekday Traffic Count	Percent Difference[1]
Day Street between Canyon Springs Parkway and US 60 EB Ramps	38,000	44,887	18%
Towngate Boulevard between Eucalyptus Avenue and Frederick Street	8,500	10,722	26%
Frederick Street between Centerpoint Drive and Sunnymead Boulevard	24,600	36,822	50%

[1]Percent Difference calculated by subtracting 2017 count from 2021 count and dividing by 2017 count

INTERSECTION OPERATIONS

Traffic Control and Intersection Geometrics

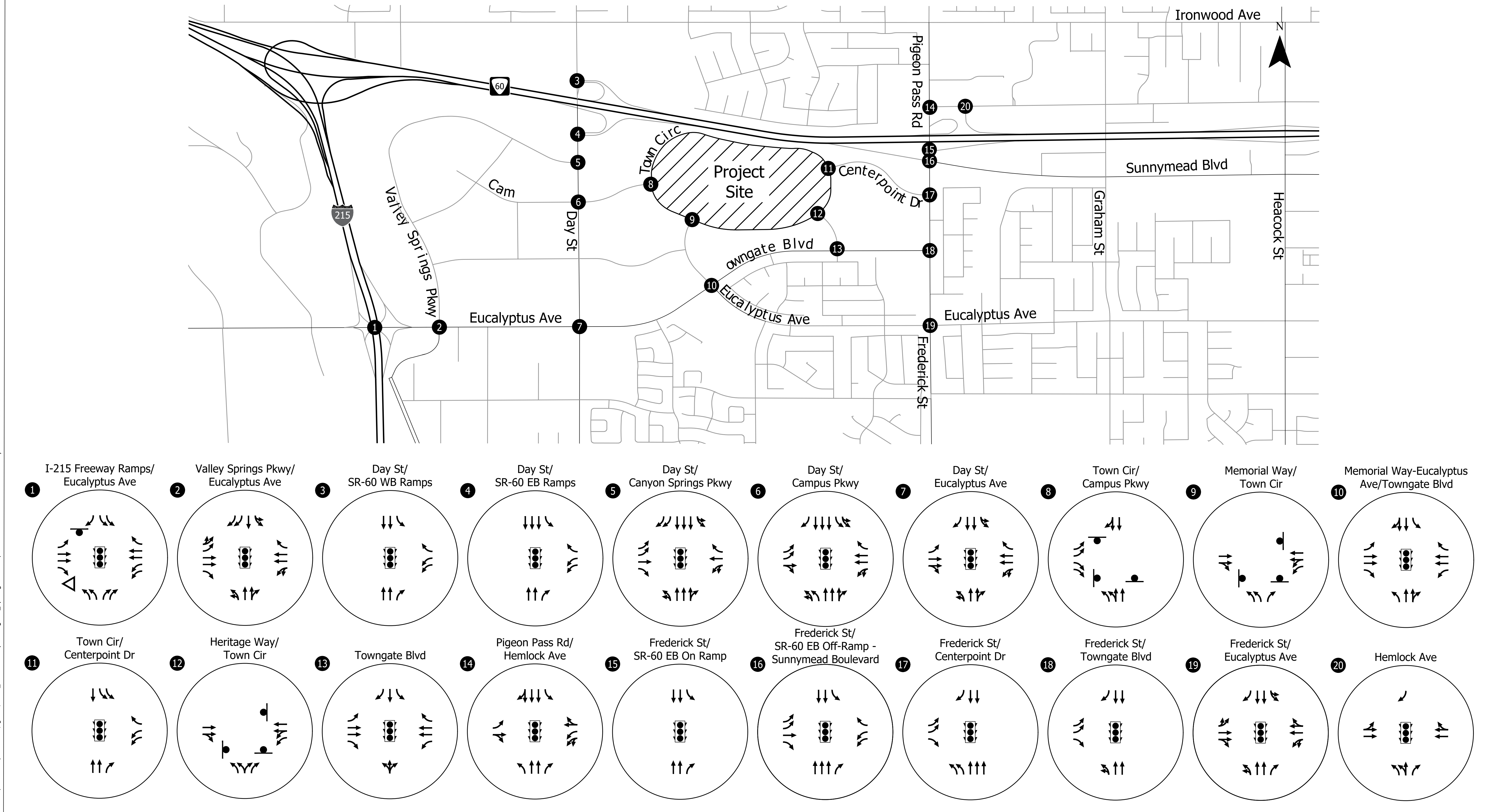
The majority of the study intersections are signalized, with the exception of three all-way stop-controlled intersections on Town Circle. Figure **5** illustrates existing traffic control devices and lane configurations at the study intersections.

Traffic Volumes and Intersection Levels of Service

The existing traffic volumes were developed from the intersection counts as previously described.

The Saturday intersection counts were collected from 11 AM to 1 PM, with the majority of the intersections showing a peak hour from 12 PM to 1 PM. At the four locations where a full day of count data was collected on Saturday, the overall peak hour occurred after 1 PM. The overall Saturday midday peak hour at the segment counts on Day Street, Towngate Boulevard, and Frederick Street were, on average, 7% higher than the peak volume between 11 AM and 1 PM. Therefore, the Saturday intersection counts were uniformly increased by 7% across the board, acknowledging that the intersection counts did not capture the highest hour of the day. The segment count on Centerpoint Drive was not considered for the adjustment, given a holiday event occurred at the mall starting at 2 PM on the day the count was collected.

Figure 6, Figure 7 and Figure 8 summarize the traffic volumes for the study intersections under existing weekday AM, weekday PM, and Saturday midday peak hour traffic conditions, respectively.



Existing Lane Configurations and Traffic Control Devices
Moreno Valley, CA

5

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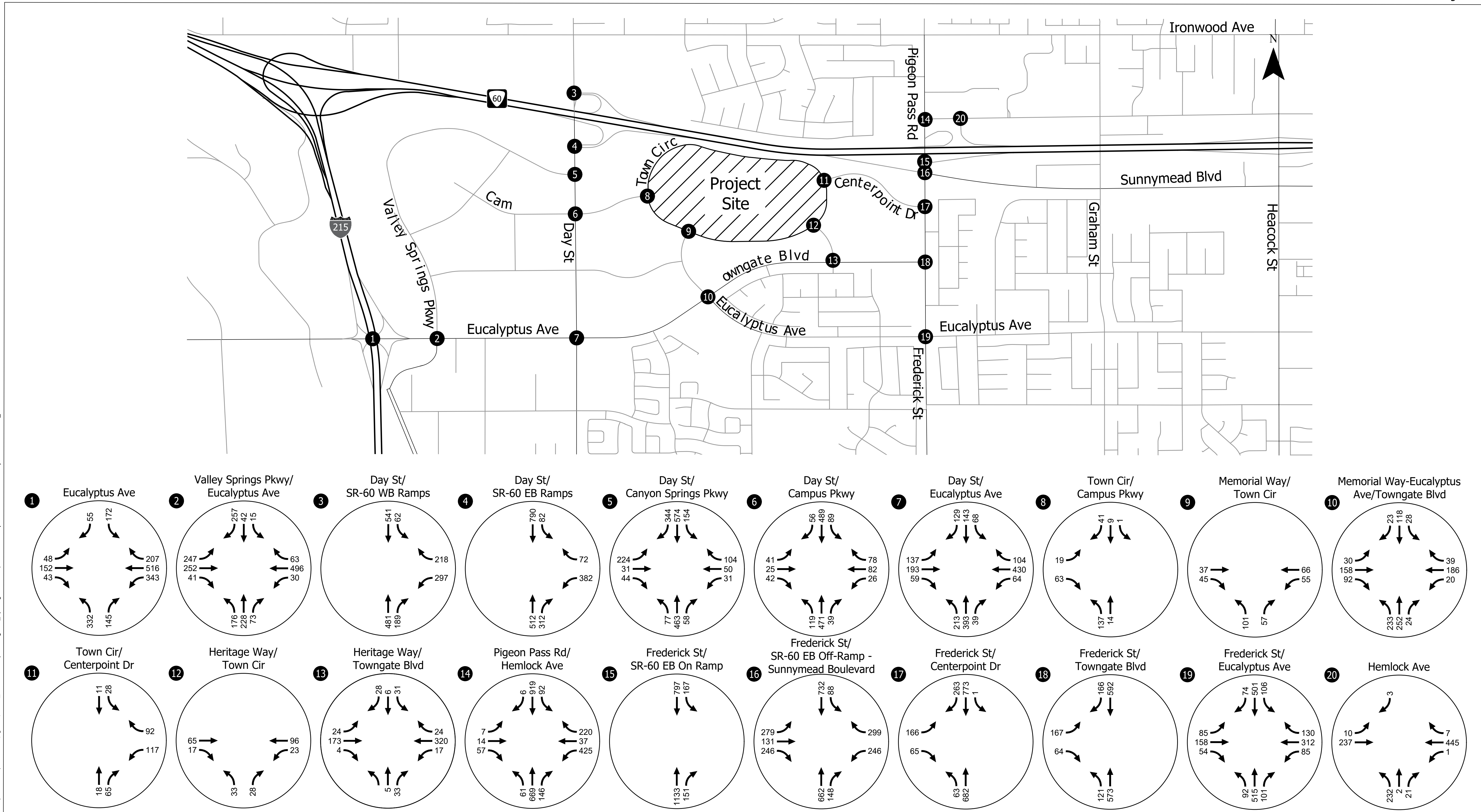

Existing Traffic Volumes
Weekday AM Peak Hour
Moreno Valley, CA

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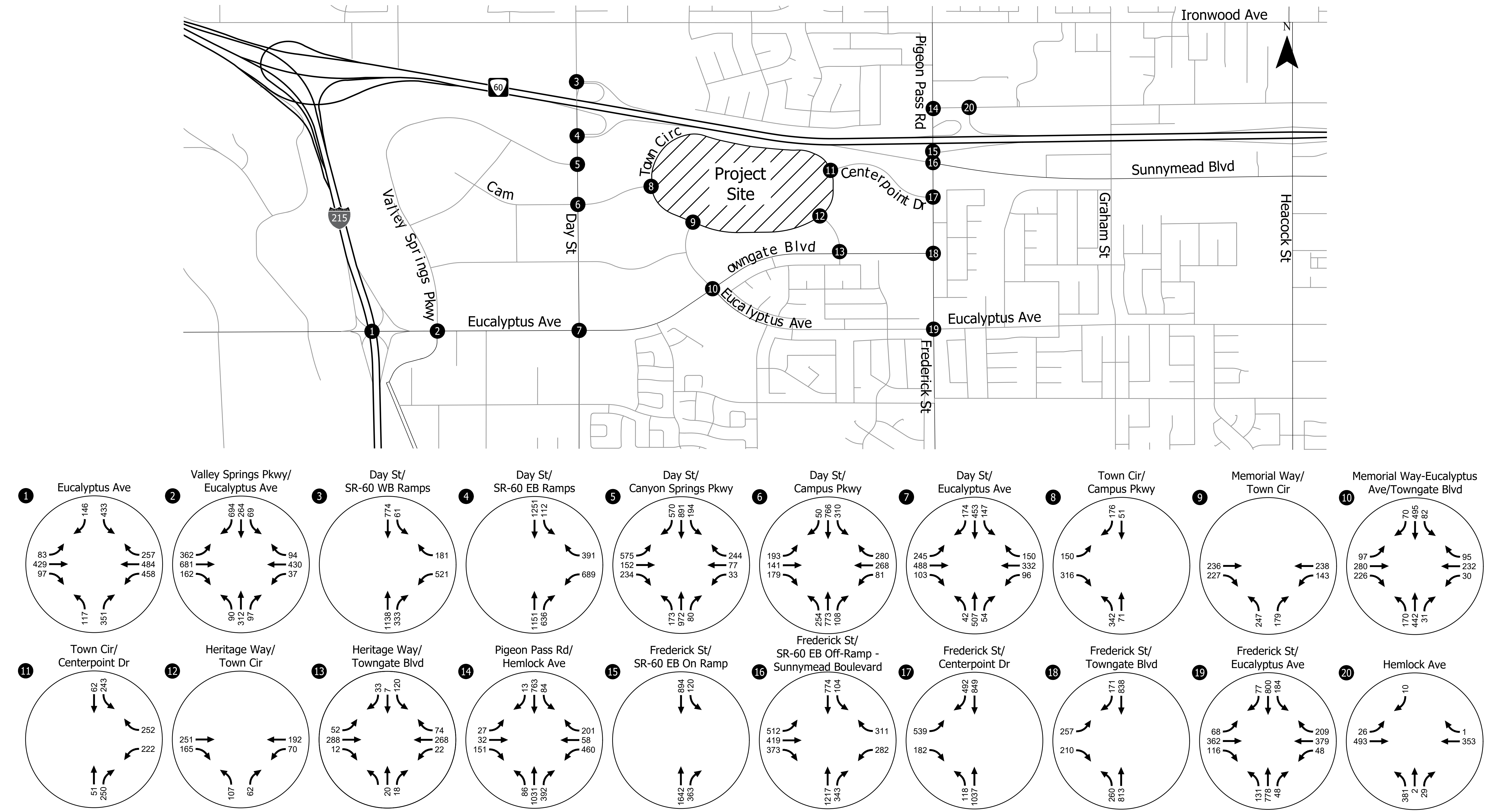
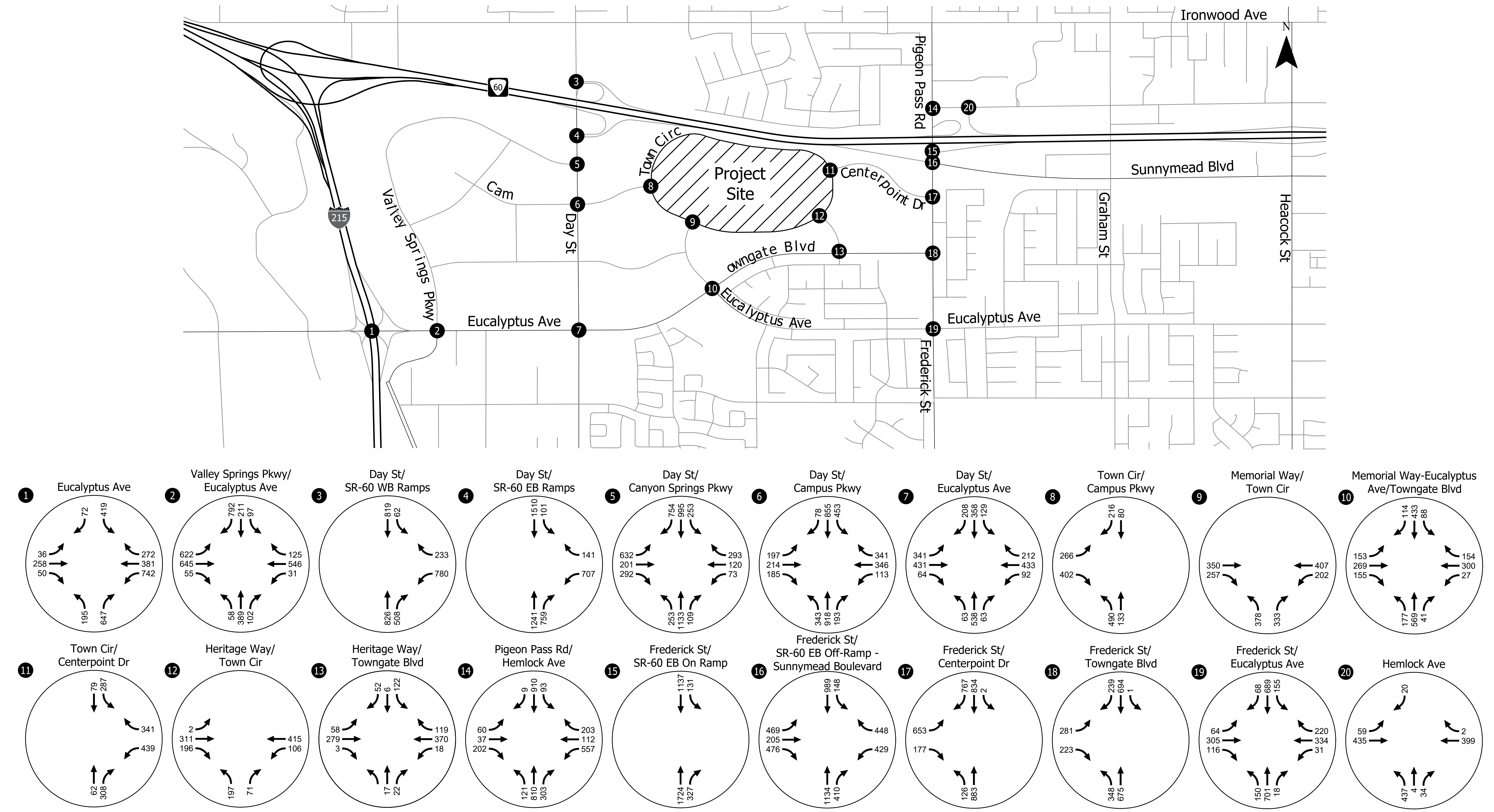


Existing Traffic Volumes
Weekday PM Peak Hour
Moreno Valley, CA

7



Existing Traffic Volumes
Saturday Midday Peak Hour
Moreno Valley, CA

8

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Table 11 summarizes the operations at the study intersections.

Table 11. Existing Intersection Operations

Study Intersection	Jurisdiction	Traffic Control	LOS Std	Weekday AM		Weekday PM		Saturday Mid	
				Delay	LOS	Delay	LOS	Delay	LOS
1. I-215 Ramps/ Eucalyptus Ave	Caltrans	Signal	E	33.0	C	36.5	D	21.0	C
2. Valley Springs Pkwy/ Eucalyptus Ave	Riverside	Signal	D	20.7	C	26.6	C	35.5	D
3. Day St/ SR-60 WB Ramps	Caltrans	Signal	E	20.6	C	20.9	C	28.2	C
4. Day St/ SR-60 EB Ramps	Caltrans	Signal	E	13.4	B	21.8	C	23.7	C
5. Day St/ Canyon Springs Pkwy	Riverside	Signal	D	17.6	B	36.1	D	**61.1**	**E**
6. Day St/ Campus Pkwy	Riverside	Signal	D	14.4	B	26.8	C	42.9	D
7. Day St/ Eucalyptus Ave	Riverside	Signal	D	21.0	C	24.7	C	29.4	C
8. Town Cir/ Campus Pkwy	MV	AWSC	D	7.9	A	11.6	B	18.0	C
9. Memorial Way/Town Cir	MV	AWSC	D	7.8	A	12.9	B	23.8	C
10. Memorial Way-Eucalyptus Ave/ Towngate Blvd	MV	Signal	D	15.6	B	20.9	C	23.4	C
11. Town Cir/ Centerpoint Drive	MV	Signal	D	9.0	A	10.1	B	11.0	B
12. Heritage Way/Town Circ	MV	AWSC	D	7.4	A	10.0	A	13.1	B
13. Heritage Way/ Towngate Blvd	MV	Signal	D	12.5	B	14.1	B	14.5	B
14. Pigeon Pass Rd/ Hemlock Rd	MV	Signal	D	38.4	D	40.7	D	47.9	D
15. Frederick St/ SR-60 EB Ramps	Caltrans	Signal	E	7.2	A	2.9	A	2.9	A
16. Frederick St/ SR-60 EB Off-Ramp – Sunnymead Blvd	Caltrans	Signal	E	21.6	C	29.2	C	31.0	C
17. Frederick St/ Centerpoint Dr	MV	Signal	D	8.0	A	12.3	B	15.1	B
18. Frederick St/ Towngate Blvd	MV	Signal	D	9.6	A	15.9	B	18.5	B
19. Frederick St/ Eucalyptus Ave	MV	Signal	D	20.6	C	26.5	C	24.8	C
20. SR-60 WB Off Ramp/ Hemlock Ave	Caltrans	Signal	E	12.5	B	14.6	B	16.4	B

LOS = Level of Service, s = seconds MV = Moreno Valley, AWSC = All-way stop-control
Bold text indicates operations do not meet LOS Standard

As shown in the table, there is one location that does not meet standards under existing conditions:

- 5. Day Street/Canyon Springs Parkway: this signalized intersection is under Riverside's jurisdiction, which has a LOS D standard. The average delay during the Saturday midday peak hour is 61.1 seconds, resulting in a LOS E.

Appendix E includes the existing conditions intersection operations worksheets.

Intersection Turn Lane Queues

The 95th percentile queue lengths for each study intersection are shown in Table 12. The table also shows the following:

Storage Length (feet): measured as striped storage, excluding taper.

Distance to Adjacent Side Street (feet): measured from stop bar for movement to access point for nearest intersection roadway of local classification or higher, or major business access.

Distance to Adjacent Signal (feet): measured from stop bar for movement to near side of nearest signalized intersection.

Table 12. Existing 95th Percentile Queue Lengths at Study Intersections

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet)		
					Weekday AM	Weekday PM	Saturday Mid
1. I-215 Ramps/ Eucalyptus Ave	EBL	250	780	780	70	109	49
	EBR	50	650	650	5	47	14
	WBL	275	770	770	159	230	272
	NBL[1]	1,200	N/A	N/A	157	63	75
	NBR[1]	1,200	N/A	N/A	18	31	20
	SBL[1]	1,400	N/A	N/A	86	214	157
	SBR[1]	1,400	N/A	N/A	0	53	14
2. Valley Springs Pkwy/Eucalyptus Ave	EBL	300	530	830	112	217	**#404**
	EBR	360	530	830	0	48	0
	WBL	100	200	950	47	70	56
	WBR	30	200	950	6	27	**50**
	NBL	150	1,600	>2,000	**166**	135	87
	SBL	160	390	960	29	109	128
3. Day St/SR-60 WB Ramps	WBL[1]	1,580	N/A	N/A	131	221	#398
	WBR[1]	1,580	N/A	N/A	47	119	127
	NBR	180	820	820	0	0	0
	SBL[2]	200	380	950	78	79	79
4. Day St/SR-60 EB Ramps	WBL[1]	1,280	N/A	N/A	162	#324	#343
	WBR[1]	1,280	N/A	N/A	26	264	87
	SBL	500	840	840	75	m97	m68
5. Day St/Canyon Springs Pkwy	EBL[3]	170	240	490	144	**#451**	**#513**
	WBL	140	140	300	63	75	135
	NBL	180	580	580	122	**275**	**#470**
	SBL	145	370	370	**207**	**295**	**#410**

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet)		
					Weekday AM	Weekday PM	Saturday Mid
6. Day St/Campus Pkwy	EBL[2,3]	190	300	790	30	132	140
	WBL	190	440	440	43	130	175
	NBL	140	360	880	67	**165**	**230**
	SBL	180	170	580	54	**198**	**#362**
7. Day St/ Eucalyptus Ave	EBL	100	340	2,000	**155**	**306**	**#511**
	WBL	170	100	1,000	89	145	142
	WBR	200	100	1,000	39	58	69
	NBL	150	510	1,210	**#250**	78	106
	SBL	180	300	1,100	93	**205**	**186**
8. Town Cir/Campus Pkwy	EBL[3]	200	460	460	3	18	48
	EBR	450	460	460	3	15	30
	NBL	125	150	>2,000	10	38	88
9. Memorial Way/ Town Cir	WBL[2]	100	310	>2,000	5	28	65
	NBL[3]	100	200	450	8	28	60
	NBR	450	200	450	5	23	78
10. Memorial Way-Eucalyptus Ave/ Towngate Blvd	EBL	160	450	930	51	122	**194**
	EBR	70	450	930	42	**103**	**78**
	WBL	150	970	1,950	39	53	54
	WBR	70	970	1,950	11	51	**102**
	NBL	200	430	920	**233**	187	**217**
	SBL	190	640	640	49	109	128
11. Town Cir/ Centerpoint Drive	NBR	65	110	>2,000	5	17	27
	SBL[3]	50	80	>2,000	12	**96**	**74**
12. Heritage Way/ Town Circ	WBL	100	250	740	3	10	20
	NBL	100	130	630	3	13	30
	NBR	650	130	630	3	5	8
13. Heritage Way/ Towngate Blvd	EBL	320	900	1,930	29	59	69
	EBR	100	900	1,930	0	0	0
	WBL	140	460	1,260	24	33	32
	WBR	100	460	1,260	0	32	54
	SBL[2]	200	120	N/A	33	105	118
	SBR	650	120	N/A	1	2	18
14. Pigeon Pass Rd/ Hemlock Rd	WBL[3]	260	160	400	233	228	**291**
	NBL	240	700	700	106	133	175
	NBR	90	700	700	83	**288**	**219**
	SBL[2]	200	200	1,340	144	131	143
15. Frederick St/SR-60 EB On-Ramp	SBL	340	700	700	236	176	189

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet)		
					Weekday AM	Weekday PM	Saturday Mid
16. Frederick St/SR-60 EB Off-Ramp – Sunnymead Boulevard	EBL[1]	1,700	N/A	N/A	144	258	232
	EBR[1]	1,700	N/A	N/A	206	362	#559
	WBL[3]	140	150	>2,000	**163**	**179**	**#301**
	NBR	75	210	460	64	**214**	**250**
	SBL	60	120	120	**141**	**157**	**232**
17. Frederick St/ Centerpoint Dr	NBL	130	320	320	42	64	71
18. Frederick St/ Towngate Blvd	EBR	100	340	1,260	28	63	63
	NBL	330	660	1,200	133	254	**#352**
	SBR	100	220	420	14	29	60
19. Frederick St/ Eucalyptus Ave	EBL[2]	200	560	>2,000	109	107	101
	WBL	150	360	>2,000	109	82	60
	NBL[2]	190	1,200	1,200	115	175	**192**
	NBR	190	1,200	1,200	40	12	0
	SBL	130	260	1,200	127	**230**	**196**
	SBR	190	260	1,200	34	35	31
20. SR-60 WB Off Ramp/Hemlock Ave	NBL[1]	1,600	N/A	N/A	97	115	137
	NBR[1]	1,600	N/A	N/A	0	0	1

[1] Ramp storage measured to gore point
[2] Left turn storage lane transitions to two-way left turn lane
[3] Second turn-lane that extends to adjacent intersection
Bold text indicates 95th percentile queue exceeds striped storage
#: 95th percentile volume exceeds capacity, queue may be longer.
m: Volume for 95th percentile queue is metered by upstream signal.
EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right

As shown in the table, ten of the intersections have at least one movement where the 95th percentile queue length is expected to exceed the striped storage length under existing conditions. None of the highway off-ramps have 95th percentile queue lengths that exceed the ramp storage under existing conditions. Intersections where the 95th percentile queue is longer than the distance to the adjacent signalized intersection for one or more movement include:

- 5. Day St/Canyon Springs Pkwy: 95th percentile queues for the eastbound and northbound left turns exceed the distance to the nearest signalized intersections (Shopping Access/Canyon Springs Pkwy and Day St/Campus Pkwy) during the Saturday midday peak hour
- 16. Frederick St/SR-60 EB Off-Ramp – Sunnymead Boulevard: the 95th percentile queue for the southbound left turn exceeds the distance to the nearest signalized intersection (Frederick St/SR-60 EB On-Ramp) during all three time periods

It should be noted that the 95th percentile queue is defined as the queue length that has only a five percent probability of being exceeded during the peak period, and is therefore not typical of the average drive experience.

Appendix F includes the existing conditions intersection queueing worksheets.

ROADWAY SEGMENT OPERATIONS

Weekday and Saturday 24-hour counts were collected on Day Street, Centerpoint Drive, Towngate Boulevard, and Frederick Street in December 2021. For the segments on Eucalyptus Avenue and Town Circle, daily volumes were extrapolated from the peak hour counts by applying a factor developed from the intersection counts and segment counts at Towngate Boulevard and Centerpoint Drive, respectively. Factors were developed by direction and for each peak period. The factors to convert weekday PM peak hour counts to daily counts ranged from 12.08 to 13.26 and the factors to convert Saturday midday peak hour counts to daily counts ranged from 12.30 to 13.81. This indicates that the weekday PM peak hour and Saturday midday peak hour counts are both about seven to eight percent of the total daily volume.

The roadway segment analysis is based on daily volumes and LOS thresholds developed by Moreno Valley and Riverside. The volume-to-capacity ratios are calculated based on the capacity corresponding to a LOS E. The roadway segment operations are summarized in Table 13. As shown in the table, all roadway segments operate within the target LOS.

Table 13. Existing Roadway Segment Operations

Roadway	Segment	Juris-diction	Classification	LOS Std.	LOS E Capacity	Weekday			Saturday		
						ADT	LOS	v/c	ADT	LOS	v/c
A. Day St	SR 60 WB Ramp to SR 60 EB Ramp	Riverside	Arterial 120'	D	49,500	36,202	C	0.73	35,383	C	0.71
	SR 60 EB Ramp to Canyon Springs Pkwy	Riverside	Arterial 120'	D	49,500	44,887	D	0.91	48,733	D	0.98
	Canyon Springs Pkwy to Campus Pkwy	Riverside	Arterial 120'	D	49,500	30,642	C	0.62	34,166	C	0.69
	Campus Pkwy to Gateway Dr	Riverside	Arterial 120'	D	49,500	28,918	C	0.58	31,378	C	0.63
	Gateway Dr to Eucalyptus Ave	Riverside	Arterial 120'	D	49,500	23,707	C	0.48	21,593	C	0.44
B. Eucalyptus Ave	I-215 Ramps to Day St	Riverside	Arterial 120'	D	49,500	18,182	C	0.37	17,303	C	0.35
	Day St to Towngate Blvd	MV	Major Arterial (4D)	D	37,500	16,390	A	0.44	14,681	A	0.39
C. Town Cir	Campus Pkwy to Centerpoint Dr	MV	N/A[1]	D	25,000	6,539	A	0.26	9,645	A	0.39
D. Centerpoint Dr	Town Cir and Frederick St	MV	N/A[1]	D	56,300	16,397	A	0.29	21,186	A	0.38
E. Towngate Blvd	Eucalyptus Ave and Frederick St	MV	Major Arterial (4D)	D	37,500	10,722	A	0.29	11,490	A	0.31
F. Pigeon Pass Rd	Hemlock Ave to Sunnymead Blvd	MV	Arterial (6D)[2]	D	56,300	38,861	B	0.69	37,191	B	0.66
G. Frederick St	Sunnymeade Blvd to Centerrpoint Dr	MV	Major Arterial (6D)[2]	D	56,300	36,822	B	0.65	39,047	B	0.69
	Centerpoint Dr to Towngate Blvd	MV	Major Arterial (4D)	D	37,500	28,668	C	0.76	24,678	B	0.66
	Towngate Blvd to Eucalyptus Ave	MV	Major Arterial (4D)	D	37,500	27,150	C	0.72	24,242	B	0.65

ADT = Average Daily Traffic, MV = Moreno Valley, 4D = 4 Lane Divided, 4U = 4 Lane Undivided, 6D = 6 Lane Divided, N/A= not classified
Bold text indicates not meeting standards
[1] These roadways are not classified on the City of Moreno Valley's Circulation Diagram. The segment LOS was determined using the classification that most closely matches the cross-section.
[2] Given the long turn lanes and auxiliary lanes through these sections, the segment LOS was determined using the 6 Lane Arterial classification.

FREEWAY OPERATIONS

Freeway Mainline Segments

The freeway mainline analysis is based on data from the Caltrans Performance Measurement System (PeMS). Data was downloaded from PeMS by direction for Wednesday, December 8, 2021 and Saturday, December 11, 2021 to match the days intersection and segment counts were collected. Data was downloaded for Wednesday between 7 AM to 9 AM and 4 PM to 6 PM and for Saturday between 11 AM to 3 PM. Data was downloaded in 5-minute intervals and the peak hour volumes identified by the highest consecutive hour-long period. The Caltrans 2020 Annual Average Daily Truck Traffic data summarized by Caltrans (Reference 9) was used to identify the percentage of trucks on the roadway segments. The data shows a truck percentage of approximately 10.5 percent on SR-60 and 14.5 percent on I-215.

The volumes and LOS based on the HCS analysis are shown in Table 14.

Table 14. Existing Freeway Mainline Segment Operations

Roadway	Segment	Direction	Weekday AM		Weekday PM		Saturday Mid	
			Volume	LOS	Volume	LOS	Volume	LOS
SR-60	Between the Day Street Ramps	EB	3,994	B	5,929	C	5,621	C
		WB	3,717	C	4,137	C	4,200	C
	Eeast of the Frederick Street Ramps	EB	3,459	C	3,734	C	3,962	C
		WB	2,882	B	3,517	B	3,754	C
I-215	SR-60 to Eucalyptus Avenue Ramps	NB	2,368	B	2,838	B	3,207	B
		SB	3,696	B	2,846	B	3,095	B
	South of the Eucalyptus Avenue Ramps	NB	2,737	B	3,616	B	4,089	B
		SB	3,430	C	3,380	C	3,939	C

EB = Eastbound, WB = Wesbound, NB = Northbound, SB = Southbound

As shown, all segments of SR-60 and I-215 analyzed operate at a LOS C or better during all peak periods.

Appendix G includes the HCS output sheets for the existing conditions freeway mainline analysis.

EXISTING PEDESTRIAN AND BICYCLE FACILITIES

Figure 9 illustrates the existing and planned bicycle network from Moreno Valley's 2040 General Plan. The pedestrian and bicycle facilities in the study area are described below.

Pedestrian Facilities

The study area offers several types of facilities and amenities that support walking. The availability and quality of pedestrian facilities can be analyzed using seven key factors as detailed below:

- **Sidewalk Availability:** Sidewalks are provided in the study area with the exception of the north side of the southern half of the Town Circle loop, both sides of the street of the north half of the Town Circle Loop, the south side of Eucalyptus Avenue west of Old 215 Frontage Road, the west side of Day Street crossing I-215, and the west side of Pigeon Pass Road crossing SR-60.
- **Sidewalk Conditions:** Where sidewalks exist, based on a review of aerial photography it appears they are generally in good condition without visible damage.
- **Crosswalk Availability and Type:** Within the study area, marked crosswalks are consistently provided at signalized intersections. Some crosswalks in the study area have recently been upgraded to high-visibility continental crosswalks. While crosswalks are consistently provided, pedestrians must still navigate uncontrolled free right turns at the SR-60 westbound on-ramp at Pigeon Pass Road.
- **Flat Grade:** The study area is generally flat with the exception of mild inclines/declines at freeway underpasses and overpasses.
- **Buffer:** Pedestrian buffers are provided on many of the roadways throughout the study area in the form of parked cars, landscaping, and bike lanes.
- **Pedestrian Amenities:** Pedestrian amenities such as street furniture are lacking along roadways in the study area, with the exception of some bus stops that include benches and trash cans.

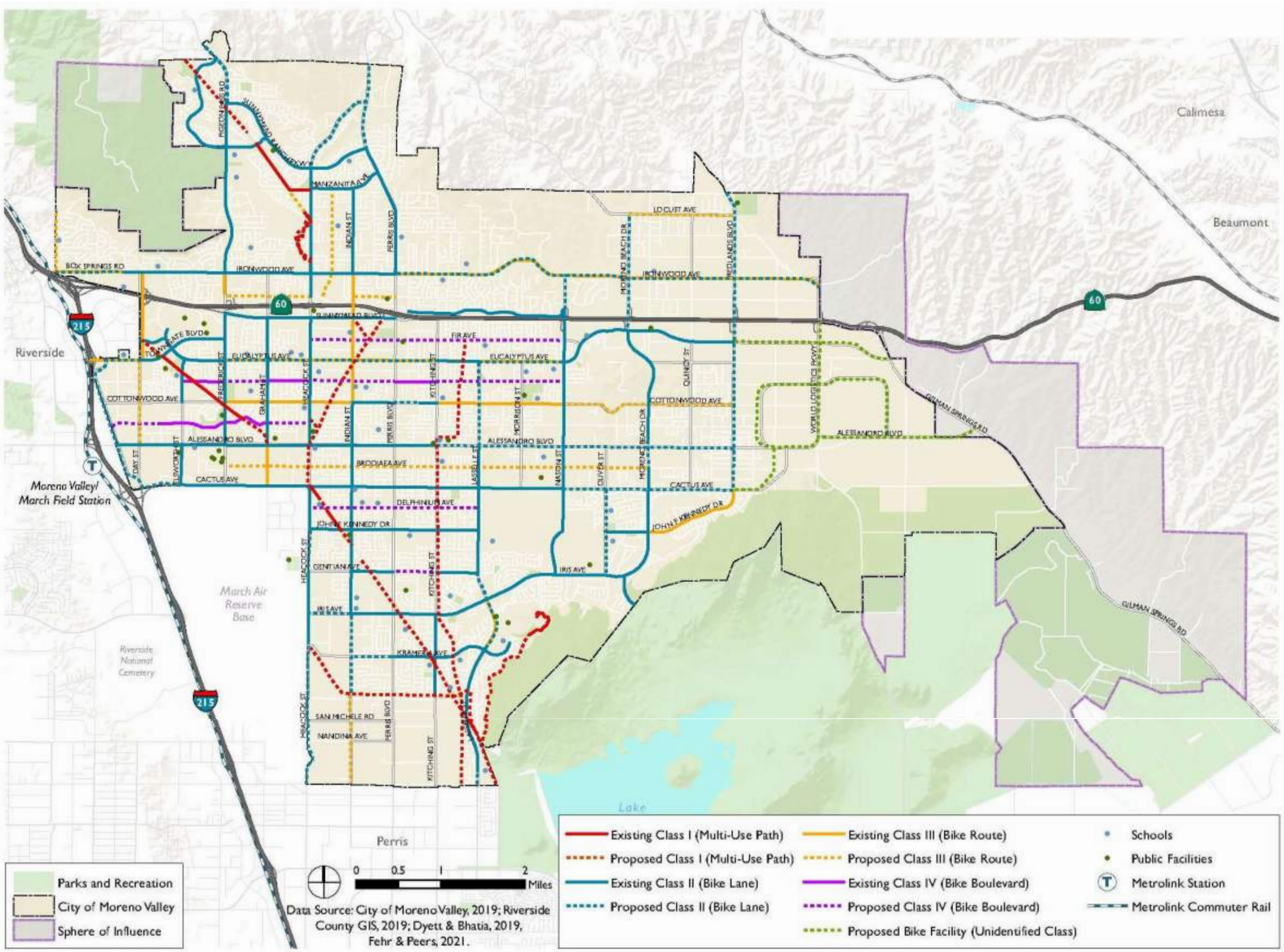
Table 9 at the beginning of this section summarizes the availability of sidewalks on the study roadways. The arterial roadways surrounding the Moreno Valley Mall (Day Street, Eucalyptus Avenue, Towngate Boulevard, Frederick Street) and connecting Town Circle to the arterial network (Campus Parkway, Memorial Way, Heritage Way, Centerpoint Drive) provide sidewalks. There is a sidewalk on Town Circle between Campus Parkway and Centerpoint Drive (on the south side of the mall).

Bicycle Facilities

Bicycle facilities are categorized into four types, as described below:

- **Class I Bikeway (Bike Path):** Also known as a shared path or multi-use path, a bike path is a paved right-of-way for bicycle travel that is completely separated from any street or highway.
- **Class II Bikeway (Bike Lane):** A striped and stenciled lane for one-way bicycle travel on a street or highway. This facility could include a buffered space between the bike lane and vehicle lane and the bike lane could be adjacent to on-street parking.
- **Class III Bikeway (Bike Route):** A signed route along a street where the bicyclist shares the right-of-way with motor vehicles. This facility can also be designated using a shared-lane marking (sharrow).
- **Class IV Bikeway (Separated Bike Lane):** A bikeway for the exclusive use of bicycles including a separation required between the separated bikeway and the through vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

Figure 9. Existing and Planned Bicycle and Pedestrian Network



Source: Map C-2 from MoVal 2040 General Plan

As shown in Figure 9, existing bicycle facilities in the study area consist of the following:

- Bike route along Day Street north of Towngate Boulevard
- Buffered bike lanes along Eucalyptus Avenue between Day Street and Towngate Boulevard and along Towngate Boulevard between Eucalyptus Avenue and Frederick Street
- Bike route along Eucalyptus Avenue between Day Street and I-215
- Bike lanes along Gateway Drive between Day Street and Memorial Way
- Bike lanes along Memorial Way and along Eucalyptus Avenue between Towngate Boulevard and Frederick Street
- Parking-adjacent bike lanes along Elsworth Street
- Multi-use path from Eucalyptus Avenue southeast to Graham Street, via Towngate Memorial Park
- Bike boulevard with greenback sharrows along Dracaea Avenue
- Southbound bike route with greenback sharrows and northbound bike lane with green conflict zone paint treatments along Pigeon Pass Road between Sunnymead Boulevard and Ironwood Avenue
- Bike lanes along Fredrick Street south of Sunnymead Boulevard, with buffers south of Brabham Street and green conflict zone pain treatments between Sunnymead Boulevard and Towngate Boulevard
- Bike lanes along Sunnymead Boulevard
- Bike route along Box Springs Road
- Bike lanes along Ironwood Avenue

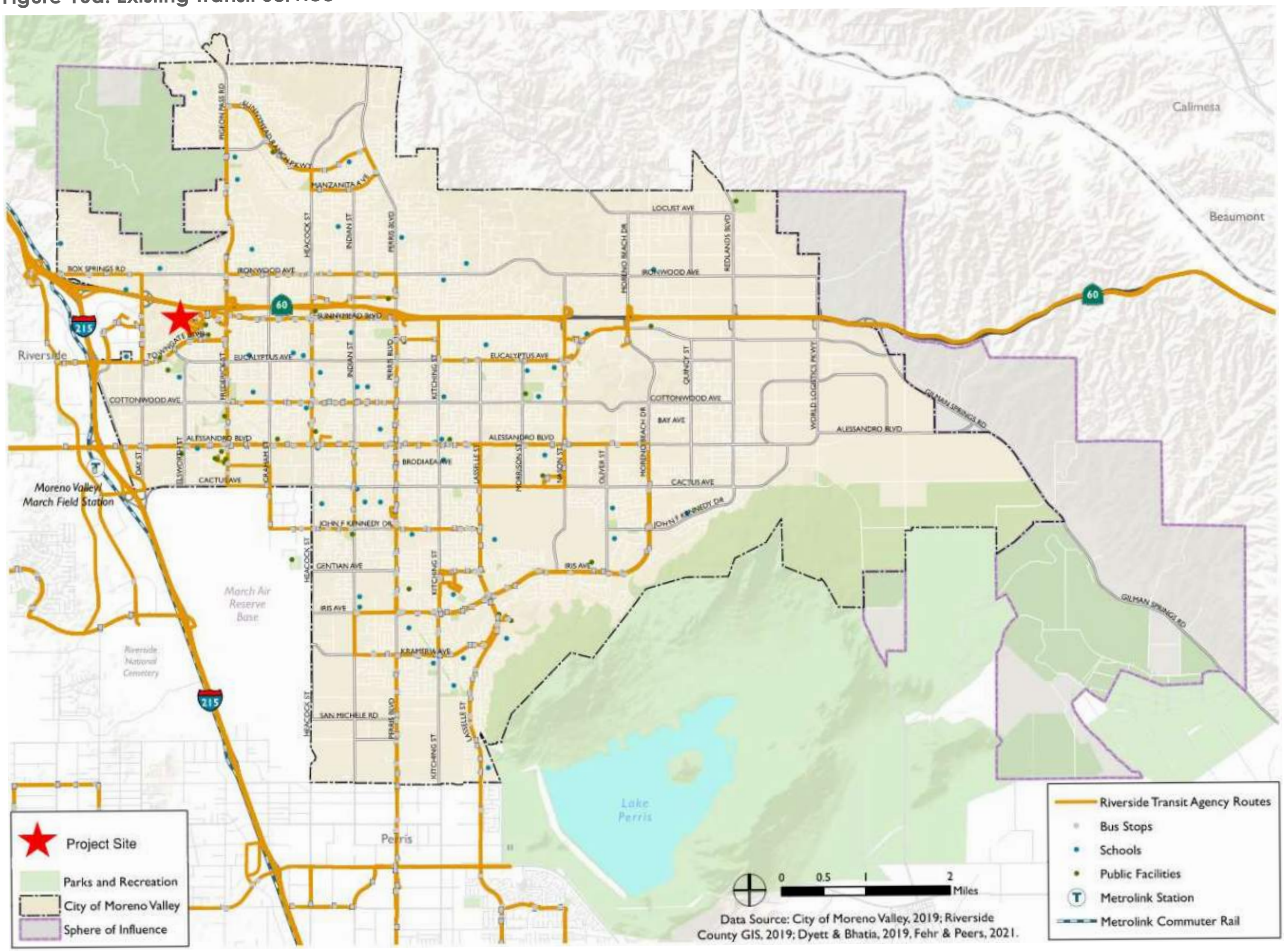
EXISTING TRANSIT SERVICE

The transit system in the study area consists of local bus and regional rail service, as shown in Figure 10a and Figure 10b.

The Riverside Transit Authority (RTA) provides bus service in the study area. RTA bus routes in the study area consist of routes 11, 16, 18, 19, 31. All five routes stop at Moreno Valley Mall, which is a transit point. The bus station at Moreno Valley Mall amenities such as trash cans, benches, and shelters. Bus stops along roads in the study area generally provide benches, although some stops do not have any amenities and only consist of a bus stop signpost. Several bus stops along Sunnymead Boulevard include benches and shaded shelters.

The Moreno Valley/March Field Station is located to the southwest of the study area on Alessandro Boulevard. In addition to RTA bus route 20, the station services the Metrolink 91/Perris Valley Line, which runs between the City of Perris and Union Station in Downtown Los Angeles.

Figure 10a. Existing Transit Service



Source: Map C-3 from MoVal 2040 General Plan

Figure 10b. Existing Transit Service – Site Vicinity

Source: Google Maps

Section 5
Project Traffic

PROJECT TRAFFIC

PROPOSED DEVELOPMENT PLAN

The project includes new development on the east and north side of the MVM, and redevelopment of some existing spaces. A detailed project description is included in *Section 2: Introduction*. For the purpose of estimating project trips, key project elements include:

- Two hotels totaling 270 rooms.
- Four residential buildings with a total of 1,627 apartment units.
- A 60,000 square foot office building.
- Plaza level retail in three of the residential buildings for a total of 40,000 square feet.
- Removal of the existing 16,344 square foot auto center.

TRIP GENERATION

Trips for the proposed development were estimated using trip rates obtained from the *Trip Generation Manual, 11th Edition* (Reference 10). The trip generation rates are presented in Table 1 of the scoping agreement in Appendix A. No reduction for pass-by trips were assumed, although a portion of trips to the retail portion of the site are likely to be trips already on the system. A portion of trips are expected to be internal to the site, meaning they are between the proposed uses and existing MVM site. Based on information provided in National Cooperative Highway Research Program (NCHRP) Report 684 (Reference 11), 2 percent of the weekday AM trips and 10 percent of trips during all other periods were assumed to be internal trips. It should be noted that the methodology in NCHRP 684 provides higher internalization rates (see Appendix V); this analysis conservatively limited the capture rates to no more than 10%.

As shown in Table 15, the Project is expected to generate net 9,968 weekday daily vehicle trips, 820 weekday AM peak hour vehicle trips, and 863 weekday PM peak hour vehicle trips. During a Saturday, the project is expected to generate 9,770 daily trips and 868 midday peak hour trips.

Table 15. Project Trip Generation

		Weekday							Saturday			
			AM Peak Hour			PM Peak Hour				Peak Hour		
Land Use	Size[1]	Daily	In	Out	Total	In	Out	Total	Daily	In	Out	Total
Hotel (ITE Code 310)[2]	270 Rooms	2,158	69	55	124	81	78	159	2,180	109	85	194
Residential (ITE Code 221)[3]	1,627 DU	7,390	138	465	603	387	247	634	7,440	323	311	634
Retail (ITE Code 820)[4]	24 TSF	876	12	8	20	38	42	80	1,102	54	50	104
Office (ITE Code 710)	60 TSF	652	80	11	91	15	71	86	134	17	15	32
Total New Trips		11,076	299	539	838	521	438	959	10,856	503	461	964
Internal Capture (2% AM, 10% all other periods)		*-1,108*	*-7*	*-11*	*-18*	*-52*	*-44*	*-96*	*-1,086*	*-50*	*-46*	*-96*
Total External Project Trips		**9,968**	**292**	**528**	**820**	**469**	**394**	**863**	**9,770**	**453**	**415**	**868**

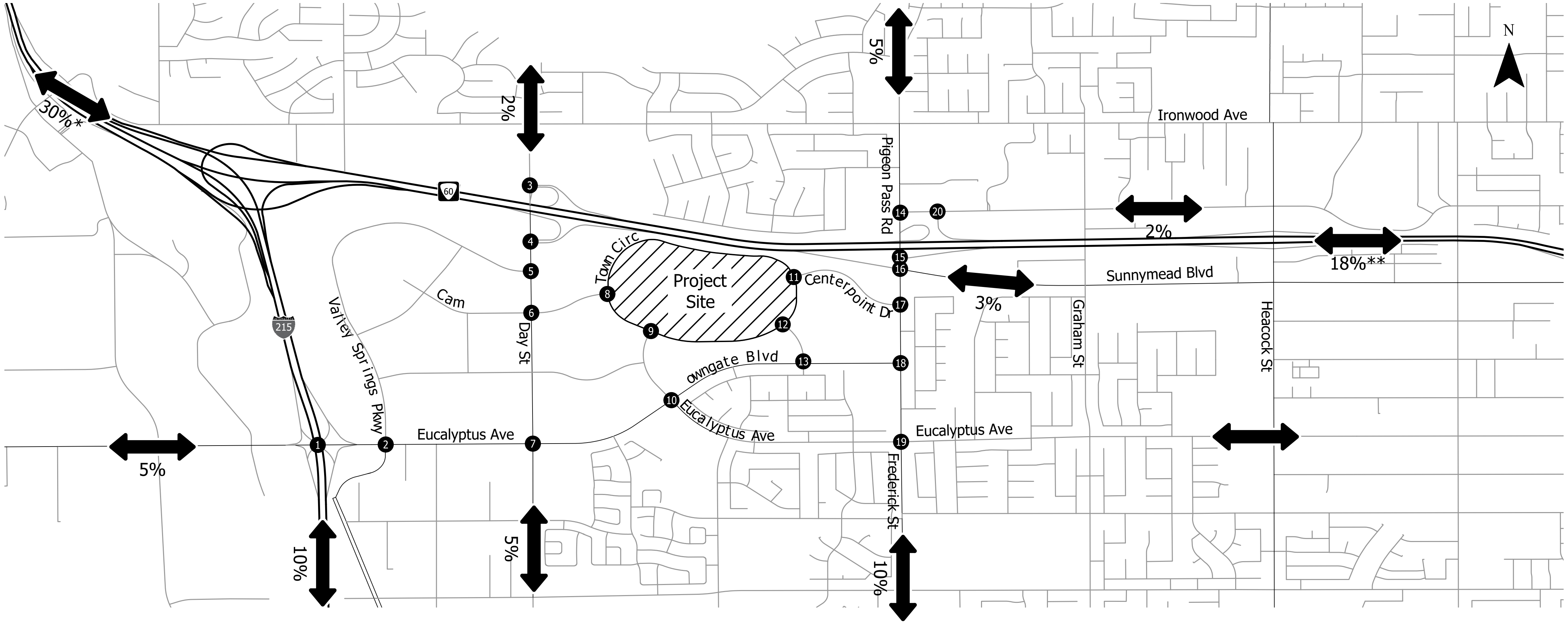
[1] TSF = Thousand Square Feet of GLA (gross leasable area), DU = Dwelling Units
[2] Hotel A=150 rooms, Hotel B = 120 rooms
[3] Residential District includes four multifamily buildings, with a total of 1,627 dwelling units

[4] Retail includes 40,000 square feet of new plaza level retail minus the existing 16,344 square foot Sears Auto Center, which will be removed with the project

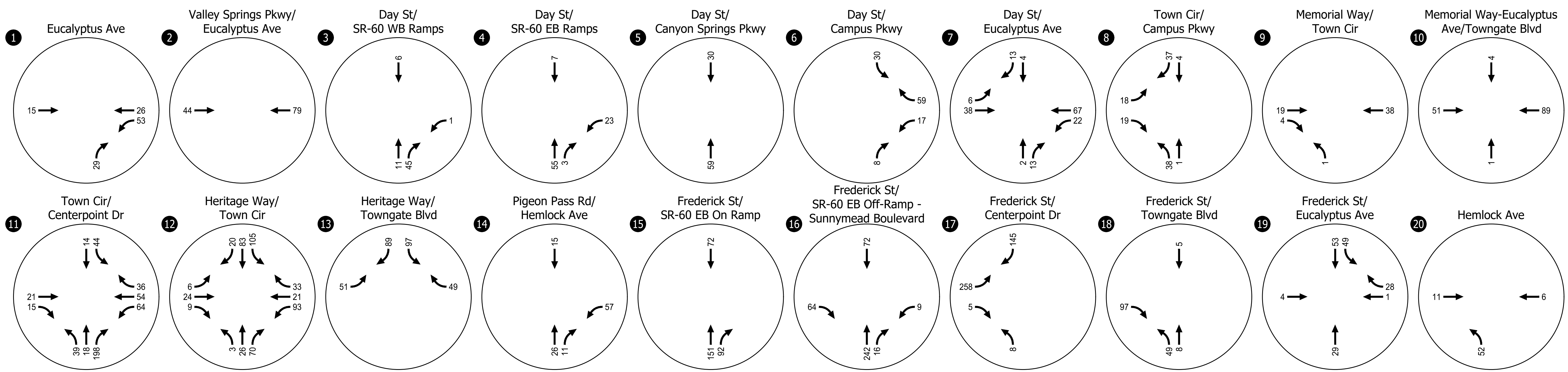
TRIP DISTRIBUTION AND ASSIGNMENT

The site-generated trips shown in Table 15 were distributed to the study area roadways. The project trip distribution is based on the model's distribution of trips in and out of the traffic analysis zone (TAZ) representing the project site, as well as adjustments to reflect local travel patterns and circulation conditions. The trip distribution pattern considers surrounding land uses and travel patterns. The trip distribution patterns were confirmed with the City through the scoping process. The assignment of site-generated traffic volumes to the study intersections is shown in Figure 11a, Figure 12a, and Figure 13a for the weekday AM peak hour, weekday PM peak hour, and Saturday midday peak hour, respectively. The assignment of site-generated traffic volumes at the site access points along Town Circle are showed in Figure 11b, Figure 12b, and Figure 13b for the weekday AM peak hour, weekday PM peak hour, and Saturday midday peak hour, respectively.

** For traffic to/from the north on I-215, a portion were assumed to use the interchange at Day Street and a portion the interchange at Frederick Street, based on where on site trips are going to or coming from*



*** For traffic to/from the east on SR-60, a portion were assumed to use the interchange at Day Street and a portion the interchange at Frederick Street, based on where on site trips are going to or coming from*



Trip Distribution and Assignment
Weekday AM Peak Hour
Moreno Valley, CA

11a

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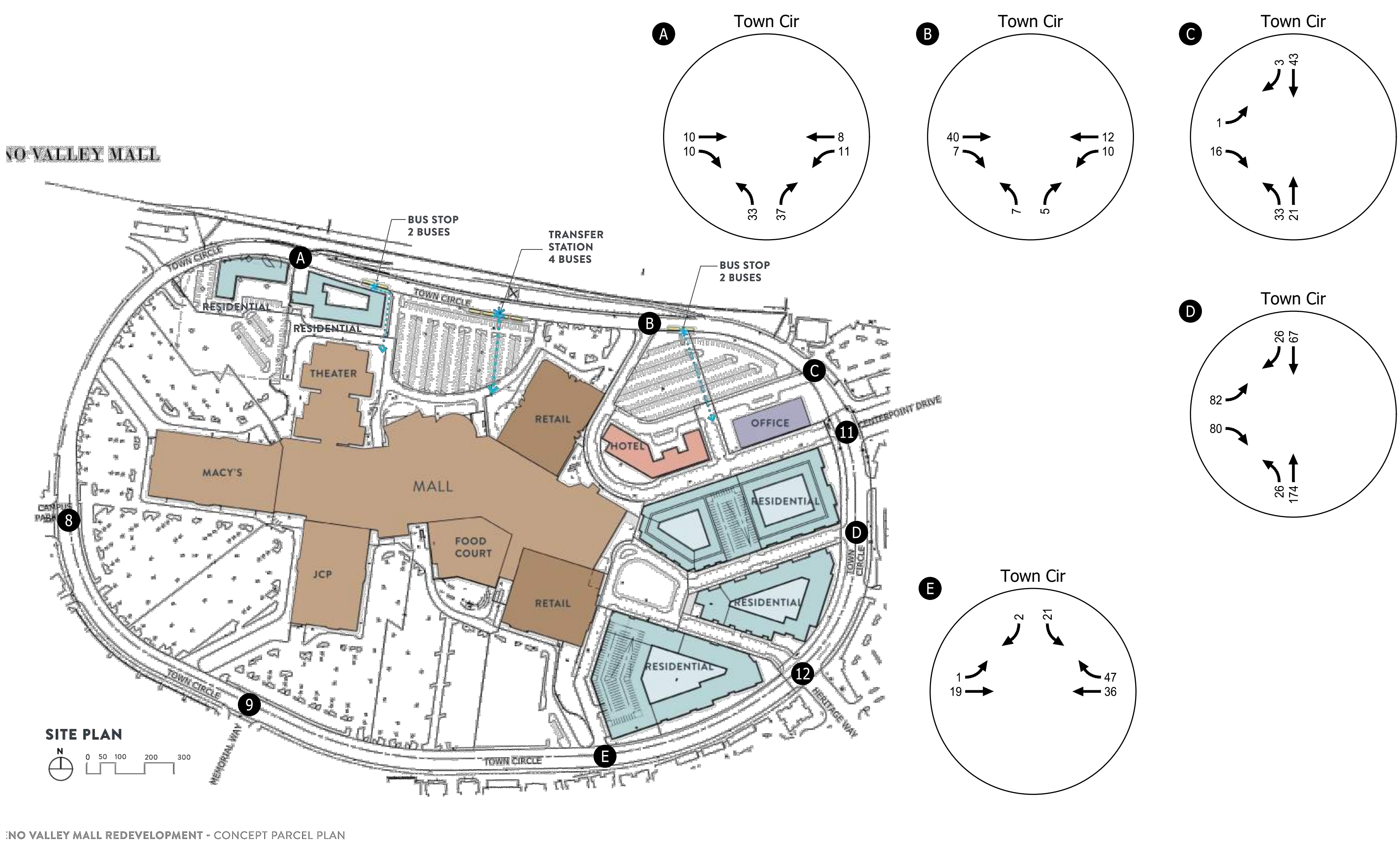

Trip Assignment at Site Accesses
Weekday AM Peak Hour
Moreno Valley, CA

11b

KITTELSON & ASSOCIATES

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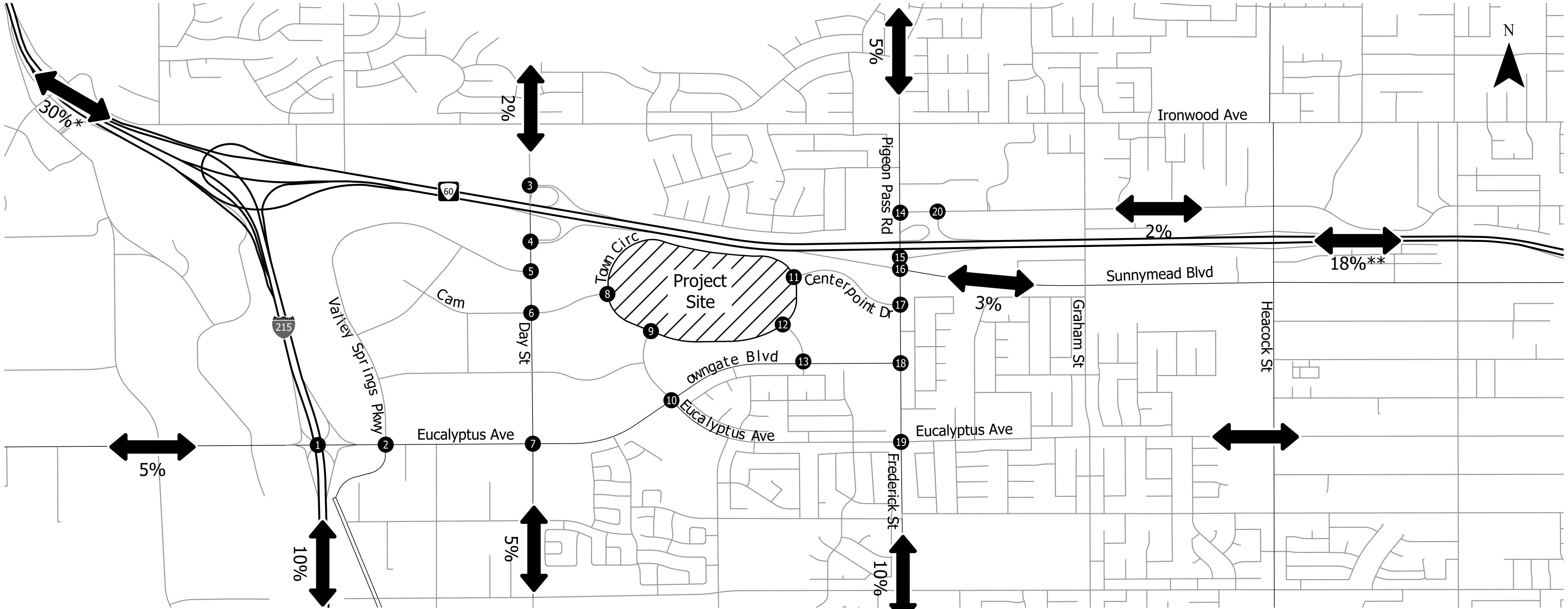
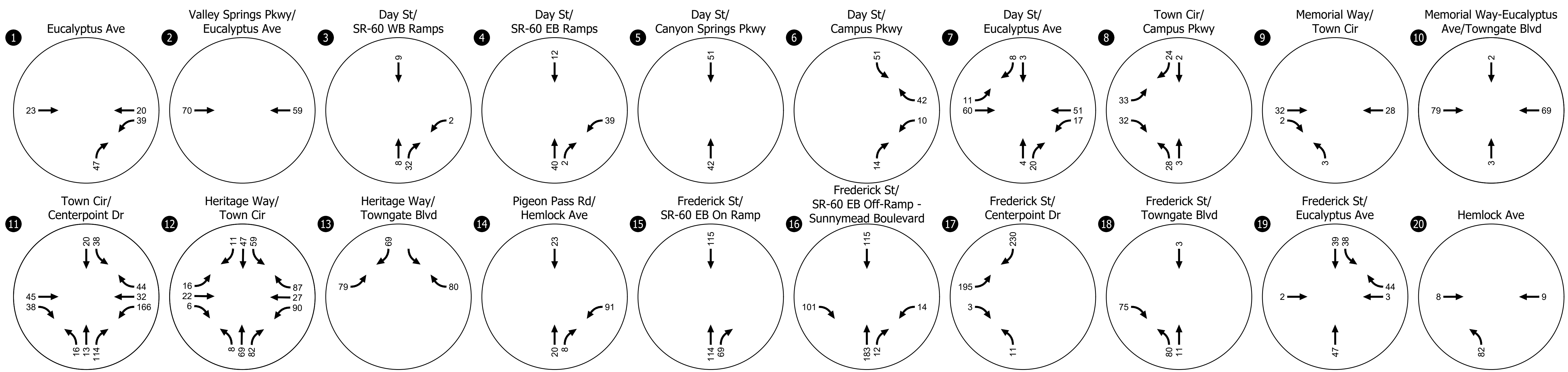
* For traffic to/from the north on I-215, a portion were assumed to use the interchange at Day Street and a portion the interchange at Frederick Street, based on where on site trips are going to or coming from



** For traffic to/from the east on SR-60, a portion were assumed to use the interchange at Day Street and a portion the interchange at Frederick Street, based on where on site trips are going to or coming from



Trip Distribution and Assignment
Weekday PM Peak Hour
Moreno Valley, CA

12a

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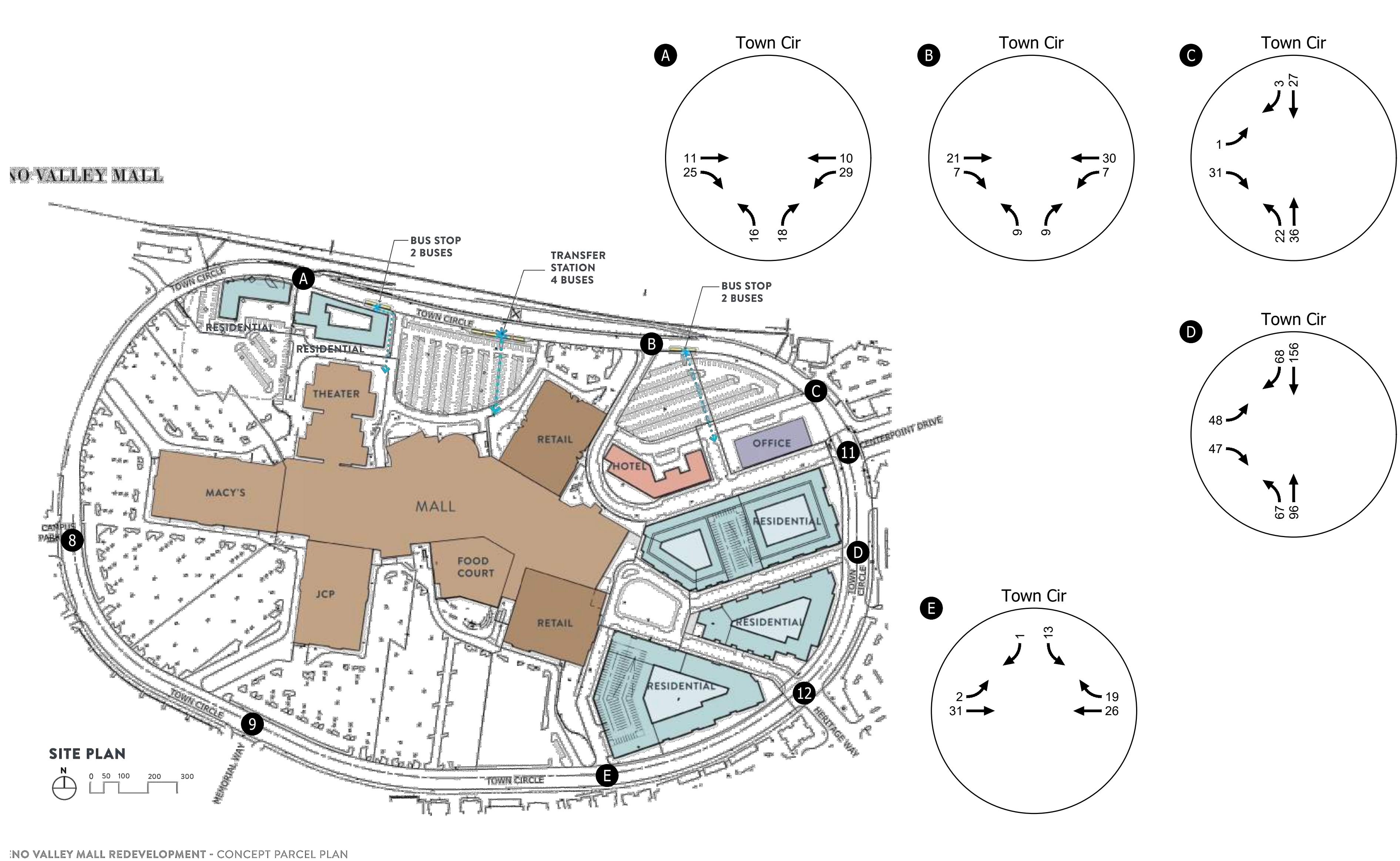

Trip Assignment at Site Accesses
Weekday PM Peak Hour
Moreno Valley, CA

12b

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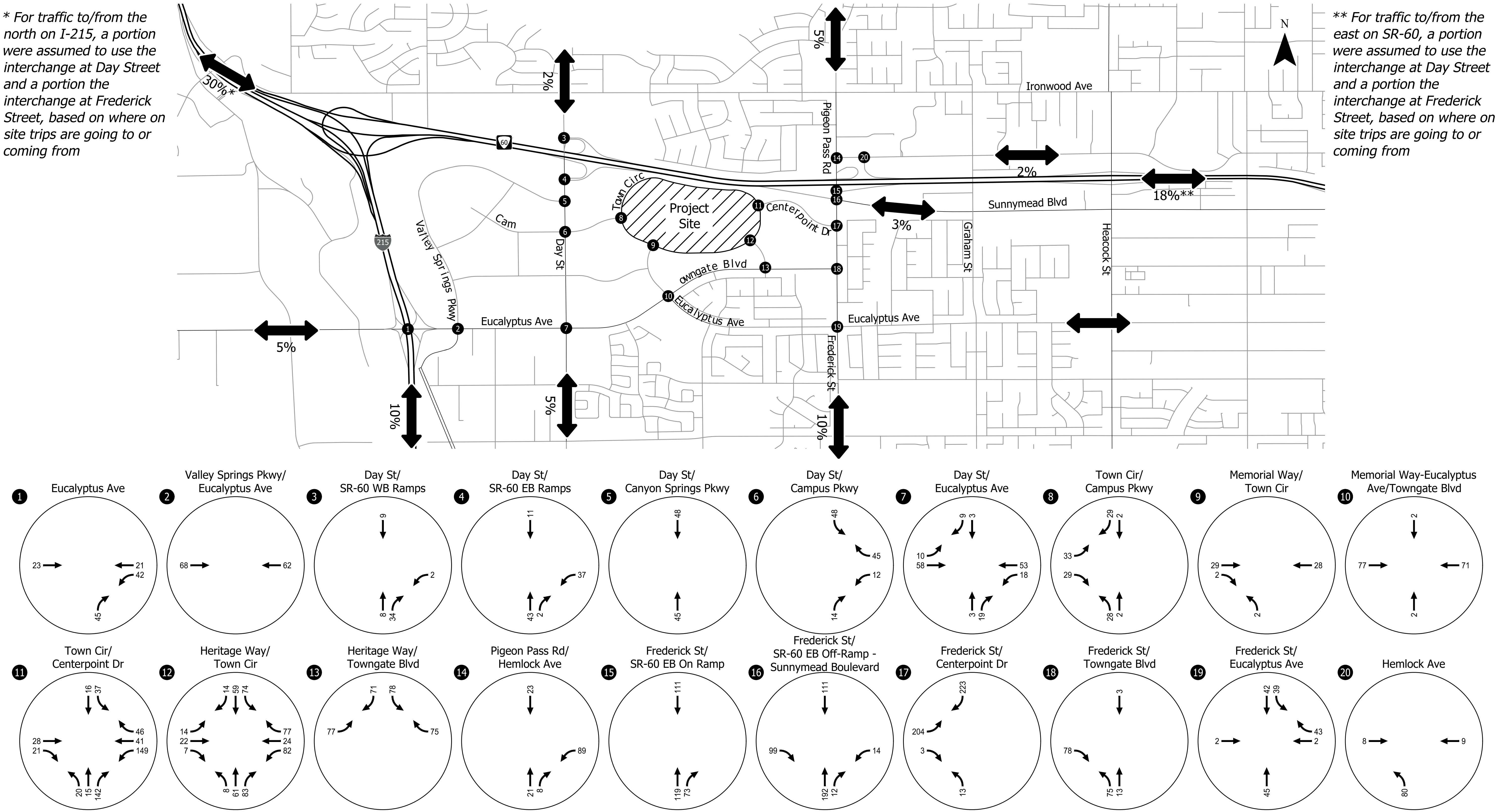

Trip Distribution and Assignment
Saturday Midday Peak Hour
Moreno Valley, CA

13a

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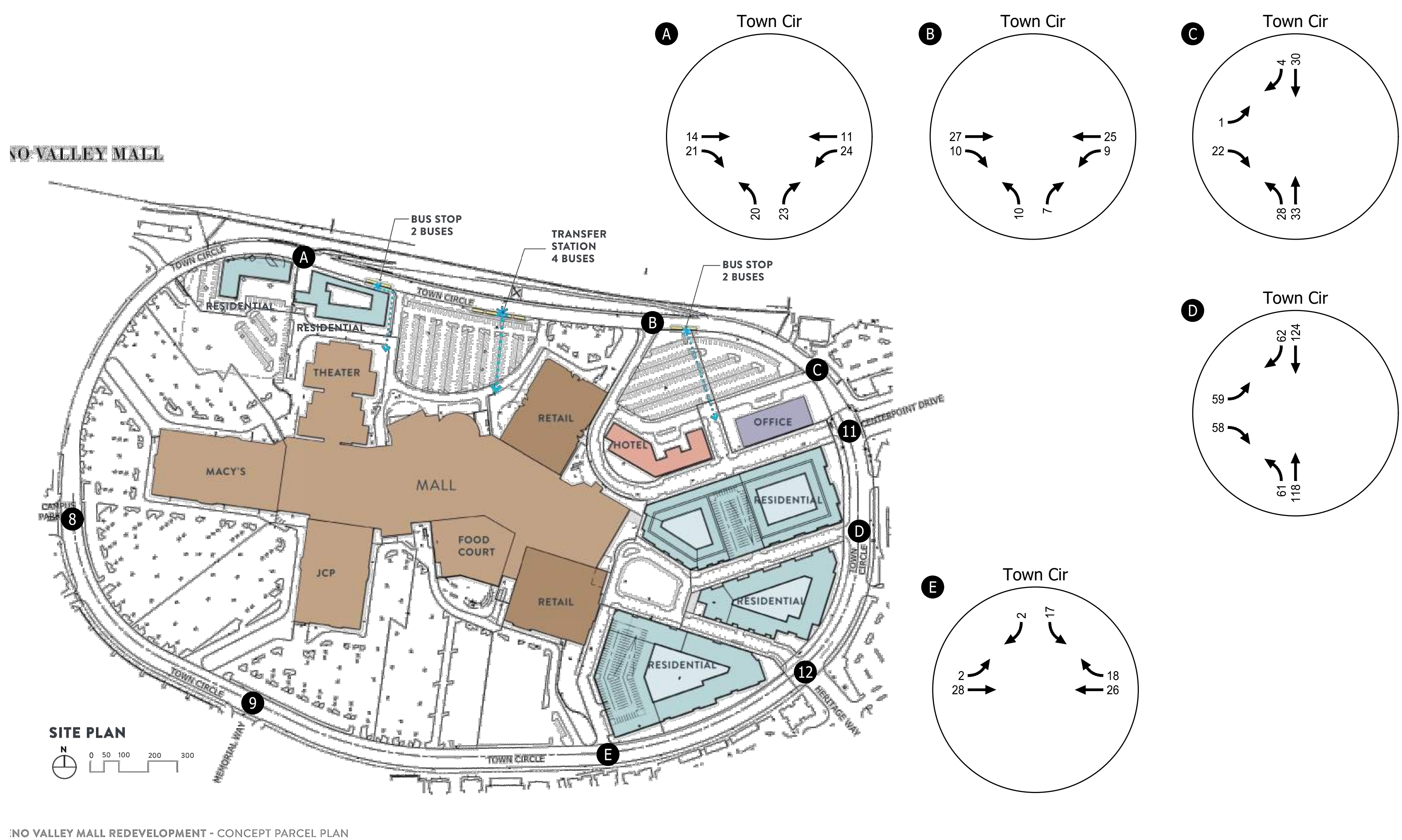

Trip Assignment at Site Accesses
Saturday Midday Peak Hour
Moreno Valley, CA

13b

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Section 6

Year 2026 Analysis

YEAR 2026 ANALYSIS

YEAR 2026 BACKGROUND CONDITIONS (WITHOUT PROJECT)

The year 2026 background conditions analyze expected conditions around the project site in the year 2026, without the proposed project. The following describes the assumptions to assess 2026 background conditions.

COMMITTED ROADWAY IMPROVEMENTS

There are no committed roadway improvements at the study intersections or segments expected to be in place by 2026. Therefore, the lane configurations and traffic control devices assumed for the year 2026 analysis are consistent with those shown previously in Figure **5**.

The Riverside County 2019 Long Range Transportation Study (Reference 7) includes widening Eucalyptus Avenue between I-215 and Towngate Boulevard from four to six lanes, with a completion year of 2028. This project is also included in the Transportation Uniform Mitigation Fee (TUMF) Program, as well as improvements at the SR-60 interchange at Day Street. The TUMF Program was initiated in Western Riverside County and uses development fees to fund local and regional projects that are needed to support growth. It is administered by the Western Riverside Council of Government (WRCOG) and implemented in all jurisdictions in Western Riverside County, including Moreno Valley.

The widening on Eucalyptus Avenue and Day Street/SR-60 Interchange improvements are also included in the City of Moreno Valley's Capital Improvement Plan (Reference 12). The priority for widening on Eucalyptus Avenue is noted as "deferrable," indicating it will start within five to ten years. The priority for interchange improvements at the SR-60 interchange at Day Street is noted as "desirable," indicating a start within three to five years. The project description states that the project will involve "design and construction of a new SR-60 freeway westbound on-ramp on the west side of Day Street. It includes a WB auxiliary lane, HOV bypass lanes on both WB on-ramps, bridge widening for the WB loop on-ramp HOV bypass lane, and associated walls and traffic channelization devices. The project includes constructing the missing sidewalk gap along the west side of Day Street."

Given that a specific timeline for the widening on Eucalyptus Avenue and SR-60/Day Street interchange improvements is not identified, these improvements were not assumed to be in place in the year 2026 analysis.

CUMULATIVE PROJECTS

Trips associated with approved, unbuilt projects were included in the year 2026 background conditions analysis. Projects for inclusion were identified based on discussions with City of Moreno Valley and City of Riverside staff, as well as a review of Moreno Valley's Development Map (Reference 13) and Centerpoint Industrial Area Active Development Projects Map (Reference 14). Projects were included that are either located within a mile of the site or are expected to add a significant number of trips (over 20) to any study intersection. Identified projects include:

1. Alessandro Corporate Center: single building with 115,526 square feet of manufacturing use, located north of Alessandro Boulevard and west of the Old 215 Frontage Road
2. Old 215 Business Park: three warehouse buildings totaling approximately 118,580 square feet located north of Cottonwood Avenue and west of the Old 215 Frontage Road

3. Two multi-family developments with 51 and 18 units located north of Dracaea Avenue and between the Old 215 Frontage Road and Edgemont Street
4. Canyon Springs Healthcare Campus & Senior Living: hospital land use with approximately 280 beds, approximately 370,000 square feet of medical office, approximately 234 senior adult-housing attached dwelling units, and an assisted living facility with approximately 267 beds, located north of Eucalyptus Avenue between Valley Springs Parkway and Day Street
5. Valley Springs Parkway Car wash: 4,340 square foot car wash at 6291 Valley Springs Parkway
6. Multi-family development with 197 units located north of Cottonwood Avenue and east of Elsworth Street
7. Variety of commercial and industrial uses in the Centerpoint Industrial Area, bound by the Old 215 Frontage Road, Alessandro Boulevard, Heacock Street, and Cactus Avenue.

These projects are shown in the map in Figure 14. Potential trips from projects beyond those on the list below are accounted for by applying a 1.5% annual growth rate to existing volumes to account for ambient, area-wide growth. The 1.5% annual growth rate was identified by comparing traffic volumes on roadway segments in the study area between the 2012 and 2040 RIVTAM traffic model scenarios and confirmed by the City.

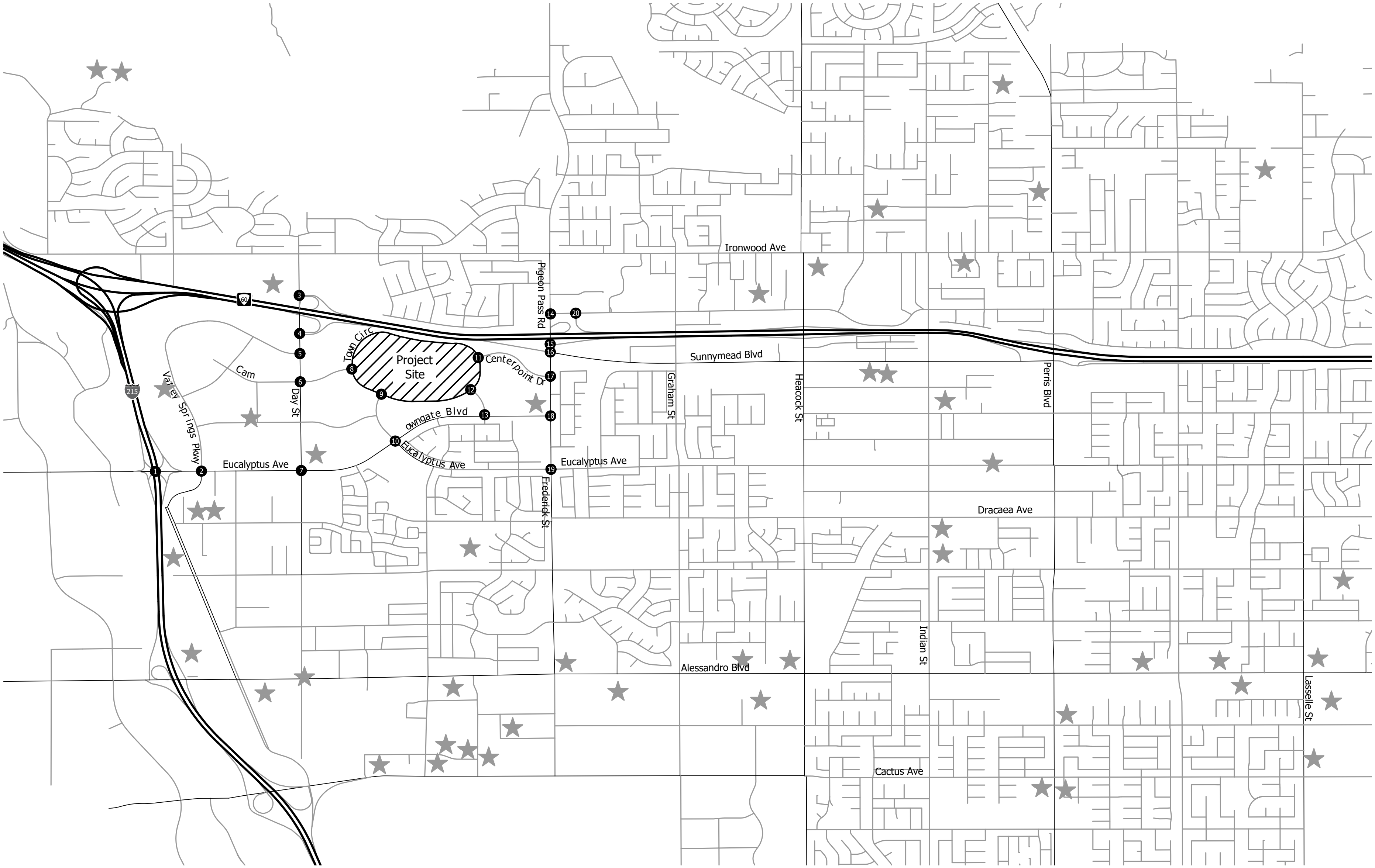
Trip Generation

Trips associated with the cumulative projects listed above were identified based on available traffic studies or using trip rates from the *Trip Generation Manual, 11th Edition* (Reference 10). Table 16 identifies the trips associated with each of the projects.

Table 16. Cumulative Projects Trip Generation

	Weekday							Saturday			
		AM Peak Hour			PM Peak Hour				Midday Peak Hour		
Project	Daily	In	Out	Total	In	Out	Total	Daily	In	Out	Total
Alessandro Corporate Center[1]	528	62	18	80	26	60	86	172	11	10	21
Old 215 Business Park[1,2]	400	55	11	66	14	50	64	330	18	39	57
Dracaea Avenue Multi-Family (69 units total) [3]	314	6	20	26	16	10	26	316	14	13	27
Canyon Springs Healthcare Campus & Senior Living[1]	18,528	1,013	335	1,348	572	1,282	1,854	10,310	967	845	1,812
Valley Springs Car Wash[4]	620	0	0	0	31	31	62	1,320	66	66	132
Cottonwood Avenue Multi-Family (197 units)[3]	894	17	56	73	47	30	77	900	39	38	77
Centerpoint Industrial Area Approved Projects[2]	3,202	141	49	190	118	203	321	2,064	101	94	195
Total	**24,486**	**1,294**	**489**	**1,783**	**824**	**1,666**	**2,490**	**15,412**	**1,216**	**1,105**	**2,321**

[1] Weekday trip generation from project traffic study. Weekend trip generation based on ITE rates.
[2] ITE does not provide Saturday data for light industrial, the use assumed in the traffic study. Therefore industrial park (ITE code 130) data was used.
[3] Trip generation based on project size and ITE rates.
[4] ITE does not provide weekday AM peak hour data, weekday daily data, or Saturday daily data. The car wash was assumed to be closed in the weekday AM peak hour and the number of daily trips was assumed to be ten times the trips in the peak period.



★ - CUMULATIVE PROJECT REVIEWED FOR INCLUSION

Cumulative Project Locations
Moreno Valley Mall Redevelopment
Moreno Valley, CA

Figure 14

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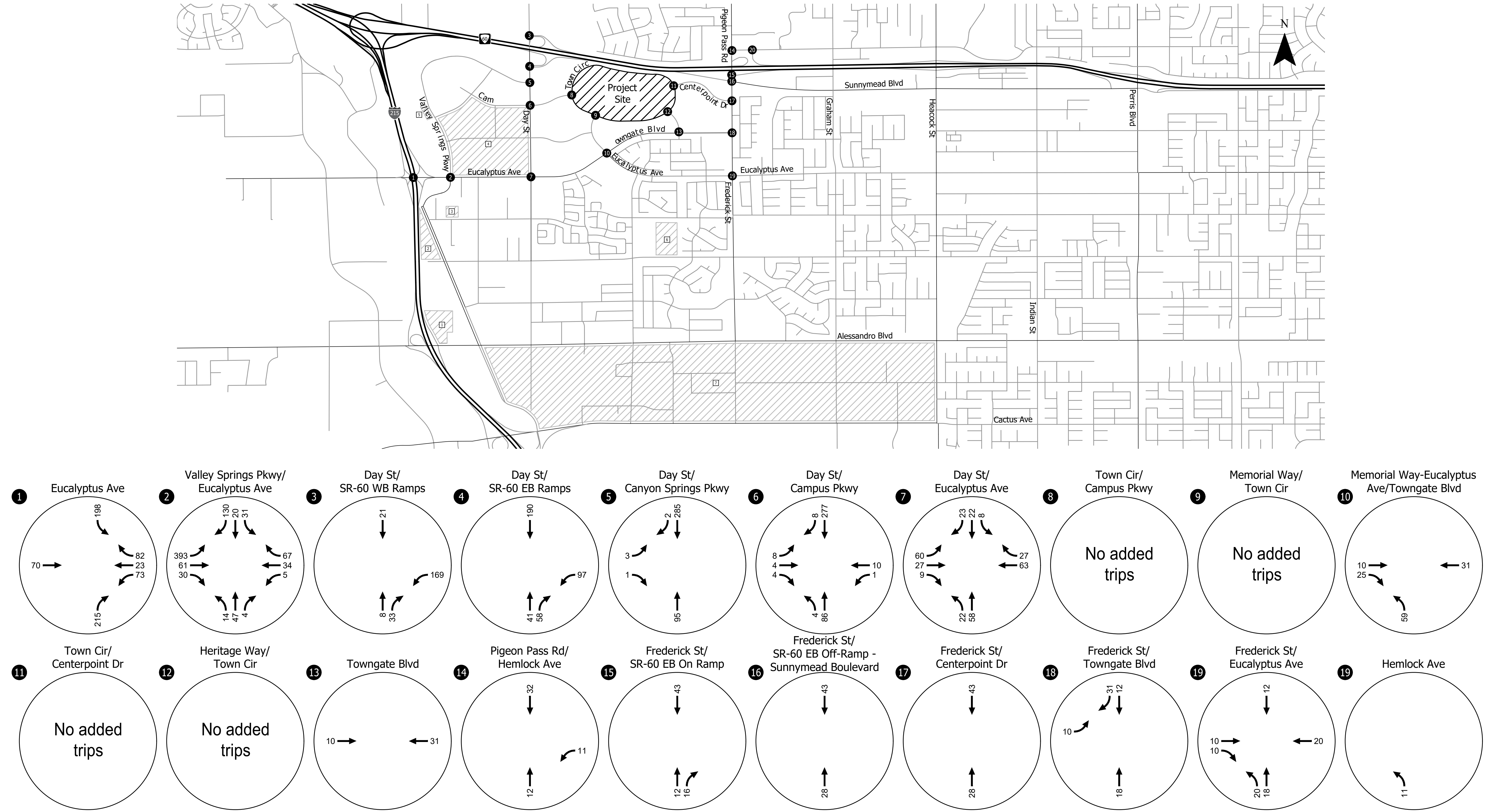
Trip Assignment and Distribution

Trips associated with the cumulative projects were assigned to the study intersections based on the trip distribution in the traffic study for the project, where available. For the multi-family projects, the same distribution was used as for the Moreno Vallely Mall Redevelopment Project trips. The cumulative project trips at the study intersections are shown in Figure 15, Figure 16 and Figure 17.

INTERSECTION OPERATIONS

Traffic Volumes and Intersection Levels of Service

Traffic volumes for the year 2026 background conditions analysis were developed by applying a 1.5% annual growth rate to existing traffic volumes to account for ambient, area-wide growth and adding trips associated with the cumulative projects (resulting in a total growth rate of 7.5%, assuming 1.5% per year over 5 years). Figure 18, Figure 19 and Figure 20 summarize the traffic volumes for the study intersections under year 2026 background conditions for the weekday AM, weekday PM, and Saturday midday peak hour traffic conditions, respectively.



Cumulative Project Trip Assignment
Weekday AM Peak Hour
Moreno Valley, CA

15

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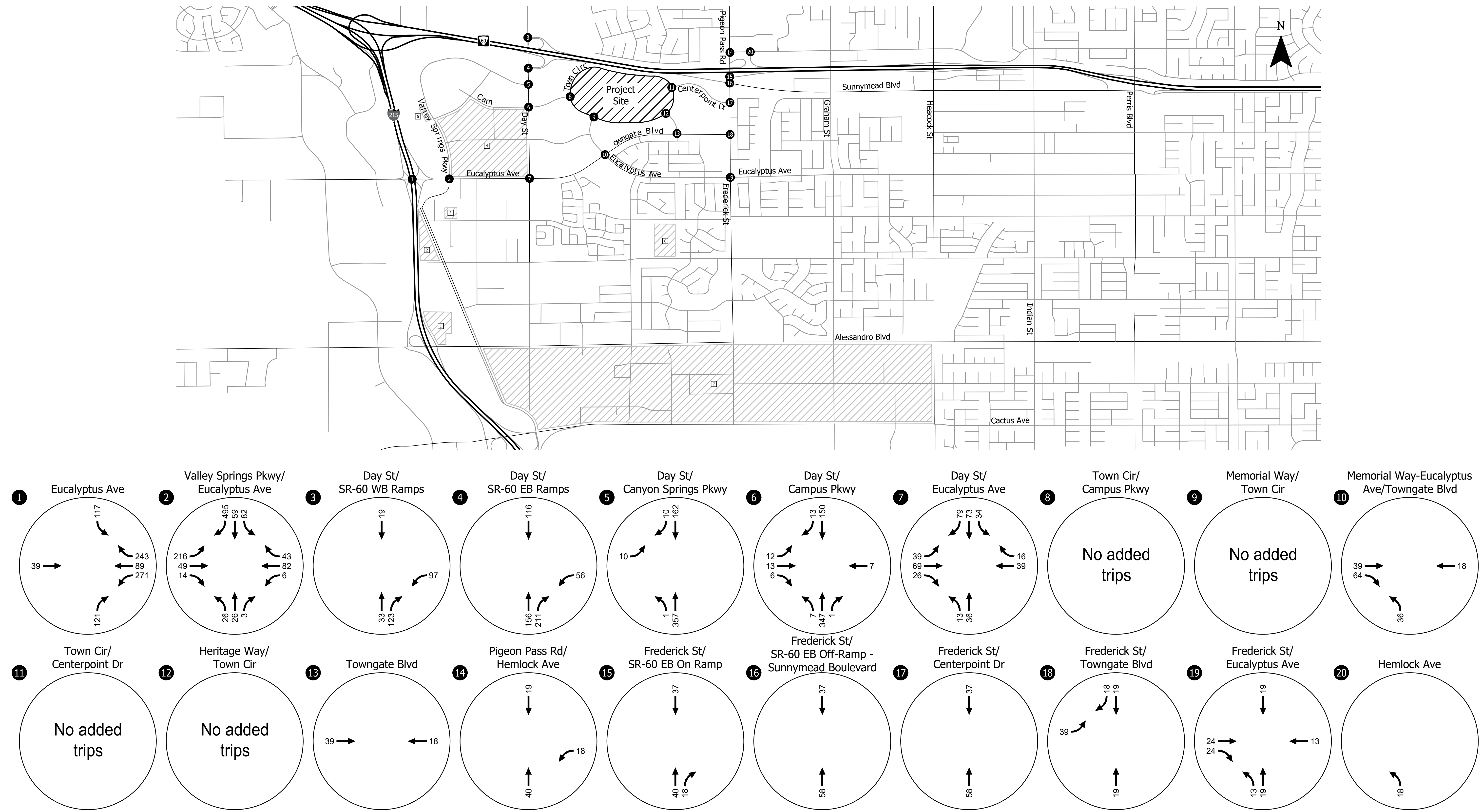

Cumulative Project Trip Assignment
Weekday PM Peak Hour
Moreno Valley, CA

16

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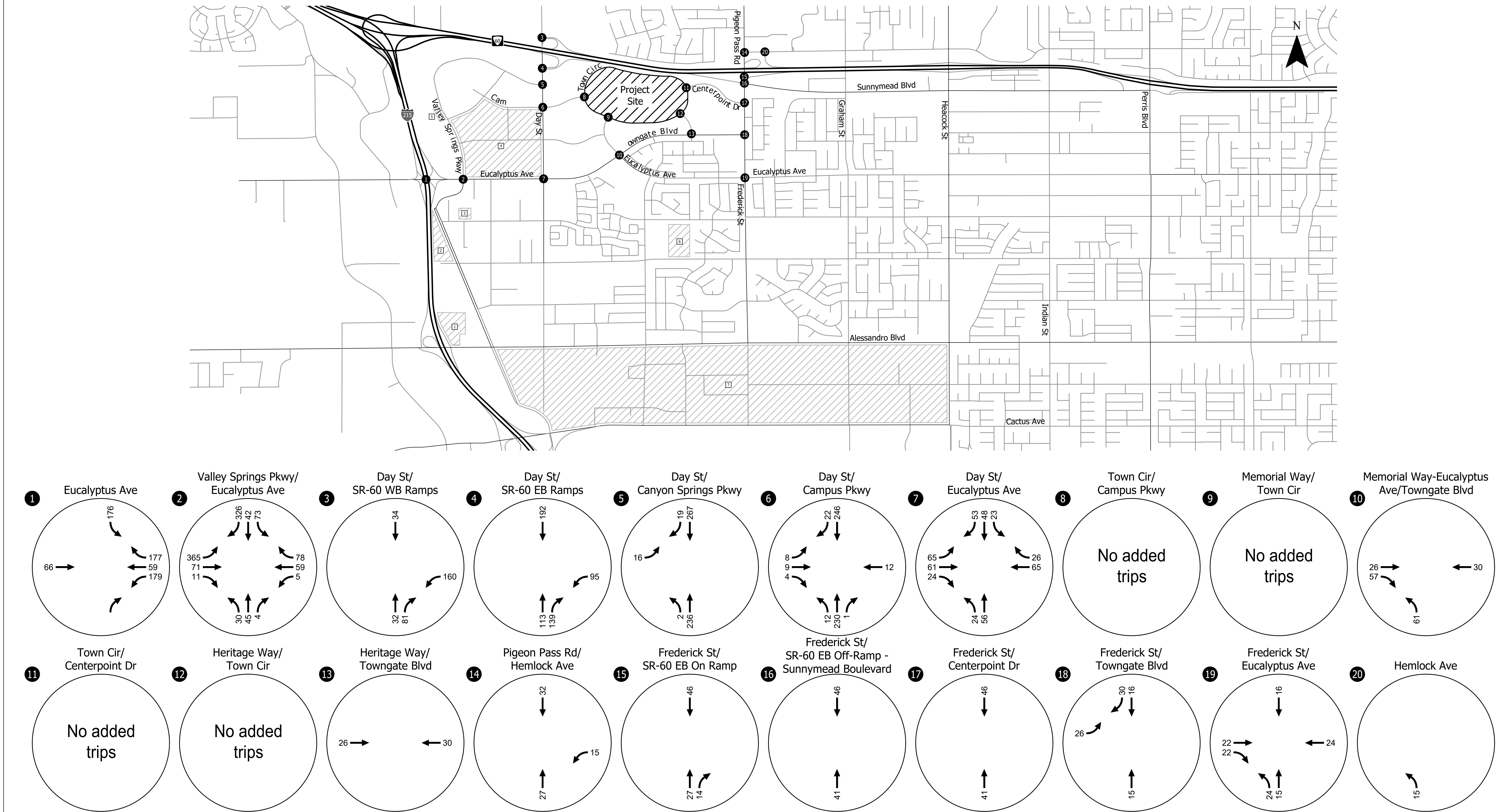

Cumulative Project Trip Assignment
Saturday Midday Peak Hour
Moreno Valley, CA

17

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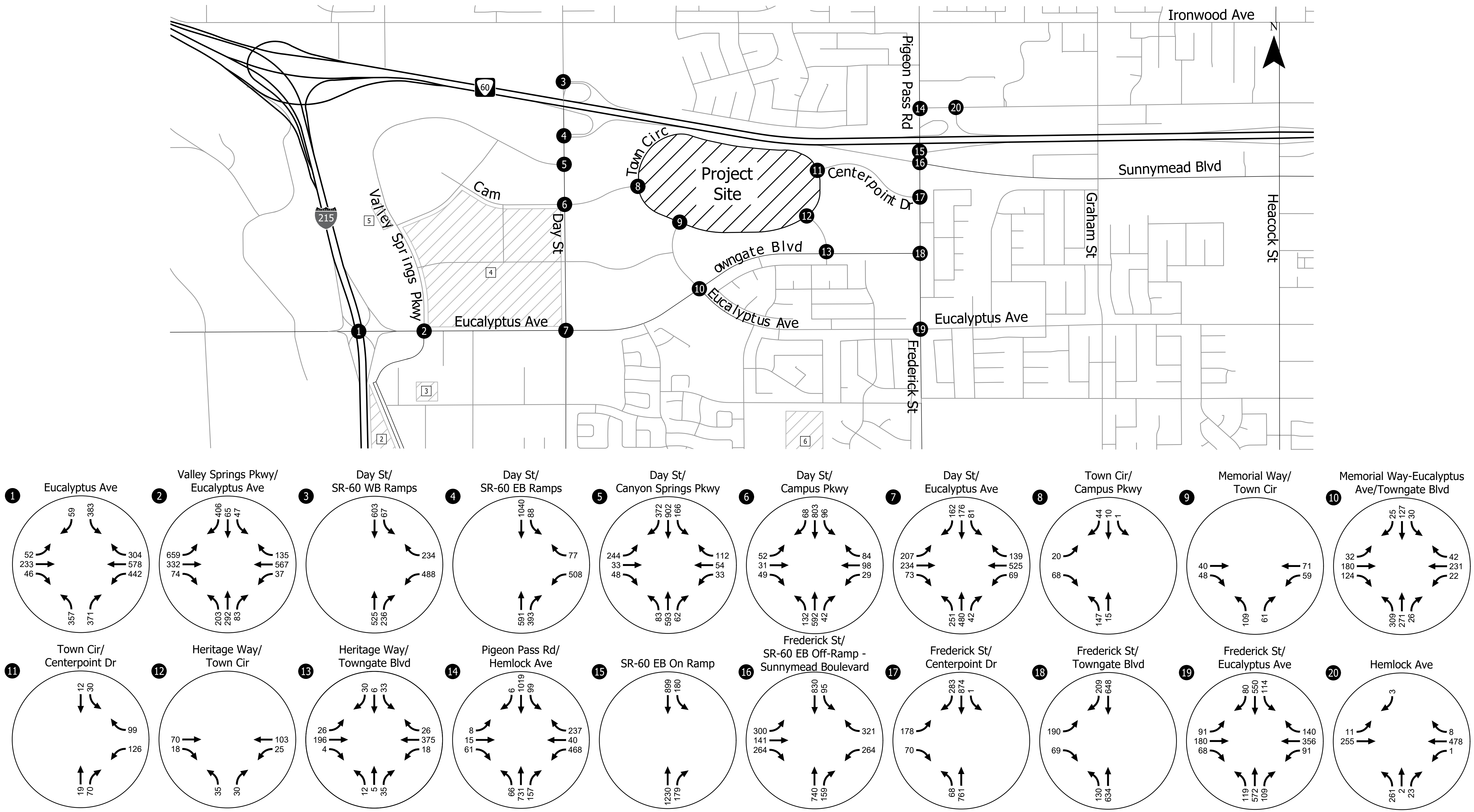

- CUMULATIVE PROJECT

Year 2026 Background Traffic Volumes (without Project)
Weekday AM Peak Hour
Moreno Valley, CA

18

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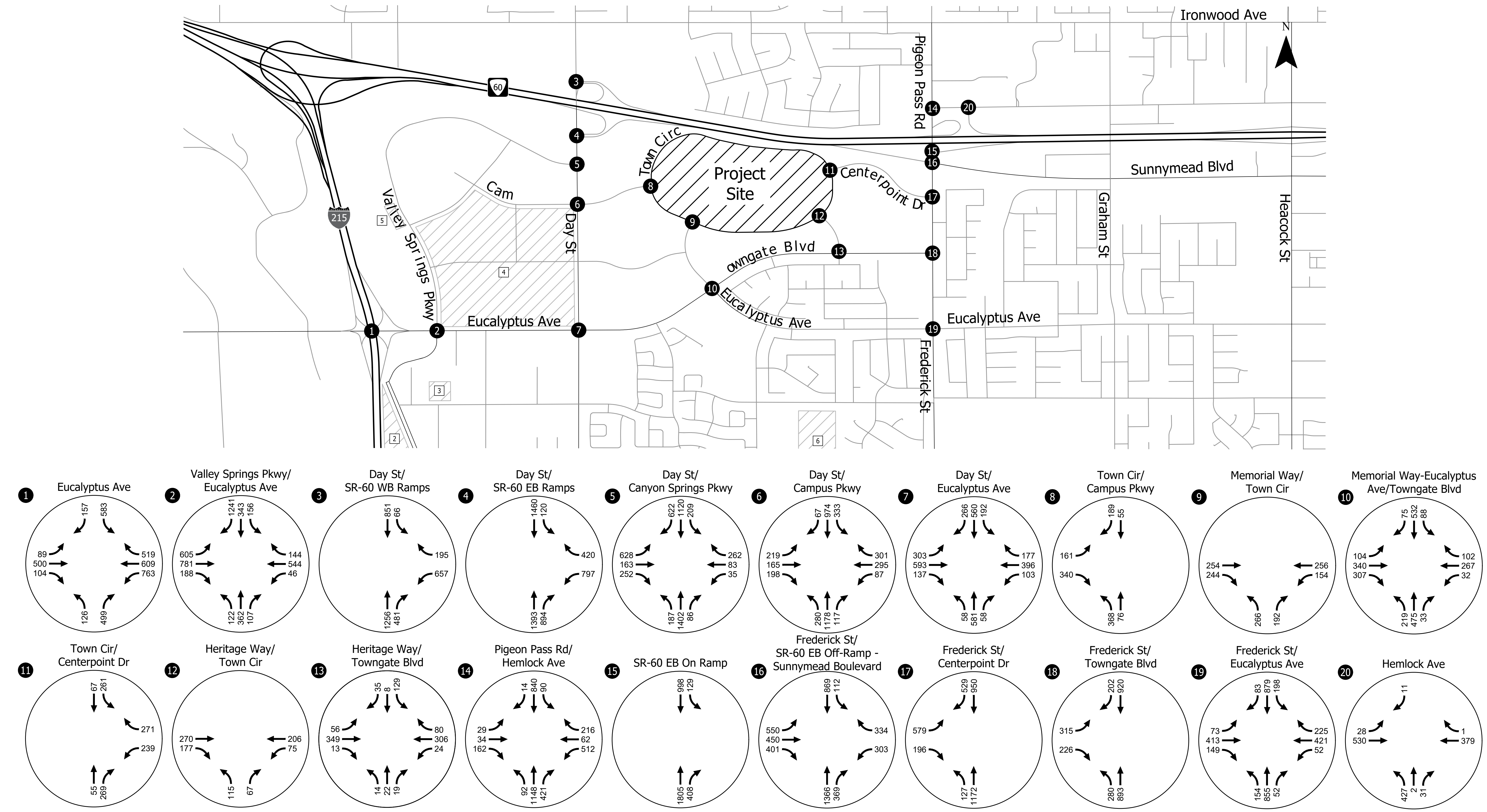
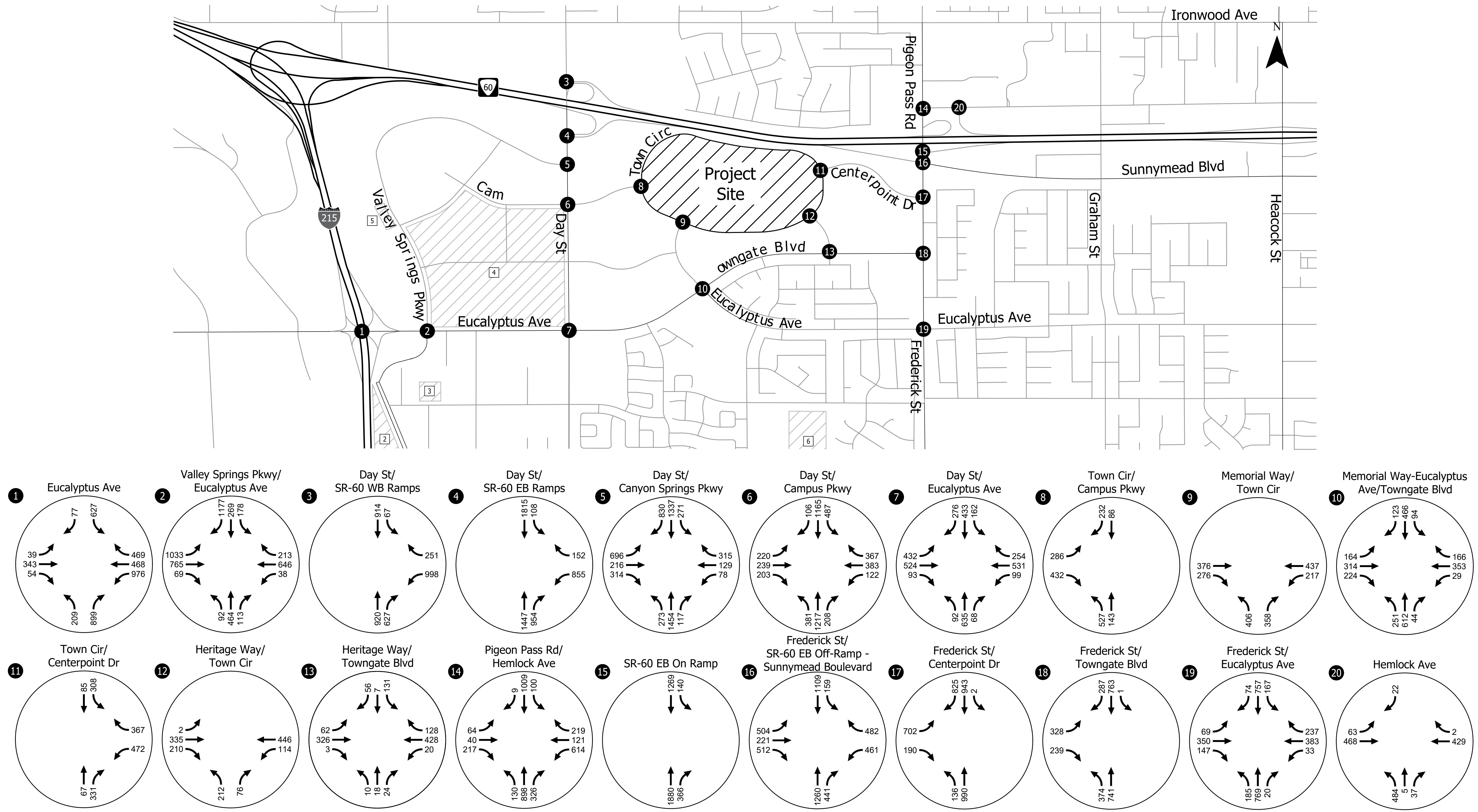


- CUMULATIVE PROJECT

Year 2026 Background Traffic Volumes (without Project)
Weekday PM Peak Hour
Moreno Valley, CA

19

KITTELSON & ASSOCIATES



- CUMULATIVE PROJECT

Year 2026 Background Traffic Volumes (without Project)
Saturday Midday Peak Hour
Moreno Valley, CA

20

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Table 17 summarizes the operations at the study intersections.

Table 17. Year 2026 Background Conditions (without project) Intersection Operations

Study Intersection	Jurisdiction	Traffic Control	LOS Std	Weekday AM		Weekday PM		Saturday Mid	
				Delay	LOS	Delay	LOS	Delay	LOS
1. I-215 Ramps/ Eucalyptus Ave	Caltrans	Signal	E	35.8	D	73.6	E	39.1	D
2. Valley Springs Pkwy/ Eucalyptus Ave	Riverside	Signal	D	36.5	D	**116.4**	**F**	**137.8**	**F**
3. Day St/ SR-60 WB Ramps	Caltrans	Signal	E	23.1	C	23.3	C	53.9	D
4. Day St/ SR-60 EB Ramps	Caltrans	Signal	E	15.8	B	27.8	C	30.8	C
5. Day St/ Canyon Springs Pkwy	Riverside	Signal	D	18.9	B	53.9	D	**97.0**	**F**
6. Day St/ Campus Pkwy	Riverside	Signal	D	15.0	B	34.4	C	**57.5**	**E**
7. Day St/ Eucalyptus Ave	Riverside	Signal	D	26.8	C	31.2	C	45.3	D
8. Town Cir/ Campus Pkwy	MV	AWSC	D	8.0	A	12.3	B	20.9	C
9. Memorial Way/Town Cir	MV	AWSC	D	7.9	A	14.3	B	32.1	D
10. Memorial Way-Eucalyptus Ave/ Towngate Blvd	MV	Signal	D	17.0	B	24.9	C	27.3	C
11. Town Cir/ Centerpoint Drive	MV	Signal	D	9.0	A	10.4	B	11.5	B
12. Heritage Way/Town Circ	MV	AWSC	D	7.5	A	10.5	B	14.3	B
13. Heritage Way/Towngate Blvd	MV	Signal	D	12.5	B	14.5	B	14.8	B
14. Pigeon Pass Rd/ Hemlock Rd	MV	Signal	D	39.8	D	39.0	D	47.8	D
15. Frederick St/ SR-60 EB Ramps	Caltrans	Signal	E	7.6	A	2.8	A	2.7	A
16. Frederick St/ SR-60 EB Off-Ramp – Sunnymead Blvd	Caltrans	Signal	E	21.5	C	30.2	C	34.0	C
17. Frederick St/ Centerpoint Dr	MV	Signal	D	8.2	A	13.4	B	16.7	B
18. Frederick St/ Towngate Blvd	MV	Signal	D	10.0	B	17.8	B	21.7	C
19. Frederick St/ Eucalyptus Ave	MV	Signal	D	22.6	C	30.2	C	28.6	C
20. SR-60 WB Off Ramp/ Hemlock Ave	Caltrans	Signal	E	13.1	B	15.3	B	17.3	B

LOS = Level of Service, s = seconds MV = Moreno Valley, AWSC = All-way stop-control
Bold text indicates operations do not meet LOS Standard

As shown in the table, there are three intersections that do not meet standards under year 2026 background conditions:

- 2. Valley Springs Pkwy/ Eucalyptus Ave: this signalized intersection is under Riverside's jurisdiction; the applicable standard is LOS D. The average delay during the weekday PM peak hour is 116.4 seconds, resulting in a LOS F, and during the Saturday midday peak hour the average delay is 137.8 seconds, resulting in a LOS F. The intersection meets standards under existing conditions.
- 5. Day Street/Canyon Springs Parkway: this signalized intersection is under Riverside's jurisdiction; the applicable standard is LOS D. The average delay during the Saturday midday peak hour is 97.0 seconds, resulting in a LOS F. The intersection operates at a LOS E under existing conditions.
- 6. Day Street/ Campus Parkway: this signalized intersection is under Riverside's jurisdiction; the applicable standard is LOS D. The average delay during the Saturday midday peak hour is 57.5 seconds, resulting in a LOS E. The intersection operates at a LOS D under Saturday midday existing conditions.

The Canyon Springs Healthcare Campus & Senior Living Traffic Impact Analysis (Reference 15, 2017), identified overlap westbound right-turns to improve operations at the two Day Street intersections.

Appendix H includes the year 2026 background conditions intersection operations worksheets.

Intersection Turn Lane Queues

The 95th percentile queue lengths, available storage at turn lanes, and distance to adjacent side streets and signalized intersections for each study intersection under year 2026 background conditions are shown in Table 18.

Table 18. Year 2026 Background Conditions (without project) 95th Percentile Queue Lengths at Study Intersections

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet) Weekday AM	Weekday PM	Saturday Mid
1. I-215 Ramps/ Eucalyptus Ave	EBL	250	780	780	75	116	55
	EBR	50	650	650	7	**53**	16
	WBL	275	770	770	202	**#500**	**#487**
	NBL[1]	1,200	N/A	N/A	164	67	86
	NBR[1]	1,200	N/A	N/A	25	104	127
	SBL[1]	1,400	N/A	N/A	176	#334	#286
	SBR[1]	1,400	N/A	N/A	3	55	17
2. Valley Springs Pkwy/Eucalyptus Ave	EBL	300	530	830	**#437**	**#491**	**#840**
	EBR	360	530	830	10	54	3
	WBL	100	200	950	64	84	69
	WBR	30	200	950	**58**	**76**	**134**
	NBL	150	1,600	>2,000	**225**	**175**	132
	SBL	160	390	960	75	**221**	**228**
3. Day St/SR-60 WB Ramps	WBL[1]	1,580	N/A	N/A	202	#310	#559
	WBR[1]	1,580	N/A	N/A	54	132	149
	NBR	180	820	820	0	m0	m0
	SBL[2]	200	380	950	82	83	83

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet)		
					Weekday AM	Weekday PM	Saturday Mid
4. Day St/SR-60 EB Ramps	WBL[1]	1,280	N/A	N/A	215	#404	#454
	WBR[1]	1,280	N/A	N/A	27	304	100
	SBL	500	840	840	m74	m94	m62
5. Day St/Canyon Springs Pkwy	EBL[3]	170	240	490	57	**#517**	**#592**
	WBL	140	140	300	68	78	**141**
	NBL	180	580	580	132	**#306**	**#521**
	SBL	145	370	370	**227**	**318**	**#455**
6. Day St/Campus Pkwy	EBL[2,3]	190	300	790	41	148	153
	WBL	190	440	440	53	140	187
	NBL	140	360	880	82	**184**	**#281**
	SBL	180	170	580	64	**217**	**#403**
7. Day St/ Eucalyptus Ave	EBL	100	340	2,000	**259**	**#440**	**#721**
	WBL	170	100	1,000	113	156	152
	WBR	200	100	1,000	60	63	76
	NBL	150	510	1,210	#424	101	144
	SBL	180	300	1,100	126	**#307**	**#234**
8. Town Cir/ Campus Pkwy	EBL[3]	200	460	460	3	20	55
	EBR	450	460	460	3	18	35
	NBL	125	150	>2,000	10	43	108
9. Memorial Way/Town Cir	WBL[2]	100	310	>2,000	8	33	78
	NBL[3]	100	200	450	8	30	73
	NBR	450	200	450	5	25	98
10. Memorial Way-Eucalyptus Ave/Towngate Blvd	EBL	160	450	930	55	142	**231**
	EBR	70	450	930	50	**185**	**133**
	WBL	150	970	1,950	43	60	64
	WBR	70	970	1,950	13	66	**134**
	NBL	200	430	920	**312**	**252**	**335**
	SBL	190	640	640	53	126	149
11. Town Cir/ Centerpoint Drive	NBR	65	110	>2,000	8	18	39
	SBL[3]	50	80	>2,000	13	**102**	**79**
12. Heritage Way/Town Circ	WBL	100	250	740	5	13	35
	NBL	100	130	630	3	15	35
	NBR	650	130	630	3	5	15
13. Heritage Way/ Towngate Blvd	EBL	325	900	1,930	48	#107	98
	EBR	100	900	1,930	0	0	0
	WBL	150	460	1,260	38	46	45
	WBR	85	460	1,260	0	22	85
	SBL[2]	200	120	N/A	43	127	153
	SBR	650	120	N/A	0	0	21

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet)		
					Weekday AM	Weekday PM	Saturday Mid
14. Pigeon Pass Rd/Hemlock Rd	WBL[3]	260	200	1,340	252	247	**#375**
	NBL	240	700	700	111	139	185
	NBR	90	700	700	**95**	**337**	**261**
	SBL[2]	200	200	1,340	152	138	151
15. Frederick St/SR-60 EB On-Ramp	SBL	340	700	700	253	187	198
16. Frederick St/ SR-60 EB Off-Ramp – Sunnymead Boulevard	EBL[1]	1,700	N/A	N/A	154	278	250
	EBR[1]	1,700	N/A	N/A	231	402	#633
	WBL[3]	140	150	>2,000	**174**	**191**	**#334**
	NBR	75	210	460	74	**245**	**288**
	SBL	60	120	120	**150**	**167**	**#254**
17. Frederick St/ Centerpoint Dr	NBL	130	320	320	46	72	78
18. Frederick St/ Towngate Blvd	EBR	100	340	1,260	30	65	66
	NBL	330	660	1,200	146	**287**	**#466**
	SBR	100	220	420	16	38	87
19. Frederick St/ Eucalyptus Ave	EBL[2]	200	560	>2,000	123	114	111
	WBL	150	360	>2,000	123	90	65
	NBL[2]	190	1,200	1,200	150	**202**	**238**
	NBR	190	1,200	1,200	49	17	0
	SBL	130	260	1,200	**145**	**246**	**218**
	SBR	190	260	1,200	40	41	37
20. SR-60 WB Off Ramp/Hemlock Ave	NBL[1]	1,600	N/A	N/A	107	129	155
	NBR[1]	1,600	N/A	N/A	0	0	3

[1] Ramp storage measured to gore point
[2] Left turn storage lane transitions to two-way left turn lane
[3] Second turn-lane that extends to adjacent intersection
Bold text indicates 95th percentile queue exceeds striped storage
#: 95th percentile volume exceeds capacity, queue may be longer.
m: Volume for 95th percentile queue is metered by upstream signal.
EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right

As shown in the table, eleven of the intersections have at least one movement where the 95th percentile queue length is expected to exceed the striped storage length under year 2026 background conditions. None of the highway off-ramps have 95th percentile queue lengths that exceed the ramp storage under year 2026 background conditions. Intersections where the 95th percentile queue is longer than the distance to the adjacent signalized intersection for one or more movements include:

- 2. Valley Springs Pkwy/Eucalyptus Ave: 95th percentile queues for the eastbound left turn exceeds the distance to the nearest signalized intersection (I-215 Ramps/ Eucalyptus Ave) during the Saturday midday peak hour
- 5. Day St/Canyon Springs Pkwy: As under existing conditions, 95th percentile queues for the eastbound and northbound left turns exceed the distance to the nearest signalized intersections (Shopping Access/Canyon Springs Pkwy and Day St/Campus Pkwy) during the Saturday midday peak hour.

Under year 2026 background conditions, the 95th percentile queues for the eastbound left turn also exceeds the distance to the nearest signalized intersection during the weekday PM peak hour.

- 16. Frederick St/SR-60 EB Off-Ramp – Sunnymead Boulevard: As under existing conditions, the 95th percentile queue for the southbound left turn exceeds the distance to the nearest signalized intersection (Frederick St/SR-60 EB On-Ramp) during all three time periods

It should be noted that the 95th percentile queue is defined as the queue length that has only a five percent probability of being exceeded during the peak period, and is therefore not typical of the average drive experience.

Appendix I includes the year 2026 background conditions intersection queueing worksheets.

ROADWAY SEGMENT OPERATIONS

Segment volumes on the study roadways for the year 2026 background conditions analysis were developed by applying a 1.5% growth rate to existing daily volumes (resulting in a total growth rate of 7.5%, assuming 1.5% per year over 5 years) and adding trips associated with the cumulative projects. The same cumulative project distribution and assignment used for the intersection analysis was applied, but with daily volumes instead of peak hour volumes. The segment volumes and operations are reported in Table 19.

Table 19. Year 2026 Background Conditions (without project) Roadway Segment Operations

Roadway	Segment	Juris-diction	Classification	LOS Std.	LOS E Capacity	Weekday			Saturday		
						ADT	LOS	v/c	ADT	LOS	v/c
A. Day St	SR 60 WB Ramp to SR 60 EB Ramp	Riverside	Arterial 120'	D	49,500	41,645	C	0.84	41,949	C	0.85
	SR 60 EB Ramp to Canyon Springs Pkwy	Riverside	Arterial 120'	D	49,500	53,629	**E**	1.08	59,329	**E**	1.20
	Canyon Springs Pkwy to Campus Pkwy	Riverside	Arterial 120'	D	49,500	38,135	C	0.77	43,322	C	0.88
	Campus Pkwy to Gateway Dr	Riverside	Arterial 120'	D	49,500	36,192	C	0.73	40,145	C	0.81
	Gateway Dr to Eucalyptus Ave	Riverside	Arterial 120'	D	49,500	28,252	C	0.57	26,736	C	0.54
B. Eucalyptus Ave	I-215 Ramps to Day St	Riverside	Arterial 120'	D	49,500	22,247	C	0.45	22,206	C	0.45
	Day St to Towngate Blvd	MV	Major Arterial (4D)	D	37,500	19,228	A	0.51	17,918	A	0.48
C. Town Cir	Campus Pkwy to Centerpoint Dr	MV	N/A[1]	D	25,000	7,030	A	0.28	10,368	A	0.41
D. Centerpoint Dr	Town Cir and Frederick St	MV	N/A[1]	D	56,300	17,627	A	0.31	22,775	A	0.40
E. Towngate Blvd	Eucalyptus Ave and Frederick St	MV	Major Arterial (4D)	D	37,500	12,096	A	0.32	13,087	A	0.35
F. Pigeon Pass Rd	Hemlock Ave to Sunnymead Blvd	MV	Arterial (6D)[2]	D	56,300	42,568	C	0.76	40,911	C	0.73
G. Frederick St	Sunnymeade Blvd to Centerrpoint Dr	MV	Major Arterial (6D)[2]	D	56,300	40,564	C	0.72	43,066	C	0.76
	Centerpoint Dr to Towngate Blvd	MV	Major Arterial (4D)	D	37,500	31,798	D	0.85	27,619	C	0.74
	Towngate Blvd to Eucalyptus Ave	MV	Major Arterial (4D)	D	37,500	29,596	C	0.79	26,415	C	0.70

ADT = Average Daily Traffic, MV = Moreno Valley, 4D = 4 Lane Divided, 4U = 4 Lane Undivided, 6D = 6 Lane Divided
Bold text indicates not meeting standards
[1] These roadways are not classified on the City of Moreno Valley's Circulation Diagram. The segment LOS was determined using the classification that most closely matches the cross-section.
[2] Given the long turn lanes and auxiliary lanes through these sections, the segment LOS was determined using the 6 Lane Arterial classification.

As shown in the table, all roadway segments operate within the target LOS, except for the segment of Day Street between the SR 60 EB Ramps and Canyon Springs Parkway, which operates at a LOS E and over capacity on both a weekday and Saturday. The roadway LOS and volume-to-capacity shown in the table are based on the City of Riverside thresholds, that consider the number of through lanes on a roadway. In addition to six through lanes, this section of roadway also has two southbound right-turn lanes for its full length, providing additional capacity. The cumulative projects add a notable amount of traffic to this segment of roadway, especially the Canyon Springs Healthcare Campus & Senior Living project, which is projected to add about 5,100 daily trips. The Canyon Springs Healthcare Campus & Senior Living Traffic Impact Analysis (Reference 15, 2017), projected this segment of Day Street to operate just under capacity in the General Plan Buildout with Project Conditions, but used a higher threshold for LOS E (54,900). Since that study was completed in 2017, the City's thresholds have changed.

FREEWAY OPERATIONS

The freeway mainline volumes for year 2026 background conditions were developed by applying a 1.5% annual growth rate to existing volumes (resulting in a total growth rate of 7.5%, assuming 1.5% per year over 5 years) and adding trips associated with cumulative projects. The freeway volumes and operations, based on the HCS analysis, are shown in Table 20.

Table 20. Year 2026 Background Conditions (without project) Freeway Mainline Segment Operations

Roadway	Segment	Direction	Weekday AM		Weekday PM		Saturday Mid	
			Volume	LOS	Volume	LOS	Volume	LOS
SR-60	Between the Day Street Ramps	EB	4,294	B	6,374	D	6,043	C
		WB	3,996	C	4,014	C	4,259	C
	Eeast of the Frederick Street Ramps	EB	3,734	C	4,465	C	4,529	C
		WB	3,109	B	3,799	C	4,051	C
I-215	SR-60 to Eucalyptus Avenue Ramps	NB	2,628	B	3,294	C	3,625	C
		SB	4,171	B	4,004	B	4,572	B
	South of the Eucalyptus Avenue Ramps	NB	3,157	B	3,180	B	3,530	C
		SB	3,760	C	3,905	C	4,413	D

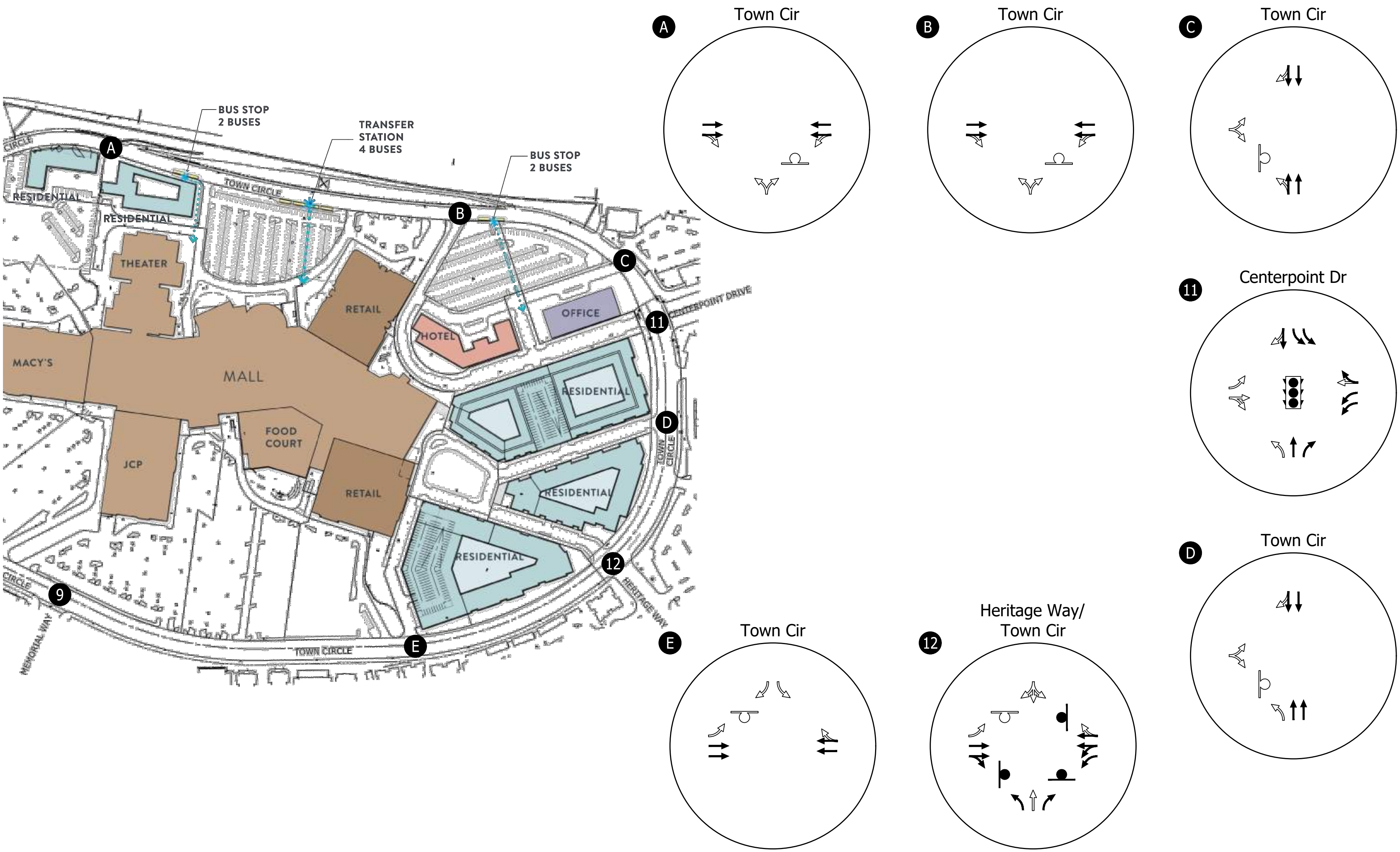
EB = Eastbound, WB = Wesbound, NB = Northbound, SB = Southbound

As shown in the table, all segments of SR-60 and I-215 are forecasted to operate at a LOS D or better during all peak periods under year 2026 background conditions.

Appendix J includes the HCS output sheets for the year 2026 background conditions freeway mainline analysis.

YEAR 2026 TOTAL TRAFFIC CONDITIONS (WITH PROJECT)

The year 2026 total traffic conditions analyzes operations in the expected buildout year of the site with the proposed project in place. The lane configurations and traffic control devices assumed for the future site accesses are shown in Figure 21.



- TRAFFIC SIGNAL
- YIELD
- PLANNED IMPROVEMENT

Total Traffic Lane Configurations and Traffic Control Devices
Site Accesses
Moreno Valley, CA

21

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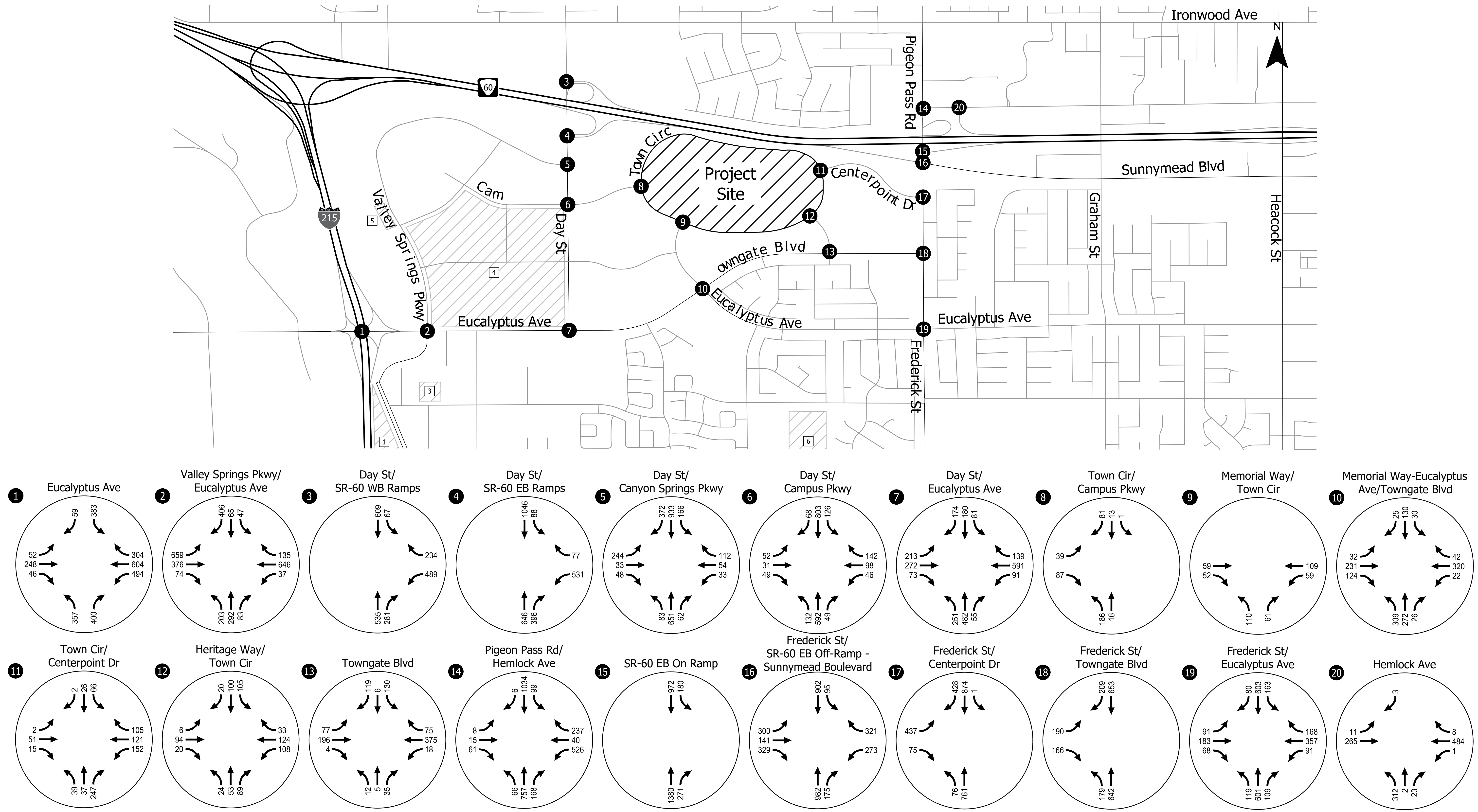
INTERSECTION OPERATIONS

Traffic Volumes and Intersection Levels of Service

Traffic volumes for the year 2026 total traffic conditions analysis were developed by adding the site generated trips to the year 2026 background volumes. Figure 22a, Figure 23a, and Figure 24a summarize the traffic volumes for the study intersections under year 2026 total traffic conditions for the weekday AM, weekday PM, and Saturday midday peak hour traffic conditions, respectively. Figure 22b, Figure 23b, and Figure 24b summarize the traffic volumes at the site accesses.



- CUMULATIVE PROJECT

Note: Alessandro Corporate Center and commercial and industrial projects in Centerpoint Industrial Area outside map extents

Year 2026 Total Traffic Volumes (with Project)
Weekday AM Peak Hour
Moreno Valley, CA

22a

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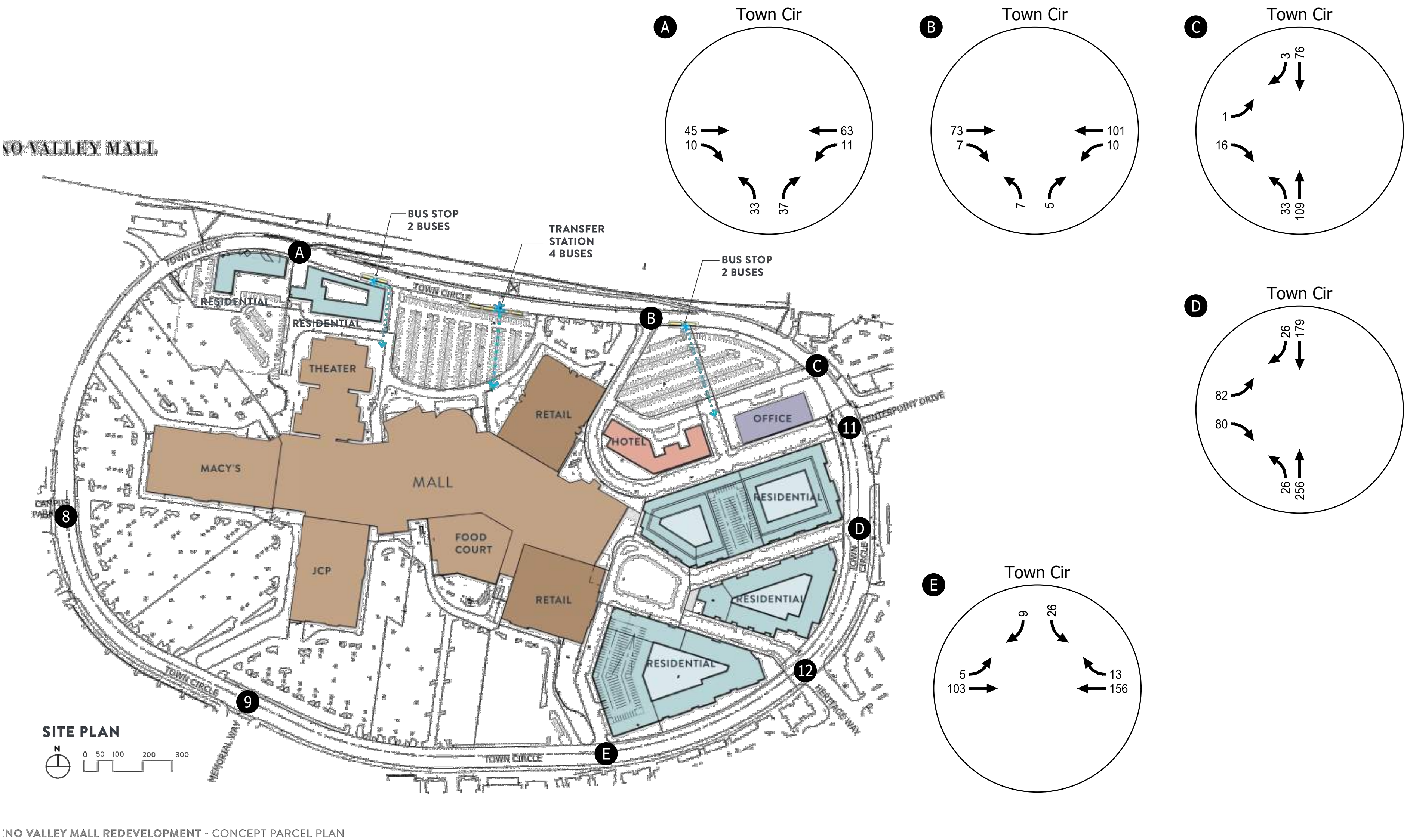

Year 2026 Total Traffic Volumes at Site Accesses (with Project)
Weekday AM Peak Hour
Moreno Valley, CA

22b

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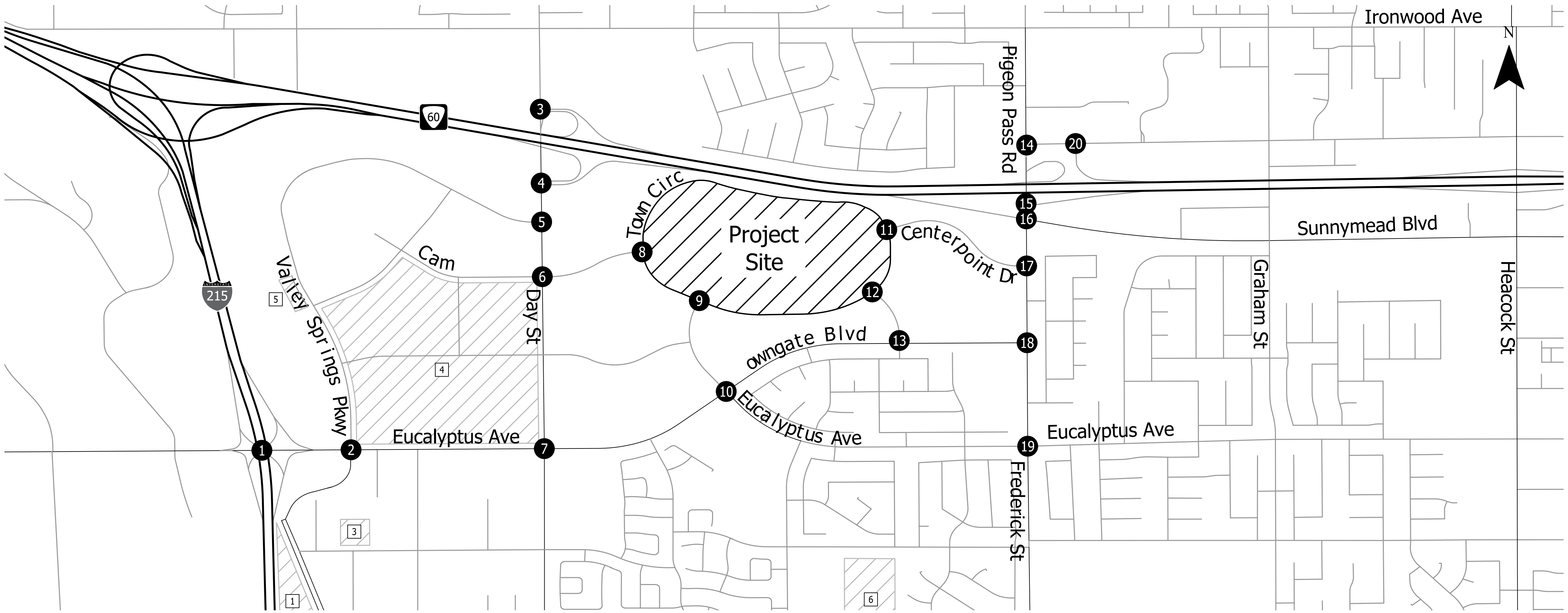

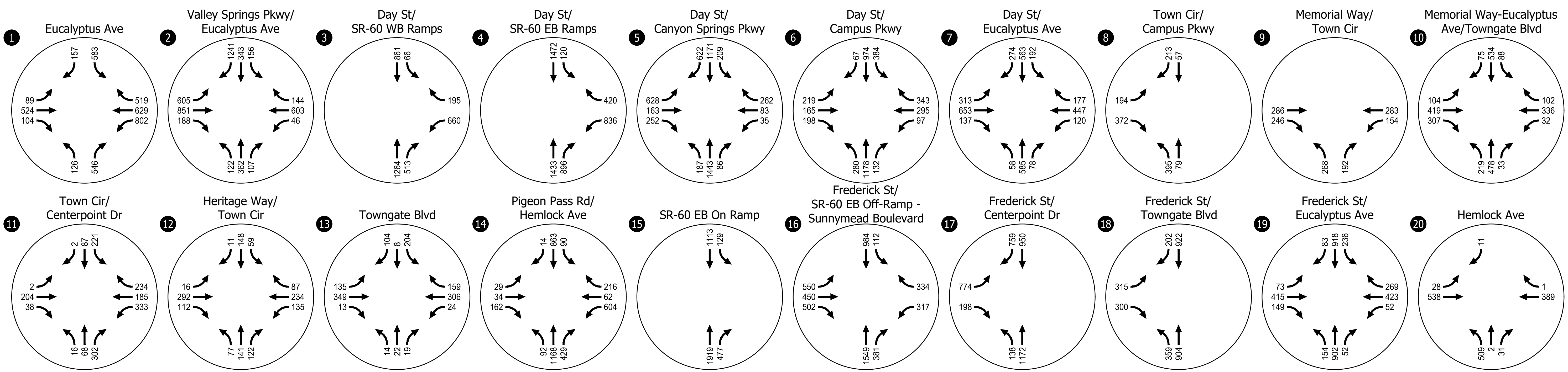

- CUMULATIVE PROJECT

Note: Alessandro Corporate Center and commercial and industrial projects in Centerpoint Industrial Area outside map extents

Year 2026 Total Traffic Volumes (with Project)
Weekday PM Peak Hour
Moreno Valley, CA

23a

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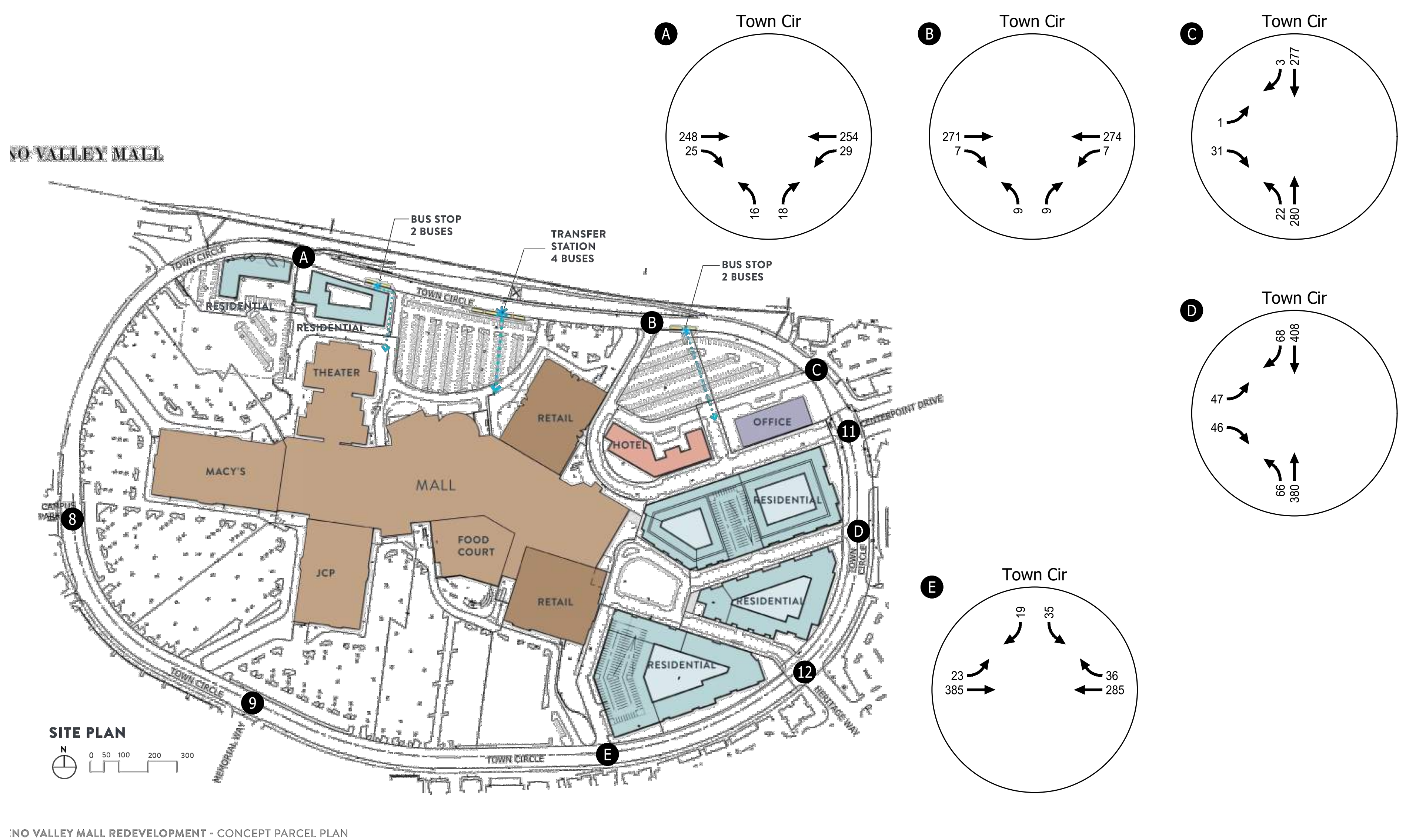

Year 2026 Total Traffic Volumes at Site Accesses (with Project)
Weekday PM Peak Hour
Moreno Valley, CA

23b

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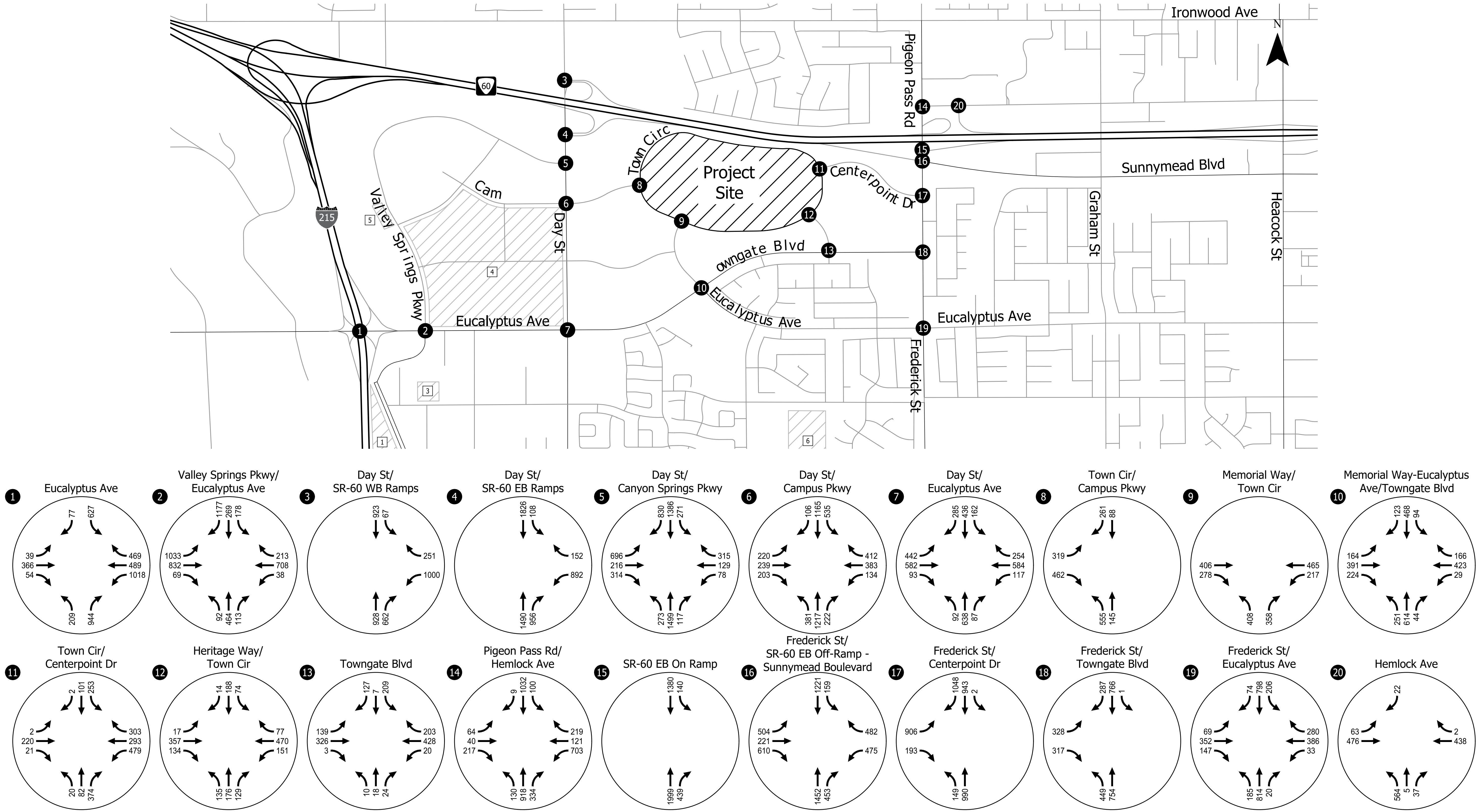

- CUMULATIVE PROJECT

Note: Alessandro Corporate Center and commercial and industrial projects in Centerpoint Industrial Area outside map extents

Year 2026 Total Traffic Volumes (with Project)
Saturday Midday Peak Hour
Moreno Valley, CA

24a

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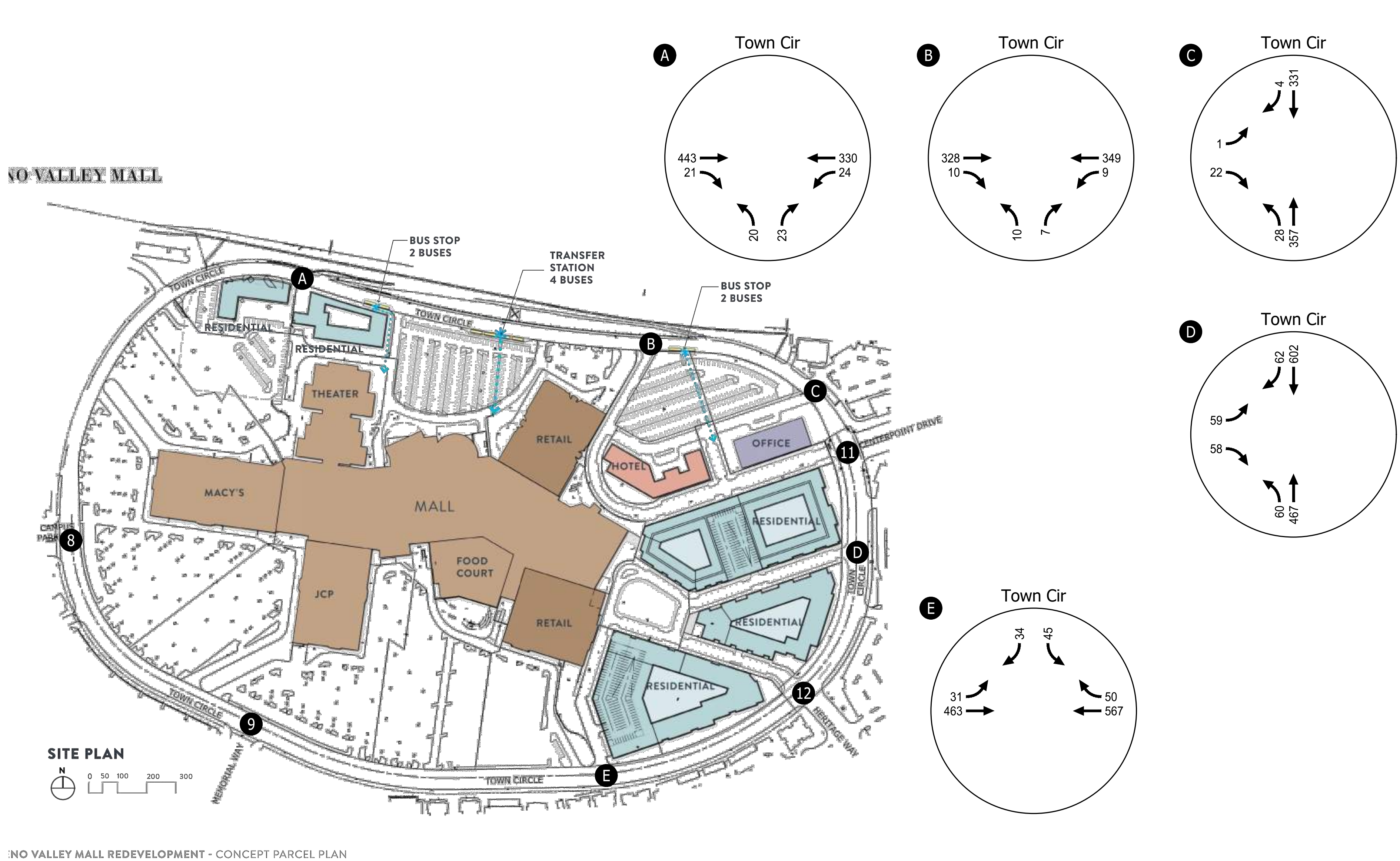

Year 2026 Total Traffic Volumes at Site Accesses (with Project)
Saturday Midday Peak Hour
Moreno Valley, CA

24b

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Table 21 summarizes the operations at the study intersections.

Table 21. Year 2026 Total Traffic Conditions (with project) Intersection Operations

Study Intersection	Jurisdiction	Traffic Control	LOS Std	Weekday AM		Weekday PM		Saturday Mid	
				Delay	LOS	Delay	LOS	Delay	LOS
1. I-215 Ramps/ Eucalyptus Ave	Caltrans	Signal	E	36.1	D	***82.5***	***F***	45.1	D
2. Valley Springs Pkwy/ Eucalyptus Ave	Riverside	Signal	D	39.5	D	***120.1***	***F***	***143.1***	***F***
3. Day St/ SR-60 WB Ramps	Caltrans	Signal	E	22.8	C	23.3	C	53.7	D
4. Day St/ SR-60 EB Ramps	Caltrans	Signal	E	16.2	B	30.0	C	33.7	C
5. Day St/ Canyon Springs Pkwy	Riverside	Signal	D	19.0	B	***56.0***	***E***	***102.5***	***F***
6. Day St/ Campus Pkwy	Riverside	Signal	D	16.5	B	38.9	D	***64.4***	***E***
7. Day St/ Eucalyptus Ave	Riverside	Signal	D	28.8	C	34.2	C	48.4	D
8. Town Cir/ Campus Pkwy	MV	AWSC	D	8.5	A	13.6	B	25.2	D
9. Memorial Way/Town Cir	MV	AWSC	D	8.0	A	15.2	C	***35.3***	***E***
10. Memorial Way-Eucalyptus Ave/ Towngate Blvd	MV	Signal	D	17.5	B	25.2	C	28.4	C
11. Town Cir/ Centerpoint Drive	MV	Signal	D	16.3	B	22.1	C	45.9	D
12. Heritage Way/Town Circ	MV	AWSC	D	12.3	B	18.9	C	***44.8***	***E***
13. Heritage Way/Towngate Blvd	MV	Signal	D	15.6	B	17.3	B	18.5	B
14. Pigeon Pass Rd/ Hemlock Rd	MV	Signal	D	40.7	D	41.9	D	51.0	D
15. Frederick St/ SR-60 EB Ramps	Caltrans	Signal	E	7.3	A	2.6	A	2.5	A
16. Frederick St/ SR-60 EB Off-Ramp – Sunnymead Blvd	Caltrans	Signal	E	22.5	C	34.4	C	45.0	D
17. Frederick St/ Centerpoint Dr	MV	Signal	D	11.5	B	16.4	B	23.5	C
18. Frederick St/ Towngate Blvd	MV	Signal	D	13.0	B	25.1	C	32.2	C
19. Frederick St/ Eucalyptus Ave	MV	Signal	D	24.7	C	34.3	C	31.9	C
20. SR-60 WB Off Ramp/ Hemlock Ave	Caltrans	Signal	E	14.3	B	16.8	B	18.8	B
A. Access A/Town Circ	MV	TWSC	D	9.1	A	10.9	B	12.9	B
B. Access B/Town Circ	MV	TWSC	D	8.9	A	10.6	B	11.8	B
C. Access C/Town Circ	MV	TWSC	D	8.6	A	9.4	A	9.7	A
D. Access D/Town Circ	MV	TWSC	D	11.7	B	16.0	C	23.7	C
E. Access E/Town Circ	MV	TWSC	D	10.1	B	12.4	B	16.2	C

LOS = Level of Service, s = seconds MV = Moreno Valley, AWSC = All-way stop-control, TWSC = Two-way stop-control
Bold text indicates operations do not meet LOS Standard
Bold italic text indicates operations meet the City's threshold for identifying improvements

As shown in the table, there are six intersections that do not meet standards under year 2026 total traffic conditions, three of which also do not meet standards under background conditions:

- 1. I-215 Ramps/Eucalyptus Avenue: this signalized intersection is under Riverside's jurisdiction; the applicable standard is LOS E. The average delay during the weekday PM peak hour is 82.5 seconds, resulting in a LOS F. The intersection meets standards under existing and background conditions.
- 2. Valley Springs Pkwy/ Eucalyptus Ave: this signalized intersection is under Riverside's jurisdiction; the applicable standard is LOS D. The average delay during the weekday PM peak hour is 120.1 seconds, resulting in a LOS F, and during the Saturday midday peak hour the average delay is 143.1 seconds, resulting in a LOS F. The intersection does not meet standards under background conditions.
- 5. Day Street/Canyon Springs Parkway: this signalized intersection is under Riverside's jurisdiction; the applicable standard is LOS D. The average delay during the weekday PM peak hour is 56.0 seconds, resulting in a LOS E, and the average delay during the Saturday midday peak hour is 102.5 seconds, resulting in a LOS F. The intersection does not meet standards under existing or background conditions. The intersection operates at a LOS E under existing conditions.
- 6. Day Street/ Campus Parkway: this signalized intersection is under Riverside's jurisdiction; the applicable standard is LOS D. The average delay during the Saturday midday peak hour is 64.4 seconds, resulting in a LOS E. The intersection operates at a LOS D under Saturday midday existing conditions.
- 9. Memorial Way/Town Circle: this all-way stop-control intersection is under Moreno Valley's jurisdiction; the applicable standard is LOS D. The average delay during the Saturday midday peak hour is 35.3 seconds, resulting in a LOS E. The intersection meets standards under existing and background conditions.
- 12. Heritage Way/Town Circle: this all-way stop-control intersection is under Moreno Valley's jurisdiction; the applicable standard is LOS D. The average delay during the Saturday midday peak hour is 44.8 seconds, resulting in a LOS E. The intersection meets standards under existing and background conditions.

Section 12 :findings and Recommendations summarizes the applicable criteria and improvements needed due to added project traffic to the study area. Potential improvements at these intersections are discussed in *Section 12: Findings and Recommendations*. In addition, the section includes Table 36, which lists intersection operations under all scenarios.

Appendix K includes the year 2026 total traffic conditions intersection operations worksheets.

Intersection Turn Lane Queues

The 95th percentile queue lengths, available storage at turn lanes, and distance to adjacent side streets and signalized intersections for each study intersection under year 2026 total traffic conditions are shown in Table 22.

Table 22. Year 2026 Total Traffic Conditions (with project) 95th Percentile Queue Lengths at Study Intersections

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet)		
					Weekday AM	Weekday PM	Saturday Mid
1. I-215 Ramps/ Eucalyptus Ave	EBL	250	780	780	75	116	55
	EBR	50	650	650	7	**53**	16
	WBL	275	770	770	228	**#535**	**#524**
	NBL[1]	1,200	N/A	N/A	164	67	87
	NBR[1]	1,200	N/A	N/A	26	130	160
	SBL[1]	1,400	N/A	N/A	176	#334	#291
	SBR[1]	1,400	N/A	N/A	3	55	17
2. Valley Springs Pkwy/Eucalyptus Ave	EBL	300	530	830	**#454**	**#491**	**#840**
	EBR	360	530	830	10	54	3
	WBL	100	200	950	65	84	69
	WBR	30	200	950	**58**	**76**	**134**
	NBL	150	1,600	>2,000	**232**	**175**	132
	SBL	160	390	960	77	**221**	**228**
3. Day St/SR-60 WB Ramps	WBL[1]	1,580	N/A	N/A	202	#312	#561
	WBR[1]	1,580	N/A	N/A	57	132	150
	NBR	180	820	820	0	m0	m2
	SBL[2]	200	380	950	82	83	83
4. Day St/SR-60 EB Ramps	WBL[1]	1,280	N/A	N/A	226	#433	#481
	WBR[1]	1,280	N/A	N/A	27	305	101
	SBL	500	840	840	m74	m94	m62
5. Day St/Canyon Springs Pkwy	EBL[3]	170	240	490	165	**#517**	**#592**
	WBL	140	140	300	69	78	**141**
	NBL	180	580	580	135	**#306**	**#521**
	SBL	145	370	370	**232**	**318**	**#455**
6. Day St/Campus Pkwy	EBL[2,3]	190	300	790	41	148	153
	WBL	190	440	440	73	151	***204***
	NBL	140	360	880	82	**184**	**#281**
	SBL	180	170	580	80	**#270**	**#460**
7. Day St/Eucalyptus Ave	EBL	100	340	2,000	**269**	**#459**	**#742**
	WBL	170	100	1,000	139	***176***	***173***
	WBR	200	100	1,000	73	63	99
	NBL	150	510	1,210	#433	101	144
	SBL	180	300	1,100	128	**#307**	**#234**

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet)		
					Weekday AM	Weekday PM	Saturday Mid
8. Town Cir/ Campus Pkwy	EBL[3]	200	460	460	5	28	70
	EBR	450	460	460	3	23	45
	NBL	125	150	>2,000	15	50	***130***
9. Memorial Way/ Town Cir	WBL[2]	100	310	>2,000	8	35	78
	NBL[3]	100	200	450	8	33	73
	NBR	450	200	450	5	28	100
10. Memorial Way-Eucalyptus Ave/ Towngate Blvd	EBL	160	450	930	55	150	**239**
	EBR	70	450	930	60	**219**	**158**
	WBL	150	970	1,950	43	64	65
	WBR	70	970	1,950	13	**74**	**148**
	NBL	200	430	920	**313**	**268**	**#355**
	SBL	190	640	640	53	132	154
11. Town Cir/ Centerpoint Drive	EBL	50	350	N/A	7	9	8
	NBL	75	110	>2,000	39	33	33
	NBR	65	110	>2,000	19	**81**	**138**
	SBL[3]	50	80	>2,000	29	**118**	**#123**
12. Heritage Way/ Town Circ	EBL	50	650	>2,000	0	3	5
	WBL	100	250	740	20	38	55
	NBL	100	130	630	5	20	50
	NBR	650	130	630	15	28	40
13. Heritage Way/ Towngate Blvd	EBL	325	900	1,930	107	173	196
	EBR	100	900	1,930	0	0	0
	WBL	150	460	1,260	39	49	48
	WBR	85	460	1,260	37	64	***131***
	SBL[2]	200	120	N/A	141	**229**	**268**
	SBR	650	120	N/A	47	46	55
14. Pigeon Pass Rd/ Hemlock Rd	WBL[3]	260	160	400	**292**	**#314**	**#469**
	NBL	240	700	700	111	139	185
	NBR	90	700	700	**105**	**346**	**271**
	SBL[2]	200	200	1,340	152	138	151
15. Frederick St/SR-60 EB On-Ramp	SBL	340	700	700	253	187	198
16. Frederick St/ SR-60 EB Off-Ramp – Sunnymead Blvd	EBL[1]	1,700	N/A	N/A	154	278	250
	EBR[1]	1,700	N/A	N/A	315	#624	#835
	WBL[3]	140	150	>2,000	**179**	**201**	**#350**
	NBR	75	210	460	**100**	**267**	**318**
	SBL	60	120	120	**150**	**167**	**#254**
17. Frederick St/ Centerpoint Dr	NBL	130	320	320	51	77	85
18. Frederick St/ Towngate Blvd	EBR	100	340	1,260	45	75	76
	NBL	330	660	1,200	199	**#417**	**#616**
	SBR	100	220	420	19	42	***105***

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet)		
					Weekday AM	Weekday PM	Saturday Mid
19. Frederick St/ Eucalyptus Ave	EBL[2]	200	560	>2,000	131	117	114
	WBL	150	360	>2,000	131	92	66
	NBL[2]	190	1,200	1,200	160	**208**	**242**
	NBR	190	1,200	1,200	54	17	0
	SBL	130	260	1,200	**205**	**291**	**263**
	SBR	190	260	1,200	41	40	36
20. SR-60 WB Off Ramp/Hemlock Ave	NBL[1]	1,600	N/A	N/A	118	154	180
	NBR[1]	1,600	N/A	N/A	0	0	3
A. Access A/Town Circ	NBL/R	N/A[4]	N/A	N/A	8	5	8
B. Access B/Town Circ	NBL/R	N/A[4]	N/A	N/A	0	3	3
C. Access C/Town Circ	EBL/R	N/A[4]	N/A	N/A	3	3	3
D. Access D/Town Circ	EBL/R	N/A[4]	N/A	N/A	23	23	45
	NBL[2]	75	140	>2,000	3	5	5
E. Access E/Town Circ	EBL[2]	75	25	>2,000	0	3	3
	SBL	N/A[4]	N/A	N/A	3	5	10
	SBR	N/A[4]	N/A	N/A	0	3	5

[1] Ramp storage measured to gore point
[2] Left turn storage lane transitions to two-way left turn lane
[3] Second turn-lane that extends to adjacent intersection
[4] Site access, storage length not defined
EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right, N/A = Not Applicable
Bold text indicates 95th percentile queue exceeds striped storage
Bold italics text indicates that 95th percentile queue length exceeds striped storage under total traffic conditions and not in background conditions.

As shown in the table, thirteen of the intersections have at least one movement where the 95th percentile queue length is expected to exceed the striped storage length under year 2026 total traffic conditions. All of these intersections also have at least one movement where the 95th percentile queue length is expected to exceed the striped storage length under year 2026 background conditions, except for the following intersections:

- 8. Town Circle/Campus Parkway
- 13. Heritage Way/Towngate Boulevard

None of the highway off-ramps have 95th percentile queue lengths that exceed the ramp storage under year 2026 total traffic conditions.

Intersections where the 95th percentile queue is longer than the distance to the adjacent signalized intersection for one or more movement include the three noted under background conditions, as well as:

- 14. Pigeon Pass Rd/ Hemlock Rd: 95th percentile queues for the westbound left turn exceeds the distance to the nearest signalized intersection (SR-60 WB Off Ramp/Hemlock Ave) during the Saturday midday peak hour.

It should be noted that the 95th percentile queue is defined as the queue length that has only a five percent probability of being exceeded during the peak period, and is therefore not typical of the average drive experience.

Appendix L includes the year 2026 total traffic conditions intersection queueing worksheets. Section 12: Findings and Recommendations summarizes the applicable criteria and improvements needed due to added project traffic to the study area.

ROADWAY SEGMENT OPERATIONS

Segment volumes on the study roadways for the year 2026 total traffic conditions analysis were developed by adding the site generated trips to the year 2026 background conditions volumes. The segment volumes and operations are reported in Table 23.

Table 23. Year 2026 Total Traffic Conditions (with project) Roadway Segment Operations

Roadway	Segment	Juris-diction	Classification	LOS Std.	LOS E Capacity	Weekday			Saturday		
						ADT	LOS	v/c	ADT	LOS	v/c
A. Day St	SR 60 WB Ramp to SR 60 EB Ramp	Riverside	Arterial 120'	D	49,500	42,257	C	0.85	42,588	C	0.86
	SR 60 EB Ramp to Canyon Springs Pkwy	Riverside	Arterial 120'	D	49,500	54,727	**E**	1.11	60,436	**E**	1.22
	Canyon Springs Pkwy to Campus Pkwy	Riverside	Arterial 120'	D	49,500	39,217	C	0.79	44,430	D	0.90
	Campus Pkwy to Gateway Dr	Riverside	Arterial 120'	D	49,500	36,321	C	0.73	40,300	C	0.81
	Gateway Dr to Eucalyptus Ave	Riverside	Arterial 120'	D	49,500	28,554	C	0.58	27,059	C	0.55
B. Eucalyptus Ave	I-215 Ramps to Day St	Riverside	Arterial 120'	D	49,500	23,786	C	0.48	23,761	C	0.48
	Day St to Towngate Blvd	MV	Major Arterial (4D)	D	37,500	20,979	A	0.56	19,669	A	0.52
C. Town Cir	Campus Pkwy to Centerpoint Dr	MV	N/A[1]	D	25,000	11,373	A	0.45	14,664	A	0.59
D. Centerpoint Dr	Town Cir and Frederick St	MV	N/A[1]	D	56,300	22,863	A	0.41	28,095	A	0.50
E. Towngate Blvd	Eucalyptus Ave and Frederick St	MV	Major Arterial (4D)	D	37,500	13,922	A	0.37	14,899	A	0.40
F. Pigeon Pass Rd	Hemlock Ave to Sunnymead Blvd	MV	Arterial (6D)[2]	D	56,300	45,287	D	0.80	43,663	C	0.78
G. Frederick St	Sunnymeade Blvd to Centerrpoint Dr	MV	Major Arterial (6D)[2]	D	56,300	45,624	D	0.81	48,177	D	0.86
	Centerpoint Dr to Towngate Blvd	MV	Major Arterial (4D)	D	37,500	31,974	D	0.85	27,829	C	0.74
	Towngate Blvd to Eucalyptus Ave	MV	Major Arterial (4D)	D	37,500	31,598	D	0.84	28,437	C	0.76

ADT = Average Daily Traffic, MV = Moreno Valley, 4D = 4 Lane Divided, 4U = 4 Lane Undivided, 6D = 6 Lane Divided
Bold text indicates not meeting standards
Bold italic text indicates operations meet the City's threshold for identifying improvements
[1] These roadways are not classified on the City of Moreno Valley's Circulation Diagram. The segment LOS was determined using the classification that most closely matches the cross-section.
[2] Given the long turn lanes and auxiliary lanes through these sections, the segment LOS was determined using the 6 Lane Arterial classification.

As shown in the table, all roadway segments operate within the target LOS, except for the segment of Day Street between the SR 60 EB Ramps and Canyon Springs Parkway, which operates at a LOS E and over capacity on both a weekday and Saturday. This segment also operates at a LOS E and over capacity under year 2026 background conditions. The volume-to-capacity ratio is expected to increase with the project 0.03 on a weekday and 0.02 on a Saturday, which is below the City of Riverside's threshold[2] for identifying improvements to add capacity.

FREEWAY OPERATIONS

The freeway mainline volumes for year 2026 total traffic conditions were developed by adding the site generated trips to the year 2026 background conditions volumes. The freeway volumes and LOS for year 2026 total traffic conditions, based on the HCS analysis, are shown in Table 24.

Table 24. Year 2026 Total Traffic Conditions (with project) Freeway Mainline Segment Operations

Roadway	Segment	Direction	Weekday AM		Weekday PM		Saturday Mid	
			Volume	LOS	Volume	LOS	Volume	LOS
SR-60	Between the Day Street Ramps	EB	4,294	B	6,374	D	6,043	C
		WB	3,996	C	4,014	C	4,259	C
	East of the Frederick Street Ramps	EB	3,826	C	4,534	C	4,602	C
		WB	3,161	B	3,881	C	4,131	C
I-215	SR-60 to Eucalyptus Avenue Ramps	NB	2,628	B	3,294	C	3,625	C
		SB	4,171	B	4,004	B	4,572	B
	South of the Eucalyptus Avenue Ramps	NB	3,186	B	3,227	B	3,575	C
		SB	3,813	C	3,944	C	4,455	D

EB = Eastbound, WB = Wesbound, NB = Northbound, SB = Southbound

As shown in the table, all segments of SR-60 and I-215 are forecasted to operate at a LOS D or better during all peak periods under year 2026 total traffic conditions.

Appendix M includes the HCS output sheets for the year 2026 total traffic conditions freeway mainline analysis.

[2] As stated in the City of Riverside guide, "Any roadway segment that operates unacceptably in the no project scenario where the project adds traffic in excess of 5% of the roadway capacity (e.g. a volume-to-capacity ratio increase of 0.05) should identify operation improvements (such as fiber optic interconnect, CCTV, traffic signal controller improvements) to improve operations."

Section 7

Year 2040 Analysis

YEAR 2040 ANALYSIS

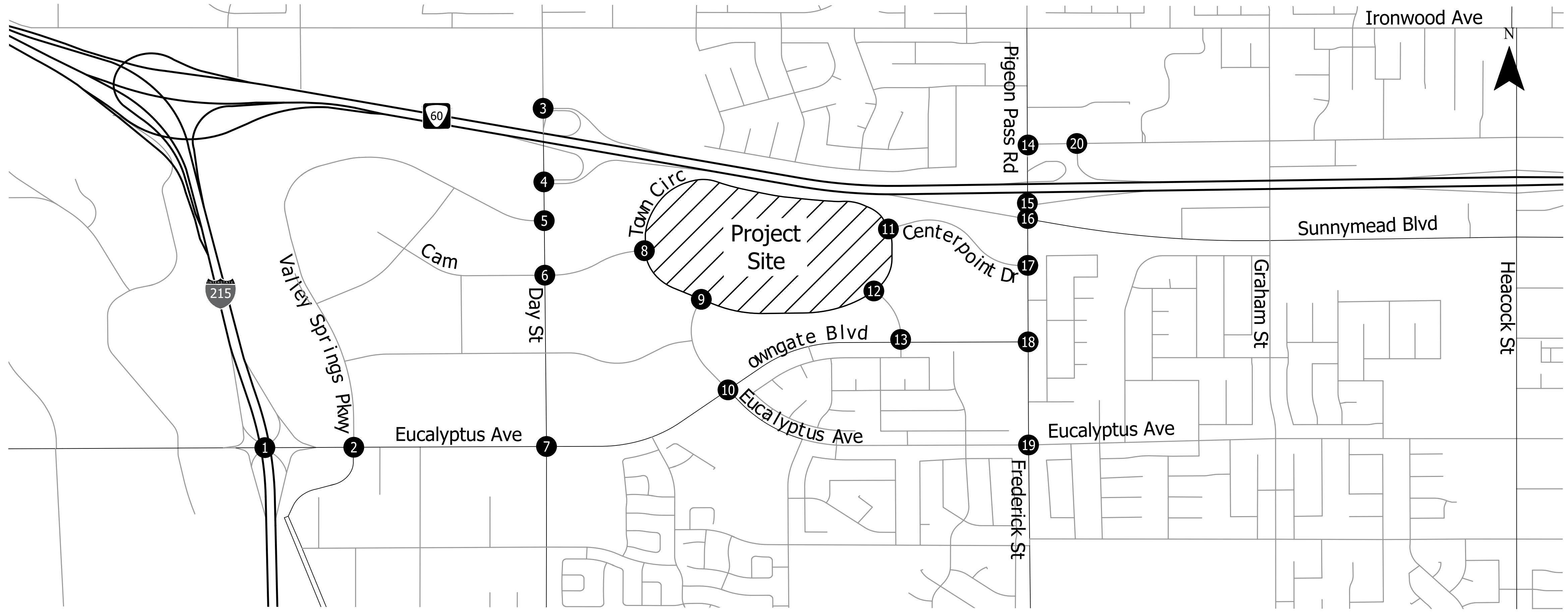
YEAR 2040 BACKGROUND CONDITIONS (WITHOUT PROJECT)

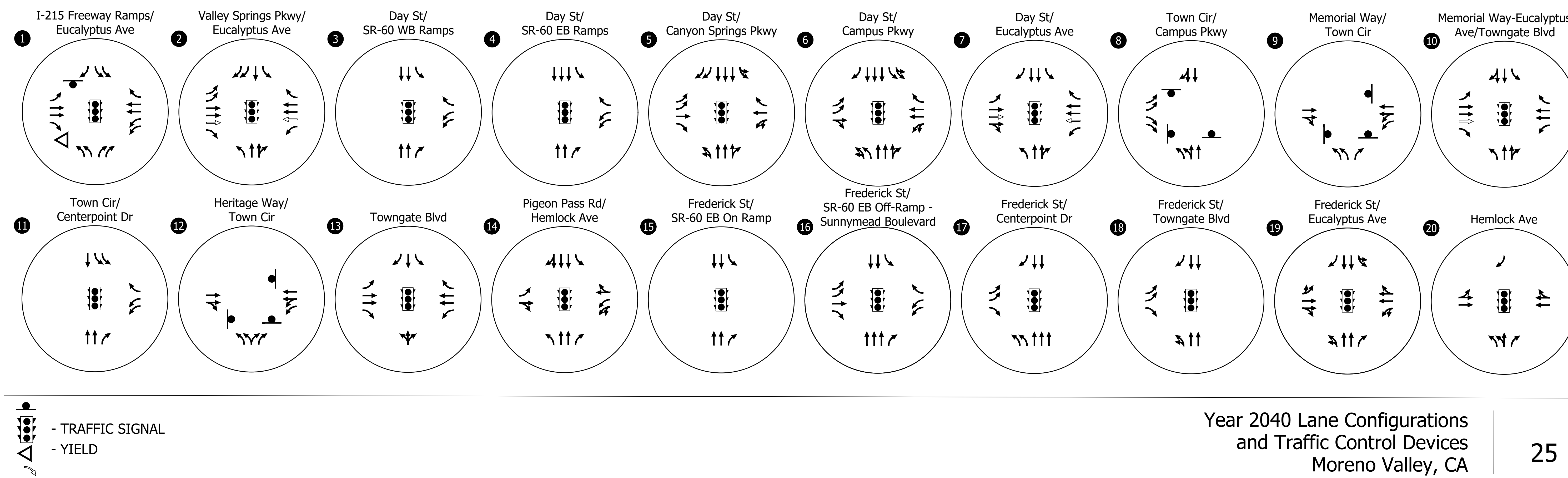
COMMITTED ROADWAY IMPROVEMENTS

As described under the Year 2026 Analysis, the Riverside County 2019 Long Range Transportation Study (Reference 7) includes widening Eucalyptus Avenue between I-215 and Towngate Boulevard from four to six lanes, with a completion year of 2028. This project is also included in the Transportation Uniform Mitigation Fee (TUMF) Program, as well as improvements at the SR-60 interchange at Day Street. The TUMF Program was initiated in Western Riverside County and uses development fees to fund local and regional projects that are needed to support growth. It is administered by the Western Riverside Council of Government (WRCOG) and implemented in all jurisdictions in Western Riverside County, including Moreno Valley.

The widening on Eucalyptus Avenue and Day Street/SR-60 Interchange improvements are also included in the City of Moreno Valley's Capital Improvement Plan (Reference 12). The priority for widening on Eucalyptus Avenue is noted as "deferrable," indicating it will start within five to ten years. The priority for interchange improvements at the SR-60 interchange at Day Street is noted as "desirable," indicating a start within three to five years. The project description states that the project will involve "design and construction of a new SR-60 freeway westbound on-ramp on the west side of Day Street. It includes a WB auxiliary lane, HOV bypass lanes on both WB on-ramps, bridge widening for the WB loop on-ramp HOV bypass lane, and associated walls and traffic channelization devices. The project includes constructing the missing sidewalk gap along the west side of Day Street." The interchange improvements will be designed based on future volumes, and were not included in this analysis given that the specific scope of the improvements is not yet known.

The lane configurations and traffic control devices assumed for the year 2040 analysis reflect the widening on Eucalyptus Avenue, and are shown in Figure 25.





Year 2040 Lane Configurations
and Traffic Control Devices
Moreno Valley, CA

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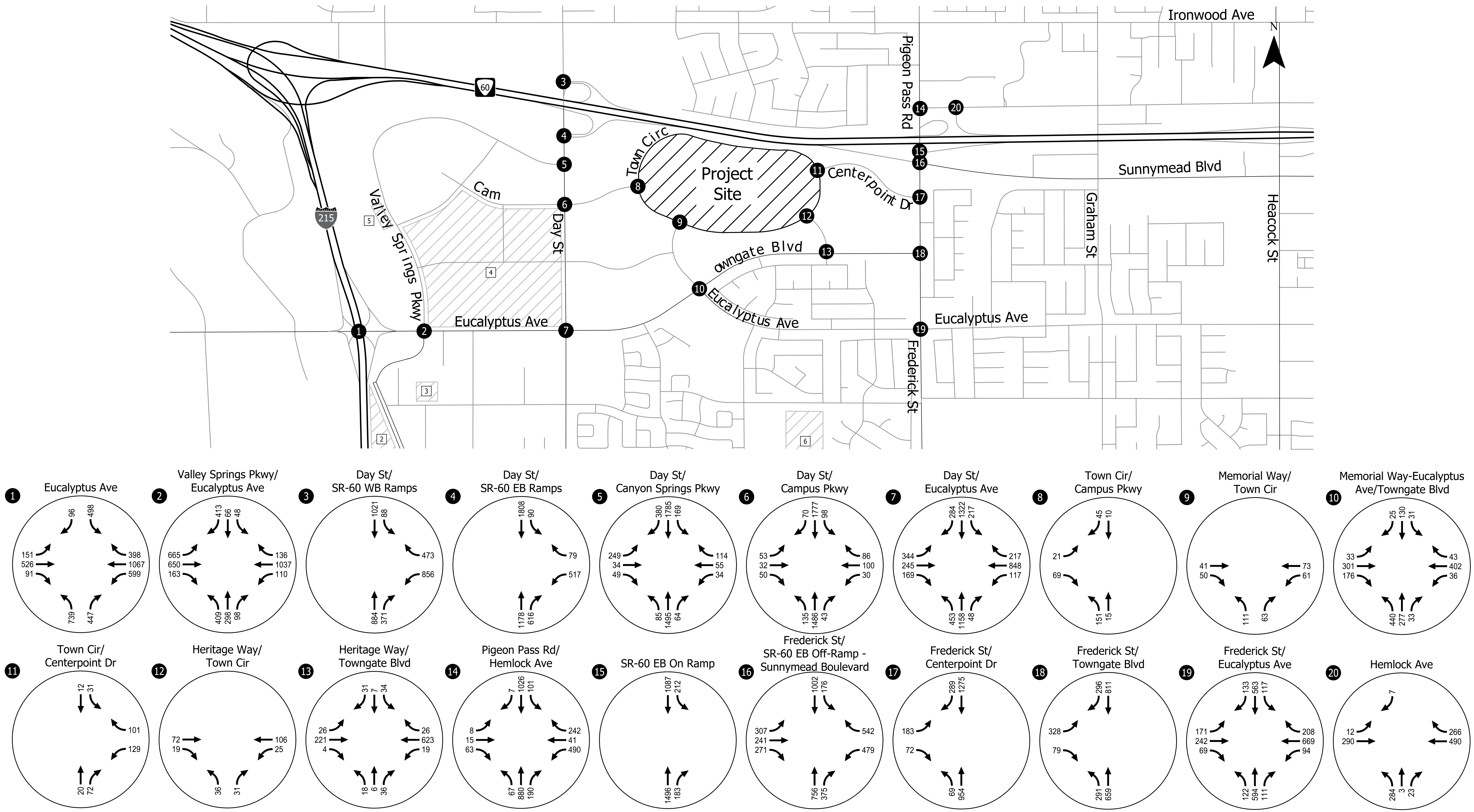
INTERSECTION OPERATIONS

Traffic Volumes and Intersection Levels of Service

Traffic volumes for the year 2040 background conditions analysis were developed using the RIVTAM 2012 and 2040 models. The 2040 model was modified to account for the proposed development. Link volumes from the 2012 and 2040 models were used alongside existing intersection counts to develop 2040 intersection counts, using the post-processing approach from NCHRP 255 (Reference 16). The intersection volumes were reviewed and adjusted considering corridor balancing (so there are not dramatic changes in volumes between adjacent intersections) and the growth rate reflected in the model volumes. Where the model showed a decrease in volumes, existing intersection volumes were grown by 10 percent. Because the model volumes include trips associated with the project, intersection volumes for the year 2040 background conditions were developed by subtracting out project trips and adding trips associated with the cumulative projects.

Figure 26, Figure 27, and Figure 28 summarize the traffic volumes for the study intersections under year 2040 background conditions for the weekday AM, weekday PM, and Saturday midday peak hour traffic conditions, respectively.



- CUMULATIVE PROJECT

Year 2040 Background Traffic Volumes (without Project)
Weekday AM Peak Hour
Moreno Valley, CA

26

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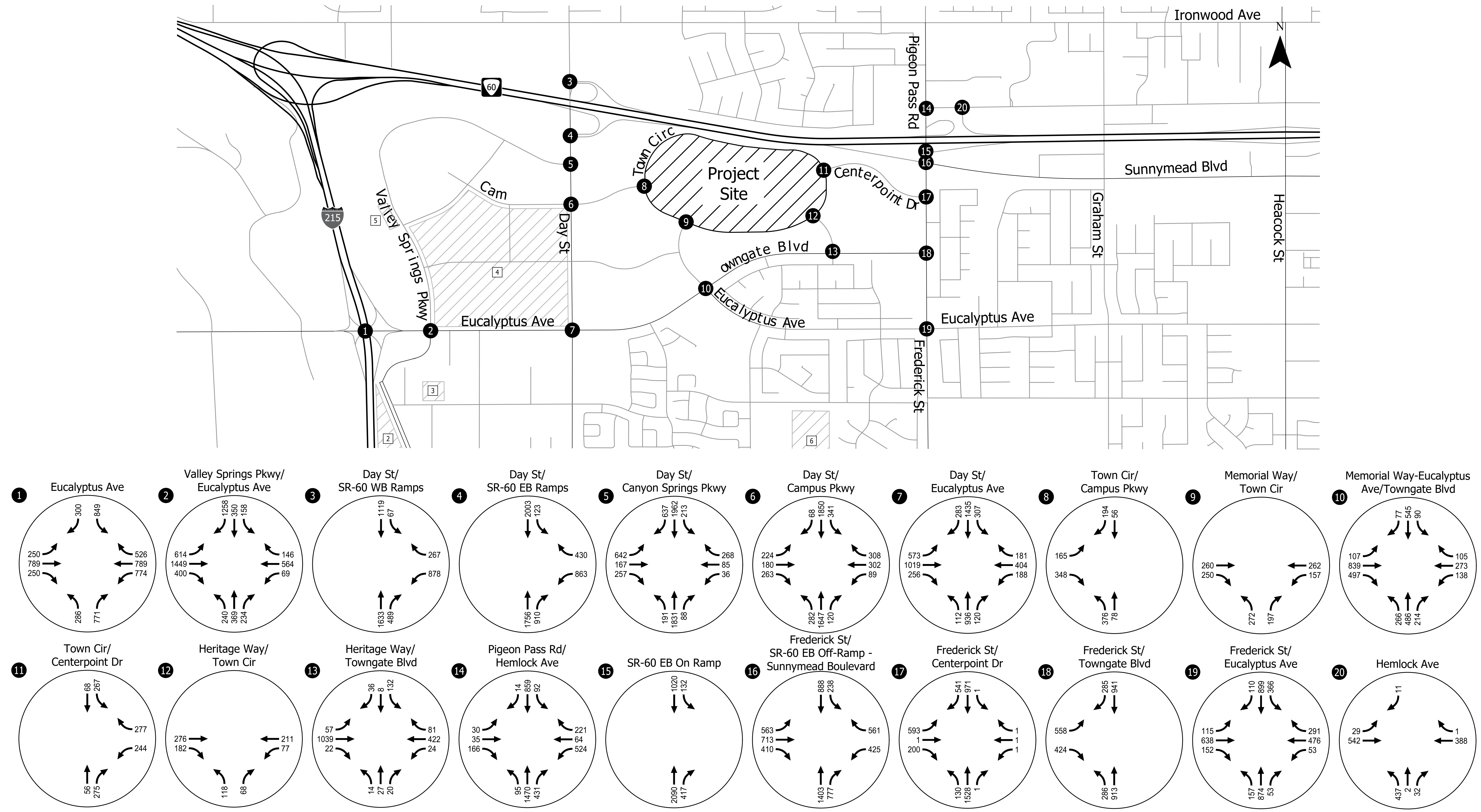

Year 2040 Background Traffic Volumes (without Project)
Weekday PM Peak Hour
Moreno Valley, CA

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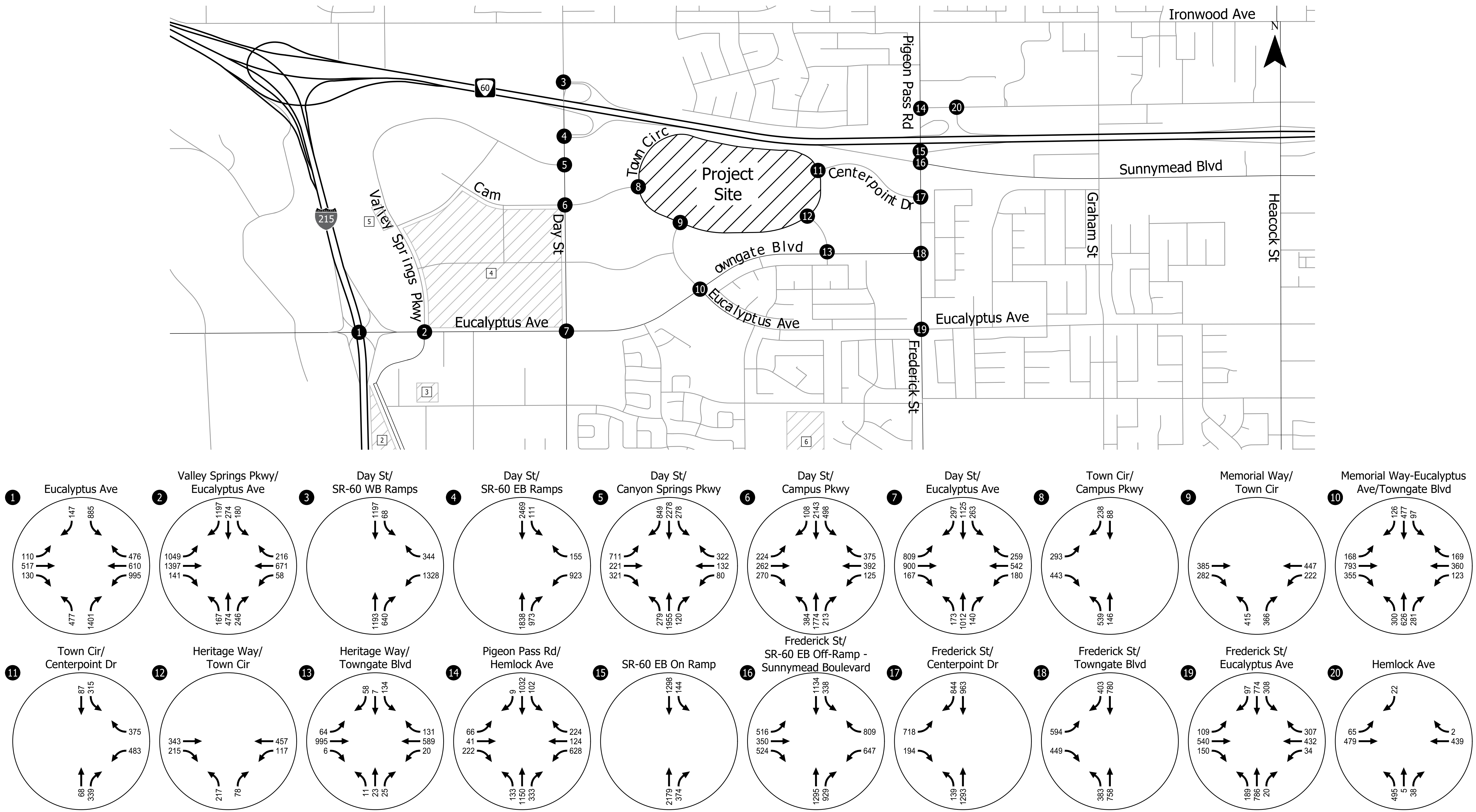

- CUMULATIVE PROJECT

Year 2040 Background Traffic Volumes (without Project)
Saturday Midday Peak Hour
Moreno Valley, CA

28

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and commercial and industrial projects in Centerpoint Industrial Area outside map extents

Table 25 summarizes the operations at the study intersections.

Table 25. Year 2040 Background Conditions (without project) Intersection Operations

Study Intersection	Jurisdiction	Traffic Control	LOS Std	Weekday AM		Weekday PM		Saturday Mid	
				Delay	LOS	Delay	LOS	Delay	LOS
1. I-215 Ramps/ Eucalyptus Ave	Caltrans	Signal	E	42.4	D	69.7	E	69.7	E
2. Valley Springs Pkwy/ Eucalyptus Ave	Riverside	Signal	D	**59.1**	**E**	**110.6**	**F**	**115.1**	**F**
3. Day St/ SR-60 WB Ramps	Caltrans	Signal	E	24.9	C	25.3	C	30.5	C
4. Day St/ SR-60 EB Ramps	Caltrans	Signal	E	17.4	B	28.2	C	33.2	C
5. Day St/ Canyon Springs Pkwy	Riverside	Signal	D	24.0	C	**79.2**	**E**	**142.1**	**F**
6. Day St/ Campus Pkwy	Riverside	Signal	D	16.4	B	**62.8**	**E**	**134.9**	**F**
7. Day St/ Eucalyptus Ave	Riverside	Signal	D	**114.2**	**F**	**109.1**	**F**	**147.3**	**F**
8. Town Cir/ Campus Pkwy	MV	AWSC	D	7.9	A	12.6	B	22.2	C
9. Memorial Way/Town Cir	MV	AWSC	D	7.8	A	14.6	B	**35.6**	**E**
10. Memorial Way-Eucalyptus Ave/ Towngate Blvd	MV	Signal	D	20.1	C	46.0	D	39.4	D
11. Town Cir/ Centerpoint Drive	MV	Signal	D	9.0	A	10.4	B	11.7	B
12. Heritage Way/Town Circ	MV	AWSC	D	7.3	A	10.5	B	14.9	B
13. Heritage Way/Towngate Blvd	MV	Signal	D	12.5	B	16.1	B	15.1	B
14. Pigeon Pass Rd/ Hemlock Rd	MV	Signal	D	40.1	D	29.8	C	42.5	D
15. Frederick St/ SR-60 EB Ramps	Caltrans	Signal	E	4.3	A	2.6	A	2.7	A
16. Frederick St/ SR-60 EB Off-Ramp – Sunnymead Blvd	Caltrans	Signal	E	25.4	C	69.9	E	**91.1**	**F**
17. Frederick St/ Centerpoint Dr	MV	Signal	D	8.5	A	13.9	B	17.1	B
18. Frederick St/ Towngate Blvd	MV	Signal	D	15.2	B	29.4	C	34.0	C
19. Frederick St/ Eucalyptus Ave	MV	Signal	D	33.9	C	51.2	D	43.8	D
20. SR-60 WB Off Ramp/ Hemlock Ave	Caltrans	Signal	E	12.2	B	14.5	B	16.6	B

LOS = Level of Service, s = seconds MV = Moreno Valley, AWSC = All-way stop-control
Bold text indicates operations do not meet LOS Standard

As shown in the table, there are six intersections that do not meet standards under year 2040 background conditions. In addition to the three intersections that do not meet standards under year 2026 background conditions (Valley Springs Parkway/Eucalyptus Avenue, Day Street/Canyon Springs Parkway, and Day

Street/Campus Parkway), the following intersections do not meet standards under 2040 background conditions:

- 7. Day Street/Eucalyptus Avenue: this signalized intersection is under Riverside's jurisdiction; the applicable standard is LOS D. The intersection is projected to operate at a LOS F during the weekday AM, weekday PM, and Saturday midday peak hours.
- 9. Memorial Way/Town Circle: this all-way stop-control intersection is under Moreno Valley's jurisdiction; the applicable standard is LOS D. The average delay during the Saturday midday peak hour is 35.6 seconds, resulting in a LOS E.
- 16. Frederick Street/SR-60 EB Off-Ramp – Sunnymead Boulevard: this signalized intersection is under Moreno Valley's jurisdiction; the applicable standard is LOS D. The average delay during the Saturday midday peak hour is 91.1 seconds, resulting in a LOS F.

Appendix N includes the year 2040 background conditions intersection operations worksheets.

Intersection Turn Lane Queues

The 95th percentile queue lengths, available storage at turn lanes, and distance to adjacent side streets and signalized intersections for each study intersection under year 2040 background conditions are shown in Table 26.

Table 26. Year 2040 Background Conditions (without project) 95th Percentile Queue Lengths at Study Intersections

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet)		
					Weekday AM	Weekday PM	Saturday Mid
1. I-215 Ramps/ Eucalyptus Ave	EBL	250	780	780	#221	**#347**	132
	EBR	50	650	650	8	152	41
	WBL	275	770	770	**#280**	**#444**	**#546**
	NBL[1]	1,200	N/A	N/A	#364	127	212
	NBR[1]	1,200	N/A	N/A	84	236	#695
	SBL[1]	1,400	N/A	N/A	212	#492	#512
	SBR[1]	1,400	N/A	N/A	0	70	33
2. Valley Springs Pkwy/Eucalyptus Ave	EBL	300	530	830	**#396**	**#468**	**#815**
	EBR	360	530	830	49	67	41
	WBL	100	200	950	**142**	**#140**	**102**
	WBR	30	200	950	**38**	**74**	**142**
	NBL	150	1,600	>2,000	**#532**	**#436**	**#307**
	SBL	160	390	960	77	**#249**	**#369**
3. Day St/SR-60 WB Ramps	WBL[1]	1,580	N/A	N/A	342	#423	#604
	WBR[1]	1,580	N/A	N/A	293	199	206
	NBR	180	820	820	0	m5	m0
	SBL[2]	200	380	950	103	#121	#122
4. Day St/SR-60 EB Ramps	WBL[1]	1,280	N/A	N/A	216	#423	#464
	WBR[1]	1,280	N/A	N/A	46	352	117
	SBL	500	840	840	m86	m#155	m#111

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet)		
					Weekday AM	Weekday PM	Saturday Mid
5. Day St/Canyon Springs Pkwy	EBL3	170	240	490	**#209**	**#570**	**#663**
	WBL	140	140	300	75	78	137
	NBL	180	580	580	#178	**#412**	**#593**
	SBL	145	370	370	**#302**	**#453**	**#591**
6. Day St/Campus Pkwy	EBL2,3	190	300	790	47	**#192**	**#212**
	WBL	190	440	440	62	#163	**#276**
	NBL	140	360	880	#108	**#229**	**#347**
	SBL	180	170	580	75	**#273**	**#435**
7. Day St/Eucalyptus Ave	EBL	100	340	2,000	**#666**	**#988**	**#1,441**
	WBL	170	100	1,000	**#206**	**#290**	**246**
	WBR	200	100	1,000	89	64	**211**
	NBL	150	510	1,210	**#829**	**#262**	**#390**
	SBL	180	300	1,100	**#377**	**#589**	**#546**
8. Town Cir/Campus Pkwy	EBL3	200	460	460	3	20	58
	EBR	450	460	460	3	20	38
	NBL	125	150	>2,000	10	45	115
9. Memorial Way/Town Cir	WBL2	100	310	>2,000	5	33	85
	NBL3	100	200	450	8	33	75
	NBR	450	200	450	5	28	105
10. Memorial Way-Eucalyptus Ave/ Towngate Blvd	EBL	160	450	930	69	**180**	**261**
	EBR	70	450	930	**77**	**480**	**365**
	WBL	150	970	1,950	72	**#245**	**206**
	WBR	70	970	1,950	0	52	**118**
	NBL	200	430	920	**487**	**#385**	**422**
	SBL	190	640	640	66	158	170
11. Town Cir/ Centerpoint Drive	NBR	65	110	>2,000	6	25	43
	SBL3	50	80	>2,000	13	**102**	**81**
12. Heritage Way/ Town Circ	WBL	100	250	740	5	13	38
	NBL	100	130	630	3	15	35
	NBR	650	130	630	0	8	15
13. Heritage Way/ Towngate Blvd	EBL	325	900	1,930	53	#110	118
	EBR	100	900	1,930	0	0	0
	WBL	150	460	1,260	43	46	51
	WBR	85	460	1,260	0	23	66
	SBL2	200	120	N/A	52	129	193
	SBR	650	120	N/A	0	0	0
14. Pigeon Pass Rd/ Hemlock Rd	WBL3	260	160	400	**282**	**#333**	**376**
	NBL	240	700	700	114	145	192
	NBR	90	700	700	**106**	**295**	**246**
	SBL	200	200	1,340	154	#177	#169

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet)		
					Weekday AM	Weekday PM	Saturday Mid
15. Frederick St/SR-60 EB On-Ramp	SBL	340	700	700	276	193	208
16. Frederick St/SR-60 EB Off-Ramp – Sunnymead Boulevard	EBL[1]	1,700	N/A	N/A	156	274	257
	EBR[1]	1,700	N/A	N/A	235	401	#658
	WBL[3]	140	150	>2,000	**291**	**259**	**#447**
	NBR	75	210	460	**157**	**#814**	**#914**
	SBL	60	120	120	**#320**	**#503**	**#691**
17. Frederick St/ Centerpoint Dr	NBL	130	320	320	53	80	92
18. Frederick St/ Towngate Blvd	EBR	100	340	1,260	39	**220**	**260**
	NBL	330	660	1,200	311	316	**#412**
	SBR	100	220	420	50	50	**142**
19. Frederick St/ Eucalyptus Ave	EBL[2]	200	560	>2,000	**257**	#189	#197
	WBL	150	360	>2,000	**160**	#95	75
	NBL[2]	190	1,200	1,200	**196**	**#208**	**275**
	NBR	190	1,200	1,200	60	0	0
	SBL	130	260	1,200	**192**	**#437**	**#446**
	SBR	190	260	1,200	70	37	41
20. SR-60 WB Off Ramp/Hemlock Ave	NBL[1]	1,600	N/A	N/A	109	122	138
	NBR[1]	1,600	N/A	N/A	0	0	3

[1] Ramp storage measured to gore point
[2] Left turn storage lane transitions to two-way left turn lane
[3] Second turn-lane that extends to adjacent intersection
Bold text indicates 95th percentile queue exceeds striped storage
#: 95th percentile volume exceeds capacity, queue may be longer.
m: Volume for 95th percentile queue is metered by upstream signal.
EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right

As shown in the table, eleven of the intersections have at least one movement where the 95th percentile queue length is expected to exceed the striped storage length under year 2040 background conditions. These are the same intersections as identified under year 2026 background conditions. None of the highway off-ramps have 95th percentile queue lengths that exceed the ramp storage under year 2040 background conditions. Intersections where the 95th percentile queue is longer than the distance to the adjacent signalized intersection for one or more movement include:

- 5. Day St/Canyon Springs Pkwy: As under existing conditions, 95th percentile queues for the eastbound and southbound left turns exceed the distance to the nearest signalized intersections (Shopping Access/Canyon Springs Pkwy and Day St/SR-60 EB Ramps) during the weekday PM peak hour and Saturday midday peak hour. In addition, 95th percentile queues for the northbound left turn exceed the distance to the nearest signalized intersection (Day St/Campus Pkwy) during the Saturday midday peak hour.
- 16. Frederick St/SR-60 EB Off-Ramp – Sunnymead Boulevard: the 95th percentile queue for the southbound left turn exceeds the distance to the nearest signalized intersection (Frederick St/SR-60 EB On-Ramp) during all three time periods. In addition, 95th percentile queues for the northbound right

turn exceed the distance to the nearest signalized intersection (Frederick St/ Centerpoint Dr) during the weekday PM peak hour and Saturday midday peak hour.

It should be noted that the 95th percentile queue is defined as the queue length that has only a five percent probability of being exceeded during the peak period, and is therefore not typical of the average drive experience.

Appendix O includes the year 2040 background conditions intersection queueing worksheets.

ROADWAY SEGMENT OPERATIONS

Segment volumes on the study roadways for the year 2040 background conditions analysis were developed by extrapolating the segment volumes from the intersection counts and applying a factor to convert from peak hour to daily volumes, based on the relationship between peak hour and daily volumes in the existing segment counts. The 2040 background conditions segment volumes include trips associated with the cumulative projects. The segment volumes and operations are reported in Table 27.

Table 27. Year 2040 Background Conditions (without project) Roadway Segment Operations

Roadway	Segment	Juris-diction	Classification	LOS Std.	LOS E Capacity	Weekday ADT	Weekday LOS	Weekday v/c	Saturday ADT	Saturday LOS	Saturday v/c
A. Day St	SR 60 WB Ramp to SR 60 EB Ramp	Riverside	Arterial 120'	D	49,500	51,841	**E**	1.05	55,531	**E**	1.12
	SR 60 EB Ramp to Canyon Springs Pkwy	Riverside	Arterial 120'	D	49,500	67,549	**E**	1.36	77,890	**E**	1.57
	Canyon Springs Pkwy to Campus Pkwy	Riverside	Arterial 120'	D	49,500	54,363	**E**	1.10	64,480	**E**	1.30
	Campus Pkwy to Gateway Dr	Riverside	Arterial 120'	D	49,500	54,368	**E**	1.10	62,924	**E**	1.27
	Gateway Dr to Eucalyptus Ave	Riverside	Arterial 120'	D	49,500	49,856	**E**	1.01	48,495	D	0.98
B. Eucalyptus Ave	I-215 Ramps to Day St	Riverside	Arterial 120'	D	49,500	31,805	C	0.64	35,264	C	0.71
	Day St to Towngate Blvd	MV	Major Arterial (6D)[1]	D	56,300	26,758	A	0.48	26,714	A	0.47
C. Town Cir	Campus Pkwy to Centerpoint Dr	MV	N/A[2]	D	25,000	7,193	A	0.29	11,050	A	0.44
D. Centerpoint Dr	Town Cir and Frederick St	MV	N/A[2]	D	56,300	18,048	A	0.32	24,895	A	0.44
E. Towngate Blvd	Eucalyptus Ave and Frederick St	MV	Major Arterial (4D)	D	37,500	17,522	A	0.47	20,927	A	0.56
F. Pigeon Pass Rd	Hemlock Ave to Sunnymead Blvd	MV	Arterial (6D)[3]	D	56,300	47,093	D	0.84	48,068	D	0.85
G. Frederick St	Sunnymeade Blvd to Centerrpoint Dr	MV	Major Arterial (6D)[3]	D	56,300	45,000	C	0.80	48,960	D	0.87
	Centerpoint Dr to Towngate Blvd	MV	Major Arterial (4D)	D	37,500	35,962	**E**	0.96	34,178	**E**	0.91
	Towngate Blvd to Eucalyptus Ave	MV	Major Arterial (4D)	D	37,500	33,871	**E**	0.90	32,094	D	0.86

ADT = Average Daily Traffic, MV = Moreno Valley, 4D = 4 Lane Divided, 4U = 4 Lane Undivided, 6D = 6 Lane Divided
Bold text indicates not meeting standards
[1] Eucalyptus Avenue is planned to be widened to 6 lanes before 2040, as reflected in the classification.
[2] These roadways are not classified on the City of Moreno Valley's Circulation Diagram. The segment LOS was determined using the classification that most closely matches the cross-section.
[3] Given the long turn lanes and auxiliary lanes through these sections, the segment LOS was determined using the 6 Lane Arterial classification.

As shown in the table, the following roadway segments do not operate within the target LOS:

- All segments on Day Street operate at a LOS E on a weekday. On a Saturday, all segments on Day Street operate at a LOS E except for the segment between Gateway Drive and Eucalyptus Avenue.
- The segments on Frederick Street between Centerpoint Drive and Eucalyptus Avenue operate at a LOS E on a weekday. On a Saturday, the segment on Frederick Street between Centerpoint Drive and Towngate Boulevard operates at a LOS E.

FREEWAY OPERATIONS

The freeway mainline volumes and LOS for year 2040 background conditions, based on the HCS analysis, are shown in Table 28

Table 28. Year 2040 Background Traffic Conditions (without project) Freeway Mainline Segment Operations

Roadway	Segment	Direction	Weekday AM		Weekday PM		Saturday Mid	
			Volume	LOS	Volume	LOS	Volume	LOS
SR-60	Between the Day Street Ramps	EB	5,247	C	6,945	D	6,584	D
		WB	4,042	C	4,541	C	4,818	D
	East of the Frederick Street Ramps	EB	4,697	D	4,791	D	4,860	D
		WB	3,485	C	4,462	C	4,759	C
I-215	SR-60 to Eucalyptus Avenue Ramps	NB	2,687	B	3,496	C	3,853	C
		SB	5,639	C	4,095	B	4,674	B
	South of the Eucalyptus Avenue Ramps	NB	3,226	B	3,812	C	4,217	C
		SB	4,952	D	3,989	C	4,512	D

EB = Eastbound, WB = Wesbound, NB = Northbound, SB = Southbound

As shown in the table, all segments of SR-60 and I-215 are forecasted to operate at a LOS D or better during all peak periods under year 2040 background conditions.

Appendix P includes the HCS output sheets for the year 2040 background conditions freeway mainline analysis.

YEAR 2040 TOTAL TRAFFIC CONDITIONS (WITH PROJECT)

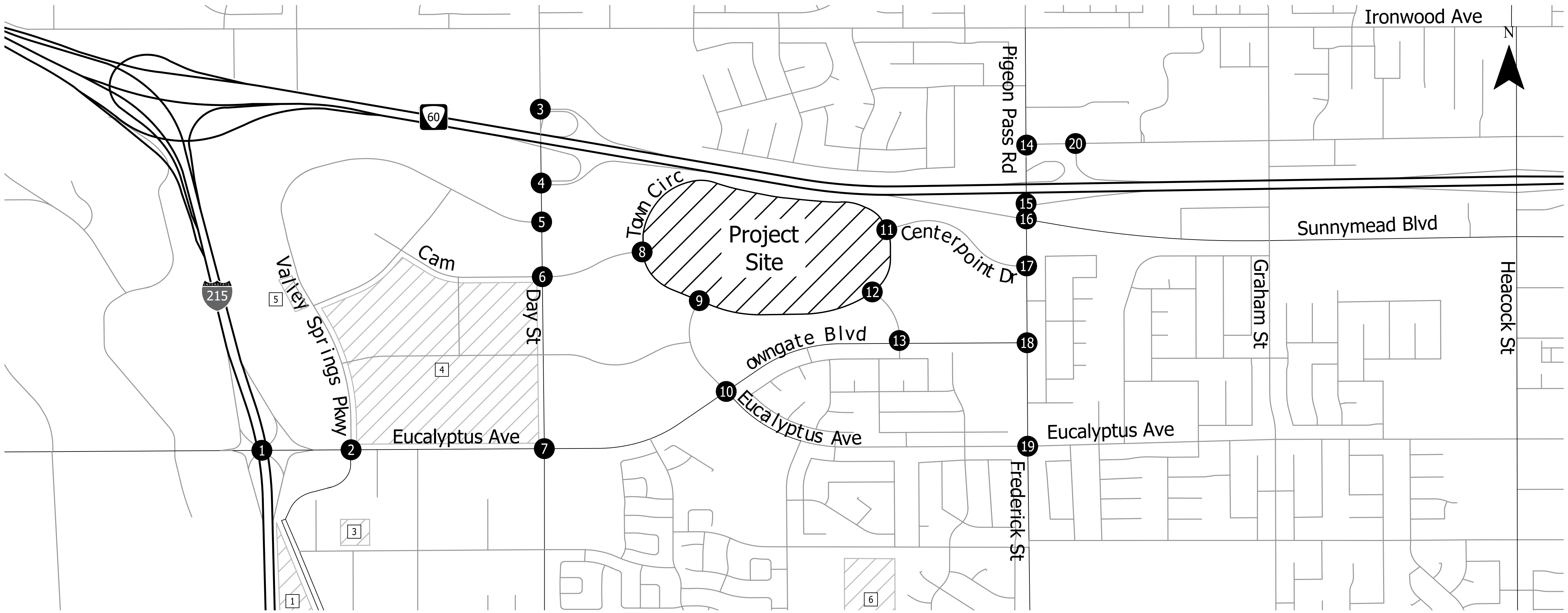
The year 2040 total traffic conditions analyzes operations in 2040 with the proposed project in place.

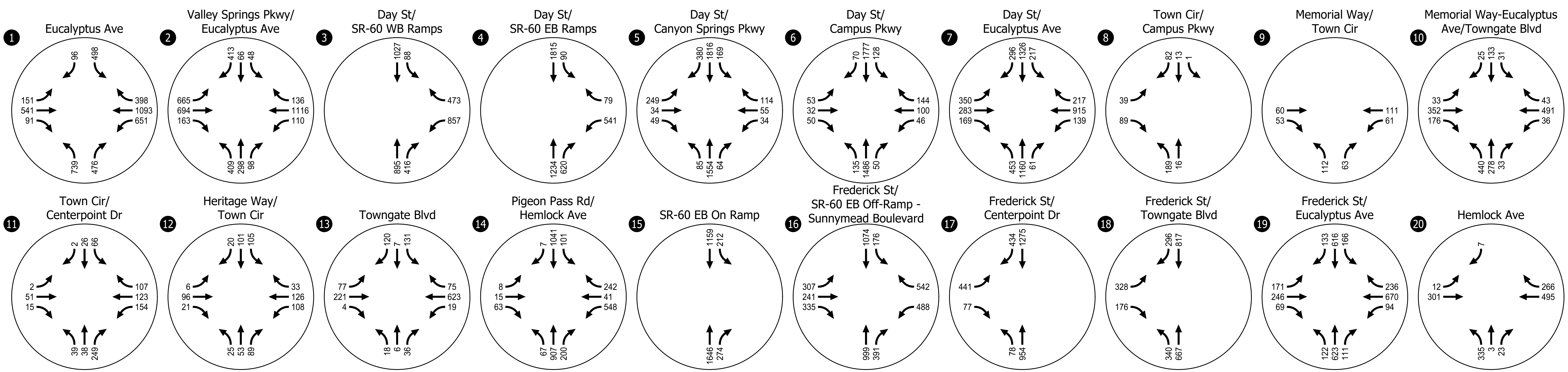
INTERSECTION OPERATIONS

Traffic Volumes and Intersection Levels of Service

Traffic volumes for the year 2040 total traffic conditions analysis were developed by adding the site generated trips to the year 2040 background volumes. Figure 29a, Figure 30a, and Figure 31a summarize the traffic volumes for the study intersections under year 2040 total traffic conditions for the weekday AM, weekday PM, and Saturday midday peak hour traffic conditions, respectively. Figure 29b, Figure 30b, and Figure 31b summarize the traffic volumes at the site accesses.

Figure 29a. Year 2040 Total Traffic Intersection Volumes – Weekday AM Peak Hour





- CUMULATIVE PROJECT

Note: Alessandro Corporate Center and commercial and industrial projects in Centerpoint Industrial Area outside map extents

Year 2040 Total Traffic Volumes (with Project)
Weekday AM Peak Hour
Moreno Valley, CA

29a

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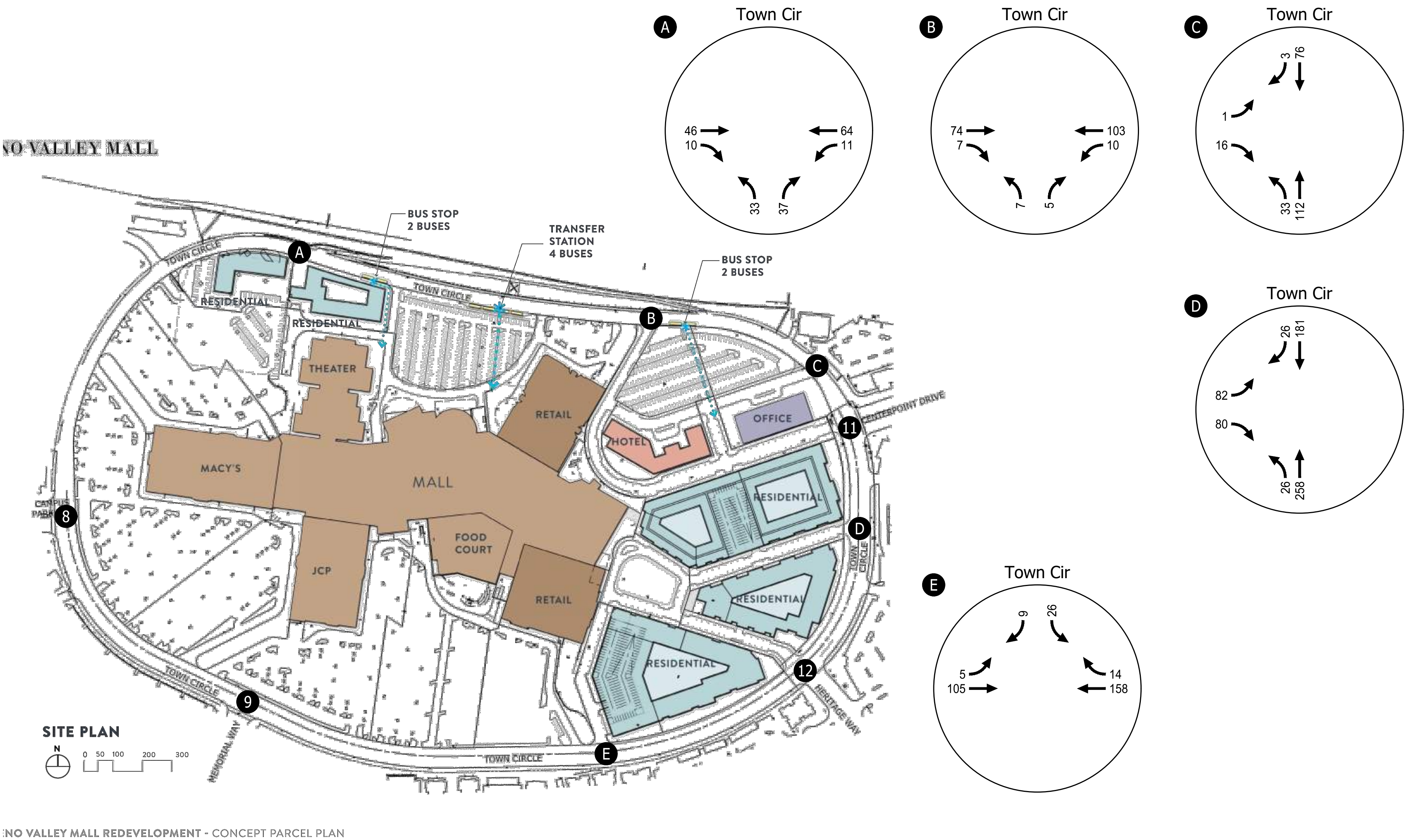
KITTELSON & ASSOCIATES



Year 2040 Total Traffic Volumes at Site Accesses (with Project)
Weekday AM Peak Hour
Moreno Valley, CA

29b

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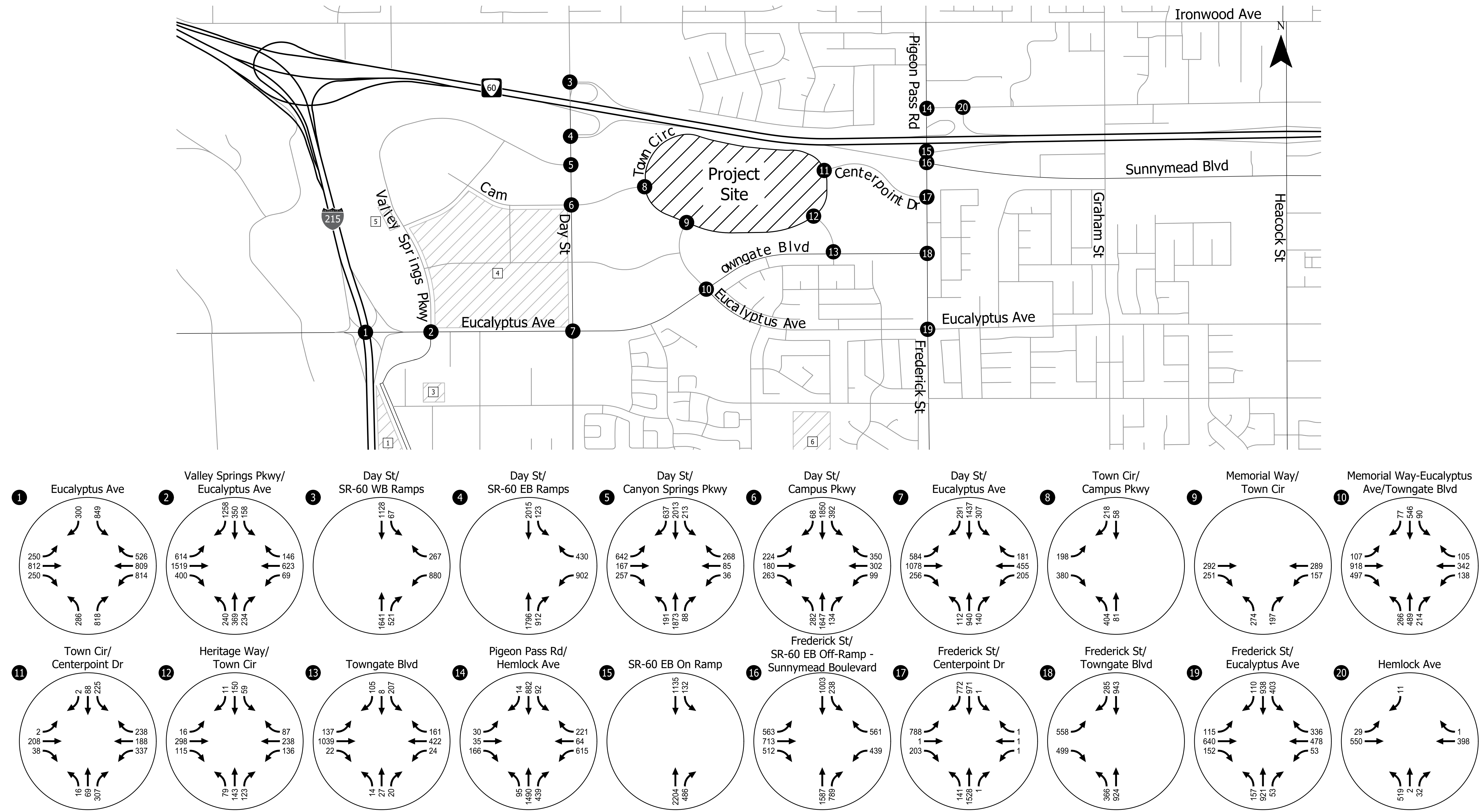
KITTELSON & ASSOCIATES



- CUMULATIVE PROJECT

Note: Alessandro Corporate Center and commercial and industrial projects in Centerpoint Industrial Area outside map extents

Year 2040 Total Traffic Volumes (with Project)
Weekday PM Peak Hour
Moreno Valley, CA

30a

KITTELSON & ASSOCIATES

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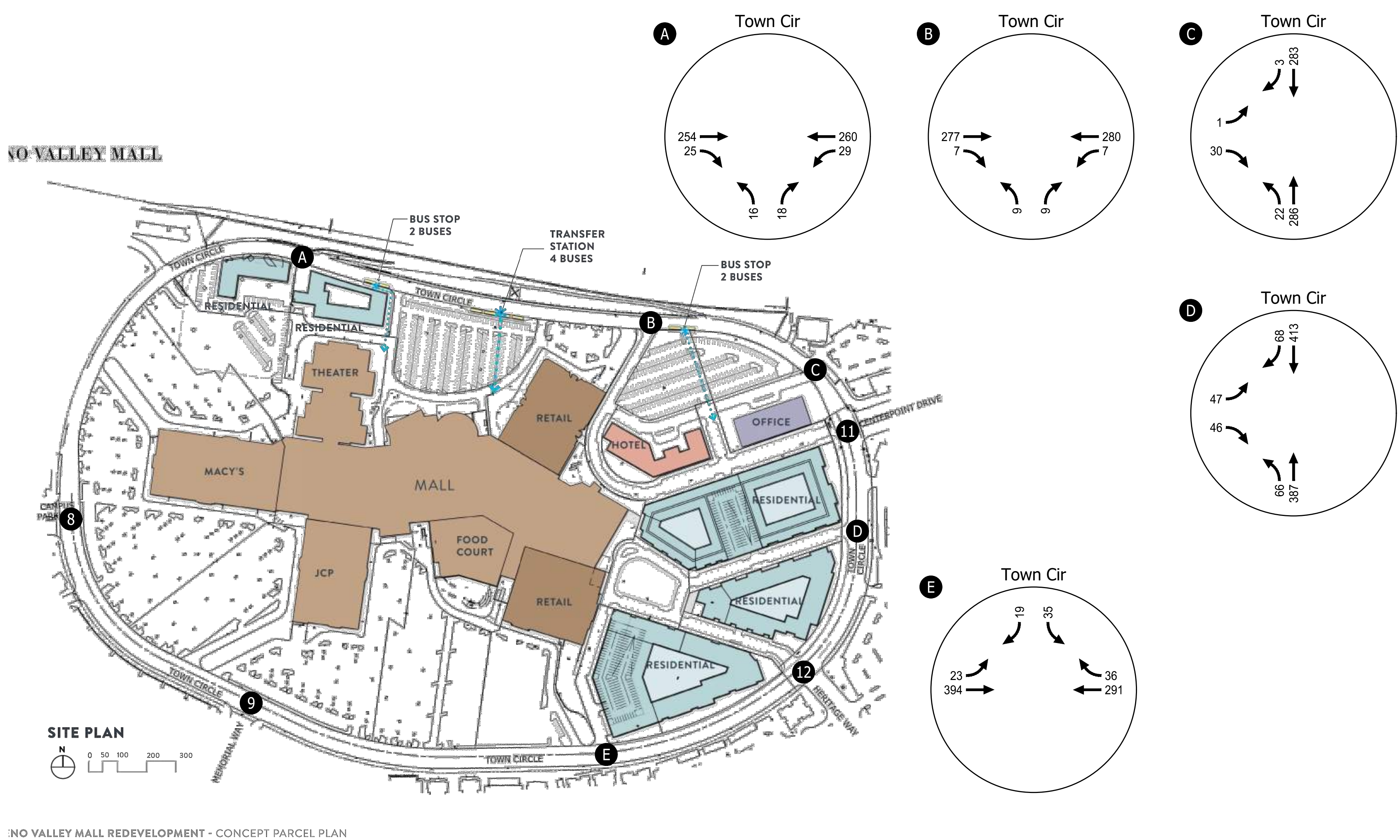

Year 2040 Total Traffic Volumes at Site Accesses (with Project)
Weekday PM Peak Hour
Moreno Valley, CA

30b

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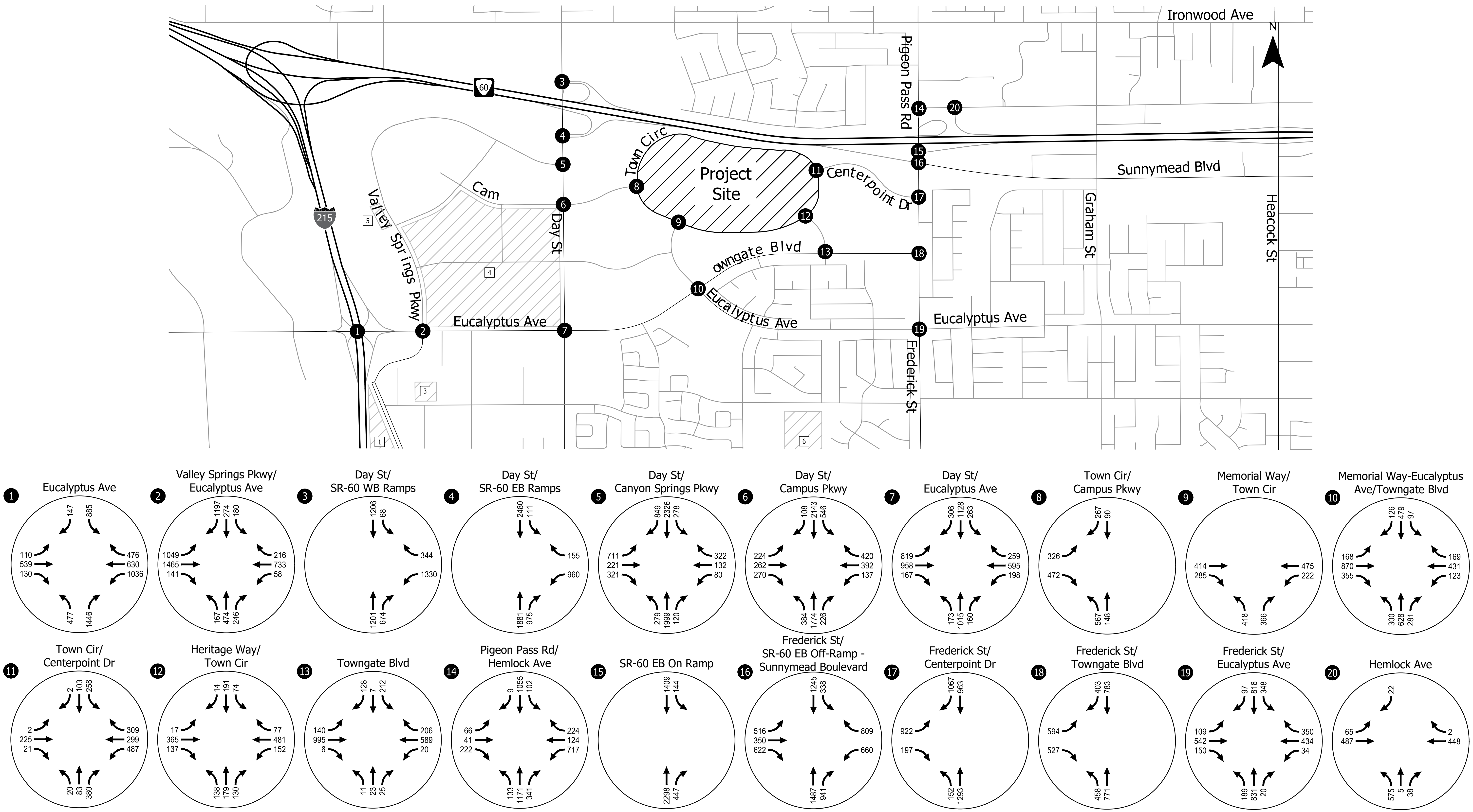

- CUMULATIVE PROJECT

Note: Alessandro Corporate Center and commercial and industrial projects in Centerpoint Industrial Area outside map extents

Year 2040 Total Traffic Volumes (with Project)
Saturday Midday Peak Hour
Moreno Valley, CA

31a

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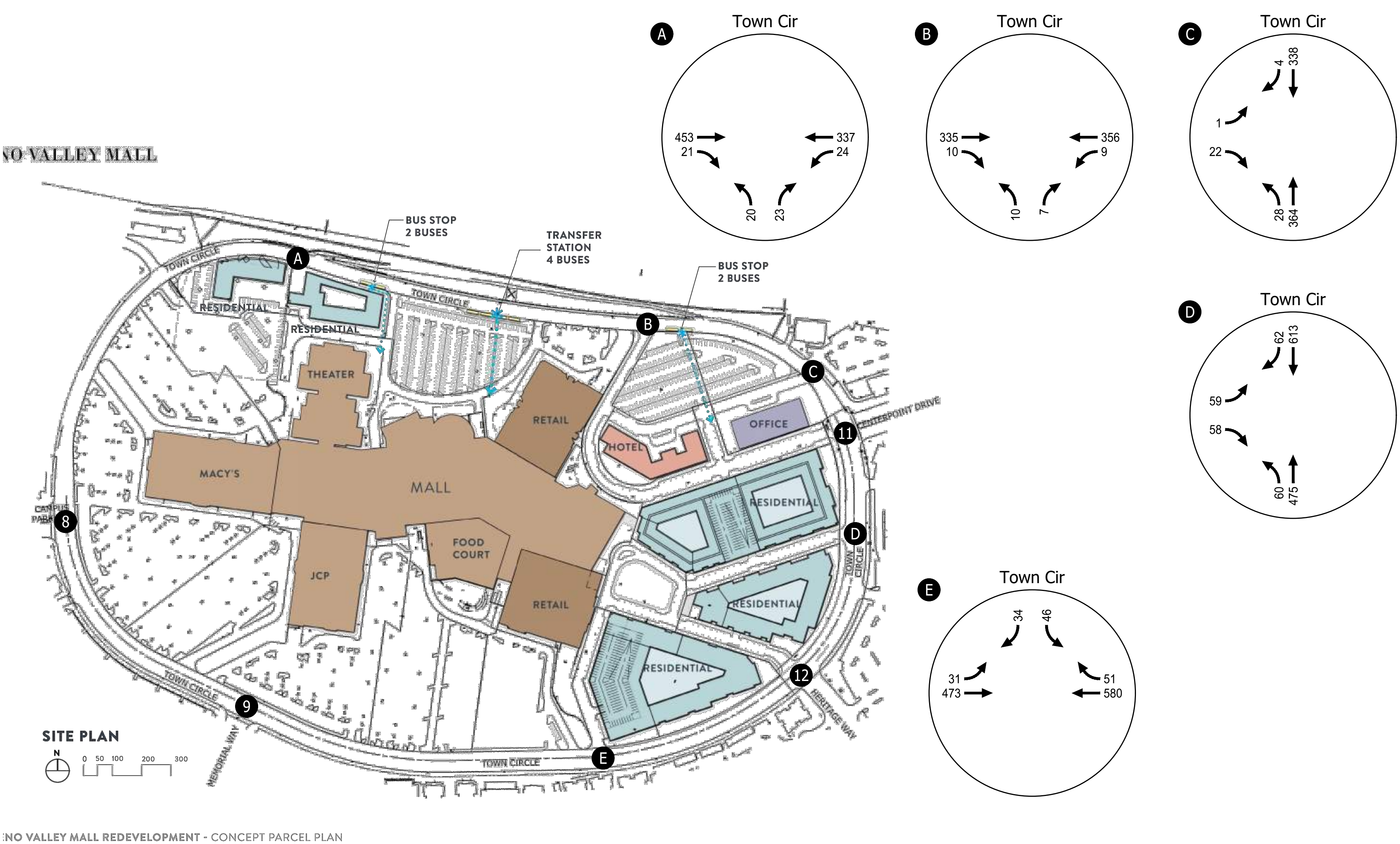
KITTELSON & ASSOCIATES



Year 2040 Total Traffic Volumes at Site Accesses (with Project)
Saturday Midday Peak Hour
Moreno Valley, CA

31b

K:\H_Projects\26\26887 - Moreno Valley Redevelopment TIA\figures\26887_Moreno Valley TIA Figures_up.dwg Jul 29, 2022 - 1:32pm - klaustsen Layout Tab: 2040TT_Sat accesses

Table 29 summarizes the operations at the study intersections.

Table 29. Year 2040 Total Traffic Conditions (with project) Intersection Operations

Study Intersection	Jurisdiction	Traffic Control	LOS Std	Weekday AM		Weekday PM		Saturday Mid	
				Delay	LOS	Delay	LOS	Delay	LOS
1. I-215 Ramps/ Eucalyptus Ave	Caltrans	Signal	E	43.2	D	75.6	E	76.2	E
2. Valley Springs Pkwy/ Eucalyptus Ave	Riverside	Signal	D	***63.1***	***E***	***113.8***	***F***	***117.0***	***F***
3. Day St/ SR-60 WB Ramps	Caltrans	Signal	E	24.8	C	25.4	C	30.6	C
4. Day St/ SR-60 EB Ramps	Caltrans	Signal	E	17.9	B	30.3	C	38.4	D
5. Day St/ Canyon Springs Pkwy	Riverside	Signal	D	24.5	C	***82.2***	***F***	***160.5***	***F***
6. Day St/ Campus Pkwy	Riverside	Signal	D	18.9	B	***69.5***	***E***	***139.9***	***F***
7. Day St/ Eucalyptus Ave	Riverside	Signal	D	***119.0***	***F***	***121.6***	***F***	***150.4***	***F***
8. Town Cir/ Campus Pkwy	MV	AWSC	D	8.3	A	14.0	B	26.9	D
9. Memorial Way/Town Cir	MV	AWSC	D	7.9	A	15.4	C	***39.1***	***E***
10. Memorial Way-Eucalyptus Ave/ Towngate Blvd	MV	Signal	D	20.9	C	45.8	D	40.0	D
11. Town Cir/ Centerpoint Drive	MV	Signal	D	14.6	B	21.9	C	46.4	D
12. Heritage Way/Town Circ	MV	AWSC	D	11.1	B	18.2	C	***43.2***	***E***
13. Heritage Way/Towngate Blvd	MV	Signal	D	16.4	B	19.1	B	19.1	B
14. Pigeon Pass Rd/ Hemlock Rd	MV	Signal	D	41.1	D	33.3	C	44.0	D
15. Frederick St/ SR-60 EB Ramps	Caltrans	Signal	E	4.3	A	2.5	A	2.7	A
16. Frederick St/ SR-60 EB Off-Ramp – Sunnymead Blvd	Caltrans	Signal	E	26.6	C	74.0	E	***100.9***	***F***
17. Frederick St/ Centerpoint Dr	MV	Signal	D	12.7	B	17.2	B	22.2	C
18. Frederick St/ Towngate Blvd	MV	Signal	D	17.7	B	42.9	D	50.6	D
19. Frederick St/ Eucalyptus Ave	MV	Signal	D	38.5	D	***59.8***	***E***	52.3	D
20. SR-60 WB Off Ramp/ Hemlock Ave	Caltrans	Signal	E	13.2	B	15.7	B	17.7	B
A. Access A/Town Circ	MV	TWSC	D	38.5	D	10.8	B	13.0	B
B. Access B/Town Circ	MV	TWSC	D	13.2	B	10.6	B	11.6	B
C. Access C/Town Circ	MV	TWSC	D	16.4	B	9.4	A	9.7	A
D. Access D/Town Circ	MV	TWSC	D	9.1	A	16.2	C	24.3	C
E. Access E/Town Circ	MV	TWSC	D	10.2	B	12.4	B	16.2	C

LOS = Level of Service, s = seconds MV = Moreno Valley, AWSC = All-way stop-control, TWSC = Two-way stop-control
Bold text indicates operations do not meet LOS Standard
Bold italic text indicates operations meet the City's threshold for identifying improvements

As shown in the table, there are eight intersections that do not meet standards under year 2040 total traffic conditions, five of which also do not meet standards under year 2026 total traffic conditions. In addition to the six intersections which do not meet standards under year 2026 total traffic conditions, the following do not meet standards under year 2040 total traffic conditions:

- 7. Day Street/ Eucalyptus Avenue: this signalized intersection is under Riverside's jurisdiction; the applicable standard is LOS D. As in year 2040 background conditions, the intersection is projected to operate at a LOS F during the weekday AM, weekday PM, and Saturday midday peak hours.
- 16. Frederick Street/SR-60 EB Off-Ramp – Sunnymead Boulevard: this signalized intersection is under Moreno Valley's jurisdiction; the applicable standard is LOS D. As in year 2040 background conditions, the intersection operates at a LOS F during the Saturday midday peak hour.
- 19. Frederick Street/Eucalyptus Avenue: this signalized intersection is under Moreno Valley's jurisdiction; the applicable standard is LOS D. The average delay during the weekday PM peak hour is 59.8 seconds, resulting in a LOS E.

The following five intersections do not meet standards under either year 2026 total traffic conditions or year 2040 total traffic conditions:

- 2. Valley Springs Pkwy/ Eucalyptus Ave: this signalized intersection is under Riverside's jurisdiction; the applicable standard is LOS D. The average delay during the weekday AM peak hour is 63.1 seconds (LOS E), during the weekday PM peak hour 113.8 seconds (LOS F), and during the Saturday midday peak hour 117.0 seconds (F). The intersection does not meet standards under year 2040 background conditions.
- 5. Day Street/Canyon Springs Parkway: this signalized intersection is under Riverside's jurisdiction; the applicable standard is LOS D. The average delay during the weekday PM peak hour is 82.2 seconds, resulting in a LOS F, and the average delay during the Saturday midday peak hour is 160.5 seconds, resulting in a LOS F. The intersection does not meet standards under year 2040 background conditions.
- 6. Day Street/ Campus Parkway: this signalized intersection is under Riverside's jurisdiction; the applicable standard is LOS D. The average delay during the weekday PM peak hour is 69.5 seconds, resulting in a LOS E, and the average delay during the Saturday midday peak hour is 139.9 seconds, resulting in a LOS F. The intersection does not meet standards under year 2040 background conditions.
- 9. Memorial Way/Town Circle: this all-way stop-control intersection is under Moreno Valley's jurisdiction; the applicable standard is LOS D. The average delay during the Saturday midday peak hour is 39.1 seconds, resulting in a LOS E. The intersection does not meet standards under year 2040 background conditions.
- 12. Heritage Way/Town Circle: this all-way stop-control intersection is under Moreno Valley's jurisdiction; the applicable standard is LOS D. The average delay during the Saturday midday peak hour is 43.2 seconds, resulting in a LOS E. The intersection meets standards under existing and background conditions.

Section 12 summarizes the applicable criteria and improvements needed due to added project traffic to the study area. Potential improvements at these intersections are discussed in *Section 12: Findings and Recommendations*. In addition, the section includes Table 36, which lists intersection operations under all scenarios.

Appendix Q includes the year 2040 total traffic conditions intersection operations worksheets.

Intersection Turn Lane Queues

The 95th percentile queue lengths, available storage at turn lanes, and distance to adjacent side streets and signalized intersections for each study intersection under year 2040 total traffic conditions are shown in Table 30.

Table 30. Year 2040 Total Traffic Conditions (with project) 95th Percentile Queue Lengths at Study Intersections

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet)		
					Weekday AM	Weekday PM	Saturday Mid
1. I-215 Ramps/ Eucalyptus Ave	EBL	250	780	780	#221	**#347**	134
	EBR	50	650	650	8	153	41
	WBL	275	770	770	**#300**	**#470**	**#579**
	NBL[1]	1,200	N/A	N/A	#374	127	212
	NBR[1]	1,200	N/A	N/A	96	254	#739
	SBL[1]	1,400	N/A	N/A	215	#492	#512
	SBR[1]	1,400	N/A	N/A	0	70	33
2. Valley Springs Pkwy/Eucalyptus Ave	EBL	300	530	830	**#420**	**#468**	**#815**
	EBR	360	530	830	48	68	41
	WBL	100	200	950	**142**	**#140**	**102**
	WBR	30	200	950	**36**	**71**	**142**
	NBL	150	1,600	>2,000	**#544**	**#424**	**#307**
	SBL	160	390	960	77	**#249**	**#369**
3. Day St/SR-60 WB Ramps	WBL[1]	1,580	N/A	N/A	342	#423	#605
	WBR[1]	1,580	N/A	N/A	294	200	207
	NBR	180	820	820	0	m5	m0
	SBL[2]	200	380	950	103	#122	#122
4. Day St/SR-60 EB Ramps	WBL[1]	1,280	N/A	N/A	225	#445	#485
	WBR[1]	1,280	N/A	N/A	49	351	116
	SBL	500	840	840	m86	m#156	m#111
5. Day St/Canyon Springs Pkwy	EBL[3]	170	240	490	**#209**	**#570**	**#628**
	WBL	140	140	300	75	78	122
	NBL	180	580	580	***#190***	**#424**	**#565**
	SBL	145	370	370	**#314**	**#453**	**#562**
6. Day St/Campus Pkwy	EBL[2,3]	190	300	790	47	**#200**	**#224**
	WBL	190	440	440	#93	***#200***	**#302**
	NBL	140	360	880	#108	**#239**	**#347**
	SBL	180	170	580	#109	**#326**	**#484**
7. Day St/ Eucalyptus Ave	EBL	100	340	2,000	**#666**	**#1011**	**#1460**
	WBL	170	100	1,000	**#234**	**#349**	**#305**
	WBR	200	100	1,000	104	64	**212**
	NBL	150	510	1,210	#829	#262	#390
	SBL	180	300	1,100	#388	#589	#558
8. Town Cir/Campus Pkwy	EBL[3]	200	460	460	3	28	73
	EBR	450	460	460	3	23	45
	NBL	125	150	>2,000	13	53	***140***

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet)		
					Weekday AM	Weekday PM	Saturday Mid
9. Memorial Way/ Town Cir	WBL[2]	100	310	>2,000	8	35	83
	NBL[3]	100	200	450	8	33	75
	NBR	450	200	450	5	28	108
10. Memorial Way-Eucalyptus Ave/ Towngate Blvd	EBL	160	450	930	71	**180**	**261**
	EBR	70	450	930	**95**	**503**	**375**
	WBL	150	970	1,950	75	**#245**	**206**
	WBR	70	970	1,950	0	52	**117**
	NBL	200	430	920	**516**	**#385**	**422**
	SBL	190	640	640	69	158	170
11. Town Cir/ Centerpoint Drive	EBL	50	350	N/A	6	9	7
	NBL	75	110	>2,000	39	33	32
	NBR	65	110	>2,000	35	***79***	***107***
	SBL[3]	50	80	>2,000	38	**118**	**#150**
12. Heritage Way/ Town Circ	EBL	50	650	>2,000	0	3	5
	WBL	100	250	740	15	35	55
	NBL	100	130	630	5	20	50
	NBR	650	130	630	13	28	40
13. Heritage Way/ Towngate Blvd	EBL	325	900	1,930	121	212	215
	EBR	100	900	1,930	0	0	0
	WBL	150	460	1,260	46	59	52
	WBR	85	460	1,260	17	***95***	***162***
	SBL[2]	200	120	N/A	166	***290***	***295***
	SBR	650	120	N/A	121	53	58
14. Pigeon Pass Rd/ Hemlock Rd	WBL[3]	260	160	400	**313**	**#405**	**#439**
	NBL	240	700	700	114	145	192
	NBR	90	700	700	**119**	**309**	**260**
	SBL[2]	200	200	1,340	154	#188	#181
15. Frederick St/SR-60 EB On-Ramp	SBL	340	700	700	276	193	211
16. Frederick St/ SR-60 EB Off-Ramp – Sunnymead Boulevard	EBL[1]	1,700	N/A	N/A	156	277	255
	EBR[1]	1,700	N/A	N/A	320	#621	#857
	WBL[3]	140	150	>2,000	**#301**	**268**	**#471**
	NBR	75	210	460	**213**	**#819**	**#935**
	SBL	60	120	120	**#323**	**#515**	**#703**
17. Frederick St/ Centerpoint Dr	NBL	130	320	320	58	90	#109
18. Frederick St/ Towngate Blvd	EBR	100	340	1,260	55	**268**	**#355**
	NBL	330	660	1,200	***360***	***#434***	**#531**
	SBR	100	220	420	64	72	**171**

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet)		
					Weekday AM	Weekday PM	Saturday Mid
19. Frederick St/ Eucalyptus Ave	EBL[2]	200	560	>2,000	**262**	#193	***#209***
	WBL	150	360	>2,000	**160**	#98	75
	NBL[2]	190	1,200	1,200	**197**	**#208**	**277**
	NBR	190	1,200	1,200	37	0	0
	SBL	130	260	1,200	**253**	**#486**	**#515**
	SBR	190	260	1,200	75	37	40
20. SR-60 WB Off Ramp/Hemlock Ave	NBL[1]	1,600	N/A	N/A	125	146	163
	NBR[1]	1,600	N/A	N/A	0	0	3
A. Access A/Town Circ	NBL/R	N/A[4]	N/A	N/A	5	5	8
B. Access B/Town Circ	NBL/R	N/A[4]	N/A	N/A	0	3	3
C. Access C/Town Circ	EBL/R	N/A[4]	N/A	N/A	3	3	3
D. Access D/Town Circ	EBL/R	N/A[4]	N/A	N/A	23	23	48
	NBL	75	140	>2,000	3	5	5
E. Access E/Town Circ	EBL	75	25	>2,000	0	3	3
	SBL	N/A[4]	N/A	N/A	3	5	10
	SBR	N/A[4]	N/A	N/A	0	3	5

[1] Ramp storage measured to gore point
[2] Left turn storage lane transitions to two-way left turn lane
[3] Second turn-lane that extends to adjacent intersection
[4] Site access, storage length not defined
EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right, N/A = Not Applicable
Bold text indicates 95th percentile queue exceeds striped storage
Bold italics text indicates that 95th percentile queue length exceeds striped storage under total traffic conditions and not in background conditions.

As shown in the table, thiteen of the intersections have at least one movement where the 95th percentile queue length is expected to exceed the striped storage length under year 2040 total traffic conditions. All these intersections also have at least one movement where the 95th percentile queue length is expected to exceed the striped storage length under year 2040 background conditions, except for the following intersections:

- 8. Town Circle/Campus Parkway
- 13. Heritage Way/Towngate Boulevard

None of the highway off-ramps have 95th percentile queue lengths that exceed the ramp storage under year 2040 total traffic conditions. Intersections where the 95th percentile queue is longer than the distance to the adjacent signalized intersection for one or more movement include the three noted under background conditions, as well as:

- 14. Pigeon Pass Rd/ Hemlock Rd: 95th percentile queues for the westbound left turn exceeds the distance to the nearest signalized intersection (SR-60 WB Off Ramp/Hemlock Ave) during the weekday PM peak hour and Saturday midday peak hour.

It should be noted that the 95th percentile queue is defined as the queue length that has only a five percent probability of being exceeded during the peak period, and is therefore not typical of the average drive experience.

Appendix R includes the year 2040 total traffic conditions intersection queueing worksheets. Section 12: Findings and Recommendations summarizes the applicable criteria and improvements needed due to added project traffic to the study area.

ROADWAY SEGMENT OPERATIONS

Segment volumes on the study roadways for the year 2040 total traffic conditions analysis were developed by adding the site generated trips to the year 2026 background conditions volumes. The segment volumes and operations are reported in Table 31.

Table 31. Year 2040 Total Traffic Conditions (with project) Roadway Segment Operations

Roadway	Segment	Juris-diction	Classification	LOS Std.	LOS E Capacity	Weekday			Saturday		
						ADT	LOS	v/c	ADT	LOS	v/c
A. Day St	SR 60 WB Ramp to SR 60 EB Ramp	Riverside	Arterial 120'	D	49,500	52,453	**E**	1.06	56,167	**E**	1.13
	SR 60 EB Ramp to Canyon Springs Pkwy	Riverside	Arterial 120'	D	49,500	68,647	**E**	1.39	78,998	**E**	1.60
	Canyon Springs Pkwy to Campus Pkwy	Riverside	Arterial 120'	D	49,500	55,445	**E**	1.12	65,571	**E**	1.32
	Campus Pkwy to Gateway Dr	Riverside	Arterial 120'	D	49,500	54,498	**E**	1.10	63,078	**E**	1.27
	Gateway Dr to Eucalyptus Ave	Riverside	Arterial 120'	D	49,500	50,158	**E**	1.01	48,817	D	0.99
B. Eucalyptus Ave	I-215 Ramps to Day St	Riverside	Arterial 120'	D	49,500	33,345	C	0.67	36,819	C	0.74
	Day St to Towngate Blvd	MV	Major Arterial (6D)[1]	D	56,300	28,509	A	0.51	28,464	A	0.51
C. Town Cir	Campus Pkwy to Centerpoint Dr	MV	N/A[2]	D	25,000	11,528	A	0.46	15,342	B	0.61
D. Centerpoint Dr	Town Cir and Frederick St	MV	N/A[2]	D	56,300	23,284	A	0.41	30,216	A	0.54
E. Towngate Blvd	Eucalyptus Ave and Frederick St	MV	Major Arterial (4D)	D	37,500	19,348	A	0.52	22,739	B	0.61
F. Pigeon Pass Rd	Hemlock Ave to Sunnymead Blvd	MV	Arterial (6D)[3]	D	56,300	49,812	D	0.88	50,820	D	0.90
G. Frederick St	Sunnymeade Blvd to Centerrpoint Dr	MV	Major Arterial (6D)[3]	D	56,300	50,060	D	0.89	54,071	D	0.96
	Centerpoint Dr to Towngate Blvd	MV	Major Arterial (4D)	D	37,500	36,137	**E**	0.96	34,388	**E**	0.92
	Towngate Blvd to Eucalyptus Ave	MV	Major Arterial (4D)	D	37,500	35,872	***E***	0.96	34,115	***E***	0.91

ADT = Average Daily Traffic, MV = Moreno Valley, 4D = 4 Lane Divided, 4U = 4 Lane Undivided, 6D = 6 Lane Divided
Bold text indicates not meeting standards
Bold italic text indicates operations meet the City's threshold for identifying improvements
[1] Eucalyptus Avenue is planned to be widened to 6 lanes before 2040, as reflected in the classification.
[2] These roadways are not classified on the City of Moreno Valley's Circulation Diagram. The segment LOS was determined using the classification that most closely matches the cross-section.
[3] Given the long turn lanes and auxiliary lanes through these sections, the segment LOS was determined using the 6 Lane Arterial classification.

As shown in the table, the following roadway segments do not operate within the target LOS:

- Consistent with year 2040 background conditions, all segments on Day Street operate at a LOS E on a weekday. On a Saturday, all segments on Day Street operate at a LOS E except for the segment between Gateway Drive and Eucalyptus Avenue.
- Consistent with year 2040 background conditions, the segments on Frederick Street between Centerpoint Drive and Eucalyptus Avenue operate at a LOS E on a weekday. On a Saturday, both the segment on Frederick Street between Centerpoint Drive and Towngate Boulevard and the segment between Towngate Boulevard and Eucalyptus Avenue operate at a LOS E, while under year 2040 background conditions the segment between Towngate Boulevard and Eucalyptus Avenue operates at a LOS D.

Both the City of Riverside and Moreno Valley indicate that any roadway segment that operates unacceptably without the project where the project adds traffic in excess of 5% of the roadway capacity (e.g. a volume-to-capacity ratio increase of 0.05) should identify operation improvements. The project is expected to increase the volume-to-capacity ratio on the segment of Frederick Street between Towngate Boulevard and Eucalyptus Avenue by 0.06 on a weekday and 0.05 on a Saturday. Potential improvements on this segment are discussed in *Section 12: Findings and Recommendations*. In addition, the section includes Table 55, which lists roadway segment operations under all scenarios.

FREEWAY OPERATIONS

The freeway mainline volumes and LOS for year 2040 total traffic conditions, based on the HCS analysis, are shown in

Table 32. Year 2040 Total Traffic Conditions (with project) Freeway Mainline Segment Operations

Roadway	Segment	Direction	Weekday AM		Weekday PM		Saturday Mid	
			Volume	LOS	Volume	LOS	Volume	LOS
SR-60	Between the Day Street Ramps	EB	5,247	C	6,945	D	6,584	D
		WB	4,042	C	4,541	C	4,818	D
	East of the Frederick Street Ramps	EB	4,789	D	4,860	D	4,933	D
		WB	3,537	C	4,544	C	4,839	D
I-215	SR-60 to Eucalyptus Avenue Ramps	NB	2,687	B	3,496	C	3,853	C
		SB	5,639	C	4,095	B	4,674	B
	South of the Eucalyptus Avenue Ramps	NB	3,255	C	3,859	C	4,262	C
		SB	5,005	D	4,028	C	4,554	D

EB = Eastbound, WB = Wesbound, NB = Northbound, SB = Southbound

As shown in the table, all segments of SR-60 and I-215 are forecasted to operate at a LOS D or better during all peak periods under year 2040 total traffic conditions.

Appendix S includes the HCS output sheets for the year 2040 total traffic conditions freeway mainline analysis.

Section 8

Traffic Signal Warrant Analysis

TRAFFIC SIGNAL WARRANT ANALYSIS

This analysis is intended to examine the general correlation between the planned level of future development and the need to install new traffic signals. Signal warrants are a set of criteria used to evaluate the potential need for a traffic signal at an unsignalized or stop-controlled intersection. The methodology for the signal warrant analysis is included in the 2014 California Manual on Uniform Traffic Control Devices (MUTCD, Reference 17). The manual states that if one or more of the criteria for signal warrants is met, an engineering study is required to evaluate other factors to determine if an intersection must be signalized.

The analysis presented below uses the Warrant 3: Peak Hour Warrant criteria, which is based on traffic volumes entering the intersection during the peak hour. Warrant 3 includes criteria a and b. Criteria a is based on delay for the minor street approach and traffic volumes, while Criteria b is based on total volumes on the major street approaches and the volume on the higher minor street approach. Table 33 provides the signal warrant analysis for the three existing all-way stop-controlled intersections on Town Circle, as well as the five proposed two-way stop-controlled site access locations on Town Circle. *The signal warrant worksheets are provided in Appendix T.*

Table 33. Peak Hour Signal Warrants

	Existing			Year 2026 Background			Year 2026 Total Traffic			Year 2040 Background			Year 2040 Total Traffic		
Intersection	AM	PM	Mid	AM	PM	Mid	AM	PM	Mid	AM	PM	Mid	AM	PM	Mid
8. Town Cir/ Campus Pkwy	No	No	**Yes**	No	No	**Yes**	No	**Yes**	**Yes**	No	No	**Yes**	No	**Yes**	**Yes**
9. Memorial Way/Town Cir	No	No	**Yes**	No	**Yes**	**Yes**	No	**Yes**	**Yes**	No	**Yes**	**Yes**	No	**Yes**	**Yes**
12. Town Cir/ Heritage Way	No	No	No	No	No	No	No	No	**Yes**	No	No	No	No	No	**Yes**
A. Town Cir/ Site Access A	-	-	-	-	-	-	No	No	No	-	-	-	No	No	No
B. Town Cir/ Site Access B	-	-	-	-	-	-	No	No	No	-	-	-	No	No	No
C. Town Cir/ Site Access C	-	-	-	-	-	-	No	No	No	-	-	-	No	No	No
D. Town Cir/ Site Access D	-	-	-	-	-	-	No	No	No	-	-	-	No	No	No
E. Town Cir/ Site Access E	-	-	-	-	-	-	No	No	No	-	-	-	No	No	No

Note: AM = Weekday AM Peak Hour, PM = Weekday PM Peak Hour, Mid = Saturday Midday Peak Hour
Bold text indicates the Peak Hour Signal Warrant is met

The three existing all-way stop-controlled intersections on Town Circle meet the peak hour signal warrant during one or more peak periods. The satisfaction of a traffic signal warrant or warrants does not in itself require the installation of a traffic control signal. The need for a traffic control signal is based on an engineering study, that considers additional factors such as "traffic conditions, pedestrian characteristics, and physical characteristics of the location" (California MUTCD, Reference 17). In addition to the peak hour warrant criteria, the remaining eight signal warrant criteria in the California MUTCD were assessed, as shown in Table 35.

Table 34. Additional Signal Warrants

Warrant	Intent	Applicability
1. Eight-Hour Vehicular Volume[1]	"large volume of intersecting traffic"	**Met at Town Circle/Campus Parkway (intersection 8) based on existing Saturday volumes. Met at Town Circle/Memorial Parkway (intersection 9) based on existing weekday and Saturday volumes. Met at Town Circle/Heritage Way (intersection 12) based on year 2026 total traffic weekday and Saturday volumes. Met at Town Circle/Site Access E (intersection E) based on year 2026 total traffic Saturday volumes.**
2. Four-Hour Vehicular Volume[1]	"volume of intersecting traffic"	**Met at Town Circle/Campus Parkway (intersection 8) based on existing weekday and Saturday volumes. Met at Town Circle/Memorial Parkway (intersection 9) based on existing weekday and Saturday volumes. Met at Town Circle/Heritage Way (intersection 12) based on year 2026 total traffic weekday and Saturday volumes. Met at Town Circle/Site Access E (intersection E) based on year 2026 total traffic Saturday volumes.**
4. Pedestrian Volume	"traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street	Not currently met, exisitng low pedestrian volumes on Town Circle. With the proejct additional pedestrian activity should be expected.
5. School Crossing	"schoolchildren cross the major street"	Not currently met. With the project, schoolchildren activity on Town Circle is not expected to be significant, as the nearest schools are approximately ½-mile waling distance from proposed housing.
6. Coordinated Signal System	"Progressive movement in a coordinated signal system"	Not met, there is not a coordinated signal system on Town Circle.
7. Crash Experience	"severity and frequency of crashes"	Not met, based on crash data from SWITRS[2], between 2017 and 2021 there was one injury crash at the intersection of Town Circle/Memorial Parkway (intersection 9), one injury crash at the intersection of Town Circle/Heritage Way(intersection 12), and no reported crashes at the other intersections evaluated on Town Circle.
8. Roadway Network	"concentration and organization of traffic flow on a roadway network"	Not met, Town Circle is not a major route.
9. Intersection Near a Grade Crossing	"proximity to the intersection of a grade crossing"	Not met, there is no nearby grade crossing.

Notes:
Bold text indicates the warrant is met
[1] High-level assessment conducted based on estimate daily volumes from peak hour intersection counts and 24-hour counts on Centerpoint Drive west of Frederick Street
[2] Based on the Transportation Injury Mapping System (TIMS) developed by SafeTREC to visualize data from the Statewide Integrated Traffic Records System (SWITRS), available at tims.berkeley.edu

For reference, all intersections on Town Circle are expected to operate within the City of Moreno Valley's LOS D standard under the scenarios studied except for the intersections of Town Circle/Memorial Parkway and Town Circle/Heritage Way, which are projected to operate at a LOS E under Year 2040 total traffic conditions during the Saturday midday peak hour.

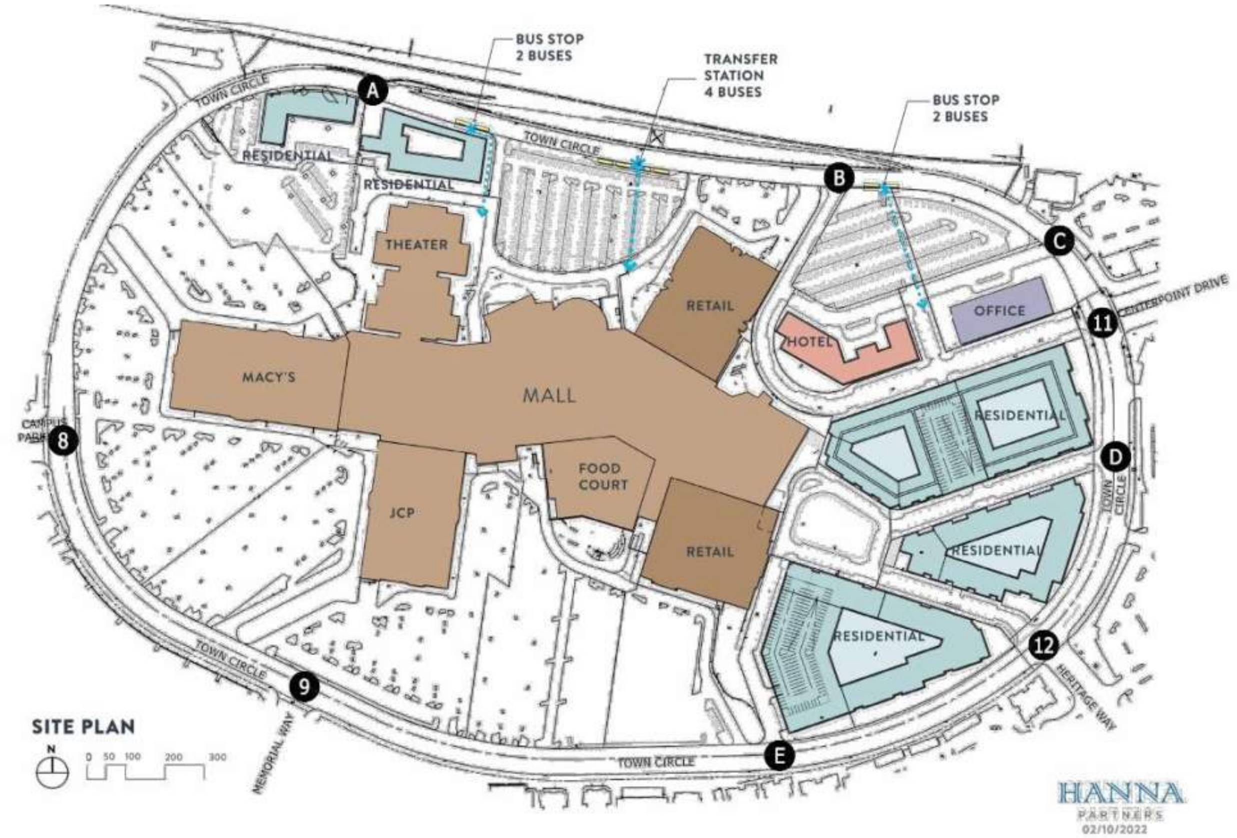
Potential improvements at these locations are discussed in *Section 12: Findings and Recommendations.*

Section 9
Site Access Analysis

SITE ACCESS ANALYSIS

The proposed vehicular access locations to the site are shown in the site plan in Figure 32 and analyzed throughout the previous sections of this report.

Figure 32. Site Access Locations



The site is served by Town Circle, which provides broader connections to the roadway network via Campus Parkway, Memorial Way, Heritage Way, and Centerpoint Drive. Between Campus Parkway and Centerpoint Drive on the south side of the site Town Circle includes five vehicle travel lanes (two vehicle travel lanes in each direction and a center two-way left-turn lane), and a landscape buffer and sidewalks on the south side of the roadway. Town Circle include four vehicle travel lanes on the north side of the site (two vehicle travel lanes in each direction).

Options at each of the site accesses is described in Table 35.

Table 35. Site Access Locations

Intersection	Traffic Control	Meets Standards? 2026 Total Traffic Conditions	Meets Standards? 2040 Total Traffic Conditions	Meets Peak Hour Signal Warrants?	Improvement Options
8. Town Cir/ Campus Pkwy	AWSC	Yes	Yes	Yes (Sat Mid in all scenarios, PM in total traffic conditions)	-
9. Memorial Way/Town Cir	AWSC	No (LOS E in Sat Mid)	No (LOS E in Sat Mid)	Yes (Sat Mid in all scenarios, PM in background and total traffic conditions)	Separate eastboudn right turn lane, signal, or roundabout

Intersection	Traffic Control	Meets Standards? 2026 Total Traffic Conditions	Meets Standards? 2040 Total Traffic Conditions	Meets Peak Hour Signal Warrants?	Improvement Options
11. Town Cir/ Centerpoint Dr	Signal	Yes	Yes	NA	-
12. Town Cir/ Heritage Way	AWSC	No (LOS E in Sat Mid)	No (LOS E in Sat Mid)	Yes (Sat Mid in total traffic conditions)	Signal or roundabout
A. Town Cir/ Site Access A	TWSC	Yes	Yes	No	-
B. Town Cir/ Site Access A	TWSC	Yes	Yes	No	-
C. Town Cir/ Site Access A	TWSC	Yes	Yes	No	-
D. Town Cir/ Site Access A	TWSC	Yes	Yes	No	-
E. Town Cir/ Site Access A	TWSC	Yes	Yes	No	-

Note: AM = Weekday AM Peak Hour, PM = Weekday PM Peak Hour, Mid = Saturday Midday Peak Hour
AWSC = All-Way Stop-Control, TWSC = Two-Way Stop-Control

If roundabouts are installed at the access locations on Town Circle not meeting standards, roundabouts could also be considered at other intersections along Town Circle to provide consistency. If signals are identified as the preferred improvement at intersections along Town Circle not meeting standards and/or meeting signal warrants, operations and volumes should be monitored to identify when a signal should be installed, considering queueing, delays, and volume-based signal warrants in the MUTCD.

Section 11: Active Transportation and Transit Analysis discusses pedestrian, bicycle and transit access to the project site.

Section 10

Safety and Operation Improvement Analysis

SAFETY AND OPERATION IMPROVEMENT ANALYSIS

As part of the traffic impact analysis, existing roadway conditions were assessed to determine if safety and/or operational improvements are necessary due to an increase in traffic from the project or cumulative conditions.

The method for determining geometric design impact involves examining the existing interactions on roadways around the project site between vehicles to vehicles, vehicles to bikes, and vehicles to pedestrians, and determining how those interactions may change with the proposed project. The project would not alter the alignment of Town Circle, it would modify driveway access within the eastern portion of Town Circle. The design or roadways and access driveways must provide adequate sight distance and traffic control measures. As a condition of approval for individual development permits processed in the future under the Specific Plan, the City will require that all access driveways would be designed according to applicable state and City of Moreno Valley standards. Construction of new driveways will be reviewed and approved to the City's Public Work's prior to construction.   New access driveways would consider landscaping, building placement, signage and other factors to access stopping sign distance. Adherence to applicable City requirements would ensure the proposed project would not include dangerous intersections.

This analysis also reviewed potential queues at freeway off-ramps for the potential for queues to extend to the freeway mainline, which could result in hazardous conditions due to speed differentials. A review of the queues indicate that no off-ramps queues would exceed the available storage.

Section 11

Active Transportation and Public Transit Analysis

ACTIVE TRANSPORTATION AND TRANSIT ANALYSIS

This section describes future bicycle, pedestrian, and transit facilities that serve the site.

FUTURE BICYCLE AND PEDESTRIAN FACILITIES

The planned bicycle and pedestrian networks in the vicinity of the site are shown in Figure 33. The City's Bicycle Master Plan does not include new bicycle facilities adjacent to the project site or by Town Circle.

Development of the project site would provide a pedestrian-friendly environment, with strong connectivity to adjacent commercial and office areas, and would offer a strong sense of community, connectivity, and livability. The project's pedestrian circulation components would be designed and installed with all safety and accessibility requirements in mind, including Title 24 of the California Code of Regulations, and in a manner that would avoid conflicts with vehicles. These pedestrian connections to the surrounding area and the public street system shorten the walking distance to nearby destinations, including the nearest bus stops; and enhance the opportunity to walk or take transit, rather than drive. Walkways between buildings create a pedestrian-oriented environment by breaking up large blocks and providing more convenient connectivity throughout the project site.

The existing multi-use path that stops at Towngate Boulevard is planned to connect to Day Street, as shown in the dashed red line. The bicycle and pedestrian network on the arterials surrounding the site (Day Street, Eucalyptus Avenue, Towngate Boulevard, and Frederick Street) is complete.

Figure 33. Planned Bicycle and Pedestrian Networks

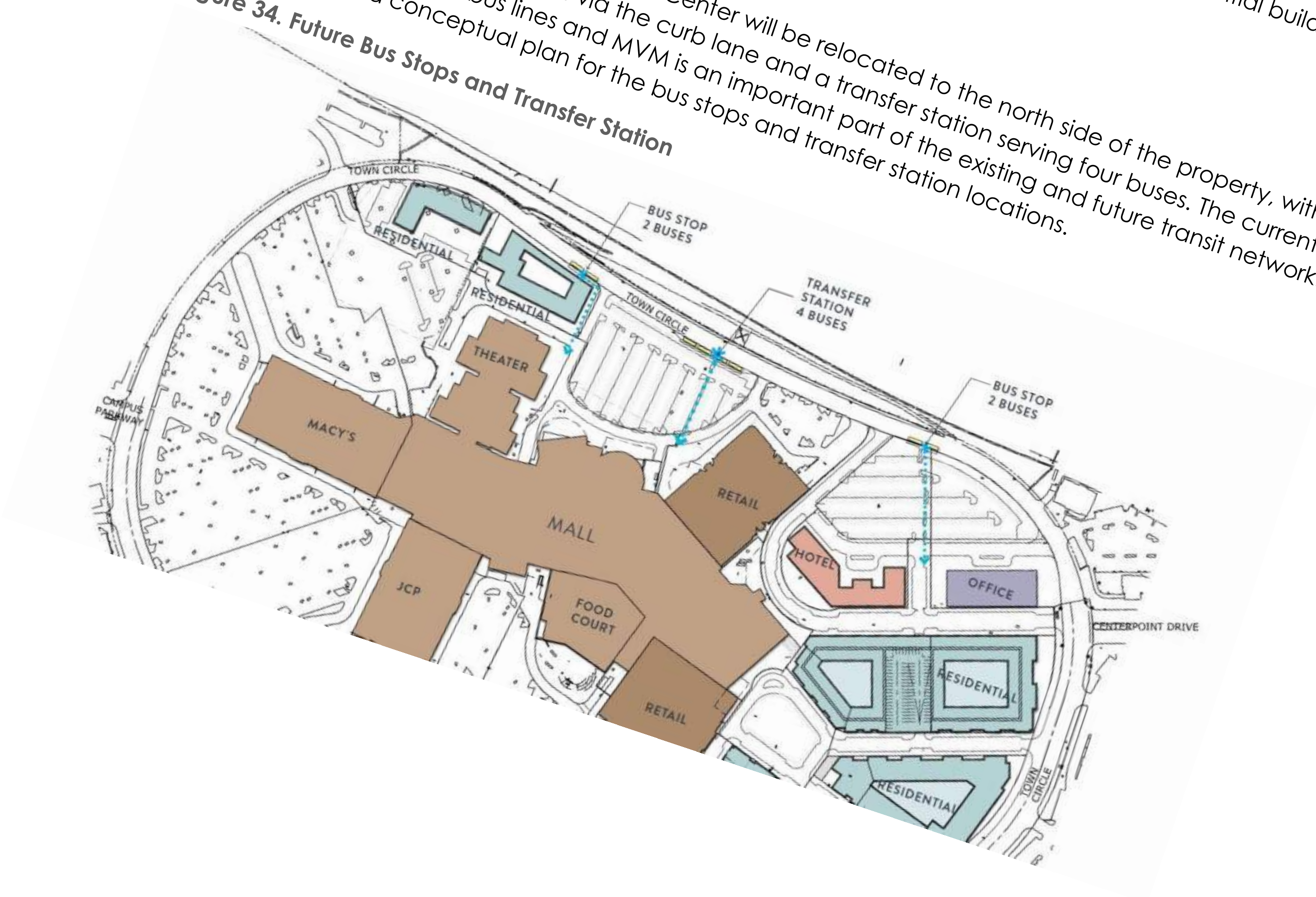
Source: Map C-2 from MoVal 2040 General Plan

As part of the redevelopment project, sidewalks and crosswalks will be developed internal to the Moren... Valley Mall site to connect the proposed uses to the existing pedestrian network. Residential buildings A, ... and C include ground-level retail and pedestrian-oriented plaza.

TRANSIT CENTER

As part of the project, the existing Transit Center will be relocated to the north side of the property, with two bus stops each serving two buses via the curb lane and a transfer station serving four buses. The current transit center serves five bus lines and MVM is an important part of the existing and future transit network. Figure 34 shows a conceptual plan for the bus stops and transfer station locations.

Figure 34. Future Bus Stops and Transfer Station



Section 12

Findings and Recommendations

FINDINGS AND RECOMMENDATIONS

This section presents the results of the operational analysis conducted for the TIA and recommendations for operational improvements. Per SB743, roadway capacity such as intersection and roadway LOS is no longer a criteria to identify potential transportation impacts under CEQA. The following was not prepared as part of the environmental review under CEQA; the improvements identified below are meant to meet target LOS for roadways and intersections to reduce traffic congestion, rather than mitigation measures to reduce a potential significant environmental impact.

FINDINGS

INTERSECTION OPERATIONS

Intersection Level of Service

Table 36 summarizes operations at all study intersections during the scenarios studied, including the change in delay with the project. Table 37 presents the ten intersections not meeting LOS standards in one or more analysis scenarios, including the time periods the standards are not met. The intersections in the table meet the criteria set by the City of Moreno Valley and Riverside for when a project should identify improvements. These criteria are described in *Section 3: Methodology and Evaluation Criteria* and include:

For Moreno Valley:

- "Any signalized study intersection that is operating at unacceptable LOS without project traffic where the project increases delay by 5.0 or more seconds shall identify improvements to offset the increase in delay."
- At unsignalized intersections, the guide states that "an operational improvement would be required if the study determines that either section a) or both sections b) and c) occur:

  a) The addition of project related traffic causes the intersection to degrade from an acceptable LOS to unacceptable LOS.

  OR

  b) The project adds 5.0 seconds or more of delay to an intersection that is already projected to operate without project traffic at unacceptable LOS,

  AND

  c) The intersection meets the peak hour traffic signal warrant after the addition of project traffic.

  If the conditions above are satisfied, improvements should be identified that achieve "LOS D or better for case a) above or to pre-project LOS and delay for case b) above."

For the City of Riverside:

- "operational improvements are required when the addition of project related trips causes either peak hour LOS to degrade from acceptable (A through D) to unacceptable levels (E or F) or the peak hour delay to increase as follows:
  - LOS A/B By 10 seconds
  - LOS C By 8 seconds
  - LOS D By 5 seconds
  - LOS E By 2 seconds
  - LOS F By 1 seconds"

Table 36. Intersection Operations in All Scenarios

Study Intersection	Jurisd-iction	Traffic Cont.	LOS Std	Existing Conditions						2026 Background Conditions (without project)						2026 Total Traffic Conditions (with project)						2040 Background Conditions (without project)						2040 Total Traffic Conditions (with project)					
				Wkday AM		Wkday PM		Sat Mid		Wkday AM		Wkday PM		Sat Mid		Wkday AM		Wkday PM		Sat Mid		Wkday AM		Wkday PM		Sat Mid		Wkday AM		Wkday PM		Sat Mid	
				Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS
1. I-215 Ramps/ Eucalyptus Ave	Caltrans	Signal	E	33.0	C	36.5	D	21.0	C	35.8	D	73.6	E	39.1	D	36.1	D	**82.5**	**F**	45.1	D	42.4	D	69.7	E	69.7	E	43.2	D	75.6	E	76.2	E
Difference in delay between background and total traffic conditions																+0.3		+8.9		+6.0								+0.8		+5.9		+6.5	
2. Valley Springs Pkwy/ Eucalyptus Ave	Riverside	Signal	D	20.7	C	26.6	C	35.5	D	36.5	D	**116.4**	**F**	**137.8**	**F**	39.5	D	**120.1**	**F**	**143.1**	**F**	**59.1**	**E**	**110.6**	**F**	**115.1**	**F**	**63.1**	**E**	**113.8**	**F**	**117.0**	**F**
Difference in delay between background and total traffic conditions																+3.0		+3.7		+5.3								+4.0		+3.2		+1.9	
3. Day St/ SR-60 WB Ramps	Caltrans	Signal	E	20.6	C	20.9	C	28.2	C	23.1	C	23.3	C	53.9	D	22.8	C	23.3	C	53.7	D	24.9	C	25.3	C	30.5	C	24.8	C	25.4	C	30.6	C
Difference in delay between background and total traffic conditions																-0.3		0.0		-0.2								-0.1		+0.1		+0.1	
4. Day St/ SR-60 EB Ramps	Caltrans	Signal	E	13.4	B	21.8	C	23.7	C	15.8	B	27.8	C	30.8	C	16.2	B	30.0	C	33.7	C	17.4	B	28.2	C	33.2	C	17.9	B	30.3	C	38.4	D
Difference in delay between background and total traffic conditions																+0.4		+2.2		+2.9								+0.5		+2.1		+5.2	
5. Day St/ Canyon Springs Pkwy	Riverside	Signal	D	17.6	B	36.1	D	**61.1**	**E**	18.9	B	53.9	D	**97.0**	**F**	19.0	B	**56.0**	**E**	**102.5**	**F**	24.0	C	**79.2**	**E**	**142.1**	**F**	24.5	C	**82.2**	**F**	**160.5**	**F**
Difference in delay between background and total traffic conditions																+0.1		+2.1		+5.5								+0.5.		+3.0		+18.4	
6. Day St/ Campus Pkwy	Riverside	Signal	D	14.4	B	26.8	C	42.9	D	15.0	B	34.4	C	**57.5**	**E**	16.5	B	38.9	D	**64.4**	**E**	16.4	B	**62.8**	**E**	**134.9**	**F**	18.9	B	**69.5**	**E**	**139.9**	**F**
Difference in delay between background and total traffic conditions																+1.5		+4.5		+6.9								+2.5		+6.7		+5.0	
7. Day St/ Eucalyptus Ave	Riverside	Signal	D	21.0	C	24.7	C	29.4	C	26.8	C	31.2	C	45.3	D	28.8	C	34.2	C	48.4	D	**114.2**	**F**	**109.1**	**F**	**147.3**	**F**	**119.0**	**F**	**121.6**	**F**	**150.4**	**F**
Difference in delay between background and total traffic conditions																+2.0		+3.0		+3.1								+4.8		+12.5		+3.1	
8. Town Cir/ Campus Pkwy	MV	AWSC	D	7.9	A	11.6	B	18.0	C	8.0	A	12.3	B	20.9	C	8.5	A	13.6	B	25.2	D	7.9	A	12.6	B	22.2	C	8.3	A	14.0	B	26.9	D
Difference in delay between background and total traffic conditions																+0.5		+1.3		+4.3								+0.4		+1.4		+4.7	
9. Memorial Way/Town Cir	MV	AWSC	D	7.8	A	12.9	B	23.8	C	7.9	A	14.3	B	32.1	D	8.0	A	15.2	C	**35.3**	**E**	7.8	A	14.6	B	**35.6**	**E**	7.9	A	15.4	C	**39.1**	**E**
Difference in delay between background and total traffic conditions																+0.1		+0.9		+3.2								+0.1		+0.8		+3.5	
10. Memorial Way-Eucalyptus Ave/ Towngate Blvd	MV	Signal	D	15.6	B	20.9	C	23.4	C	17.0	B	24.9	C	27.3	C	17.5	B	25.2	C	28.4	C	20.1	C	46.0	D	39.4	D	20.9	C	45.8	D	40.0	D
Difference in delay between background and total traffic conditions																+0.5		+0.3		+1.1								+0.8		-0.2		+0.6	
11. Town Cir/ Centerpoint Drive	MV	Signal	D	9.0	A	10.1	B	11.0	B	9.0	A	10.4	B	11.5	B	16.3	B	22.1	C	45.9	D	9.0	A	10.4	B	11.7	B	14.6	B	21.9	C	46.4	D
Difference in delay between background and total traffic conditions																+7.3		+11.7		+34.4								+5.6		+11.5		+34.7	
12. Heritage Way/Town Circ	MV	AWSC	D	7.4	A	10.0	A	13.1	B	7.5	A	10.5	B	14.3	B	12.3	B	18.9	C	**44.8**	**E**	7.3	A	10.5	B	14.9	B	11.1	B	18.2	C	**43.2**	**E**
Difference in delay between background and total traffic conditions																+4.8		+8.4		+30.5								+3.8		+7.7		+28.3	
13. Heritage Way/Towngate Blvd	MV	Signal	D	12.5	B	14.1	B	14.5	B	12.5	B	14.5	B	14.8	B	15.6	B	17.3	B	18.5	B	12.5	B	16.1	B	15.1	B	16.4	B	19.1	B	19.1	B
Difference in delay between background and total traffic conditions																+3.1		+2.8		+3.7								+3.9		+3.0		+4.0	
14. Pigeon Pass Rd/ Hemlock Rd	MV	Signal	D	38.4	D	40.7	D	47.9	D	39.8	D	39.0	D	47.8	D	40.7	D	41.9	D	51.0	D	40.1	D	29.8	C	42.5	D	41.1	D	33.3	C	44.0	D
Difference in delay between background and total traffic conditions																+0.9		+2.9		+3.2								+1.0		+3.5		+1.5	
15. Frederick St/ SR-60 EB Ramps	Caltrans	Signal	E	7.2	A	2.9	A	2.9	A	7.6	A	2.8	A	2.7	A	7.3	A	2.6	A	2.5	A	4.3	A	2.6	A	2.7	A	4.3	A	2.5	A	2.7	A
Difference in delay between background and total traffic conditions																-0.3		-0.2		-0.2								+0.0		-0.1		+0.0	

Study Intersection	Jurisd-iction	Traffic Cont.	LOS Std	Existing Conditions						2026 Background Conditions (without project)						2026 Total Traffic Conditions (with project)						2040 Background Conditions (without project)						2040 Total Traffic Conditions (with project)					
				Wkday AM		Wkday PM		Sat Mid		Wkday AM		Wkday PM		Sat Mid		Wkday AM		Wkday PM		Sat Mid		Wkday AM		Wkday PM		Sat Mid		Wkday AM		Wkday PM		Sat Mid	
				Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS	Del	LOS
16. Frederick St/ SR-60 EB Off-Ramp – Sunnymead Blvd	Caltrans	Signal	E	21.6	C	29.2	C	31.0	C	21.5	C	30.2	C	34.0	C	22.5	C	34.4	C	45.0	D	25.4	C	69.9	E	**91.1**	**F**	26.6	C	74.0	E	***100.9***	***F***
Difference in delay between background and total traffic conditions																*+1.0*		*+4.2*		*+11.0*								*+1.2*		*+4.1*		*+9.8*	
17. Frederick St/ Centerpoint Dr	MV	Signal	D	8.0	A	12.3	B	15.1	B	8.2	A	13.4	B	16.7	B	11.5	B	16.4	B	23.5	C	8.5	A	13.9	B	17.1	B	12.7	B	17.2	B	22.2	C
Difference in delay between background and total traffic conditions																*+3.3*		*+3.0*		*+6.8*								*+4.2*		*+3.3*		*+5.1*	
18. Frederick St/ Towngate Blvd	MV	Signal	D	9.6	A	15.9	B	18.5	B	10.0	B	17.8	B	21.7	C	13.0	B	25.1	C	32.2	C	15.2	B	29.4	C	34.0	C	17.7	B	42.9	D	50.6	D
Difference in delay between background and total traffic conditions																*+3.0*		*+7.3*		*+10.5*								*+2.5*		*+13.5*		*+16.6*	
19. Frederick St/ Eucalyptus Ave	MV	Signal	D	20.6	C	26.5	C	24.8	C	22.6	C	30.2	C	28.6	C	24.7	C	34.3	C	31.9	C	33.9	C	51.2	D	43.8	D	38.5	D	***59.8***	***E***	52.3	D
Difference in delay between background and total traffic conditions																*+2.1*		*+4.1*		*+3.3*								*+4.6*		*+8.6*		*+8.5*	
20. SR-60 WB Off Ramp/ Hemlock Ave	Caltrans	Signal	E	12.5	B	14.6	B	16.4	B	13.1	B	15.3	B	17.3	B	14.3	B	16.8	B	18.8	B	12.2	B	14.5	B	16.6	B	13.2	B	15.7	B	17.7	B
Difference in delay between background and total traffic conditions																*+1.2*		*+1.5*		*+1.5*								*+1.0*		*+1.2*		*+1.1*	
A. Access A/Town Circ	MV	TWSC	D													9.1	A	10.9	B	12.9	B							38.5	D	10.8	B	13.0	B
B. Access B/Town Circ	MV	TWSC	D													8.9	A	10.6	B	11.8	B							13.2	B	10.6	B	11.6	B
C. Access C/Town Circ	MV	TWSC	D													8.6	A	9.4	A	9.7	A							16.4	B	9.4	A	9.7	A
D. Access D/Town Circ	MV	TWSC	D													11.7	B	16.0	C	23.7	C							9.1	A	16.2	C	24.3	C
E. Access E/Town Circ	MV	TWSC	D													10.1	B	12.4	B	16.2	C							10.2	B	11.3	B	16.2	C

Cont. = Control, LOS = Level of Service, Wkday = Weekday, Sat Mid = Saturday Midday, Del = delay in seconds, MV = Moreno Valley, AWSC = All-way stop-control, TWSC = Two-way stop-control,
Bold text indicates operations do not meet LOS Standard
Bold italic text indicates operations meet the City's threshold for identifying improvements

Table 37. Intersections not Meeting Standards

Intersection	Juris-diction	Traffic Control	LOS Std	Peak Hours *not* Meeting Standards (LOS)				
				Existing	2026 Back-ground	2026 Total Traffic	2040 Back-ground	2040 Total Traffic
1. I-215 Ramps/ Eucalyptus Ave	Caltrans	Signal	E	-	-	PM (F)	-	-
2. Valley Springs Pkwy/ Eucalyptus Ave	Riverside	Signal	D	-	PM (F), Sat Mid (F)	PM (F), Sat Mid (F)	AM (E), PM (F), Sat Mid (F)	AM (E), PM (F), Sat Mid (F)
5. Day St/ Canyon Springs Pkwy	Riverside	Signal	D	Sat Mid (E)	Sat Mid (F)	PM (E), Sat Mid (F)	PM (E), Sat Mid (F)	PM (F), Sat Mid (F)
6. Day St/ Campus Pkwy	Riverside	Signal	D	-	Sat Mid (E)	Sat Mid (E)	PM (E), Sat Mid (F)	PM (E), Sat Mid (F)
7. Day St/ Eucalyptus Ave	Riverside	Signal	D	-	-	-	AM (F), PM (F), Sat Mid (F)	AM (F), PM (F), Sat Mid (F)
9. Memorial Way/Town Cir	MV	AWSC	D	-	-	Sat Mid (E)	Sat Mid (E)	Sat Mid (E)
12. Heritage Way/Town Circ	MV	AWSC	D	-	-	Sat Mid (E)	-	Sat Mid (E)
16. Frederick St/ SR-60 EB Off-Ramp – Sunnymead Blvd	Caltrans	Signal	E	-	-	-	Sat Mid (F)	Sat Mid (F)
19. Frederick St/ Eucalyptus Ave	MV	Signal	D	-	-	-	-	PM (E)

Notes: AM = Weekday AM Peak Hour, PM = Weekday PM Peak Hour, Mid = Saturday Midday Peak Hour
LOS = Level of Service, MV = Moreno Valley, AWSC = All-Way Stop-Control, TWSC = Two-Way Stop-Control

The following summarizes a review of potential improvements and recommendations for intersections where the 95th percentile queue lengths would exceed the available storage with project traffic.

Each of these intersections is discussed below.

1. I-215 Ramps/Eucalyptus Avenue

This signalized intersection is a SPUI (single point urban interchange) and serves both directions of I-215. The intersection is projected to operate at a LOS F during the weekday PM peak hour under 2026 total traffic conditions. Under 2040 total traffic conditions, the intersection operates at a LOS E during both the weekday PM peak hour and Saturday midday peak hour with or without the project. The improved operations in 2040 are due to signal timing changes, specifically providing more green time for the westbound left-turn movement. To address the expected deficiency under 2026 total traffic conditions, the signal timing could be adjusted to redistribute green time, enabling the intersection to operate at a LOS D, and therefore meet the LOS standard. This intersection is under the jurisdiction of Caltrans and therefore the City of Moreno Valley cannot modify signal timing. Given that the intersection is not under the City of Moreno Valley jurisdiction, and that operations can be improved with signal retiming and do not require infrastructure or geometric changes, no improvements are proposed with site development.

Appendix U includes the intersection operations worksheets showing operations under year 2026 total traffic conditions with signal timing changes.

2. Valley Springs Parkway/Eucalyptus Avenue

This signalized intersection is under Riverside's jurisdiction with a LOS standard of D. It is projected to not meet standards in 2026 and 2040 with or without the project. The City of Moreno currently has identified a project on its Capital Improvement Plan to widen Eucalyptus Avenue to six lanes, which is included in the year 2040 analysis.

The Canyon Springs Healthcare Campus & Senior Living Traffic Impact Analysis (Reference 15, 2017), also projected a LOS deficiency at this location and identified an improvement to modify the striping on the northbound approach to provide a second northbound left turn lane and to implement overlap phasing for the southbound right turn movement. The 2017 TIA estimated this improvement cost at $15,000 and estimated the project's fair share based on the project's proportion of total new traffic (general plan buildout with project minus existing). While improvement identified in the 2017 TIA would not enable 2026 total traffic conditions to meet the LOS D standard, it would improve operations and more than offset the delay increase caused by the proposed project.

The improvements identified in the Canyon Springs Healthcare Campus & Senior Living Traffic Impact Analysis were further assessed and, based on the width of the south leg of the intersection, it does not appear feasible to restripe the approach to provide a second northbound left turn lane. Therefore, a cost estimate was developed for providing overlap phasing for the southbound right-turn movement. The estimated cost of $125,000 assumes a new mas arm over the right-turn lanes and signal controller/cabinet upgrades, and includes a 25% contingency. Operations for weekday AM, weekday PM and Saturday midday peak hour conditions are shown in Table 39, along with projected operations with overlap phasing for the southbound right turn. *Appendix U includes the intersection operations worksheets showing operations with the overlap phasing for the southbound right turn.* This improvement would have to be approved and implemented by the City of Riverside, as this intersection is under their jurisdiction.

Table 38. Operations at Valley Springs Parkway/Eucalyptus Avenue without and with Improvement

	Delay in Seconds (LOS)														
	Existing			2026 Background			2026 Total Traffic			2040 Background			2040 Total Traffic		
	Wkday AM	Wkday PM	Sat Mid	Wkday AM	Wkday PM	Sat Mid	Wkday AM	Wkday PM	Sat Mid	Wkday AM	Wkday PM	Sat Mid	Wkday PM	Wkday AM	Sat Mid
No change	20.7 (C)	26.6 (C)	35.5 (D)	36.5 (D)	**116.4 (F)**	**137.8 (F)**	39.5 (D)	***120.1 (F)***	***143.1 (F)***	**59.1 (E)**	**110.6 (F)**	**115.1 (F)**	***63.1 (E)***	***113.8 (F)***	***117.0 (F)***
Difference in delay between background and total traffic conditions							*+3.0*	*+3.7*	*+5.3*				*+4.0*	*+3.2*	*+1.9*
With overlap phasing for SB right turn	*19.5 (B)*	*22.8 (C)*	*26.7 (C)*	*30.9 (C)*	*40.5 (D)*	*82.9 (F)*	*33.0 (C)*	*43.1(D)*	*86.6 (F)*	*51.1 (D)*	*55.3 (E)*	*64.7 (E)*	*55.2 (E)*	*57.4 (E)*	*66.2 (E)*
Difference in delay with second NB left turn lane and overlap phasing for SB right turn	*-1.2*	*-3.8*	*-8.8*	*-5.6*	*-75.9*	*-54.9*	*-6.5*	*-77.0*	*-56.5*	*-8.0*	*-55.3*	*-50.4*	*-7.9*	*-56.4*	*-50.8*

Notes: LOS = Level of Service, Wkday PM = Weekday PM Peak Hour, Sat Mid = Saturday Midday Peak Hour, NB = Northbound, SB = Southbound
Bold text indicates operations do not meet LOS Standard
Bold italic text indicates operations meet the City's threshold for identifying improvements

5. Day Street/Canyon Springs Parkway

This signalized intersection is under Riverside's jurisdiction with a LOS standard of D. It currently does not meet standards during the Saturday midday peak hour or in any future scenarios during the Saturday midday peak hour. The intersection is projected to also not meet standards during the weekday PM peak hour in 2026 total traffic conditions and in both background and total traffic conditions in 2040.

The Canyon Springs Healthcare Campus & Senior Living Traffic Impact Analysis (Reference 15, 2017), also projected a LOS deficiency at this location and identified an improvement to modify the signal timing to accommodate overlap phasing for the westbound right turn. The TIA estimated this improvement cost at $10,000 and estimated the project's fair share based on the project's proportion of total new traffic (general plan buildout with project minus existing). While not enough for the intersection to operate within standards, this would provide benefit. There does not appear to be available right-of-way for geometric changes at the intersection, such as adding an exclusive northbound right-turn lane. Therefore, the project could contribute to the overlap phasing for the westbound right-turn. An updated cost estimate for the overlap phasing, including a 25% contingency, was estimated at $30,000, assuming a new five-section signal head and signal timing modifications.

Operations for weekday PM and Saturday midday peak hour conditions are shown in Table 39, along with projected operations with the overlap phasing for the westbound right turn. *Appendix U includes the intersection operations worksheets showing operations with overlap phasing for the westbound right turn.*

Table 39. Operations at Day Street/Canyon Springs Parkway without and with Improvement

	Delay in Seconds (LOS)									
	Existing		2026 Background		2026 Total Traffic		2040 Background		2040 Total Traffic	
	Wkday PM	Sat Mid	Wkday PM	Sat Mid	Wkday PM	Sat Mid	Wkday PM	Sat Mid	Wkday PM	Sat Mid
No change	36.1 (D)	**61.1 (E)**	53.9 (D)	**97.0 (F)**	***56.0 (E)***	***102.5 (F)***	**79.2 (E)**	**142.1 (F)**	***82.2 (F)***	***160.5 (F)***
Difference in delay between background and total traffic conditions					*+ 2.1*	*+5.5*			*+3.0*	*+18.4*
With overlap phasing for WB right turn	33.1 (C)	53.4 (D)	47.5 (D)	**83.4 (F)**	49.1 (D)	**88.3 (F)**	**71.9 (E)**	**130.6 (F)**	**74.7 (E)**	**150.5 (F)**
Difference in delay with overlap phasing for WB right turn	*-3.0*	*-7.7*	*-6.4*	*-13.6*	*-6.9*	*-14.2*	*-7.3*	*-11.5*	*-7.5*	*-10.0*

Notes: LOS = Level of Service, Wkday PM = Weekday PM Peak Hour, Sat Mid = Saturday Midday Peak Hour, WB = Westbound
Bold text indicates operations do not meet LOS Standard
Bold italic text indicates operations meet the City's threshold for identifying improvements

For reference, the project is expected to add 93 weekday PM peak hour trips to through movements at the intersection north and south, which is approximately 1.8 percent of total intersection volumes under 2026 total traffic conditions. This intersection is under Riverside's jurisdiction, the City of Moreno Valley cannot guarantee improvements at the intersection.

6. Day Street/Campus Parkway

This signalized intersection is under Riverside's jurisdiction with a LOS standard of D. It is projected to not meet standards during the Saturday midday peak hour in 2026 and both the weekday PM peak hour and Saturday midday peak hour in 2040, with or without the proposed project.

The Canyon Springs Healthcare Campus & Senior Living Traffic Impact Analysis (Reference 15, 2017), also projected a LOS deficiency at this location and identified an improvement to modify the signal timing to accommodate overlap phasing for the westbound right turn. The TIA estimated this improvement cost at $10,000 and estimated the project's fair share based on the project's proportion of total new traffic (general plan buildout with project minus existing). While not enough for the intersection to operate within standards, this would provide benefit. There does not appear to be available right-of-way for geometric changes at the intersection, such as adding an exclusive eastbound right-turn land and northbound right-turn lane. Therefore, the project could contribute to the overlap phasing for the westbound right-turn. An updated cost estimate for the overlap phasing, including a 25% contingency, was estimated at $30,000, assuming a new five-section signal head and signal timing modifications.

Operations for weekday PM and Saturday midday peak hour conditions are shown in Table 40, along with projected operations with the overlap phasing for the westbound right turn. *Appendix U includes the intersection operations worksheets showing operations with overlap phasing for the westbound right turn.*

Table 40. Operations at Day Street/Campus Parkway without and with Improvement

	Delay in Seconds (LOS)									
	Existing		2026 Background		2026 Total Traffic		2040 Background		2040 Total Traffic	
	Wkday PM	Sat Mid	Wkday PM	Sat Mid	Wkday PM	Sat Mid	Wkday PM	Sat Mid	Wkday PM	Sat Mid
No change	26.8 (C)	42.9 (D)	34.4 (C)	**57.5 (E)**	38.9 (D)	**64.4 (E)**	**62.8 (E)**	**134.9 (F)**	**69.5 (E)**	***139.9 (F)***
Difference in delay between background and total traffic conditions					*+4.5*	*+6.9*			*+6.7*	*+5.0*
With overlap phasing for WB right turn	25.2 (C)	40.6 (D)	32.5 (C)	53.5 (D)	35.1 (D)	**57.5 (E)**	**62.2 (E)**	**134.1 (F)**	**68.6 (E)**	**138.8 (F)**
Difference in delay with overlap phasing for WB right turn	*-1.6*	*-2.3*	*-1.9*	*-4.0*	*-3.8*	*-6.9*	*-0.6*	*-0.8*	*-0.9*	*-1.1*

Notes: LOS = Level of Service, Wkday PM = Weekday PM Peak Hour, Sat Mid = Saturday Midday Peak Hour, WB = Westbound
Bold text indicates operations do not meet LOS Standard
Bold italic text indicates operations meet the City's threshold for identifying improvements

For reference, the project is expected to add 117 weekday PM peak hour trips, which is approximately 2.7 percent of total intersection volumes under 2026 total traffic conditions. Because this intersection is under Riverside's jurisdiction, the City of Moreno Valley cannot guarantee improvements at the intersection.

7. Day Street/Eucalyptus Avenue

This signalized intersection is under Riverside's jurisdiction with a LOS standard of D. It is projected to not meet standards during all three peak periods under 2040 conditions in both background and total traffic conditions. The City of Moreno currently has identified a project on its Capital Improvement Plan to widen Eucalyptus Avenue to six lanes, which is included in the year 2040 analysis.

The Canyon Springs Healthcare Campus & Senior Living Traffic Impact Analysis (Reference 15, 2017), also projected a LOS deficiency at this location and identified an improvement to modify the striping on the northbound approach to provide a separate northbound right turn lane and to modify the traffic signal to accommodate overlap phasing for the northbound right turn lane. The TIA estimated this improvement cost at $15,000 and estimated the project's fair share based on the project's proportion of total new traffic (general plan buildout with project minus existing). While not enough for the intersection to operate within standards, this would provide benefit. Operations could be further improved by adding a second eastbound left-turn lane when Eucalyptus Avenue is widened.

The improvements identified in the Canyon Springs Healthcare Campus & Senior Living Traffic Impact Analysis were further assessed and, based on the width of the south leg of the intersection, it does not appear feasible to restripe the approach to provide a separate northbound right turn lane. Given the lack of feasible improvements at the intersection, planned widening on Eucalyptus, and fact that the intersection is projected to meet LOS standards under the year 2026 conditions, no improvements are recommended with site development. Because this intersection is under Riverside's jurisdiction, the City of Moreno Valley cannot guarantee improvements at the intersection.

9. Memorial Way/Town Circle

This all-way stop-controlled intersection is a T-intersection, with Town Circle running east/west and Memorial Way connecting Town Circle to Eucalyptus Avenue. The intersection is projected to not meet standards during the Saturday midday peak hour under 2026 total traffic conditions and in either background or total traffic conditions in 2040.

As discussed in *Section 8: Traffic Signal Warrant Analysis* and *Section 9: Site Access Analysis*, the intersection currently meets the peak hour traffic signal warrants, based on the Saturday midday peak hour volume. A traffic signal or roundabout could be installed at the location to improve operations and meet the City's LOS standard. The applicant proposes to signalize this intersection with site development prior to occupancy of the first building.

12. Heritage Way/Town Circle

This all-way stop-controlled intersection is a T-intersection, with Town Circle running east/west and Heritage Way connecting Town Circle to Towngate Boulevard. The intersection is projected to not meet standards during the Saturday midday peak hour under 2026 total traffic conditions or 2040 total traffic conditions.

As discussed in Section 8: Traffic Signal Warrant Analysis and Section 9: Site Access Analysis, the intersection is projected to meet the peak hour traffic signal warrant under 2026 and 2040 total traffic conditions, based on the Saturday midday peak hour volume. A traffic signal or roundabout could be installed at the location to improve LOS. The applicant proposes to signalize this intersection with site development prior to occupancy of the first building.

16. Frederick Street/SR-60 EB Off-Ramp – Sunnymead Boulevard

This signalized intersection is under Caltran's jurisdiction. Caltrans no longer uses a LOS standard to evaluate impacts for its facilities under CEQA, but for the purposes of this analysis operations were compared to the LOS E standard, consistent with the the RCTC's CMP (see Section 3). The intersection serves vehicles coming off eastbound SR-60, as well as Frederick Street and Sunnymead Boulevard. The intersection is projected to operate at a LOS F during the Saturday midday peak hour in both background and total traffic conditions in 2040. The intersection is projected to operate at a LOS D or better under year 2026 conditions during all time periods and at a LOS E or better under year 2040 conditions during the weekday AM and PM peak hours.

The intersection would benefit from an additional right-turn lane on the eastbound, northbound, or westbound approach. The intersection would also benefit from ITS (intelligent transport system) improvements at the intersection, such as fiber optic interconnect, CCTV, traffic signal controller improvements, or coordination with the adjacent traffic signals on Frederick Street.

Given that this intersection is outside of Moreno Valley's jurisdiction, that Caltrans does not maintain LOS standards, it operates at a LOS D or better under year 2026 conditions, and is projected to operate at a LOS F with or without site development under year 2040 conditions during the Saturday midday peak hour, improvements are not recommended with the site. For reference, the project is expected to add 428 Saturday midday peak hour trips, which is approximately 6.1 percent of total intersection volumes under 2040 total traffic conditions.

19. Frederick Street/Eucalyptus Avenue

This signalized intersection meets standards under all scenarios except during the weekday PM peak hour under 2040 total traffic conditions. The intersection operates at a LOS E and within five seconds of the cut-off for a LOS D.

The intersection would benefit from an exclusive right-turn lane on the eastbound or westbound approach, but there does not appear to be right-of-way for this improvement. The project could contribute to ITS (intelligent transport system) improvements at the intersection, such as fiber optic interconnect, CCTV, traffic signal controller improvements, or coordination with the adjacent traffic signals on Frederick Street.

For reference, the project is expected to add 173 weekday PM peak hour trips, which is approximately 4.0 percent of total intersection volumes under 2040 total traffic conditions.

Intersection Turn Lane Queues

The 95th percentile queue lengths, available storage at turn lanes, and distance to adjacent side streets and signalized intersections for each study intersection during the scenarios studied are provided in Table 41.

As shown in the table, fourteen of the intersections have at least one movement where the 95th percentile queue length is expected to exceed the striped storage length under year 2040 total traffic conditions. All these intersections also have at least one movement where the 95th percentile queue length is expected to exceed the striped storage length under year 2040 background conditions, except for the intersections of Town Circle/Campus Parkway, Heritage Way/Town Circle, and Heritage Way/Towngate Boulevard. 95th percentile queues at these three intersections are not projected to back up into adjacent signalized intersections.

Each of the locations were the 95th percentile queue length is expected to exceed the striped storage length under year 2040 total traffic conditions is discussed in detail in the following sections. As discussed in *Section 3: Methodology and Evaluation Criteria*, for the purpose of this analysis, an assessment of queues and potential improvements and recommendations is provided for locations where trips generated by the Project cause the 95th percentile queue lengths to exceed the available capacity. The following identifies potential opportunities for improvements to address project-related queues.

Table 41. 95th Percentile Queue Lengths at Study Intersections in All Scenarios

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet)														
					Existing Conditions			2026 Background Conditions (without project)			2026 Total Traffic Conditions (with project)			2040 Background Conditions (without project)			2040 Total Traffic Conditions (with project)		
					Weekday AM	Weekday PM	Saturday Mid	Weekday AM	Weekday PM	Saturday Mid	Weekday AM	Weekday PM	Saturday Mid	Weekday AM	Weekday PM	Saturday Mid	Weekday AM	Weekday PM	Saturday Mid
1. I-215 Ramps/ Eucalyptus Ave	EBL	250	780	780	70	109	49	75	116	55	75	116	55	#221	**#347**	132	#221	**#347**	134
	EBR	50	650	650	5	47	14	7	**53**	16	7	**53**	16	8	152	41	8	153	41
	WBL	275	770	770	159	230	272	202	**#500**	**#487**	228	**#535**	**#524**	**#280**	**#444**	**#546**	**#300**	**#470**	**#579**
	NBL[1]	1,200	N/A	N/A	157	63	75	164	67	86	164	67	87	#364	127	212	#374	127	212
	NBR[1]	1,200	N/A	N/A	18	31	20	25	104	127	26	130	160	84	236	#695	96	254	#739
	SBL[1]	1,400	N/A	N/A	86	214	157	176	#334	#286	176	#334	#291	212	#492	#512	215	#492	#512
	SBR[1]	1,400	N/A	N/A	0	53	14	3	55	17	3	55	17	0	70	33	0	70	33
2. Valley Springs Pkwy/Eucalyptus Ave	EBL	300	530	830	112	217	**#404**	**#437**	**#491**	**#840**	**#454**	**#491**	**#840**	**#396**	**#468**	**#815**	**#420**	**#468**	**#815**
	EBR	360	530	830	0	48	0	10	54	3	10	54	3	49	67	41	48	68	41
	WBL	100	200	950	47	70	56	64	84	69	65	84	69	**142**	**#140**	**102**	**142**	**#140**	**102**
	WBR	30	200	950	6	27	**50**	**58**	**76**	**134**	**58**	**76**	**134**	**38**	**74**	**142**	**36**	**71**	**142**
	NBL	150	1,600	>2,000	**166**	135	87	**225**	**175**	132	**232**	**175**	132	**#532**	**#436**	**#307**	**#544**	**#424**	**#307**
	SBL	160	390	960	29	109	128	75	**221**	**228**	77	**221**	**228**	77	**#249**	**#369**	77	**#249**	**#369**
3. Day St/SR-60 WB Ramps	WBL[1]	1,580	N/A	N/A	131	221	#398	202	#310	#559	202	#312	#561	342	#423	#604	342	#423	#605
	WBR[1]	1,580	N/A	N/A	47	119	127	54	132	149	57	132	150	293	199	206	294	200	207
	NBR	180	820	820	0	0	0	0	m0	m0	0	m0	m2	0	m5	m0	0	m5	m0
	SBL[2]	200	380	950	78	79	79	82	83	83	82	83	83	103	#121	#122	103	#122	#122
4. Day St/SR-60 EB Ramps	WBL[1]	1,280	N/A	N/A	162	#324	#343	215	#404	#454	226	#433	#481	216	#423	#464	225	#445	#485
	WBR[1]	1,280	N/A	N/A	26	264	87	27	304	100	27	305	101	46	352	117	49	351	116
	SBL	500	840	840	75	m97	m68	m74	m94	m62	m74	m94	m62	m86	m#155	m#111	m86	m#156	m#111
5. Day St/Canyon Springs Pkwy	EBL[3]	170	240	490	144	**#451**	**#513**	57	**#517**	**#592**	165	**#517**	**#592**	**#209**	**#570**	**#663**	**#209**	**#570**	**#628**
	WBL	140	140	300	63	75	135	68	78	**141**	69	78	**141**	75	78	137	75	78	122
	NBL	180	580	580	122	**275**	**#470**	132	**#306**	**#521**	135	**#306**	**#521**	#178	**#412**	**#593**	**#190**	**#424**	**#565**
	SBL	145	370	370	**207**	**295**	**#410**	**227**	**318**	**#455**	**232**	**318**	**#455**	**#302**	**#453**	**#591**	**#314**	**#453**	**#562**
6. Day St/ Campus Pkwy	EBL[2,3]	190	300	790	30	132	140	41	148	153	41	148	153	47	**#192**	**#212**	47	**#200**	**#224**
	WBL	190	440	440	43	130	175	53	140	187	73	151	**204**	62	#163	**#276**	#93	**#200**	**#302**
	NBL	140	360	880	67	**165**	**230**	82	**184**	**#281**	82	**184**	**#281**	#108	**#229**	**#347**	#108	**#239**	**#347**
	SBL	180	170	580	54	**198**	**#362**	64	**217**	**#403**	80	**#270**	**#460**	75	**#273**	**#435**	#109	**#326**	**#484**
7. Day St/ Eucalyptus Ave	EBL	100	340	2,000	**155**	**306**	**#511**	**259**	**#440**	**#721**	**269**	**#459**	**#742**	**#666**	**#988**	**#1,441**	**#666**	**#1011**	**#1460**
	WBL	170	100	1,000	89	145	142	113	156	152	139	**176**	**173**	**#206**	**#290**	**246**	**#234**	**#349**	**#305**
	WBR	200	100	1,000	39	58	69	60	63	76	73	63	99	89	64	**211**	104	64	**212**
	NBL	150	510	1,210	**#250**	78	106	#424	101	144	#433	101	144	**#829**	**#262**	**#390**	#829	#262	#390
	SBL	180	300	1,100	93	**205**	**186**	126	**#307**	**#234**	128	**#307**	**#234**	**#377**	**#589**	**#546**	#388	#589	#558
8. Town Cir/ Campus Pkwy	EBL[3]	200	460	460	3	18	48	3	20	55	5	28	70	3	20	58	3	28	73
	EBR	450	460	460	3	15	30	3	18	35	3	23	45	3	20	38	3	23	45
	NBL	125	150	>2,000	10	38	88	10	43	108	15	50	**130**	10	45	115	13	53	**140**

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet)														
					Existing Conditions			2026 Background Conditions (without project)			2026 Total Traffic Conditions (with project)			2040 Background Conditions (without project)			2040 Total Traffic Conditions (with project)		
					Weekday AM	Weekday PM	Saturday Mid	Weekday AM	Weekday PM	Saturday Mid	Weekday AM	Weekday PM	Saturday Mid	Weekday AM	Weekday PM	Saturday Mid	Weekday AM	Weekday PM	Saturday Mid
9. Memorial Way/ Town Cir	WBL[2]	100	310	>2,000	5	28	65	8	33	78	8	35	78	5	33	85	8	35	83
	NBL[3]	100	200	450	8	28	60	8	30	73	8	33	73	8	33	75	8	33	75
	NBR	450	200	450	5	23	78	5	25	98	5	28	100	5	28	105	5	28	108
10. Memorial Way-Eucalyptus Ave/ Towngate Blvd	EBL	160	450	930	51	122	**194**	55	142	**231**	55	150	**239**	69	**180**	**261**	71	**180**	**261**
	EBR	70	450	930	42	**103**	**78**	50	**185**	**133**	60	**219**	**158**	**77**	**480**	**365**	**95**	**503**	**375**
	WBL	150	970	1,950	39	53	54	43	60	64	43	64	65	72	**#245**	**206**	75	**#245**	**206**
	WBR	70	970	1,950	11	51	**102**	13	66	**134**	13	**74**	**148**	0	52	**118**	0	52	**117**
	NBL	200	430	920	**233**	187	**217**	**312**	**252**	**335**	**313**	**268**	**#355**	**487**	**#385**	**422**	**516**	**#385**	**422**
	SBL	190	640	640	49	109	128	53	126	149	53	132	154	66	158	170	69	158	170
11. Town Cir/ Centerpoint Drive	EBL	50	350	N/A	-	-	-	-	-	-	7	9	8	-	-	-	6	9	7
	NBL	75	110	>2,000	-	-	-	-	-	-	39	33	33	-	-	-	39	33	32
	NBR	65	110	>2,000	5	17	27	8	18	39	19	**81**	**138**	6	25	43	35	**79**	***107***
	SBL[3]	50	80	>2,000	12	**96**	**74**	13	**102**	**79**	29	**118**	**#123**	13	**102**	**81**	38	**118**	**#150**
12. Heritage Way/Town Circ	EBL	50	650	>2,000	-	-	-	-	-	-	0	3	5	-	-	-	0	3	5
	WBL	100	250	740	3	10	20	5	13	35	20	38	55	5	13	38	15	35	55
	NBL	100	130	630	3	13	30	3	15	35	5	20	50	3	15	35	5	20	50
	NBR	650	130	630	3	5	8	3	5	15	15	28	40	0	8	15	13	28	40
13. Heritage Way/Towngate Blvd	EBL	325	900	1,930	29	59	69	48	#107	98	107	173	196	53	#110	118	121	212	215
	EBR	100	900	1,930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	WBL	150	460	1,260	24	33	32	38	46	45	39	49	48	43	46	51	46	59	52
	WBR	85	460	1,260	0	32	54	0	22	85	37	64	***131***	0	23	66	17	***95***	***162***
	SBL[2]	200	120	N/A	33	105	118	43	127	153	141	***229***	***268***	52	129	193	166	***290***	***295***
	SBR	650	120	N/A	1	2	18	0	0	21	47	46	55	0	0	0	121	53	58
14. Pigeon Pass Rd/Hemlock Rd	WBL[3]	260	160	400	233	228	**291**	252	247	**#375**	**292**	**#314**	**#469**	**282**	**#333**	**376**	**313**	**#405**	**#439**
	NBL	240	700	700	106	133	175	111	139	185	111	139	185	114	145	192	114	145	192
	NBR	90	700	700	83	**288**	**219**	**95**	**337**	**261**	**105**	**346**	**271**	**106**	**295**	**246**	**119**	**309**	**260**
	SBL[2]	200	200	1,340	144	131	143	152	138	151	152	138	151	154	#177	#169	154	#188	#181
15. Frederick St/ SR-60 EB On-Ramp	SBL	340	700	700	236	176	189	253	187	198	253	187	198	276	193	208	276	193	211
16. Frederick St/ SR-60 EB Off-Ramp – Sunnymead Boulevard	EBL[1]	1,700	N/A	N/A	144	258	232	154	278	250	154	278	250	156	274	257	156	277	255
	EBR[1]	1,700	N/A	N/A	206	362	#559	231	402	#633	315	#624	#835	235	401	#658	320	#621	#857
	WBL[3]	140	150	>2,000	**163**	**179**	**#301**	**174**	**191**	**#334**	**179**	**201**	**#350**	**291**	**259**	**#447**	**#301**	**268**	**#471**
	NBR	75	210	460	64	**214**	**250**	74	**245**	**288**	**100**	**267**	**318**	**157**	**#814**	**#914**	**213**	**#819**	**#935**
	SBL	60	120	120	**141**	**157**	**232**	**150**	**167**	**#254**	**150**	**167**	**#254**	**#320**	**#503**	**#691**	**#323**	**#515**	**#703**
17. Frederick St/ Centerpoint Dr	NBL	130	320	320	42	64	71	46	72	78	51	77	85	53	80	92	58	90	#109

Study Intersection	Move-ment	Storage Length (feet)	Distance to Adjacent Side Street (feet)	Distance to Adjacent Signal (feet)	95th Percentile Queue Length (feet): Existing Conditions			2026 Background Conditions (without project)			2026 Total Traffic Conditions (with project)			2040 Background Conditions (without project)			2040 Total Traffic Conditions (with project)		
					Weekday AM	Weekday PM	Saturday Mid	Weekday AM	Weekday PM	Saturday Mid	Weekday AM	Weekday PM	Saturday Mid	Weekday AM	Weekday PM	Saturday Mid	Weekday AM	Weekday PM	Saturday Mid
18. Frederick St/ Towngate Blvd	EBR	100	340	1,260	28	63	63	30	65	66	45	75	76	39	**220**	**260**	55	**268**	**#355**
	NBL	330	660	1,200	133	254	**#352**	146	**287**	**#466**	199	**#417**	**#616**	311	316	**#412**	**360**	**#434**	**#531**
	SBR	100	220	420	14	29	60	16	38	87	19	42	***105***	50	50	**142**	64	72	**171**
19. Frederick St/ Eucalyptus Ave	EBL[2]	200	560	>2,000	109	107	101	123	114	111	131	117	114	**257**	#189	#197	**262**	#193	**#209**
	WBL	150	360	>2,000	109	82	60	123	90	65	131	92	66	**160**	#95	75	**160**	#98	75
	NBL[2]	190	1,200	1,200	115	175	**192**	150	**202**	**238**	160	**208**	**242**	**196**	**#208**	**275**	**197**	**#208**	**277**
	NBR	190	1,200	1,200	40	12	0	49	17	0	54	17	0	60	0	0	37	0	0
	SBL	130	260	1,200	127	**230**	**196**	**145**	**246**	**218**	**205**	**291**	**263**	**192**	**#437**	**#446**	**253**	**#486**	**#515**
	SBR	190	260	1,200	34	35	31	40	41	37	41	40	36	70	37	41	75	37	40
20. SR-60 WB Off Ramp/Hemlock Ave	NBL[1]	1,600	N/A	N/A	97	115	137	107	129	155	118	154	180	109	122	138	125	146	163
	NBR[1]	1,600	N/A	N/A	0	0	1	0	0	3	0	0	3	0	0	3	0	0	3
A. Access A/ Town Circ	NBL/R	N/A[4]	N/A	N/A	-	-	-	-	-	-	8	5	8	-	-	-	5	5	8
B. Access B/ Town Circ	NBL/R	N/A[4]	N/A	N/A	-	-	-	-	-	-	0	3	3	-	-	-	0	3	3
C. Access C/ Town Circ	EBL/R	N/A[4]	N/A	N/A	-	-	-	-	-	-	3	3	3	-	-	-	3	3	3
D. Access D/ Town Circ	EBL/R	N/A[4]	N/A	N/A	-	-	-	-	-	-	23	23	45	-	-	-	23	23	48
	NBL	75	140	>2,000	-	-	-	-	-	-	3	5	5	-	-	-	3	5	5
E. Access E/ Town Circ	EBL	75	25	>2,000	-	-	-	-	-	-	0	3	3	-	-	-	0	3	3
	SBL	N/A[4]	N/A	N/A	-	-	-	-	-	-	3	5	10	-	-	-	3	5	10
	SBR	N/A[4]	N/A	N/A	-	-	-	-	-	-	0	3	5	-	-	-	0	3	5

[1] Ramp storage measured to gore point
[2] Left turn storage lane transitions to two-way left turn lane
[3] Second turn-lane that extends to adjacent intersection
[4] Site access, storage length not defined
EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right, N/A = Not Applicable
Bold text indicates that 95th percentile queue length exceeds striped storage
Bold italics text indicates that 95th percentile queue length exceeds striped storage under total traffic conditions and not in background conditions.

1. I-215 Ramps/Eucalyptus Avenue

This signalized Caltrans intersection is a SPUI (single point urban interchange) and serves both directions of I-215. Table 42 shows the movements at the intersection where 95th percentile queues are projected to exceed striped storage. As shown in the table, the project has minimal to no impact on these queues. There is expected to be adequate queue storage on the I-215 ramps. The project would increase the 95th percentile queues on the westbound left turn lane, however no feasible improvements have been identified. In addition, this intersection is under Caltrans' jurisdiction and therefore the City of Moreno Valley cannot guarantee improvements at this location.

Table 42. Queue Assessment at I-215 Ramps/Eucalyptus Avenue

Movement	Storage Length (feet)	Scenarios 95th Percentile Queue > Storage	Project Queue Increase (feet)	Potential Improvement
EBL	250	2040 BK Wkdy PM 2040 TT Wkdy PM	None	Potentially space to restripe to extend queue storage ~200 feet
EBR	50	2026 BK Wkdy PM 2026 TT Wkdy PM 2040 BK Wkdy PM 2040 TT Wkdy PM	None	No space to extend queue storage, free movement
WBL	275	2026 BK Wkdy PM, Sat Mid 2026 TT Wkdy PM, Sat Mid 2040 BK All 2040 TT All	< 50	No space to extend queue storage

EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right, N/A = Not Applicable
BG = Background (without site), TT = Total Traffic (with site), Wkdy = Weekday, Sat = Saturday

2. Valley Springs Parkway/Eucalyptus Avenue

This signalized intersection is under Riverside's jurisdiction. Table 43 shows the eastbound left, northbound left, and southbound left movements where 95th percentile queues are projected to increase with the project, and exceed striped storage. As shown in the table, the project would result in a small increase to these queues of one vehicle (less than 25 feet). While 95th percentile queues for the westbound left and right movements are projected to exceed storage, the project is not anticipated to increase queue lengths.

The northbound left-turn striped storage could potentially be extended if the roadway was restriped and the shoulders narrowed. There is not space available to extend the queue storage for the other turning movements. Because this intersection is under Riverside's jurisdiction, the City of Moreno Valley cannot guarantee improvements at the intersection. In addition, the changes in queues anticipated with the project are minimal. Due to these reasons, the project would not be required to implement modifications at this intersection to address queueing.

Table 43. Queue Assessment at Valley Springs Parkway/Eucalyptus Avenue

Movement	Storage Length (feet)	Scenarios 95th Percentile Queue > Storage	Project Queue Increase (feet)	Potential Improvement
EBL	300	Existing Sat Mid 2026 BK All 2026 TT All 2040 BK All 2040 TT All	< 25	No space to extend queue storage
WBL	100	2040 BK All 2040 TT All	None	Left turn storage continues as two-way left turn lane adequate to serve projected queues

Movement	Storage Length (feet)	Scenarios 95th Percentile Queue > Storage	Project Queue Increase (feet)	Potential Improvement
WBR	30	Existing Sat Mid 2026 BK All 2026 TT All 2040 BK All 2040 TT All	None	No space to extend queue storage
NBL	150	Existing Wkdy AM 2026 BK Wkdy AM, PM 2026 TT Wkdy AM, PM 2040 BK All 2040 TT All	< 25	Could potentially extend queue storage if restriped and narrowed shoulders
SBL	160	2026 BK Wkdy PM, Sat Mid 2026 TT Wkdy PM, Sat Mid 2040 BK Wkdy PM, Sat Mid 2040 TT Wkdy PM, Sat Mid	< 25	No space to extend queue storage

EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right, N/A = Not Applicable
BG = Background (without site), TT = Total Traffic (with site), Wkdy = Weekday, Sat = Saturday

5. Day Street/Canyon Springs Parkway

This signalized intersection is under Riverside's jurisdiction. Table 44 shows the westbound left, northbound left, and southbound left movements where 95th percentile queues are projected to increase with the project, and exceed striped storage. As shown in the table, the project would result in a small increase to these queues of one vehicle (less than 25 feet at all locations). While 95th percentile queues for the eastbound left movement is projected to exceed storage, the project is not anticipated to increase queue lengths.

There is not space available to extend the queue storage for the left turning movements. Because this intersection is under Riverside's jurisdiction, the City of Moreno Valley cannot guarantee improvements at the intersection. In addition, the change in queues anticipate with the project are minimal. Due to these reasons, the project would not be required to implement modifications at this intersection to address queueing.

Table 44. Queue Assessment at Day Street/Canyon Springs Parkway

Movement	Storage Length (feet)	Scenarios 95th Percentile Queue > Storage	Project Queue Increase (feet)	Potential Improvement
EBL	170	Existing Wkdy PM, Sat Mid 2026 BK Wkdy PM, Sat Mid 2026 TT Wkdy PM, Sat Mid 2040 BK All 2040 TT All	none	No space to extend queue storage
WBL	140	2026 BK Sat Mid 2026 TT Sat Mid	< 25	No space to extend queue storage
NBL	180	Existing Wkdy PM, Sat Mid 2026 BK Wkdy PM, Sat Mid 2026 TT Wkdy PM, Sat Mid 2040 BK Wkdy PM, Sat Mid 2040 TT All	< 25	No space to extend queue storage
SBL	145	Existing All 2026 BK All 2026 TT All 2040 BK All 2040 TT All	< 25	No space to extend queue storage

EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right, N/A = Not Applicable
BG = Background (without site), TT = Total Traffic (with site), Wkdy = Weekday, Sat = Saturday

6. Day Street/Campus Parkway

This signalized intersection is under Riverside's jurisdiction. Table 45 shows the eastbound left, westbound left, northbound left, and southbound left movements where 95th percentile queues are projected to increase with the project, and exceed striped storage. As shown in the table, the project would result in a small increase to these queues of three vehicles or less (less than 75 feet at all locations).

The eastbound left-turn continues as a two-way left turn lane adequate to serve projected queues. There is not space available to extend the queue storage for the other turning movements. Because this intersection is under Riverside's jurisdiction, the City of Moreno Valley cannot guarantee improvements at the intersection. In addition, the change in queues anticipate with the project are minimal. Due to these reasons, the project would not be required to implement modifications at this intersection to address queueing.

Table 45. Queue Assessment at Day Street/Campus Parkway

Movement	Storage Length (feet)	Scenarios 95th Percentile Queue > Storage	Project Queue Increase (feet)	Potential Improvement
EBL	190	2040 BK Wkdy PM, Sat Mid 2040 TT Wkdy PM, Sat Mid	< 25	Left turn storage continues as two-way left turn lane adequate to serve projected queues
WBL	190	2026 TT Sat Mid 2040 BK Sat Mid 2040 TT Wkdy PM, Sat Mid	< 50	No space to extend queue storage
NBL	140	Existing Wkdy PM, Sat Mid 2026 BK Wkdy PM, Sat Mid 2026 TT Wkdy PM, Sat Mid 2040 BK Wkdy PM, Sat Mid 2040 TT Wkdy PM, Sat Mid	< 25	No space to extend queue storage
SBL	180	Existing Wkdy PM, Sat Mid 2026 BK Wkdy PM, Sat Mid 2026 TT Wkdy PM, Sat Mid 2040 BK Wkdy PM, Sat Mid 2040 TT Wkdy PM, Sat Mid	< 75	No space to extend queue storage

EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right, N/A = Not Applicable
BG = Background (without site), TT = Total Traffic (with site), Wkdy = Weekday, Sat = Saturday

7. Day Street/Eucalyptus Avenue

This signalized intersection is under Riverside's jurisdiction. Table 46 shows the eastbound left, westbound left, westbound right, northbound left, and southbound left movements where 95th percentile queues are projected to increase with the project, and exceed striped storage. As shown in the table, the project would result in a small increase in these queues to three vehicles or less (less than 75 feet at all locations).

The westbound left-turn continues as a two-way left turn lane adequate to serve projected queues. There is not space available to extend the queue storage for the other turning movements. Because this intersection is under Riverside's jurisdiction, the City of Moreno Valley cannot guarantee improvements at the intersection. In addition, the change in queues anticipate with the project are minimal. Due to these reasons, the project would not be required to implement modifications at this intersection to address queueing.

Table 46. Queue Assessment at Day Street/Eucalyptus Avenue

Movement	Storage Length (feet)	Scenarios 95th Percentile Queue > Storage	Project Queue Increase (feet)	Potential Improvement
EBL	100	Existing All 2026 BK All 2026 TT All 2040 BK All 2040 TT All	< 25	Left turn storage continues as two-way left turn lane adequate to serve existing queues but not projected queues
WBL	170	2026 TT Wkdy PM, Sat Mid 2040 BK All 2040 TT All	< 75	Left turn storage continues as two-way left turn lane adequate to serve projected queues
WBR	200	2040 BK Sat Mid 2040 TT Sat Mid	< 25	No space to extend queue storage
NBL	150	Existing Wkdy AM 2026 BK Wkdy AM 2026 TT Wkdy AM 2040 BK All 2040 TT All	< 25	No space to extend queue storage
SBL	180	Existing Wkdy PM, Sat Mid 2026 BK Wkdy PM, Sat Mid 2026 TT Wkdy PM, Sat Mid 2040 BK All 2040 TT All	< 75	No space to extend queue storage

EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right, N/A = Not Applicable
BG = Background (without site), TT = Total Traffic (with site), Wkdy = Weekday, Sat = Saturday

8. Town Circle/Campus Parkway

This all-way stop-controlled intersection is under the City of Moreno Valley's jurisdiction. Table 47 shows the northbound left movement where 95th percentile queues are projected to increase with the project, and exceed striped storage. As shown in the table, the project would result in a small increase in these queues to one vehicle (less than 25 feet).

The northbound left-turn continues as a two-way left turn lane adequate to serve projected queues. Therefore, it is not recommended to implement modifications at this intersection to address queueing.

Table 47. Queue Assessment at Town Circle/Campus Parkway

Movement	Storage Length (feet)	Scenarios 95th Percentile Queue > Storage	Project Queue Increase (feet)	Potential Improvement
NBL	125	2026 TT Sat Mid 2040 TT Sat Mid	< 25	Left turn storage continues as two-way left turn lane adequate to serve projected queues

EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right, N/A = Not Applicable
BG = Background (without site), TT = Total Traffic (with site), Wkdy = Weekday, Sat = Saturday

10. Memorial Way-Eucalyptus Avenue/ Towngate Boulevard

This signalized intersection is under the City of Moreno Valley's jurisdiction. Table 48 Table 45shows the eastbound left, eastbound right, westbound right, and northbound left movements where 95th percentile queues are projected to increase with the project, and exceed striped storage. As shown in the table, the project would result in a small increase in these queues to two vehicles or less (less than 50 feet at all locations). While 95th percentile queues for the westbound left movement are projected to exceed storage, the project is not anticipated to increase queue lengths.

There is not space available to extend the queue storage for the left turning movements. In addition, the change in queues anticipate with the project are minimal. Due to these reasons, it is not recommended to implement modifications at this intersection to address queueing.

Table 48. Queue Assessment at Memorial Way-Eucalyptus Avenue/ Towngate Boulevard

Movement	Storage Length (feet)	Scenarios 95th Percentile Queue > Storage	Project Queue Increase (feet)	Potential Improvement
EBL	160	Existing Sat Mid 2026 BK Sat Mid 2026 TT Sat Mid 2040 BK Wkdy PM, Sat Mid 2040 TT Wkdy PM, Sat Mid	< 25	No space to extend queue storage
EBR	70	Existing Wkdy PM, Sat Mid 2026 BK Wkdy PM, Sat Mid 2026 TT Wkdy PM, Sat Mid 2040 BK All 2040 TT All	< 50	No space to extend queue storage
WBL	150	2040 BK Wkdy PM, Sat Mid 2040 TT S Wkdy PM, Sat Mid	none	No space to extend queue storage
WBR	70	Existing Sat Mid 2026 BK Sat Mid 2026 TT Wkdy PM, Sat Mid 2040 BK Sat Mid 2040 TT Sat Mid	< 25	No space to extend queue storage
NBL	200	Existing Wkdy AM, Sat Mid 2026 BK All 2026 TT All 2040 BK All 2040 TT All	< 50	No space to extend queue storage

EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right, N/A = Not Applicable
BG = Background (without site), TT = Total Traffic (with site), Wkdy = Weekday, Sat = Saturday

11. Town Circle/Centerpoint Drive

This signalized intersection is under the City of Moreno Valley's jurisdiction. Table 49 Table 45shows the northbound right and southbound left movements where 95th percentile queues are projected to increase with the project, and exceed striped storage. As shown in the table, the project would result in an increase in these queues to four vehicles or less (less than 100 feet at all locations).

The intersection will be reconfigured with site development to add a west leg to the intersection. With the proposed configuration, the northbound right turn and southbound left turn are both fed by through lanes with adequate storage to serve projected queues. Due to these reasons, it is not recommended to implement additional modifications at this intersection to address queueing.

Table 49. Queue Assessment at Town Circle/Centerpoint Drive

Movement	Storage Length (feet)	Scenarios 95th Percentile Queue > Storage	Project Queue Increase (feet)	Potential Improvement
NBR	65	2026 TT Wkdy PM, Sat Mid 2040 TT Wkdy PM, Sat Mid	< 100	With site development the right turn lane is fed by a through lane which provides adequate storage to serve projected queues
SBL	50	Existing Wkdy PM, Sat Mid 2026 BK Wkdy PM, Sat Mid 2026 TT Wkdy PM, Sat Mid 2040 BK Wkdy PM, Sat Mid 2040 TT Wkdy PM, Sat Mid	< 75	One of the two left turn lanes is fed by a through lane which provides adequate storage to serve projected queues

EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right, N/A = Not Applicable
BG = Background (without site), TT = Total Traffic (with site), Wkdy = Weekday, Sat = Saturday

13. Heritage Way/Towngate Boulevard

This signalized intersection is under the City of Moreno Valley's jurisdiction. Table 50 shows the westbound right and southbound left movements where 95th percentile queues are projected to increase with the project, and exceed striped storage.

The southbound left-turn continues as a two-way left turn lane adequate to serve projected queues. The westbound right turn lane is constrained by the bicycle lane on Towngate Boulevard, which transitions to a shared lane for the length of the westbound right-turn lane. Given the limitations on extending the right turn lane storage, it is not recommended to implement modifications at this intersection to address queueing.

Table 50. Queue Assessment at Heritage Way/Towngate Boulevard

Movement	Storage Length (feet)	Scenarios 95th Percentile Queue > Storage	Project Queue Increase (feet)	Potential Improvement
WBR	85	2026 TT Sat Mid 2040 TT Wkdy PM, Sat Mid	< 100	No space to extend queue storage
SBL	200	2026 TT Wkdy PM, Sat Mid 2040 TT Wkdy PM, Sat Mid	< 175	Left turn storage continues as two-way left turn lane adequate to serve projected queues

EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right, N/A = Not Applicable
BG = Background (without site), TT = Total Traffic (with site), Wkdy = Weekday, Sat = Saturday

14. Pigeon Pass Road/Hemlock Road

This signalized intersection is under the City of Moreno Valley's jurisdiction. Table 51 Table 45shows the westbound left and northbound right movements where 95th percentile queues are projected to increase with the project, and exceed striped storage. As shown in the table, the project would result in an increase in these queues to four vehicles or less (less than 100 feet at both locations).

There is not space available to extend the queue storage for the either movement. The westbound left turn storage is limited by the adjacent intersection at the SR 60 westbound off ramps and the northbound queue storage is limited by the on ramp for SR 60 westbound. Given the lack of feasible improvements, no improvements are recommended at this intersection to address queueing.

Table 51. Queue Assessment at Pigeon Pass Road/Hemlock Road

Movement	Storage Length (feet)	Scenarios 95th Percentile Queue > Storage	Project Queue Increase (feet)	Potential Improvement
WBL	260	Existing Sat Mid 2026 BK Sat Mid 2026 TT All 2040 BK All 2040 TT All d	< 100	No space to extend queue storage
NBR	90	Existing Wkdy PM, Sat Mid 2026 BK All 2026 TT All 2040 BK All 2040 TT All	< 25	No space to extend queue storage

EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right, N/A = Not Applicable
BG = Background (without site), TT = Total Traffic (with site), Wkdy = Weekday, Sat = Saturday

16. Frederick Street/SR-60 EB Off-Ramp – Sunnymead Boulevard

This signalized intersection is under Caltrans' jurisdiction. Table 52 shows the westbound left, northbound right, and southbound left movements where 95th percentile queues are projected to increase with the project, and exceed striped storage. As shown in the table, the project would result in a small increase in these queues to three vehicles or less (less than 75 feet at all locations). The queue storage for the SR-60 EB off-ramp is projected to serve anticipated queues.

There is not space available to extend the queue storage for the turning movements. Because this intersection is under Caltrans' jurisdiction, the City of Moreno Valley cannot guarantee improvements at the intersection. In addition, the change in queues anticipate with the project are minimal. Due to these reasons, the project would not be required to implement modifications at this intersection to address queueing.

Table 52. Queue Assessment at Frederick Street/SR-60 EB Off-Ramp – Sunnymead Boulevard

Movement	Storage Length (feet)	Scenarios 95th Percentile Queue > Storage	Project Queue Increase (feet)	Potential Improvement
WBL	140	Existing All 2026 BK All 2026 TT All 2040 BK All 2040 TT All	< 25	No space to extend queue storage
NBR	75	Existing Wkdy PM, Sat Mid 2026 BK Wkdy PM, Sat Mid 2026 TT All 2040 BK All 2040 TT All	< 75	No space to extend queue storage
SBL	60	Existing All 2026 BK All 2026 TT All 2040 BK All 2040 TT All	< 25	No space to extend queue storage

EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right, N/A = Not Applicable
BG = Background (without site), TT = Total Traffic (with site), Wkdy = Weekday, Sat = Saturday

18. Frederick Street/Towngate Boulevard

This signalized intersection is under the City of Moreno Valley's jurisdiction. Table 53 shows the eastbound right, northbound left, and southbound right movements where 95th percentile queues are projected to increase with the project, and exceed striped storage.

There is not space available to extend the queue storage for the turning movements. The eastbound right turn lane is constrained by the bicycle lane on Towngate Boulevard, which transitions to a shared lane for the length of the westbound right-turn lane. The northbound left turn lane is constrained by the left turn lanes on Frederick Street serving adjacent residential development and the southbound right turn lane is constrained by the signal at Brabham Street. Given the lack of feasible improvements, no improvements are recommended at this intersection to address queueing.

Table 53. Queue Assessment at Frederick Street/Towngate Boulevard

Movement	Storage Length (feet)	Scenarios 95th Percentile Queue > Storage	Project Queue Increase (feet)	Potential Improvement
EBR	100	2040 BK Wkdy PM, Sat Mid 2040 TT Wkdy PM, Sat Mid	< 100	No space to extend queue storage
NBL	330	Existing Sat Mid 2026 BK Wkdy PM, Sat Mid 2026 TT BK Wkdy PM, Sat Mid 2040 BK Sat Mid 2040 TT BK Wkdy PM, Sat Mid	< 150	No space to extend queue storage
SBR	100	2026 TT Sat Mid 2040 BK Sat Mid 2040 TT Sat Mid	< 50	No space to extend queue storage

EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right, N/A = Not Applicable
BG = Background (without site), TT = Total Traffic (with site), Wkdy = Weekday, Sat = Saturday

19. Frederick Street/Eucalyptus Avenue

This signalized intersection is under the City of Moreno Valley's jurisdiction. Table 54 shows the eastbound left, northbound left, and southbound left movements where 95th percentile queues are projected to increase with the project, and exceed striped storage. As shown in the table, the project would result in a small increase to these queues of three vehicles or less (less than 75 feet). While 95th percentile queues for the westbound left movement is projected to exceed storage, the project is not anticipated to increase queue lengths.

The eastbound and southbound left turns continue as two-way left turn lanes adequate to serve projected queues. The queue storage for the westbound left turn lane could potentially be increased by restriping Frederick street to provide a five-lane cross section, but the 95th percentile queue is expected to exceed the striped storage by only one car length and only during the weekday AM peak hour in 2040. The southbound left turn queue is constrained by the left turn lanes on Frederick Street serving adjacent residential development. Given the relatively small impact of the project and given the lack of feasible improvements, no improvements are recommended at this intersection to address queueing.

Table 54. Queue Assessment at Frederick Street/Eucalyptus Avenue

Movement	Storage Length (feet)	Scenarios 95th Percentile Queue > Storage	Project Queue Increase (feet)	Potential Improvement
EBL	200	2040 BK Wkdy AMd 2040 TT Wkdy AM, Sat Mid	< 25	Left turn storage continues as two-way left turn lane adequate to serve projected queues
WBL	150	2040 BK Wkdy AM 2040 TT Wkdy AM	none	Could potentially extend queue storage if restriped to provide center left turn lane
NBL	190	Existing Sat Mid 2026 BK Wkdy PM, Sat Mid 2026 TT BK Wkdy PM, Sat Mid 2040 BK All 2040 TT All	< 25	Left turn storage continues as two-way left turn lane adequate to serve projected queues
SBL	130	Existing Wkdy PM, Sat Mid 2026 BK All 2026 TT All 2040 BK All 2040 TT All	< 75	No space to extend queue storage

EB = eastbound, WB = westbound, NB = northbound, SB = southbound, L = left, R = right, N/A = Not Applicable
BG = Background (without site), TT = Total Traffic (with site), Wkdy = Weekday, Sat = Saturday

ROADWAY SEGMENT OPERATIONS

Table 55 summarizes operations at all roadway segments during the scenarios studied. Table 56 presents the roadway segments not meeting LOS standards in one or more analysis scenarios, including whether standards are not met on a weekday, Saturday, or both. As shown, Day Street and Frederick Street both have two or more segments not meeting standards.

Table 55. Roadway Segment Operations in All Scenarios

Roadway	Segment	Juris-diction	Classification	LOS Std.	LOS E Capacity	Existing Conditions				2026 Background Conditions (without project)				2026 Total Traffic Conditions (with project)				2040 Background Conditions (without project)				2040 Total Traffic Conditions (with project)			
						Weekday		Saturday		Weekday		Saturday		Weekday		Saturday		Weekday		Saturday		Weekday		Saturday	
						LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c	LOS	v/c
A. Day St	SR 60 WB Ramp to SR 60 EB Ramp	Riverside	Arterial 120'	D	49,500	C	0.73	C	0.71	C	0.84	C	0.85	C	0.85	C	0.86	**E**	1.05	**E**	1.12	**E**	1.06	**E**	1.13
	SR 60 EB Ramp to Canyon Springs Pkwy	Riverside	Arterial 120'	D	49,500	D	0.91	D	0.98	**E**	1.08	**E**	1.20	**E**	1.11	**E**	1.22	**E**	1.36	**E**	1.57	**E**	1.39	**E**	1.60
	Canyon Springs Pkwy to Campus Pkwy	Riverside	Arterial 120'	D	49,500	C	0.62	C	0.69	C	0.77	C	0.88	C	0.79	D	0.90	**E**	1.10	**E**	1.30	**E**	1.12	**E**	1.32
	Campus Pkwy to Gateway Dr	Riverside	Arterial 120'	D	49,500	C	0.58	C	0.63	C	0.73	C	0.81	C	0.73	C	0.81	**E**	1.10	**E**	1.27	**E**	1.10	**E**	1.27
	Gateway Dr to Eucalyptus Ave	Riverside	Arterial 120'	D	49,500	C	0.48	C	0.44	C	0.57	C	0.54	C	0.58	C	0.55	**E**	1.01	D	0.98	**E**	1.01	D	0.99
B. Eucalyptus Ave	I-215 Ramps to Day St	Riverside	Arterial 120'	D	49,500	C	0.37	C	0.35	C	0.45	C	0.45	C	0.48	C	0.48	C	0.64	C	0.71	C	0.67	C	0.74
	Day St to Towngate Blvd	MV	Major Arterial (4D)/ Major Arterial (6D)[1]	D	37,500/ 56,300	A	0.44	A	0.39	A	0.51	A	0.48	A	0.56	A	0.52	A	0.48	A	0.47	A	0.51	A	0.51
C. Town Cir	Campus Pkwy to Centerpoint Dr	MV	N/A[2]	D	25,000	A	0.26	A	0.39	A	0.28	A	0.41	A	0.45	A	0.59	A	0.29	A	0.44	A	0.46	B	0.61
D. Centerpoint Dr	Town Cir and Frederick St	MV	N/A[2]	D	56,300	A	0.29	A	0.38	A	0.31	A	0.40	A	0.41	A	0.50	A	0.32	A	0.44	A	0.41	A	0.54
E. Towngate Blvd	Eucalyptus Ave and Frederick St	MV	Major Arterial (4D)	D	37,500	A	0.29	A	0.31	A	0.32	A	0.35	A	0.37	A	0.40	A	0.47	A	0.56	A	0.52	B	0.61
F. Pigeon Pass Rd	Hemlock Ave to Sunnymead Blvd	MV	Arterial (6D)[3]	D	56,300	B	0.69	B	0.66	C	0.76	C	0.73	D	0.80	C	0.78	D	0.84	D	0.85	D	0.88	D	0.90
G. Frederick St	Sunnymeade Blvd to Centerrpoint Dr	MV	Major Arterial (6D)[3]	D	56,300	B	0.65	B	0.69	C	0.72	C	0.76	D	0.81	D	0.86	C	0.80	D	0.87	D	0.89	D	0.96
	Centerpoint Dr to Towngate Blvd	MV	Major Arterial (4D)	D	37,500	C	0.76	B	0.66	D	0.85	C	0.74	D	0.85	C	0.74	**E**	0.96	**E**	0.91	**E**	0.96	**E**	0.92
	Towngate Blvd to Eucalyptus Ave	MV	Major Arterial (4D)	D	37,500	C	0.72	B	0.65	C	0.79	C	0.70	D	0.84	C	0.76	**E**	0.90	D	0.86	***E***	0.96	***E***	0.91

ADT = Average Daily Traffic, MV = Moreno Valley, 4D = 4 Lane Divided, 4U = 4 Lane Undivided, 6D = 6 Lane Divided
Bold text indicates not meeting standards
Bold italic text indicates operations meet the City's threshold for identifying improvements
[1] Eucalyptus Avenue is planned to be widened to 6 lanes before 2040, so was assessed as a 4 lane roadway in existing and 2026 conditions and a 6 lane roadway in 2040 conditions.
[2] These roadways are not classified on the City of Moreno Valley's Circulation Diagram. The segment LOS was determined using the classification that most closely matches the cross-section.
[3] Given the long turn lanes and auxiliary lanes through these sections, the segment LOS was determined using the 6 Lane Arterial classification.

Table 56. Roadway Segments not Meeting Standards

Roadway/ Segment	Juris-diction	Classification	LOS Std.	Days *not* Meeting Standards: Existing	2026 Back-ground (without project)	2026 Total Traffic (with project)	2040 Back-ground (without project)	2040 Total Traffic (with project)
A. Day St								
SR 60 WB Ramp to SR 60 EB Ramp	Riverside	Arterial 120'	D	-	-	-	Weekday Saturday	Weekday Saturday
SR 60 EB Ramp to Canyon Springs Pkwy	Riverside	Arterial 120'	D	-	Weekday Saturday	Weekday Saturday	Weekday Saturday	Weekday Saturday
Canyon Springs Pkwy to Campus Pkwy	Riverside	Arterial 120'	D	-	-	-	Weekday Saturday	Weekday Saturday
Campus Pkwy to Gateway Dr	Riverside	Arterial 120'	D	-	-	-	Weekday Saturday	Weekday Saturday
Gateway Dr to Eucalyptus Ave	Riverside	Arterial 120'	D	-	-	-	Weekday	Weekday
G. Frederick St								
Centerpoint Dr to Towngate Blvd	MV	Major Arterial (4D)	D	-	-	-	Weekday Saturday	Weekday Saturday
Towngate Blvd to Eucalyptus Ave	MV	Major Arterial (4D)	D	-	-	-	Weekday	***Weekday Saturday***

Notes: LOS = Level of Service, MV = Moreno Valley
Bold italic text indicates operations meet the City's threshold for identifying improvements

As shown in the table, the following roadway segments do not operate within the target LOS:

- All segments on Day Street operate at a LOS E under both 2040 scenarios on a weekday, and all operate at an E on a Saturday except for the segment between Gateway Drive and Eucalyptus Avenue. Day Street is built out to its ultimate width (six lanes), except for the segment between the SR 60 WB Ramp and SR 60 EB Ramp, which is constrained to five lanes by the SR-60 overpass. The project adds traffic less than 5% of the roadway capacity, so does not meet the City's requirement to identify operational improvements.
- Both segments on Frederick Street shown in the table operate at a LOS E under both 2040 scenarios on a weekday. On a Saturday, the segment between Towngate Boulevard and Eucalyptus Avenue operates at a LOS E under total traffic conditions and at a LOS D under background conditions. Frederick Street is four lanes with a median and turn lanes. The project increases the volume-to-capacity ratio on the segment between Towngate Boulevard and Eucalyptus Avenue by 0.06 on a weekday and 0.05 on a Saturday, and therefore meets Moreno Valley's threshold for identifying improvements. Given the lack of right-of-way for widening Frederick Street, the project could contribute to ITS (intelligent transport system) improvements on Frederick Street, such as fiber optic interconnect, CCTV, traffic signal controller improvements, or coordination between signals to improve operations.

FREEWAY OPERATIONS

All freeway segments of SR-60 and I-215 analyzed are forecasted to operate at a LOS D or better during all peak periods in all scenarios.

PROJECT FAIR-SHARE

At intersections where an operational deficiency was identified, this traffic impact analysis identified the number of project trips that would use the intersection and the ratio of project traffic to the projected traffic increase at that location. In other words, the project fair share percentage equals the project traffic divided by the sum of the project trips and future development trips (calculated by subtracting existing traffic volumes from future traffic volumes):

$$\text{Project Fair Share \%} = \frac{Project\ Traffic}{(Future\ Traffic\ Volume - Existing\ Traffic\ Volume)}$$

Fair share contributions are an acceptable improvement when the project applicant is responsible for only a portion of a costly transportation enhancement. In other words, it is applicable when there are other proposed development projects nearby that may also contribute toward the cost or when the city has other funding sources for the improvement.

The City of Moreno Valley TIA Guidelines states that "If a project degrades operations during both peak hours, then the analysis should identify the peak hour for fair share assessment that has the higher fair-share percentage." For locations that do not meet standards under both 2026 and 2040 conditions, the higher fair-share percentage is also used.

Table 57 presents a summary of the project fair share percentages for intersections where weekday AM, weekday PM, and/or Saturday midday peak hour operations do not meet target LOS.

Table 57. Project Fair Share Calculations

Location	Peak Hour	Existing (2021) Traffic	Project Trips	Total Traffic Volumes (with project) 2026	Total Traffic Volumes (with project) 2040	Project Fair Share (%) 2026	Project Fair Share (%) 2040
1. I-215 Ramps/ Eucalyptus Ave	AM	2013	123	2947	4734	13.2%	4.5%
	PM	2855	129	4079	5714	**10.5%**	4.5%
	Sat Mid	3072	130	4293	5876	10.6%	4.6%
				Applicable fair share value		**10.5%**	
2. Valley Springs Pkwy/ Eucalyptus Ave	AM	1920	123	3023	4216	11.2%	**5.4%**
	PM	3292	129	4769	5982	**8.7%**	**4.8%**
	Sat Mid	3672	130	5188	6201	**8.6%**	5.1%
				Applicable fair share value		**8.7%**	
5. Day St/ Canyon Springs Pkwy	AM	2154	89	2791	4604	14.0%	3.6%
	PM	4195	93	5141	6471	**9.8%**	**4.1%**
	Sat Mid	5108	93	6124	7640	**9.2%**	**3.7%**
				Applicable fair share value		**9.8%**	
6. Day St/ Campus Pkwy	AM	1557	113	2189	4072	17.9%	4.5%
	PM	3403	117	4331	5791	12.6%	**4.9%**
	Sat Mid	4236	119	5215	6886	**12.2%**	**4.5%**
				Applicable fair share value		**12.2%**	
7. Day St/ Eucalyptus Ave	AM	1972	164	2603	5588	26.0%	**4.5%**
	PM	2791	173	3597	5986	21.5%	**5.4%**
	Sat Mid	2934	174	3772	6041	20.8%	**5.6%**
				Applicable fair share value		**5.6%**	

Location	Peak Hour	Existing (2021) Traffic	Project Trips	Total Traffic Volumes (with project) 2026	Total Traffic Volumes (with project) 2040	Project Fair Share (%) 2026	Project Fair Share (%) 2040
9. Memorial Way/Town Cir	AM	361	62	450	459	69.7%	63.3%
	PM	1270	64	1430	1461	40.0%	33.5%
	Sat Mid	1926	62	2132	2181	**30.1%**	**24.3%**
				Applicable fair share value		**30.1%**	
12. Heritage Way/Town Circ	AM	262	477	759	765	96.0%	94.8%
	PM	847	504	1415	1436	88.7%	85.6%
	Sat Mid	1298	505	1900	1933	**83.9%**	**79.5%**
				Applicable fair share value		**83.9%**	
16. Frederick St/ SR-60 EB Off-Ramp – Sunnymead Blvd	AM	2831	403	3517	4552	58.7%	23.4%
	PM	4335	425	5180	6405	50.3%	20.5%
	Sat Mid	4708	428	5576	6968	**49.3%**	**18.9%**
				Applicable fair share value		**49.3%**	
19. Frederick St/ Eucalyptus Ave	AM	2213	164	2633	3256	39.0%	15.7%
	PM	3200	173	3726	4357	32.9%	**15.0%**
	Sat Mid	2852	174	3364	3920	34.0%	16.3%
				Applicable fair share value		**15.0%**	
Roadway segment: Frederick Street between Towngate Boulevard and Eucalyptus Avenue	Weekday	27,150	2,002	31,598	35,872	45.0%	**23.0%**
	Saturday	24,242	2,022	28,437	34,115	48.2%	**20.5%**
				Appliable fair share value[1]		**21.7%**	

Notes: Project Fair Share = Project Trips divided by (Total Traffic Volumes minus Existing Traffic)
Bold indicates scenarios where the project meets the City's threshold to identify improvements
[1]The City of Moreno Valley's TIA Guidelines reference the use of daily trips for roadway segment locations. The average fair share based on weekday and Saturday daily volumes is used for the roadway segment of Frederick Street

RECOMMENDED IMPROVEMENTS

Table 58 lists recommended improvements, by location, for the intersections and roadway segment where the project meets the City of Riverside or Moreno Valley thresholds for identifying improvements to offset the increase in delay (for intersections) or volume-to-capacity ratio (for roadways) with the project. In addition, it lists what scenarios the location does not meet LOS standards during one or more peak periods. This initial list of improvements will be discussed with the appropriate agencies and refined accordingly.

Table 58. Recommended Improvements

Location	Jurisdiction	Scenarios not Meeting Standards	Proposed Improvement with Site Development	Cost Estimate	Project Fair Share
1. I-215 Ramps/ Eucalyptus Ave	Caltrans	2026 Total Traffic	None (operations improved with signal retiming)	N/A	N/A
2. Valley Springs Pkwy/ Eucalyptus Ave	Riverside	2026 Background, 2026 Total Traffic, 2040 Background, 2040 Total Traffic	Fair share payment towards overlap phasing for the southbound right turn movement	$125,000	$10,875 (8.7%)

Location	Jurisdiction	Scenarios not Meeting Standards	Proposed Improvement with Site Development	Cost Estimate	Project Fair Share
5. Day St/ Canyon Springs Pkwy	Riverside	Existing, 2026 Background, 2026 Total Traffic, 2040 Background, 2040 Total Traffic	Fair share payment towards overlap phasing for the westbound right turn movement	$30,000	$2,940 (9.8%)
6. Day St/ Campus Pkwy	Riverside	2026 Background, 2026 Total Traffic, 2040 Background, 2040 Total Traffic	Fair share payment towards overlap phasing for the westbound right turn movement	$30,000	$3,660 (12.2%)
7. Day St/ Eucalyptus Ave	Riverside	2040 Background, 2040 Total Traffic	None (planned City widening, meets standards in 2026)	N/A	N/A
8. Town Cir/ Campus Pkwy	Moreno Valley	None	Installation of a traffic signal	$625,000 (applicant to install signal)	
9. Memorial Way/Town Cir	Moreno Valley	2026 Total Traffic, 2040 Background, 2040 Total Traffic	Installation of a traffic signal	$625,000 (applicant to install signal)	
12. Heritage Way/Town Circ	Moreno Valley	2026 Total Traffic, 2040 Total Traffic	Installation of a traffic signal	$625,000 (applicant to install signal)	
16. Frederick St/ SR-60 EB Off-Ramp – Sunnymead Blvd	Caltrans	2040 Background, 2040 Total Traffic	Fair share payment towards signal coordination on Frederick Street between Hemlock Ave and Eucalyptus Ave.	$425,000	$92,225 (21.7%)
19. Frederick St/ Eucalyptus Ave	Moreno Valley	2040 Total Traffic			
Roadway segment: Frederick Street between Towngate Boulevard and Eucalyptus Avenue	Moreno Valley	2040 Background, 2040 Total Traffic			
				Total	**$109,700**

In summary, the following improvements and payments are recommended with site development:

- Installation of a traffic signal at Town Circle/Campus Parkway (intersection 8)
- Installation of a traffic signal at Memorial Way/Town Circle (intersection 9)
- Installation of a traffic signal at Heritage Way/Town Circle (intersection 12)
- Total project fair share payment of $109,700, including:
  - $10,875 towards overlap phasing for the southbound right turn movement at Valley Springs Parkway/Eucalyptus Avenue (intersection 2)
  - $2,940 towards overlap phasing for the westbound right turn movement at Day Street/Canyon Springs Parkway (intersection 5)
  - $3,660 towards overlap phasing for the westbound right turn movement at Day Street/Campus Parkway (intersection 6)
  - $92,225 towards signal coordination on Frederick Street between Hemlock Avenue (intersection 14) and Eucalyptus Avenue (intersection 19)

Section 13
Vehicle Miles Traveled (VMT) Analysis

VEHICLE MILES TRAVELED (VMT) ANALYSIS

This section consists of the VMT-based transportation impact analysis, based on the CEQA metrics, thresholds, and criteria outlined in the City's transportation analysis guidelines prepared in June 2020.

INTRODUCTION

Senate Bill 743 (SB 743) was signed into law in September 2013. Senate Bill 743 (Steinberg, 2013) requires changes to the CEQA Guidelines regarding the analysis of transportation impacts. Historically, CEQA transportation analyses of individual projects determined impacts in the circulation system in terms of roadway delay and/or capacity at specific locations. SB 743 changes included the elimination of auto delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts and identified vehicle miles traveled (VMT) as the most appropriate metric to evaluate a project's significant transportation impacts. Since the bill has gone into effect, automobile delay, as measured by "level of service" and other similar metrics, no longer constitutes a significant environmental effect under CEQA. Auto-mobility (often expressed as "level of service") may continue to be a measure for the local agency planning purposes. In December 2018, the California Governor's Office of Planning and Research (OPR) and the State Natural Resources Agency submitted updated CEQA Guidelines to the Office of Administrative Law for final approval to implement SB 743. The Office of Administrative Law approved the updated CEQA Guidelines, thus implementing SB 743 and making VMT the primary metric used to analyze transportation impacts. The final text, final statement of reasons, and related materials are posted at http://resources.ca.gov/ceqa. The changes have been approved by the Office of the Administrative Law and are now in effect. For land use and transportation projects, SB 743-compliant CEQA analysis became mandatory on July 1, 2020.

CEQA Guidelines Section 15064.3 describes how transportation impacts are to be analyzed under SB 743. It states that in general transportation impacts are best measured by evaluating the project's vehicle miles traveled. For land use projects, VMT exceeding an applicable threshold of significance may indicate a significant impact (OPR 2017). In June 2020, the City of Moreno Valley updated its Transportation Impact Analysis Preparation Guide for Vehicle Miles Traveled and Level of Service Assessment, which includes methodologies and criteria to evaluate land use and transportation projects from a VMT standpoint.

VMT METRICS AND IMPACT THRESHOLDS

VMT provides an indication of the amount of travel in the roadway system by multiplying the number of trips by the distance travelled. For example, 10 vehicles each taking a 10-mile trip would result in a total of 100 VMT. VMT can also be analyzed through efficiency metrics (e.g., per VMT generated per capita or per employee). The City of Moreno Valley has adopted the VMT metrics and thresholds of significance listed below, which are used in this study for impact analysis purposes.

- A project would have a significant VMT impact if, in the Existing Plus Project scenario, its net VMT per capita (for residential projects) or per employee (for office and industrial projects) exceeds the per capita VMT for Moreno Valley. For all other uses, a net increase in VMT would be considered a significant impact.
- If a project is consistent with the regional RTP/SCS (Regional Transportation Plan/Sustainable Communities Strategy), then the cumulative impacts shall be considered less than significant subject to consideration of other substantial evidence. If it is not consistent with the RTP/SCS, then it would have a significant VMT impact if:

- For residential projects its net VMT per capita exceeds the average VMT per capita for Moreno Valley in the RTP/SCS horizon-year.
- For office and industrial projects its net VMT per employee exceeds the average VMT per employee for Moreno Valley in the RTP/SCS horizon year
- For all other land development project types, a net increase in VMT in the RTP/SCS horizon-year would be considered a significant impact.

According to the City's guidelines, the Cumulative No Project scenario shall reflect the adopted RTP/SCS; as such, if a project is consistent with the regional RTP/SCS, then the cumulative impacts shall be considered less than significant subject to consideration of other substantial evidence.

The City's guidelines do not detail a recommended approach for analyzing uses within a mixed-use project. However, OPR recommends analyzing each use separately, or simply focusing analysis on the dominant use, and comparing each result to the appropriate threshold. Therefore, each component of the proposed project (residential, office, retail, and hotel) is analyzed separately based on their respective VMT metrics and significant impact criteria.

Per City guidelines, the Riverside County Transportation Analysis Model (RIVTAM) was used to estimate project VMT and citywide averages. The RIVTAM model is a subarea model based on the SCAG regional travel demand model. For the existing conditions analysis, VMT data shall be interpolated to reflect the Notice of Preparation (NOP) baseline year (2022).

VMT SCREENING CRITERIA

As part of its VMT guidelines, the City has adopted screening criteria, which can be used to quickly identify when a project or a portion of a mixed-use project should be expected to cause a less-than-significant impact related to VMT and would not require a detailed VMT analysis. These screening criteria are shown in Table 59.

Table 59: Screening Criteria for CEQA Transportation Analysis for Development Projects

Screen Type	Screening Criteria
Transit Priority Area (TPA)	Projects located within a TPA[1] may be presumed to have a less than significant impact absent substantial evidence to the contrary. This presumption may not be appropriate if the project: ▪ Has a Floor Area Ratio (FAR) of less than 0.75; ▪ Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking); ▪ Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization); or ▪ Replaces affordable residential units with a smaller number of moderate- or high-income residential units.
Low VMT Area	Residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent substantial evidence to the contrary. In addition, other employment-related and mixed-use land use projects may qualify for the use of screening if the project can reasonably be expected to generate VMT per resident, per worker, or per service population that is similar to the existing land uses in the low VMT area. To identify if the project is in a low VMT-generating area, the analyst may review the Western Riverside Council of Governments (WRCOG) screening tool and apply the appropriate threshold within the tool.

Screen Type	Screening Criteria
Project Type	The following uses can also be presumed to have a less than significant impact absent substantial evidence to the contrary as their uses are local serving in nature: ▪ Local-serving retail (less than 50,000 square feet) ▪ Local-serving K-12 schools ▪ Local parks ▪ Day care centers ▪ Local-serving gas stations ▪ Local-serving banks ▪ Local-serving hotels (e.g. non-destination hotels) ▪ Student housing projects ▪ Local serving community colleges that are consistent with the assumptions noted in the RTP/SCS ▪ Projects generating less than 400 daily vehicle trips

Source: City of Moreno Valley, 2020.
Notes:
1. A TPA is defined as a half-mile area around an existing major transit stop or an existing stop along a high quality transit corridor per the definitions below.
Pub. Resources Code, § 21064.3 - 'Major transit stop' means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.
Pub. Resources Code, § 21155 - For purposes of this section, a 'high-quality transit corridor' means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.
2. The WRCOG tool is available at: http://gis.fehrandpeers.com/WRCOGVMT/

Per City guidelines, projects not screened through the steps above should complete a detailed VMT analysis to determine if they have a significant VMT impact.

PROJECT SCREENING

To be screened out of a detailed VMT analysis, a project or project component would need to satisfy at least one of the VMT screening criteria. The City's three VMT screening criteria and determinations are listed below.

Transit Priority Area (TPA) Screening

Projects located within a TPA may be presumed to have a less than significant impact and can be screened out of a VMT analysis. According to the WRCOG screening tool, the project is not located in a TPA. Therefore, **the proposed project cannot be screened out** using the TPA screening. Attachment U includes a printout of the WRCOG screening tool accessed November 16, 2021.

Low VMT Area Screening

Residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent. According to the WRCOG screening tool, the project is not located in a low residential VMT area nor a low employee VMT area. Therefore, **the project's residential and office components cannot be screening out** using the low VMT area screening.

Project Type Screening

According to the City's guidelines, the following uses that are included as part of the proposed project may be screened out, absent substantial evidence to the contrary as their uses are local serving in nature:

- Local-serving retail (less than 50,000 square feet)
- Local-serving hotels (e.g. non-destination hotels)

The proposed project's retail portion is less than 50,000 square feet, and would be located on the first floor of the residential buildings. The number of residential units would support the added retail uses. Therefore the proposed retail would generally serve as local serving to support the residential component of this mixed-use project. Therefore, **the project's retail portion can be screened out** of a VMT analysis using the project type screening.

The project's hotel portion is intended to be local serving, as opposed to serving as a destination hotel. While one of the proposed hotels may include space for events, destination hotels are places that attract mostly guests from far away in which the reason to stay is to visit an area because it is special or provides many services or activities. The proposed hotels can be categorized as local-serving and therefore, **the project's hotel portion can be screened out** using the project type screening.

VMT Screening Determination

Based on a review of the City's VMT screening criteria, this mixed-use project's retail and hotel portions can be screened out of a VMT analysis under the City's project type screening. The retail portion is less than 50,000 square feet and would primarily serve local residential uses; the hotel portion is intended to be a local-serving (non-destination) hotel. The remaining components of this mixed-use project (residential and office) would not be screened out and would require a VMT analysis using their respective impact thresholds of significance.

VMT ASSESSMENT

Given that the mixed-use project's residential and office components do not screen out, they must undergo a VMT impact assessment under City guidelines. The following describes the significance criteria to review potential project impacts and potential cumulative impacts for residential and office projects.

PROJECT IMPACT THRESHOLDS OF SIGNIFICANCE

The respective VMT metrics and impact thresholds for each analyzed component are detailed below per the City's guidelines. For residential and office uses, the criteria is based on efficiency metrics such as VMT per capita or VMT per employee. VMT per capita or per employee provides a transportation efficiency metric that allows the City to compare the project to the remainder of the incorporated area for purposes of identifying transportation impacts. A significant transportation impact would occur if the VMT per capita or employee is greater than the VMT baseline. The VMT baseline is the City of Moreno Valley existing average VMT per capita or employee.

The following summarizes the thresholds for each analyzed project component to determine project VMT impacts:

- **Residential**: If the VMT per capita for the project's residential component (project residential TAZs[3] under existing plus project conditions) exceeds the City of Moreno Valley existing average VMT per capita[4].

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[3] TAZs are the traffic analysis zones in the traffic model in which the residential project components are added, with project VMT information being interpolated between the base year 2012 and cumulative year 2040 models to obtain existing 2022 project home-based VMT per capita.
[4] The citywide VMT/capita is obtained from the traffic model before it is updated to include the proposed project; citywide VMT information is interpolated between the base year 2012 and cumulative year 2040 models to obtain baseline 2022 citywide home-based VMT per capita.

- **Office**: If the VMT per employee for the project's office component (project office TAZ[5] under existing plus project conditions) exceeds the City of Moreno Valley existing average VMT per employee[6].
- **Retail**: Per the screening analysis, this project component is screened out of a VMT analysis.
- **Hotel**: Per the screening analysis, this project component is screened out of a VMT analysis.

CUMULATIVE IMPACT THRESHOLDS OF SIGNIFICANCE

A cumulative impact consists of an impact which is created as a result of the combination of the project with other projects causing related impacts. A project has cumulatively considerable environmental effects (i.e., is significant) when the incremental effects of the project are significant when viewed in connection with the effects of other projects, including probable future projects.

Per the City's guidelines, if a project is consistent with the regional RTP/SCS, then the cumulative impacts shall be considered less than significant, subject to consideration of other substantial evidence. If the project is not consistent with the RTP/SCS, the following criteria would apply for each analyzed project component to determine cumulative impacts in the RTP/SCS horizon-year (2040):

- **Residential**: If the net VMT per capita for the project's residential component exceeds the City of Moreno Valley average VMT per capita in the RTP/SCS horizon year.
- **Office**: If the net VMT per employee for the project's office component exceeds the City of Moreno Valley average VMT per employee in the RTP/SCS horizon year.
- **Retail**: Per the screening analysis, this project component is screened out of a VMT analysis.
- **Hotel**: Per the screening analysis, this project component is screened out of a VMT analysis.

While the project impact analysis requires interpolation between year 2012 and year 2040 model outputs to obtain project and citywide VMT averages, the cumulative impact analysis is based on 2040 model outputs without interpolation or extrapolation, reflecting the RTP/SCS horizon year conditions.

PROJECT VMT IMPACT ANALYSIS

Potential project VMT impacts were assessed using the RIVTAM model, which is a subarea model based on the SCAG regional travel demand model with a greater level of land use and transportation system detail in Riverside County. The model consists of two versions: a base year 2012 model and a 2040 horizon year model reflecting the RTP/SCS horizon year. The RIVTAM model used for the City of Moreno Valley 2040 General Plan Update was obtained from the City of Moreno Valley Public Works Department. To represent the proposed project, separate TAZs were coded into the model to add socioeconomic (SED) data consisting of residents, households, and employment for the project's residential, office, retail, and hotel components. The base year and horizon year models were then both run with and without the project's SED to derive "no project" and "with project" VMT data. Attachment U includes the model's land use inputs that were assumed for the project area. Citywide VMT averages were obtained by interpolating between the "no project" versions of the 2012 and 2040 model runs to estimate the 2022 citywide VMT averages. Project VMT was obtained by interpolating between the "plus project" versions of the 2012 and 2040 model runs.

- **Residential Component**: According to the RIVTAM model's interpolated data, the existing average citywide VMT per capita is 15.60 VMT per capita; the proposed project is expected to generate 9.41 VMT per capita. Given that the VMT per capita for the project's residential component does not exceed the citywide VMT per capita, then the project's residential component is expected to result in **less-than-significant VMT impacts**.

[5] TAZ is the traffic analysis zone in the traffic model in which the project hotel and office components are added, with project VMT information being interpolated between the base year 2012 and cumulative year 2040 models to obtain existing 2022 project home-based work VMT per employee.
[6] The citywide VMT/employee is obtained from the traffic model before it is updated to include the proposed project; citywide VMT information is interpolated between the base year 2012 and cumulative year 2040 models to obtain baseline 2022 citywide home-based work VMT per capita.

- **Office Component**: According to the RIVTAM model's interpolated data, the existing average citywide VMT per employee is 4.54 VMT per employee; the proposed project is expected to generate 3.05 VMT per employee. Given that the VMT per employee for the project's office component does not exceed the citywide VMT per employee, then the project's office component is expected to result in **less-than-significant VMT impacts**. (Note, the RIVTAM model did not exhibit sensitivity to home-based work trips in the project's office component TAZ. Therefore, the work VMT per employee for the area bound by Towngate Boulevard, Day Street, Frederick Street, and SR-60 was used instead).

Given that both components generate VMT below the respective citywide averages, the project is anticipated to result in **less-than-significant VMT impacts**.

CUMULATIVE VMT IMPACT ANALYSIS

Per the City's guidelines, if a project is consistent with the regional RTP/SCS, then the cumulative impacts shall be considered less than significant, subject to consideration of other substantial evidence. If it the project is not consistent with the RTP/SCS, a cumulative VMT impact analysis is required using the cumulative VMT impact criteria outlined earlier in this section. This project was determined to be inconsistent with the SCAG RTP/SCS; while the City's General Plan (approved in 2021) designates the site as mixed-use, the SCAG RTP/SCS (approved in 2020) was finalized before this land use designation change. Therefore, a cumulative VMT impact analysis was prepared.

Potential cumulative VMT impacts were assessed using the 2040 model outputs without interpolation or extrapolation, reflecting the RTP/SCS horizon year conditions. Citywide VMT averages were obtained by utilizing the "no project" version of the 2040 model run; project VMT was obtained by utilizing the "plus project" version of 2040 model run. The VMT model outputs are included in Appendix W.

- **Residential Component**: According to the RIVTAM model, the RTP/SCS horizon year average citywide VMT per capita is 13.57 VMT per capita; the proposed project is expected to generate 9.79 VMT per capita. Given that the VMT per capita for the project's residential component does not exceed the citywide VMT per capita, then the project's residential component is expected to result in **less-than-significant cumulative VMT impacts**.
- **Office Component**: According to the RIVTAM model, the RTP/SCS horizon year average citywide VMT per employee is 5.48 VMT per employee; the proposed project is expected to generate 3.50 VMT per employee. Given that the VMT per employee for the project's office component does not exceed the citywide VMT per employee, then the project's office component is expected to result in **less-than-significant cumulative VMT impacts**. (Note, the RIVTAM model did not exhibit sensitivity to home-based work trips in the project's office component TAZ. Therefore, the work VMT per employee for the area bound by Towngate Boulevard, Day Street, Frederick Street, and SR-60 was used instead).

Given that both components generate VMT below the respective RTP/SCS horizon year citywide averages, the project is anticipated to result in **less-than-significant cumulative VMT impacts**.

PROPOSED VMT MITIGATION MEASURES

Given that the project's retail and hotel components were screened out of a VMT analysis and the residential and office components resulted in less-than-significant VMT impacts and less-than-significant cumulative VMT impacts, no mitigation measures were identified.

Section 14
References

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Section 15
Appendices

APPENDICES

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G. Existing Conditions Freeway Mainline Analysis HCS Output Sheets
H. Year 2026 Background Conditions Intersection Operations Worksheets
I. Year 2026 Background Conditions Intersection Queueing Worksheets
J. Year 2026 Background Conditions Freeway Mainline Analysis HCS Output Sheets
K. Year 2026 Total Traffic Conditions Intersection Operations Worksheets
L. Year 2026 Total Traffic Conditions Intersection Queueing Worksheets
M. Year 2026 Total Traffic Conditions Freeway Mainline Analysis HCS Output Sheets
N. Year 2040 Background Conditions Intersection Operations Worksheets
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KITTELSON & ASSOCIATES

APPENDICES:

MORENO VALLEY MALL REDEVELOPMENT TRAFFIC IMPACT ANALYSIS

MORENO VALLEY, CA

August 3, 2022

APPENDICES

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Appendix A

Moreno Valley Mall Redevelopment Scoping Memo

EXHIBIT A

Project Scoping Form

This scoping form shall be submitted to the Lead Agency to assist in identifying infrastructure improvements that may be required to support traffic from the proposed project.

Project Identification:

Case Number:	
Related Cases:	
SP No.	
EIR No.	
GPA No.	
CZ No.	
Project Name:	Moreno Valley Mall Redevelopment Master Plan
Project Address:	22500 Town Circle, Moreno Valley, CA 92553
Project Opening Year:	May 2026
Project Description:	Additional 1,627 MFDU, 270 hotel rooms, 60 TSF office Redevelop portions of the Shopping Center Demolish 16TSF Sears Tire Center and add 40 TSF plaza-level retail

	Consultant:	Developer:
Name: Address:	Fernando Sotelo, TE, PTPKittelson & Associates, Inc750 The City Drive, S410 Orange, CA	Matt Ilbak Moreno Valley Mall Holdings, LLC 22500 Town Circle, Moreno Valley, CA
Telephone:	714-468-1186	
Email:	fsotelo@kittelson.com	milbak@igpbusinessgroup.com

Trip Generation Information:

Trip Generation Data Source: ITE Trip Generation Manual, 11th Edition

Note: The City of Moreno Valley reserves the right to use, share, and reproduce the information including, but not limited to, traffic counts, exhibits, and surveys provided in all submitted traffic studies and VMT assessments.

3/24/2022

Current General Plan Land Use: General Retail/Commercial

Proposed General Plan Land Use: ____________________

Current Zoning: Commercial

Proposed Zoning: ____________________

*** PLEASE REFER TO TRIP GENERATION TABLES ATTACHED*

	Existing Trip Generation			Proposed Trip Generation		
	In	Out	Total	In	Out	Total
AM Trips						
PM Trips						

Trip Internalization: ☐ Yes ☐ No (_____% Trip Discount)

Pass-By Allowance: ☐ Yes ☐ No (_____% Trip Discount)

Potential Screening Checks

Is your project screened from specific analyses (see Page 3 of the guidelines related to LOS assessment and Pages 22-23 for VMT screening criteria).

Is the project screened from LOS assessment? ☐ Yes ☒ No

LOS screening justification (see Page 3 of the guidelines): ____________________

Is the project screened from VMT assessment? ☐ Yes ☒ No

VMT screening justification (see Pages 22-23 of the guidelines): ____________

Level of Service Scoping

- Proposed Trip Distribution (Attach Graphic for Detailed Distribution):

North	South	East	West
37% %	25% %	33% %	5% %

Link level of service and data collection:

_x_ will be required

____ will not be required

- Attach list of study intersections (and roadway segments if applicable)
- Attach site plan
- Other specific items to be addressed:
    - Site access
    - On-site circulation
    - Parking
    - Consistency with Plans supporting Bikes/Peds/Transit
    - Other ________
- Date of Traffic Counts December 15 and 18. Weekday AM/ Weekday PM/Sat Midday (11AM-1PM) February 26 and March 1, 2023 (intersection 13). Weekday AM/Weekday PM/ –Sat Midday (11M-1PM)
- Attach proposed analysis scenarios (years plus proposed forecasting approach)
- Attach proposed phasing approach (if the project is phased)

VMT Scoping

For projects that are not screened, identify the following:

- Travel Demand Forecasting Model Used RIVTAM, consistent with MV GPU
- Attach WRCOG Screening VMT Assessment output or describe why it is not appropriate for use
- Attach proposed Model Land Use Inputs and Assumed Conversion Factors (attach)

Table 1 - Trip Generation Rates

Land Use	Unit[1]	Weekday							Saturday			
		Daily	AM Peak Hour			PM Peak Hour			Daily	Peak Hour		
			In	Out	Total	In	Out	Total		In	Out	Total
Hotel (ITE code 310)	Room	7.99	56%	44%	0.46	51%	49%	0.59	8.07	56%	44%	0.72
Multifamily Housing[2] (ITE code 221)	DU	4.54	23%	77%	0.37	61%	39%	0.39	4.57	51%	49%	0.39
Shopping Center (ITE code 820)	TSF	37.01	62%	38%	0.84	48%	52%	3.40	46.60	52%	48%	4.40
Office (ITE code 710)	TSF	10.84	88%	12%	1.52	17%	83%	1.44	2.21	54%	46%	0.53

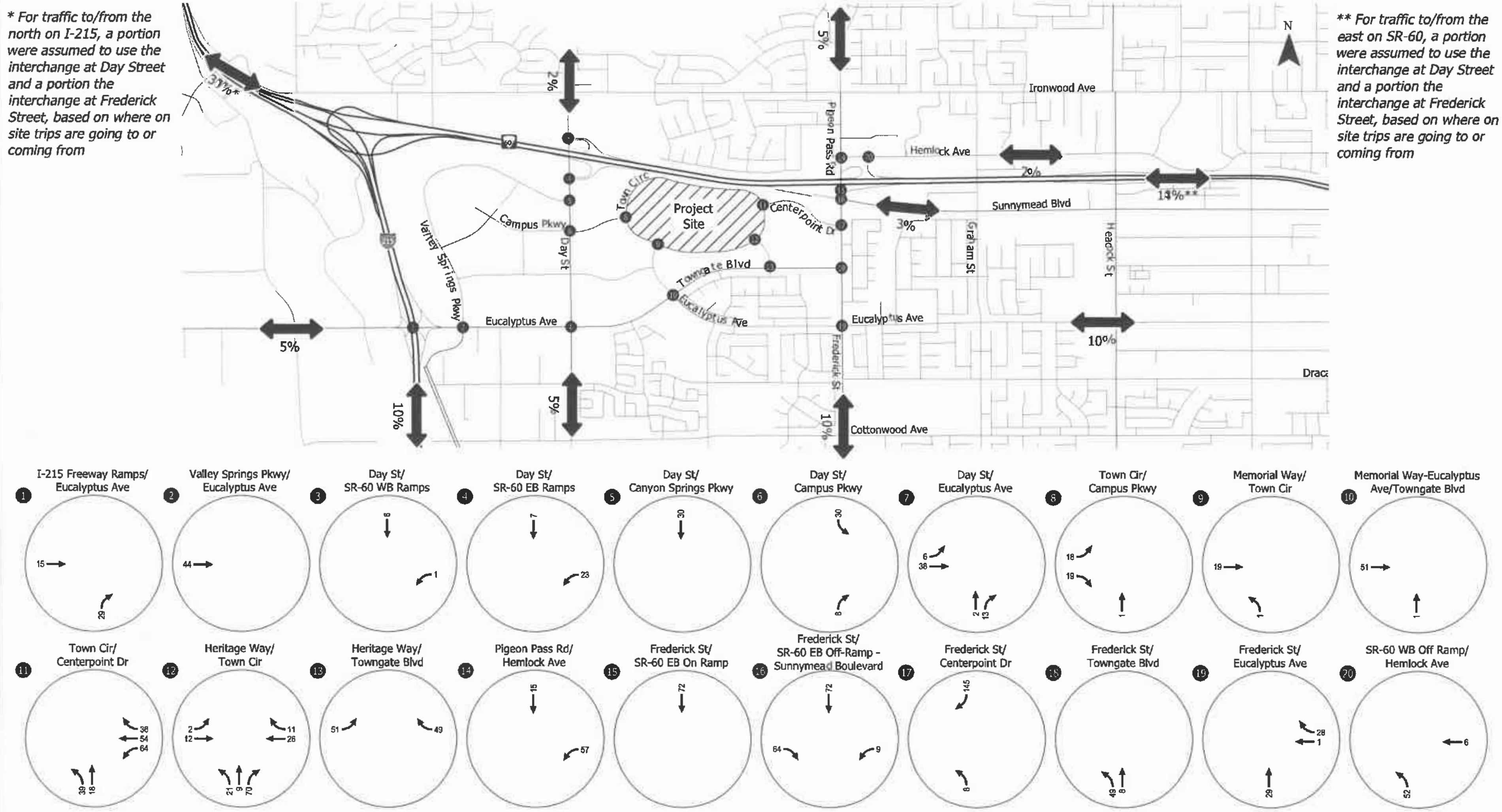
Notes:

Trip Rates from the ITE Trip Generation Manual, 11th Edition
1- TSF = Thousand Square Feet of GLA (gross leasable area), DU = Dwelling Units
2- Rates for mid-rise (4 to 10 stories), not close to rail station

Table 2 - Project Trip Generation

Land Use	Size[1]	Weekday							Saturday			
		Daily	AM Peak Hour			PM Peak Hour			Daily	Peak Hour		
			In	Out	Total	In	Out	Total		In	Out	Total
Hotel[2]	***270 Rooms***	***2,158***	***69***	***55***	***124***	***81***	***78***	***159***	***2,180***	***109***	***85***	***194***
Residential (Parcel 17,18)	596 DU	2,706	51	170	221	142	90	232	2,724	118	114	232
Residential (Parcel 15)	216 DU	982	18	62	80	51	33	84	988	43	41	84
Residential (Parcel 11, 12)	565 DU	2,566	48	161	209	134	86	220	2,584	112	108	220
Residential (Parcel 1,2)	250 DU	1,136	21	72	93	60	38	98	1,144	50	48	98
Total Residential	***1,627 DU***	***7,390***	***138***	***465***	***603***	***387***	***247***	***634***	***7,440***	***323***	***311***	***634***
Retail[3]	***24 TSF***	***876***	***12***	***8***	***20***	***38***	***42***	***80***	***1,102***	***54***	***50***	***104***
Office	***60 TSF***	***652***	***80***	***11***	***91***	***15***	***71***	***86***	***134***	***17***	***15***	***32***
	Net New Trips	***11,076***	***299***	***539***	***838***	***521***	***438***	***959***	***10,856***	***503***	***461***	***964***
	Internal Capture (2% AM, 10% all other periods)[4]	*-1,108*	*-7*	*-11*	*-18*	*-52*	*-44*	*-96*	*-1,086*	*-50*	*-46*	*-96*
	TOTAL EXTERNAL PROJECT TRIPS	**9,968**	**292**	**528**	**820**	**469**	**394**	**863**	**9,770**	**453**	**415**	**868**

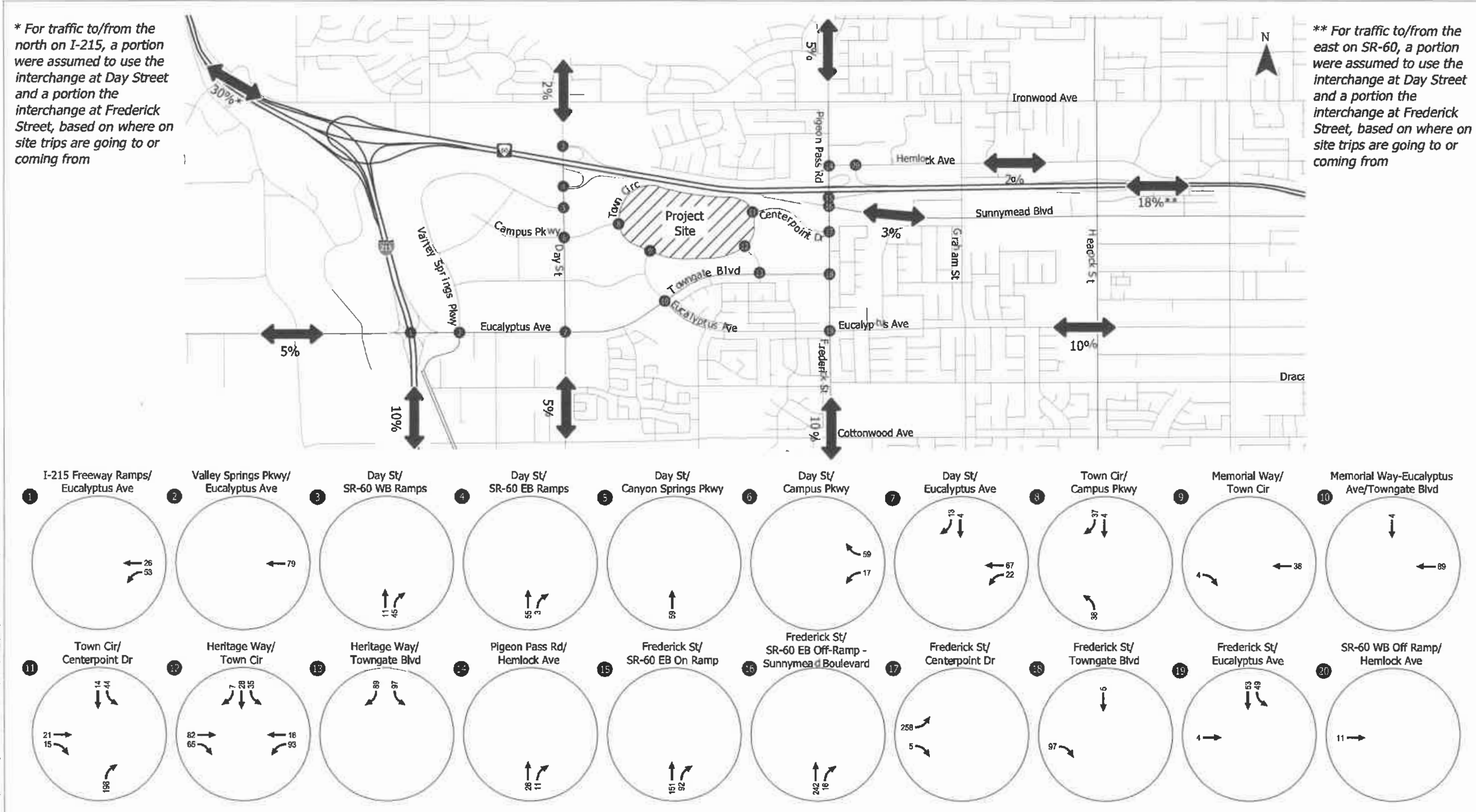
Notes:
1- TSF = Thousand Square Feet of GLA (gross leasable area), DU = Dwelling Units
2- Hotel A=150 rooms, Hotel B = 120 rooms
3- Retail includes 40,000 SF plaza level retail minus existing 16,344 Sears Auto Center (to be removed)
4- Internal capture takes into account the resulting mall area with 1,152 TSF



Trip Distribution and Assignment - Trips In
Weekday AM Peak Hour
Moreno Valley, CA

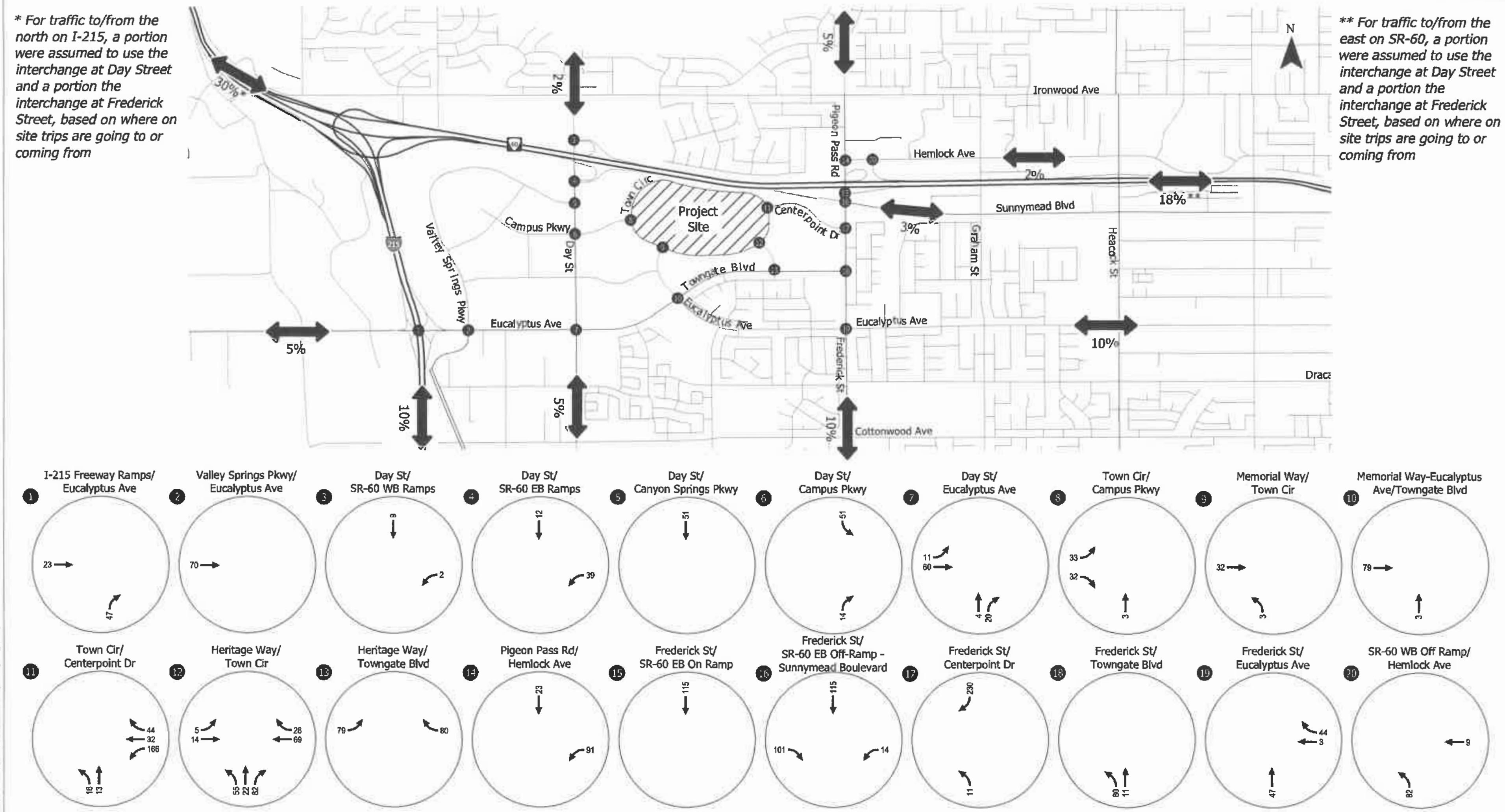
Figure
1a

H:\26\26887 - Moreno Valley Redevelopment TIA\figures\26887_Moreno Valley TIA Figures_up.dwg Mar 23, 2022 - 2:29pm - klaustsen Layout Tab: TripsIn_AM



Trip Distribution and Assignment - Trips Out
Weekday AM Peak Hour
Moreno Valley, CA

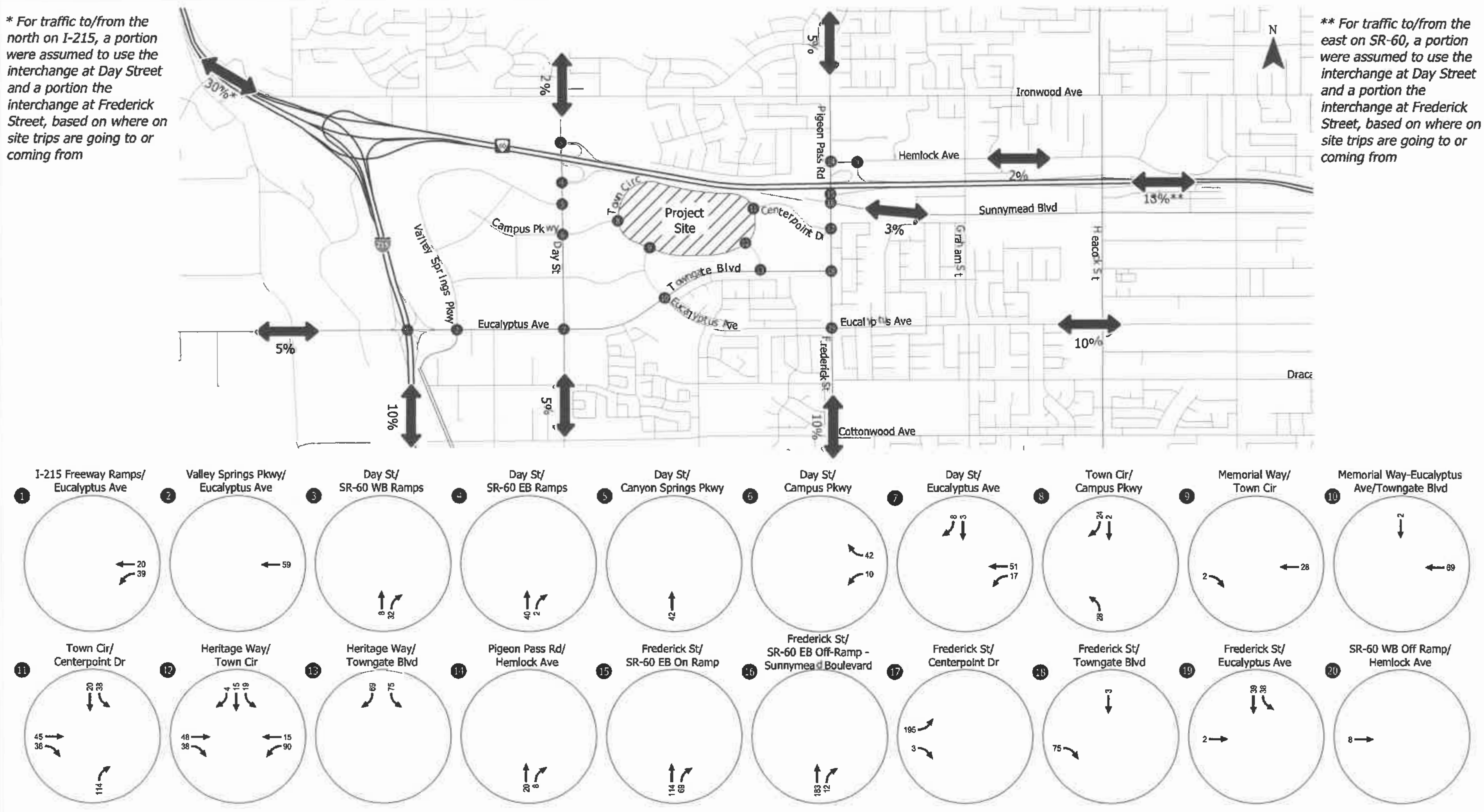
Figure 1b



Trip Distribution and Assignment - Trips In
Weekday PM Peak Hour
Moreno Valley, CA

Figure 2a

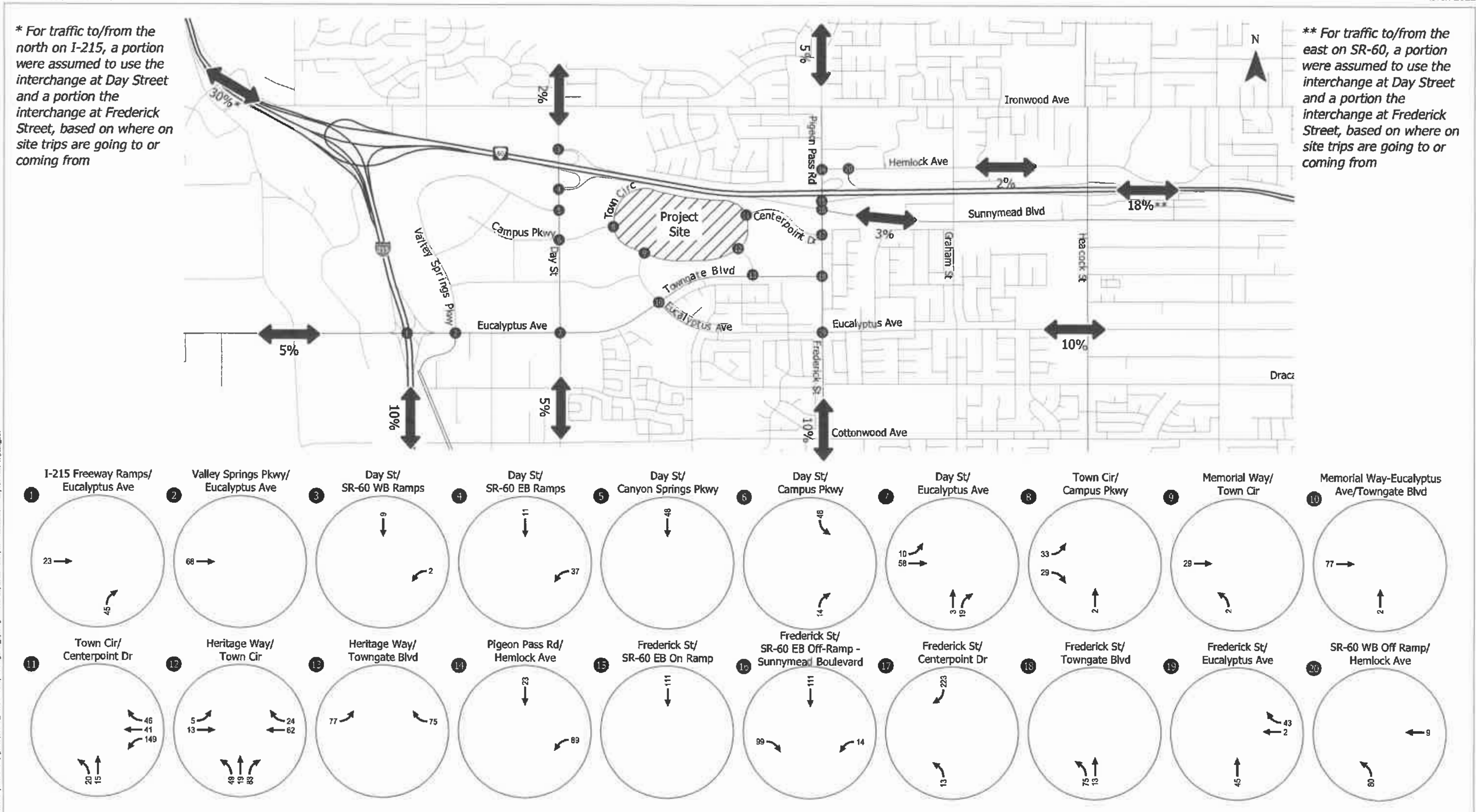
KITTELSON & ASSOCIATES



Trip Distribution and Assignment - Trips Out
Weekday PM Peak Hour
Moreno Valley, CA

Figure **2b**

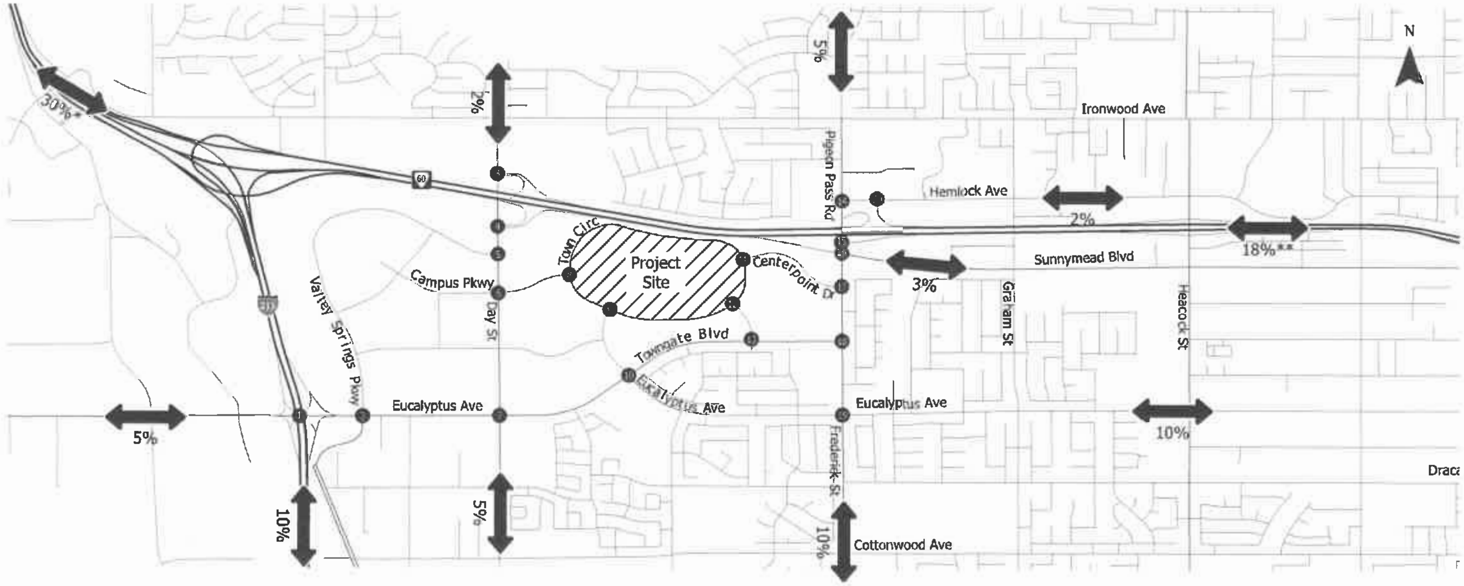
KITTELSON & ASSOCIATES



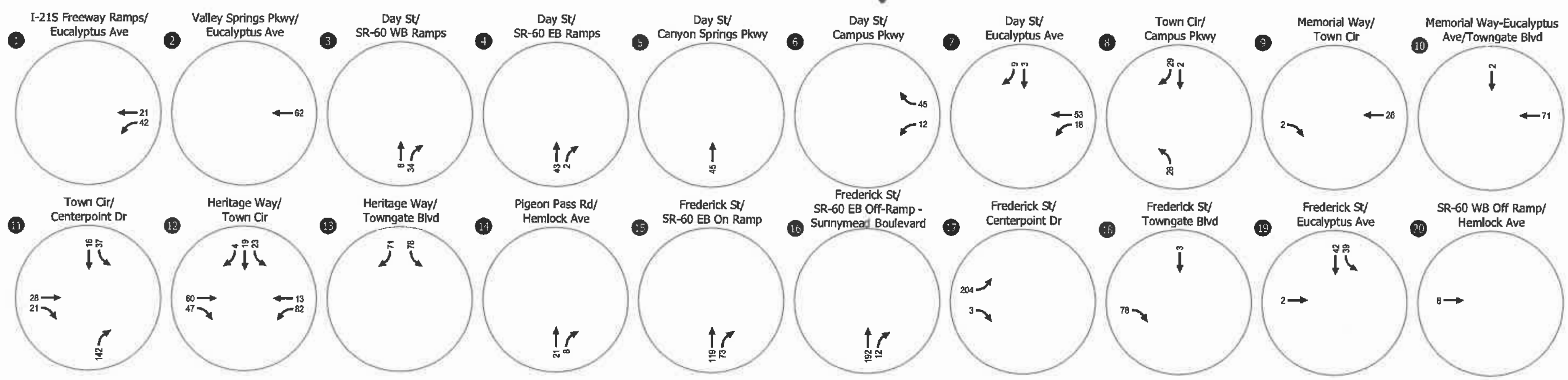
Trip Distribution and Assignment - Trips In
Saturday Midday Peak Hour
Moreno Valley, CA

Figure 3a

* For traffic to/from the north on I-215, a portion were assumed to use the interchange at Day Street and a portion the interchange at Frederick Street, based on where on site trips are going to or coming from



** For traffic to/from the east on SR-60, a portion were assumed to use the interchange at Day Street and a portion the interchange at Frederick Street, based on where on site trips are going to or coming from



Trip Distribution and Assignment - Trips Out
Saturday Midday Peak Hour
Moreno Valley, CA

Figure 3b

KITTELSON & ASSOCIATES

Proposed Study Intersections:

1. I-215 Freeway Ramps/Eucalyptus Avenue
2. Valley Springs/Eucalyptus Avenue
3. Day Street/SR-60 WB Ramps
4. Day Street/SR-60 EB Ramps
5. Day Street/Canyon Springs Parkway
6. Day Street/Campus Parkway
7. Day Street/Eucalyptus Avenue
8. Town Circle/Campus Parkway
9. Town Circle/Memorial Parkway
10. Towngate Boulevard/Eucalyptus Avenue
11. Town Circle/Centerpoint Drive
12. Town Circle/Heritage Way
13. Heritage Way/Towngate Blvd
14. Pigeon Pass Road/Hemlock Avenue
15. Frederick Street/SR-60 EB On-Ramp
16. Frederick Street/SR-60 EB Off-Ramp – Sunnymead Boulevard
17. Frederick Street/Centerpoint Drive
18. Frederick Street/Towngate Boulevard
19. Frederick Street/Eucalyptus Avenue
20. SR-60 WB Off Ramp/Hemlock Avenue

New site access points on Town Circle (in total traffic scenarios)

Time Periods: Weekday 7-9AM, 4-6 PM, and Saturday 11AM-1PM counts will be collected at all existing intersections listed above.

Roadway segment v/c analysis, LOS analysis, and daily counts (weekday and Saturday):

A. Day Street between SR 60 WB Ramps and Eucalyptus Avenue, specifically:
   1. Day Street between SR 60 WB Ramps and SR 60 EB Ramps
   2. Day Street between SR 60 EB Ramps and Canyon Springs Parkway
   3. Day Street between Canyon Springs Parkway and Campus Parkway
   4. Day Street between Campus Parkway and Gateway Drive
   5. Day Street between Gateway Drive and Eucalyptus Avenue
B. Eucalyptus Avenue from I-215 Ramps to Towngate Boulevard
C. Town Circle from Campus Parkway to Centerpoint Drive
D. Centerpoint Drive between Town Circle and Frederick Street
E. Towngate Boulevard between Eucalyptus Avenue and Frederick Street
F. Pigeon Pass Road from Hemlock Avenue to Sunnymead Boulevard
G. Frederick Street between Sunnymead Boulevard and Eucalyptus Avenue, specifically:
   1. Frederick Street between Sunnymead Boulevard and Centerpoint Drive
   2. Frederick Street between Centerpoint Drive and Towngate Boulevard
   3. Frederick Street between Towngate Boulevard and Eucalyptus Avenue

Project Trip Distribution

See Trip Distribution and Assignment maps in Figures 1a, 1b, 2a, 2b, 3a, and 3b. The trip distribution is based on a review of the circulation network, land uses in the City of Moreno Valley and cities in western Riverside, and distribution plots from the RIVTAM model.

Traffic LOS Analyses Scenarios

Project completion is anticipated by 2026. We will evaluate the following scenarios with cumulative projects:

- Existing
- Near Term 2026 Without Project
- Near Term 2026 With Project
- General Plan Horizon Without Project
- General Plan Horizon With Project

Traffic forecasts will be based on RIVTAM consistent with model runs for the latest City of Moreno Valley General Plan Update. The near-term traffic volumes will be based on traffic growth projections of the future and base year model.

VMT Forecasting and Evaluation Methodology

Based on a preliminary assessment, the entirety of this mixed-use project does not screen out and therefore a detailed VMT analysis will be performed. The results of the screening analysis are below:

Transit Priority Area (TPA) Screening: Projects located within a TPA may be presumed to have a less than significant impact and can be screened out of a VMT analysis. According to the WRCOG screening tool, the project is not located in a TPA. Therefore, it cannot be screened out using the TPA screening.

Low VMT Area Screening: Residential and office projects located within a low VMT-generating area may be presumed to have a less than significant impact absent. According to the WRCOG screening tool, the project is not located in a low residential VMT area nor a low employee VMT area. Therefore, the project's residential and office components cannot be screening out using the low VMT area screening.

Project Type Screening: According to the City's guidelines, to uses that are included as part of the proposed project may be screened out, absent substantial evidence to the contrary as their uses are local serving in nature:

- Local-serving retail (less than 50,000 square feet)
- Local-serving hotels (e.g. non-destination hotels)

While the proposed project's retail portion is less than 50,000 square feet, it is an addition to a larger regional shopping center and is intended to be a regional attraction. Therefore, the project's retail portion cannot be screened out of a VMT analysis using the project type screening. The project's hotel portion is intended to be local serving, as opposed to serving as a destination hotel. Therefore, the project's hotel portion can be screened out using the project type screening.

VMT Screening Determination: Based on a review of the City's VMT screening criteria, this mixed-use project's hotel portion can be screened out of a VMT analysis under the City's project type screening, since it is intended to be a local-serving (non-destination) hotel. The remaining components of this mixed-use project (residential, office, and retail) would not be screened out and would require a VMT analysis.

While the project consists of multiple uses, the City's guidelines do not detail a recommended approach for analyzing uses within a mixed-use project. Therefore, the VMT assessment will follow OPR guidance for analyzing mixed-use projects; since the project's residential component is the dominant use, the VMT analysis will focus on and analyze the residential component. The residential component is expected to account for the majority of project trips:

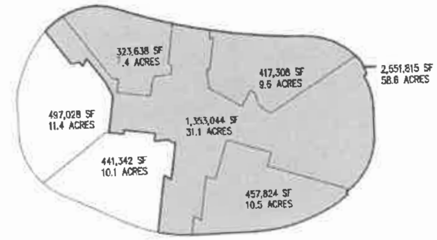
- 67% of weekday daily trips
- 72% of weekday AM peak hour trips
- 66% of weekday PM peak hour trips
- 69% of Saturday daily trips
- 66% of Saturday peak hour trips

The applicable VMT metrics and impact thresholds for the residential component are detailed below:

- A project would have a significant VMT impact if, in the Existing Plus Project scenario, its net VMT per capita exceeds the per capita VMT for Moreno Valley.
- If a project is consistent with the regional RTP/SCS, then the cumulative impacts shall be considered less than significant subject to consideration of other substantial evidence. If it is not consistent with the RTP/SCS, then it

MORENO VALLEY MALL

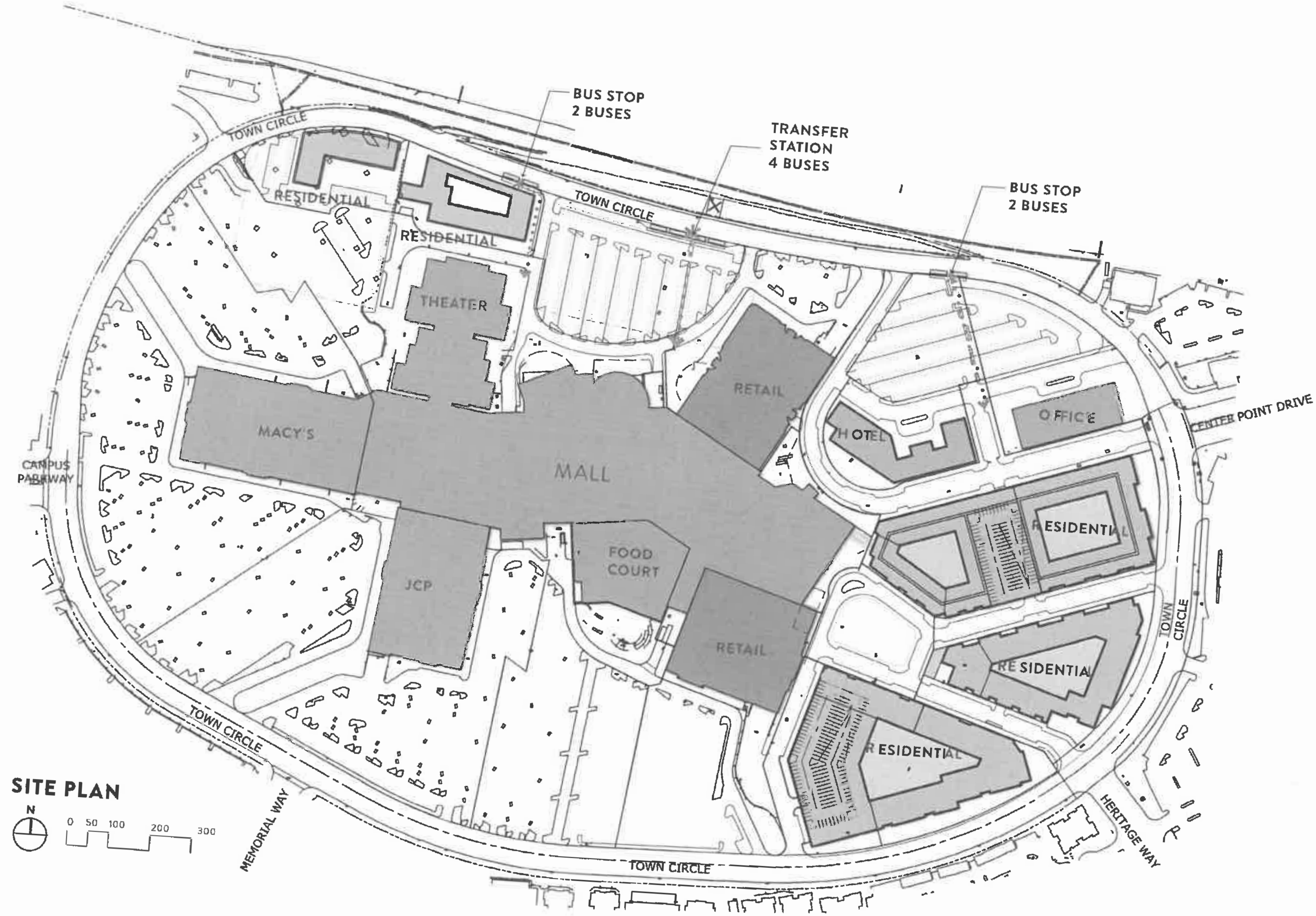
PARCEL	USE
1,5,20	MALL/RETAIL
2,3,11,12,15,17,18	RESIDENTIAL
7	HOTEL
9	OFFICE
14	COMMONS
4,6,8,21,22	SURFFACE LOT
10,13,16,19	STREET PARCEL



EXISTING PARCELS

PARCEL PLAN

HANNA
PARTNERS
02/14/2022



MORENO VALLEY MALL REDEVELOPMENT - CONCEPT PARCEL PLAN

HANNA
PARTNERS
02/14/2022

would have a significant VMT impact if its net VMT per capita exceeds the average VMT per capita for Moreno Valley in the RTP/SCS horizon-year.

VMT will be obtained from RIVTAM. No Project and Plus Project runs of the base year and horizon year model will be conducted to obtain the citywide VMT per capita as well as the project TAZ's VMT per capita for both existing and cumulative conditions. The existing and existing plus project VMT will be interpolated between the base year and horizon year models to 2022.

NELSON

6100 Wilshire Boulevard - Suite 430
Los Angeles, CA 90048

12.23.2021
UPDATED 12.29.21
UPDATED 02.11.2022

Concept Master Plan: Project Description - Moreno Valley Mall

The attached Site Plan Exhibit reflects the current proposal for re-development across a new Parcel Map and the current Retail/Entertainment Mall. The current Macy's and JC Penney parcels are left as-is. The Site entry from Campus Parkway is left as-is. The total site is 80.1 acres and the represented re-development area is 58.6 acres.

The intent of this proposal is to plan and integrate multiple uses across the site that enable mutual crossover of professional, shopping, and resident populations. Each Use is intended to grow density and increase the value of the original commercial/retail Mall. The natural grade of upper and lower parking fields are utilized to distinguish between defined districts and intended to limit extensive regrading or site manipulation efforts.

The North East site entry/intersection from CenterPoint Drive shall be adjusted to become a four way stop. The newly aligned road shall extend directly to the Mall / Parking / Hotel areas. Transit is planned across the North perimeter.

RESIDENTIAL North West (Parcels 2 and 3)
There is approximately 250 Units proposed on 2 building Pads in the North West corner of the site, adjacent to the Theater and existing 2 level parking structure. This estimates 280,000 sq.ft. total, and self-parked. The building pads will be connected with a common plaza, elevated to match the Macy's/Mall parking field and each building will be 3-4 levels.

RESIDENTIAL South East (Parcels 11,12,15,17,18)
There is approximately 1,377 Multi-family units proposed in the South East district of the site. Residential is proposed in three Phases and interconnected by pedestrian scaled streetscapes. The existing Mall Ring Road is proposed to be adjusted between new residential and existing adjacent residential south of the property. A common greenway (pubic park - Parcel 14) is proposed to connect the residential district with the existing Mall's southeast entry. This will act as a public plaza and can be closed to automobile traffic for special events.

Building Construction may include Multi-Family "Wrap" and "Podium" type buildings all to self park. There is no lower limit on Multi-Family density. Garden style "Walk-Ups" may be proposed as well.

'Street Front' Retail is proposed only facing the Plaza/Park shared with the Mall Entry.

HOSPITALITY (Parcel 7)
In the North East parking field (upper level) of the Master Plan, there is a single footprint - dual point hotel proposed. This is to capitalize on multiple brand opportunities : one brand hotel of 120 keys, and the second hotel with event/conference space, 150 keys.

The Event/Conference Hotel is configured to maximize connection through the existing mall with a new full service restaurant district that also connects the residential district with a new multi-level exterior paseo.

OFFICE (Parcel 9)
To define the Primary Entry from CenterPoint Drive, Parcel 9 envisions a new Office building of 60,000 sq.ft. of 3 levels or more. This provides for the potential for Medical Office, Educational, or Professional Services development.

NEW PARKING STRUCTURE
There is a proposed single level podium parking structure over the top of the existing North (lower level) parking field. The existing single level podium parking East of the Theater will remain.

The North side Residential Block (Parcel 11) will provide structured supplemental parking for the Hotel / Office / Ext. Plaza Districts.

ENTERTAINMENT (Parcel 1 and 4)
The North lower level parking field will be re-planned to accommodate an exterior entry/exit to the Theater, and a new outdoor dining patio for multiple tenants. This space is protected from Southwestern Sun. The patio will also connect to upper level tenants through the interior of the Mall and a re-planned plaza to the Hospitality level.

TRANSIT STATIONS
Multiple Transit Stations are proposed to be dispersed and relocated to the North perimeter of the property to serve and connect various user destinations which may include: resident, workforce, student, and shopping/business and entertainment markets. Type and Number may be adjusted with the intent to maintain ring road transfer stops and pedestrian connections.

FOOD MARKET
The Existing "Food Court" is planned to be re-developed into a new interior and exterior "pavilion" Food Market. This is proposed in conjunction with the Upper Level of the Sears Anchor becoming a Grocery or Multi-tenant building. The combination is intended to create multiple food and beverage opportunities for all property guests throughout the week, day and night. From entertainment fast casual, lunch or sit down full service, Farmer's markets, and grab and go to grocery specialty or commodity food staples for residents.

EXISTING MALL
The existing Mall Interior is intended to be re-modeled to align with the new modernization of the property and provide a variety of pedestrian connections across the entire site. Various entries, exterior façades, interior bridges, common restrooms, and re-planned tenant square footage will all be part of the vision that ties the new Master Plan together.

End of Summary

Fernando Sotelo

From: Lillyanna Diaz <lillyannad@moval.org>
Sent: Thursday, February 17, 2022 4:10 PM
To: Fernando Sotelo; Wei Sun, T.E., PTOE
Cc: Kelly Laustsen
Subject: RE: Moreno Valley - annual growth rate
Attachments: MV Mall_ TIA_Scoping_02 14 2022.pdf

Hello Fernanado,

Please use the 1.5% growth rate per year for the existing volumes and then add cumulative project trips. Also, please see attached comments on the submitted scoping agreement. There are some items that need to be revised or included. Let me know if you have any questions.

Regards,

Lillyanna Diaz
Consultant - HR Green - Temp
Public Works
City of Moreno Valley
p: 951.413.3126 | e: lillyannad@moval.org w: www.moval.org
14177 Frederick St., Moreno Valley, CA 92553

Lillyanna Diaz
Consultant - HR Green - Temp
Public Works
City of Moreno Valley
p: 951.413.3126 | e: lillyannad@moval.org w: www.moval.org
14177 Frederick St., Moreno Valley, CA, 92553

City of MORENO VALLEY

From: Fernando Sotelo <fsotelo@kittelson.com>
Sent: Thursday, February 17, 2022 1:48 PM
To: Lillyanna Diaz <lillyannad@moval.org>; Wei Sun, T.E., PTOE <weis@moval.org>
Cc: Kelly Laustsen <klaustsen@kittelson.com>
Subject: RE: Moreno Valley - annual growth rate

Warning: External Email – Watch for Email Red Flags!

Good afternoon.

To forecast traffic volumes in 2026 conditions we will apply an annual ambient growth rate to the existing counts, plus cumulative projects. Traffic studies prepared for land use projects in Moreno valley have used rates between 1 and 2% per year.
For our study, we compared traffic volumes on roadway segments in our study area between the 2012 and 2040 traffic model scenarios. The table attached shows the annual growth rate for key roadway segments in our study area. Note that the ambient growth rates on Town Center are much higher then other segments. Some of the higher volumes occur because the 2040 scenario includes approximately 1200 additional homes that were added to the mall area. We believe an annual growth rate of 1.5% per year would be a better representation to estimate traffic volumes at 2026 conditions.

Sorry for not sending this sooner, we just got results from the traffic model. Please review and let us know which growth rate we should apply two forecast 2026 traffic conditions. Thank you!

Fernando Sotelo, TE, PTP
Associate Engineer

Kittelson & Associates, Inc.
Transportation Engineering / Planning
714-468-1186 (direct)
949-244-3371 (cell)

From: Lillyanna Diaz <lillyannad@moval.org>
Sent: Tuesday, February 15, 2022 7:48 AM
To: Fernando Sotelo <fsotelo@kittelson.com>; Wei Sun, T.E., PTOE <weis@moval.org>
Cc: Kelly Laustsen <klaustsen@kittelson.com>
Subject: RE: Moreno Valley - RIVTAMm housing model assumptions

Thank you, Fernando. We will review and send you the signed scoping agreement.

Regards,

Lillyanna Diaz
Consultant - HR Green - Temp
Public Works
City of Moreno Valley
p: 951.413.3126 | e: lillyannad@moval.org w: www.moval.org
14177 Frederick St., Moreno Valley, CA 92553

Lillyanna Diaz
Consultant - HR Green - Temp
Public Works
City of Moreno Valley
p: 951.413.3126 | e: lillyannad@moval.org w: www.moval.org
14177 Frederick St., Moreno Valley, CA, 92553

From: Fernando Sotelo <fsotelo@kittelson.com>
Sent: Monday, February 14, 2022 12:24 PM
To: Wei Sun, T.E., PTOE <weis@moval.org>; Lillyanna Diaz <lillyannad@moval.org>
Cc: Kelly Laustsen <klaustsen@kittelson.com>
Subject: RE: Moreno Valley - RIVTAMm housing model assumptions

Warning: External Email – Watch for Email Red Flags!

Good morning Mr. Sun,

The revised scoping agreement is attached. The project description changed bit by adding 40,000 square feet of retail and 60,000 square feet of office. Our trip generation reflect those changes. The changes to the project description were made as a request from the city's planning department.

We added figures showing the project volumes, and slightly changed the trip distribution based on a review of model results, We also modified a few study intersections to the study area off Frederick and the SR60. Please review and let us know if you have any questions or would like to discuss.

Thank you.

Fernando Sotelo, TE, PTP
Associate Engineer

Kittelson & Associates, Inc.
Transportation Engineering / Planning
714-468-1186 (direct)
949-244-3371 (cell)

From: Wei Sun, T.E., PTOE <weis@moval.org>
Sent: Friday, February 11, 2022 11:45 AM
To: Fernando Sotelo <fsotelo@kittelson.com>
Cc: Lillyanna Diaz <lillyannad@moval.org>
Subject: FW: Moreno Valley - RIVTAMm housing model assumptions

Good afternoon Sotelo,

Can you advise the TIA status?

Thanks.

Wei Sun, T.E., PTOE
Principal Engineer/City Traffic Engineer
Public Works
City of Moreno Valley
p: 951.413.3149 | e: weis@moval.org w: www.moval.org
14177 Frederick St., Moreno Valley, CA, 92553

From: Fernando Sotelo <fsotelo@kittelson.com>
Sent: Wednesday, January 26, 2022 9:07 PM
To: Lillyanna Diaz <lillyannad@moval.org>
Cc: Wei Sun, T.E., PTOE <weis@moval.org>; Mike Aronson <maronson@kittelson.com>
Subject: FW: Moreno Valley - RIVTAMm housing model assumptions

Warning: External Email – Watch for Email Red Flags!

Hi Lillyanna,

I'm hoping you know the answer or can point me in the right direction. Please see the estimated growth in households and employment in the original RIVTAM zone 3685. The TAZ includes the mall area and parcels generally located between Day, Frederick, SR-60 and Towngate, see attached. Looking at google earth in 2012, it seems that the MF housing south of Town Circle was already constructed. We don't know why the GP update allocated an additional 1259 households in this TAZ (from 513 to 1777).

	SEQ_	POP	HH	TOT_EMP	RET_EMP
2012	3685	1518	513	2812	1882
2040	3685	4886	1777	4074	2332

The 2040 zoning has the mall area as "*Center Mixed Use*", adjacent parcels are commercial and office, plus the MF housing south of the mall.
Per the GP land use element page 2-10, *Center Mixed Use* is envisioned as a mix of uses including retail, dining, entertainment, offices, lodging, high density residential, recreational,
and cultural facilities that cater to both motorists passing through and residents of surrounding neighborhoods. So I'm not sure if the GP update had assumed some level of residential development in the mall circle area (our project site). I'm afraid we would be double counting if the GP antecipated additional housing units in the mall area. Perhaps the City can confirm the number of households, or dwelling units in the parcel south of the mall. Let me know what you think or who may be able to shed some light to this.

NewZoning.pdf (moval.gov)

Thanks!

Fernando Sotelo, TE, PTP
Associate Engineer

Kittelson & Associates, Inc.
Transportation Engineering / Planning
714-468-1186 (direct)
949-244-3371 (cell)

		2012 AM			2012 PM			2040 AM			2040 PM			2012 --> 2040 Growth Rate			Site Trips	2040 PM	2012 --> 2040 Growth Rate
		NB/EB	SB/WB	Total	NB/EB	SB/WB	Total	NB/EB	SB/WB	Total	NB/EB	SB/WB	Total	AM	PM	**Average**	PM	(minus	PM
A. Day Street between Canyon Springs Parkway and US 60 EB Ramps	S of ramps	755	1446	2201	3062	2389	5451	1742	2154	3896	2503	3552	6055	2.75%	0.40%	**1.57%**	85	5970	0.34%
B1. Eucalyptus Avenue from I-215 Ramps to Day Street	E of ramps	1321	3198	4519	4705	3794	8499	1286	7242	8528	11193	3662	14855	3.17%	2.67%	**2.92%**	118	14737	2.62%
B2. Eucalyptus Avenue from Day Street to Towngate Boulevard	E of Day	942	2548	3490	3811	2949	6760	1037	4566	5603	7018	2757	9775	2.16%	1.59%	**1.88%**	132	9643	1.52%
C. Town Circle from Campus Parkway to Centerpoint Drive	S of Campus Parkway	133	225	358	514	458	972	800	633	1433	1345	1712	3057	10.72%	7.66%	**9.19%**	329	2728	6.45%
D. Centerpoint Drive between Town Circle and Frederick Street	W of Frederick	287		287	1190		1190	604		604	1686		1686	3.94%	1.49%	**2.72%**	400	1286	0.29%
E. Towngate Boulevard between Eucalyptus Avenue and Frederick Street	W of Frederick	674	1582	2256	2180	2529	4709	942	3058	4000	5225	2513	7738	2.76%	2.30%	**2.53%**	139	7599	2.19%
F. Frederick Street between Centerpoint Drive and Sunnymead Boulevard	S of Sunnymead	1880	2829	4709	4456	4094	8550	2107	3801	5908	6186	3659	9845	0.91%	0.54%	**0.73%**	386	9459	0.38%
															Average (without Town Circle)	2.06%		Average (without Town Circle)	1.22%

Appendix B
Signal Timing Plans

Location: 08-RIV-215-037.436-EUCALYPTUS AVENUE (UIC)
System: 215 EUCALYPTUS AVENUE
Master At: THIS LOCATION
District:
I/C:
Designed By:
Installed By:
Service Info:

Timing Change:	Date Start:	Date End:	Designed:	Installed:
6/27/2018	6/27/2018			

Intersection Layout

PHASE		FLASH
1)	W/B L/T EUCALYPTUS AVENUE	[ ]
2)	E/B EUCALYPTUS AVENUE	[ ]
3)	N/B OFF RAMP-LEFT TURN	[ ]
4)		[ ]
5)	E/B L/T EUCALYPTUS AVENUE	[ ]
6)	W/B EUCALYPTUS AVENUE	[ ]
7)	S/B OFF RAMP - LEFT TURN	[ ]
8)		[ ]

OVERLAP		FLASH
A)		[ ]
B)		[ ]
C)	N/B OFF RAMP - RIGHT TURN	[ ]
D)	E/B EUCALYPTUS AVENUE	[ ]
E)		[ ]
F)		[ ]

Comments and Notes:
Loc # 1
Fiber I.P. Switch 172.25.54.81
Fiber I.P. Master 172.25.54.82
Fiber I.P Local 172.25.54.83
Fiber I.P. Gateway 172.25.54.65
GPS-7G Receiver
Coord. Initiated 06/27/2018

RAM Checksum

Page 2:	7A16	Page 8:	03EA
Page 3:	A6F8	Page 9:	D2FD
Page 4:	12CE	Page 10:	9D86
Page 5:	191A	Page 11:	C3CB
Page 6:	191A	Page 12:	2FBE
Page 7:	B740	Page 13:	86F7

CONFIGURATION PHASE FLAGS

Cabinet
332
Configuration
CALTRANS

Phases (2-1-1-1)	
Permitted	1 2 3 . 5 6 7 .
Restricted	. . . .

Phase Features (2-1-1-4)	
Double Entry	. 2 . . . 6 . .
Rest In Walk	. . . .
Rest In Red	. . . .
Walk 2	. . . .
Max Green 2	. . . .
Max Green 3	. . . .

Startup (2-1-1-5)	
First Green Phases	. . 3 . . . 7 .
Yellow Start Phases	. 2 . . . 6 . .
Vehicle Calls	. . . .
Pedestrian Calls	. . . .
Yellow Start Overlaps	. . . . . .
Startup All-Red	5.0

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . .
Pedestrian	. . . .
Bicycle	. . . .

Phase Locks (2-1-1-3)	
Red	. . . .
Yellow	1 2 3 . 5 6 7 .
Force/Max	. . . .

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . .	1	. . . .
2	. . . .	2	. . . .
3	. . . .	3	. . . .
4	. . . .	4	. . . .
5	. . . .	5	. . . .
6	. . . .	6	. . . .
7	. . . .	7	. . . .
8	. . . .	8	. . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . .
Yellow Flash Overlap	. . . . . .
Flash In Red Phases	. . . .
Flash In Red Overlap	. . . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . .
Driveway Signal Phases	. . . .
Driveway Signal Overlaps	. . . . . .
Leading Ped Phases	. . . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . .

Pedestrian (2-1-3)	
P1	. . . .
P2	. . . .
P3	. . . .
P4	. . . .
P5	. . . .
P6	. . . . . 6 . .
P7	. . . .
P8	. . . .

Overlap (2-1-4)				
Overlap	Parent	Omit	No Start	Not
A	. . . .	. . . .	. . . .	. . . .
B	. . . .	. . . .	. . . .	. . . .
C	1 . 3	. . . .	. . . .	. 2 . . . . 7 .
D	. 2 . . . . 7 .	. . . .	. . . .	1 . . . .
E	. . . .	. . . .	. . . .	. . . .
F	. . . .	. . . .	. . . .	. . . .

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	0	0	0	0	7	0	0
Flash Don't Walk	0	0	0	0	0	11	0	0
Minimum Green	5	5	5	0	5	5	5	0
Det Limit	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	30	35	25	0	30	35	25	0
Max Green 2	0	0	0	0	0	0	0	0
Max Green 3	0	0	0	0	0	0	0	0
Extension	3.0	3.0	3.0	0.0	3.0	3.0	3.0	0.0
Maximum Gap	3.0	3.0	3.0	0.0	3.0	3.0	3.0	0.0
Minimum Gap	3.0	3.0	3.0	0.0	3.0	3.0	3.0	0.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.5	6.0	3.5	3.0	3.5	6.0	3.5	3.0
All-Red	3.0	2.0	1.5	0.0	3.0	2.0	1.5	0.0
Ped/Bike (2-3)	**-1-**	**-2-**	**-3-**	**-4-**	**-5-**	**-6-**	**-7-**	**-8-**
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	6.5	0.0	0.0
Yellow	5.0	5.0	3.5	5.0	5.0	5.0
Red	0.0	0.0	1.5	1.5	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	OFF

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	120		....	119			30	29	28		20	39	28	
Plan 2	Green Factor	110		....	5			29	24	24		24	29	24	
Plan 3	Green Factor	110		....	8			25	26	26		25	26	26	
Plan 4	Green Factor			....											
Plan 5	Green Factor			....											
Plan 6	Green Factor			....											
Plan 7	Green Factor			....											
Plan 8	Green Factor			....											
Plan 9	Green Factor			....											

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	.2.4.6.8	.2...6..	....	....	....	....	....	....
Plan 2	.2.4.6.8	.2...6..	....	....	....	....	....	....
Plan 3	.2.4.6.8	.2...6..	....	....	....	....	....	....
Plan 4	....	....	....	....	....	....	....	....
Plan 5	....	....	....	....	....	....	....	....
Plan 6	....	....	....	....	....	....	....	....
Plan 7	....	....	....	....	....	....	....	....
Plan 8	....	....	....	....	....	....	....	....
Plan 9	....	....	....	....	....	....	....	....

Master Timer Sync (7-A)	
Enable in Plans	
1-9	....
11-19	....
21-29	....

Master Sub Master	
Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
.2.4.6.8	....
Veh Min	Veh Max
.2...6..	....
Ped	Bike
....	....
Cond	Cond Grn
....	10

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	OffSet
	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor			....											
Plan 12	Green Factor			....											
Plan 13	Green Factor			....											
Plan 14	Green Factor			....											
Plan 15	Green Factor			....											
Plan 16	Green Factor			....											
Plan 17	Green Factor			....											
Plan 18	Green Factor			....											
Plan 19	Green Factor			....											

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	....	....	....	....	....	....	....	....
Plan 12	....	....	....	....	....	....	....	....
Plan 13	....	....	....	....	....	....	....	....
Plan 14	....	....	....	....	....	....	....	....
Plan 15	....	....	....	....	....	....	....	....
Plan 16	....	....	....	....	....	....	....	....
Plan 17	....	....	....	....	....	....	....	....
Plan 18	....	....	....	....	....	....	....	....
Plan 19	....	....	....	....	....	....	....	....

Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor			....											
Plan 22	Green Factor			....											
Plan 23	Green Factor			....											
Plan 24	Green Factor			....											
Plan 25	Green Factor			....											
Plan 26	Green Factor			....											
Plan 27	Green Factor			....											
Plan 28	Green Factor			....											
Plan 29	Green Factor			....											

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	....	....	....	....	....	....	....	....
Plan 22	....	....	....	....	....	....	....	....
Plan 23	....	....	....	....	....	....	....	....
Plan 24	....	....	....	....	....	....	....	....
Plan 25	....	....	....	....	....	....	....	....
Plan 26	....	....	....	....	....	....	....	....
Plan 27	....	....	....	....	....	....	....	....
Plan 28	....	....	....	....	....	....	....	....
Plan 29	....	....	....	....	....	....	....	....

DETECTORS

Detector Attributes (5-1)

Det	Type	Phases	Lock	Slot
1	COUNT+CALL+EXTEND	1	NO	I1U
2	COUNT+CALL+EXTEND	1	NO	I1L
3	COUNT+CALL+EXTEND	. 2	NO	I2U
4	COUNT+CALL+EXTEND	. 2	NO	I2L
5	COUNT+CALL+EXTEND	. 2	NO	I3U
6	CALL+EXTEND	. 2	NO	I3L
7	CALL+EXTEND	. 2	NO	I4U
8	COUNT+CALL+EXTEND	. 2	NO	I4L
9	COUNT+CALL+EXTEND	. . 3	NO	I5U
10	COUNT+CALL+EXTEND	. . 3	NO	I5L
11	COUNT+CALL+EXTEND	. . . 4	NO	I6U
12	COUNT+CALL+EXTEND	. . . 4	NO	I6L
13	COUNT+CALL+EXTEND	. . . 4	NO	I7U
14	CALL+EXTEND	. . . 4	NO	I7L
15	CALL+EXTEND	. . . 4	NO	I8U
16	COUNT+CALL+EXTEND	. . . 4	NO	I8L
17	COUNT+CALL+EXTEND	1	NO	I9U
18	COUNT+CALL+EXTEND	. . 3	NO	I9L
19	COUNT+CALL+EXTEND	. 2	NO	I10U
20	COUNT+CALL+EXTEND	. . . 4	NO	I10L
21	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1U
22	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1L
23	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2U
24	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2L
25	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J3U
26	CALL+EXTEND	. . . . . 6 . .	NO	J3L
27	CALL+EXTEND	. . . . . 6 . .	NO	J4U
28	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J4L
29	COUNT+CALL+EXTEND	. . . . . . 7 .	NO	J5U
30	COUNT+CALL+EXTEND	. . . . . . 7 .	NO	J5L
31	COUNT+CALL+EXTEND	1	NO	J6U
32	COUNT+CALL+EXTEND	1	NO	J6L
33	COUNT+CALL+EXTEND	1	NO	J7U
34	CALL+EXTEND	 8	NO	J7L
35	CALL+EXTEND	 8	NO	J8U
36	COUNT+CALL+EXTEND	 8	NO	J8L
37	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J9U
38	COUNT+CALL+EXTEND	. . . . . . 7 .	NO	J9L
39	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J10U
40	COUNT+CALL+EXTEND	 8	NO	J10L
41	PEDESTRIAN	. 2	NO	I12U
42	PEDESTRIAN	. . . 4	NO	I12L
43	PEDESTRIAN	. . . . . 6 . .	NO	I13U
44	PEDESTRIAN	 8	NO	I13L

Detector Configuration (5-2)

Det	Delay	Extend	Recall	Port
1			10	3.2
2			10	7.2
3			10	1.1
4			10	1.5
5			10	4.5
6			10	6.2
7			10	2.1
8			10	7.4
9			10	3.4
10			10	7.6
11			10	1.3
12			10	1.7
13			10	4.7
14			10	6.4
15			10	2.3
16			10	7.8
17			10	3.6
18			10	3.8
19			10	4.1
20			10	4.2
21			10	3.1
22			10	7.1
23			10	1.2
24			10	1.6
25			10	4.6
26			10	6.3
27			10	2.2
28			10	7.3
29			10	3.3
30			10	7.5
31	5		10	1.4
32	5		10	1.8
33	5		10	4.8
34			10	6.5
35			10	2.4
36			10	7.7
37			10	3.5
38			10	3.7
39			10	4.3
40			10	4.4
41			10	5.1
42			10	5.3
43			10	5.2
44			10	5.4

Failure Times (5-3)

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)

Detectors 1-8	. . . .
Detectors 9-16	. . . .
Detectors17-24	. . . .
Detectors 25-32	. . . .
Detectors 33-40	. . . .
Detectors 41-44	. . . .

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Nu								
Sys Det	9	10	11	12	13	14	15	16
Det Nu								

CIC Operation (5-6-1)

Enable in Plans	. . . .

CIC Values (5-6-2)

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)			Table 2 (8-2-2)			Table 3 (8-2-3)			Table 4 (8-2-4)			Table 5 (8-2-5)			Table 6 (8-2-6)		
Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS
0630	1	A			A			A			A			A			A
0900	255	A			A			A			A			A			A
1100	2	A			A			A			A			A			A
1300	255	A			A			A			A			A			A
1530	3	A			A			A			A			A			A
1800	255	A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1			....	
2			....	
3			....	
4			....	
5			....	
6			....	
7			....	
8			....	
9			....	
10			....	
11			....	
12			....	
13			....	
14			....	
15			....	
16			....	

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1			....	
2			....	
3			....	
4			....	
5			....	
6			....	
7			....	
8			....	
9			....	
10			....	
11			....	
12			....	
13			....	
14			....	
15			....	
16			....	

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	....
Holiday	....

Daylight Saving (8-6)

Enabled	YES

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1			....		....
2			....		....
3			....		....
4			....		....
5			....		....
6			....		....
7			....		....
8			....		....
9			....		....
10			....		....
11			....		....
12			....		....
13			....		....
14			....		....
15			....		....
16			....		....

Action Codes:
0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11.Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting
100+Action Code = Phases removed
200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	1
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Access Levels:

0-Full Access
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan
4-Reserved
5-Full Access with No Set Pattern
6-Full Access with No Set Time
7-Full Access with No Set Pattern, Manual Plan
8-Full Access with No Set Time, Pattern, Manual Plan

SOFT LOGIC

Soft Logic (6-2)							
#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

Network (6-4)	
Address	1
Protocol	AB3418
Port	27001
Type	STATIC
Central Access	6
Field Access	0

IP Address	172 .	25 .	54 .	83
Netmask	255 .	255 .	255 .	192
Broadcast	0 .	0 .	0 .	255
Gateway	172 .	25 .	54 .	65

RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Delay										
Clear 1	10	. 2 . . 5 . . .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . . .	. . . . . .	. . . . . .
Clear 2		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Clear 3		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Hold		. . . .	. . . .	1 2 3 4 5 6 7 8	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	A B C D E F
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-1-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . .	. . . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-1-6)			
Primary Port	Secondary Port	Latching	Power-Up
2.5	0.0	YES	FLASHING

RR 2

(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Delay										
Clear 1	10	. . . 4 . . 7 .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . . .	. . . . . .	. . . . . .
Clear 2		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Clear 3		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Hold		1 2 3 . . 6 . .	. . . .	. . . .	. 2 . . . 6 . .	. . . .	. . . 4 . . . 8	. . . . . .	. . . . . .	. . . . . .
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-2-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . .	. . . . . .	. . . 4 . . 7 .	. . . .

Configuration (3-2-6)			
Primary Port	Secondary Port	Latching	Power-up
2.6	0.0	YES	DARK

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. 2 . . 5 . . .	. . . . . .

Port	Latching	Phase Termination
5.5	NO	ADVANCE

EVB (3-B)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . . 4 . . 7 .	. . . . . .

Port	Latching	Phase Termination
5.6	NO	ADVANCE

EVC (3-C)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	1 . . . . 6 . .	. . . . . .

Port	Latching	Phase Termination
5.7	NO	ADVANCE

EVD (3-D)

Preempt Timers			Phase Green	Overlap Green
Delay	Clear	Max		
	30	30	. . 3 8	. . . . . .

Port	Latching	Phase Termination
5.8	NO	ADVANCE

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	NORMAL

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

OUTPUTS

Loadswitch Assignments (2-1-6)							+
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:
- 0 Unused (no output)
- 1-8 Vehicle 1-8
- 9-14 Overlap A-F
- 21-28 Ped 1-8
- 41-47 Special Functions
- 41 Protected Permissive Flashing Phase 1
- 43 Protected Permissive Flashing Phase 3
- 45 Protected Permissive Flashing Phase 5
- 47 Protected Permissive Flashing Phase 7
- 51-57 Special Functions
- 71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6
Channel 9 and 10

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)				Indicator Output	
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	. . . .	0.0	OPT	0	0
Plan 11-19	. . . .	0.0	OPT	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	. . . .
	. . . .

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	. . . .

Access Utilities (9-5)	
Password	***
Timeout	30

YELLOW YIELD COORDINATION

Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	Force-Offs -1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	. . . .	. . . .
Plan D													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	. . . .	. . . .

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
					. . . .	0.0	0.0	0.0	0	0.0	0

INTERSECTION: Eucalyptus Avenue & Valley Springs Parkway

QuicNet System Parameters

Group Assignment:
Field Master Assignment:
System Reference Number:
Commications Channel:
Drop Address:
Area Number:
Area Address:

N/S Street Name: Valley Springs Pkwy
E/W Street Name: Eucalyptus Ave

Last *QuicNet* Database Change:

Notes:

Field Change Record

Change	By	Date	Change	By	Date

Exclusive Ped Phase

Excl Ped Assignment	________
Exclusive Walk	0
Exclusive FDW	0
All Red Clear	0.0

Note: Set the Exclusive Ped Outputs on the "Outputs / General" page

Walk Output	0
Don't Walk Output	0

Phase Timing - Bank 1

		Phase 1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green	5	5	5	5	5	5	5	5
	Extension	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
	Max	20	40	30	30	20	40	20	30
	Max 2	30	50	30	40	30	50	30	40
	Cond Serve Check	0	0	0	0	0	0	0	0
Clear	Yellow Change	3.0	4.4	3.0	4.1	4.0	4.4	3.5	5.2
	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Pedestrian Timing	Walk	0	7	0	0	0	7	0	7
	Ped Clear - FDW	0	26	0	0	0	30	0	31
	Adv / Delay Walk	0	0	0	0	0	0	0	0
	PE Min Ped FDW	0	26	0	0	0	30	0	31
Volume Density	Type 3 Disconnect	0	0	0	0	0	0	0	0
	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Added Initial	0	0	0	0	0	0	0	0
	Min Gap	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	Max Gap	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
	Reduce Every	0.0	4.0	0.0	3.0	0.0	4.0	0.0	3.0

Alternate Timing - Bank 1

	Phase 1	2	3	4	5	6	7	8
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped Clear	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Functions - Page 1

Red Lock	________	Red Rest	________
Yellow Lock	________	Dual Entry	________
Simultaneous Gap	________	Sequential Timing	________
Rest In Walk	________	Inhibit Ped Reservice	________
Advance Walk	________	Semi-Actuated	________
Flashing Walk	________	Guaranteed Passage	________
Max Extension	________	Conditional Service	________

Phase Functions - Page 2

Minimum Recall	_2___6__	Soft Recall	________
Ped Recall	________	External Recall	________
Maximum Recall	________	Manual Control Calls	________
Green Flash	________	Fast Green Flash	________
Overlap Green Flash	________	Fast Overlap G. Flash	________

INTERSECTION: Eucalyptus Avenue & Valley Springs Parkway

Startup

Red Start Time	6.0
Yellow Start Phases	___4___8
First Green Phases	_2___6__
Startup Vehicle Calls	________
Startup Ped Calls	________

Detector Check

Max ON Time	5
Max OFF Time	15
Chatter	45

Advance Warning Signs

	Sign 1	Sign 2
Phase Number	0	0
Time Before Yellow	0.0	0.0

Flash Setup

Flash Entry Phases	________
Flash Phases Yellow	________
Flash Overlaps Yellow	________
Flash Type	

Configuration

Exclusive Phases	________
Protect / Permissive	________
Disable Yellow Range	________
Extra One	1_3_5___
Lag Phases - Free	_2_4_6_8

Configuration

Permitted Phases	12345678
Restricted Phases	________
Disable Overlap Range	________
Extra Two	________
External Permit 1	________
External Permit 2	________
External Permit 3	________

Miscellaneous

Keyboard Beep	
Backlight Timeout	
Spec Evnt 1 - Ltd Serv Interval	0
Spec Evnt 2 - Ltd Serv Interval	0
Red Start	6.0
Flash Start	0
Red Revert	5.0

Daylight Savings Time

Spring Month (Begin)	3
Spring Week (Begin)	2
Fall Month (End)	11
Fall Week (End)	1

Manual

Manual Plan	
Manual Offset	

Ethernet Port Address

Address				
Area Number				
Area Address				
IP Port				
IP Address				
Subnet Mask				
Gateway				

Communications Parameters

	Port 1	Port 2	Port 3	Port 4
Address				
Area Number				
Area Address				
Comm Time Out				
CTS Delay				
RTS Hold				
Baud Rate				
Data Format				

Manual Plan
1 thru 9 = Coordination
Plan 1 thru 9
14 = Free
15 = Flash

Extra One
1 =
2 =
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 =
8 =

Extra Two
1 =
2 =
3 = Disable Min Walk
4 = QuicNet/4 System
5 = Ignor P/P on EV
6 =
7 =
8 =

Flash Type
0 = All On-Off (12345678-0)
1 = Main-Side (1256-3478)
2 = Ping Pong (1234-5678
3 = Ring Pairs (1638-5247)

Location: 08-RIV-060-013.481-W/B DAY STREET

System: 60 DAY STREET

Master At: E/B DAY STREET

District:

I/C:

Designed By:

Installed By:

Service Info:

Timing Change: Date Start: Date End: Designed: Installed:

Intersection Layout

PHASE

		FLASH
1)	S/B L/T	[ ]
2)	N/B DAY STREET	[ ]
3)		[ ]
4)		[ ]
5)		[ ]
6)	S/B DAY STREET	[ ]
7)		[ ]
8)	W/B OFFRAMP	[ ]

OVERLAP

A)		[ ]
B)		[ ]
C)		[ ]
D)		[ ]
E)	ON WITH 1,6,8; NOT WITH 2	[ ]
F)	ON WITH 8; NOT WITH 1,2,6	[ ]

Comments and Notes:
LOC # 2

RAM Checksum

Page 2: C808	Page 8: D621
Page 3: 937C	Page 9: D2FD
Page 4: D9E3	Page 10: 3DC3
Page 5: 191A	Page 11: C3CB
Page 6: 191A	Page 12: 2FBE
Page 7: 9016	Page 13: 86F7

CONFIGURATION PHASE FLAGS

Cabinet
332
Configuration
CALTRANS

Phases (2-1-1-1)	
Permitted	1 2 . . . 6 . 8
Restricted	. . . .

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . .
Pedestrian	. . . .
Bicycle	. . . .

Phase Locks (2-1-1-3)	
Red	. . . .
Yellow	. . . .
Force/Max	. . . .

Phase Features (2-1-1-4)	
Double Entry	. . . .
Rest In Walk	. . . .
Rest In Red	. . . .
Walk 2	. . . .
Max Green 2	. . . .
Max Green 3	. . . .

Startup (2-1-1-5)	
First Green Phases	 8
Yellow Start Phases	. 2 . . . 6 . .
Vehicle Calls	. . . .
Pedestrian Calls	. . . .
Yellow Start Overlaps	. . . . . .
Startup All-Red	5.0

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . .	1	. . . .
2	. . . .	2	. . . .
3	. . . .	3	. . . .
4	. . . .	4	. . . .
5	. . . .	5	. . . .
6	. . . .	6	. . . .
7	. . . .	7	. . . .
8	. . . .	8	. . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . .
Yellow Flash Overlap	. . . . . .
Flash In Red Phases	. . . .
Flash In Red Overlap	. . . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . .
Driveway Signal Phases	. . . .
Driveway Signal Overlaps	. . . . . .
Leading Ped Phases	. . . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . .

Pedestrian (2-1-3)	
P1	. . . .
P2	. 2 . . . . . .
P3	. . . .
P4	. . . .
P5	. . . .
P6	. . . .
P7	. . . .
P8	. . . .

Overlap (2-1-4)

Overlap	Parent	Omit	No Start	Not
A	. . . .	. . . .	. . . .	. . . .
B	. . . .	. . . .	. . . .	. . . .
C	. . . .	. . . .	. . . .	. . . .
D	. . . .	. . . .	. . . .	. . . .
E	1 . . . . 6 . 8	. . . .	. . . .	. 2 . . . . . .
F	 8	. . . .	. . . .	1 2 . . . 6 . .

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	0	0	0	0	0
Flash Don't Walk	0	31	0	0	0	0	0	0
Minimum Green	5	5	0	0	0	5	0	5
Det Limit	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	20	48	0	0	0	48	0	25
Max Green 2	0	0	0	0	0	0	0	0
Max Green 3	0	0	0	0	0	0	0	0
Extension	3.0	3.0	0.0	0.0	0.0	3.0	0.0	3.0
Maximum Gap	3.0	3.0	0.0	0.0	0.0	3.0	0.0	3.0
Minimum Gap	3.0	3.0	0.0	0.0	0.0	3.0	0.0	3.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.5	4.5	3.0	3.0	3.0	4.5	3.0	4.5
All-Red	2.0	1.0	0.0	0.0	0.0	1.0	0.0	1.0
Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	4.5	4.5
Red	0.0	0.0	0.0	0.0	1.0	1.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	OFF

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	100		....	10			17	42				65		23
Plan 2	Green Factor			....											
Plan 3	Green Factor			....											
Plan 4	Green Factor			....											
Plan 5	Green Factor			....											
Plan 6	Green Factor			....											
Plan 7	Green Factor			....											
Plan 8	Green Factor			....											
Plan 9	Green Factor			....											

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	.2.4.6.8	.2...6..	....	....	....	....	....	....
Plan 2	....	....	....	....	....	....	....	....
Plan 3	....	....	....	....	....	....	....	....
Plan 4	....	....	....	....	....	....	....	....
Plan 5	....	....	....	....	....	....	....	....
Plan 6	....	....	....	....	....	....	....	....
Plan 7	....	....	....	....	....	....	....	....
Plan 8	....	....	....	....	....	....	....	....
Plan 9	....	....	....	....	....	....	....	....

Master Timer Sync (7-A)	
Enable in Plans	
1-9	....
11-19	....
21-29	....

Master Sub Master	
Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
.2.4.6.8	....
Veh Min	Veh Max
.2...6..	....
Ped	Bike
....	....
Cond	Cond Grn
....	10

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	OffSet
	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

		Cycle	Multi	Lag Gap	[Offsets A	B	C]	Green Factors or Press [F] to Select Force-Off -1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor			....											
Plan 12	Green Factor			....											
Plan 13	Green Factor			....											
Plan 14	Green Factor			....											
Plan 15	Green Factor			....											
Plan 16	Green Factor			....											
Plan 17	Green Factor			....											
Plan 18	Green Factor			....											
Plan 19	Green Factor			....											

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	....	....	....	....	....	....	....	....
Plan 12	....	....	....	....	....	....	....	....
Plan 13	....	....	....	....	....	....	....	....
Plan 14	....	....	....	....	....	....	....	....
Plan 15	....	....	....	....	....	....	....	....
Plan 16	....	....	....	....	....	....	....	....
Plan 17	....	....	....	....	....	....	....	....
Plan 18	....	....	....	....	....	....	....	....
Plan 19	....	....	....	....	....	....	....	....

Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
					[Offsets		]	Green Factors or Press [F] to Select Force-Off							
Plan 21	Green Factor			....											
Plan 22	Green Factor			....											
Plan 23	Green Factor			....											
Plan 24	Green Factor			....											
Plan 25	Green Factor			....											
Plan 26	Green Factor			....											
Plan 27	Green Factor			....											
Plan 28	Green Factor			....											
Plan 29	Green Factor			....											

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	....	....	....	....	....	....	....	....
Plan 22	....	....	....	....	....	....	....	....
Plan 23	....	....	....	....	....	....	....	....
Plan 24	....	....	....	....	....	....	....	....
Plan 25	....	....	....	....	....	....	....	....
Plan 26	....	....	....	....	....	....	....	....
Plan 27	....	....	....	....	....	....	....	....
Plan 28	....	....	....	....	....	....	....	....
Plan 29	....	....	....	....	....	....	....	....

DETECTORS

Detector Attributes (5-1)				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	COUNT+CALL+EXTEND	1	NO	I1U	1			10	3.2
2	COUNT+CALL+EXTEND	1	NO	I1L	2			10	7.2
3	COUNT+CALL+EXTEND	. 2	NO	I2U	3			10	1.1
4	COUNT+CALL+EXTEND	. 2	NO	I2L	4			10	1.5
5	COUNT+CALL+EXTEND	. 2	NO	I3U	5			10	4.5
6	CALL+EXTEND	. 2	NO	I3L	6			10	6.2
7	COUNT+CALL+EXTEND	. 2	NO	I4U	7			10	2.1
8	COUNT+CALL+EXTEND	. 2	NO	I4L	8			10	7.4
9	COUNT+CALL+EXTEND	 8	NO	I5U	9			10	3.4
10	COUNT+CALL+EXTEND	 8	NO	I5L	10			10	7.6
11	COUNT+CALL+EXTEND	. . . 4	NO	I6U	11			10	1.3
12	COUNT+CALL+EXTEND	. . . 4	NO	I6L	12			10	1.7
13	COUNT+CALL+EXTEND	. . . 4	NO	I7U	13			10	4.7
14	CALL+EXTEND	. . . 4	NO	I7L	14			10	6.4
15	COUNT+CALL+EXTEND	. . . 4	NO	I8U	15			10	2.3
16	COUNT+CALL+EXTEND	. . . 4	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	1	NO	I9U	17			10	3.6
18	COUNT+CALL+EXTEND	 8	NO	I9L	18			10	3.8
19	COUNT+CALL+EXTEND	. 2	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	. . . 4	NO	I10L	20			10	4.2
21	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1U	21			10	3.1
22	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1L	22			10	7.1
23	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2U	23			10	1.2
24	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2L	24			10	1.6
25	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J3U	25			10	4.6
26	CALL+EXTEND	. . . . . 6 . .	NO	J3L	26			10	6.3
27	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J4U	27			10	2.2
28	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J4L	28			10	7.3
29	COUNT+CALL+EXTEND	. . . . . . 7 .	NO	J5U	29			10	3.3
30	COUNT+CALL+EXTEND	. . . . . . 7 .	NO	J5L	30			10	7.5
31	COUNT+CALL+EXTEND	 8	NO	J6U	31			10	1.4
32	COUNT+CALL+EXTEND	 8	NO	J6L	32			10	1.8
33	COUNT+CALL+EXTEND	 8	NO	J7U	33			10	4.8
34	CALL+EXTEND	 8	NO	J7L	34			10	6.5
35	COUNT+CALL+EXTEND	 8	NO	J8U	35			10	2.4
36	COUNT+CALL+EXTEND	 8	NO	J8L	36			10	7.7
37	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J9U	37			10	3.5
38	COUNT+CALL+EXTEND	. . . . . . 7 .	NO	J9L	38			10	3.7
39	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	 8	NO	J10L	40			10	4.4
41	PEDESTRIAN	. 2	NO	I12U	41			10	5.1
42	PEDESTRIAN	. . . 4	NO	I12L	42			10	5.3
43	PEDESTRIAN	. . . . . 6 . .	NO	I13U	43			10	5.2
44	PEDESTRIAN	 8	NO	I13L	44			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	. . . .
Detectors 9-16	. . . .
Detectors17-24	. . . .
Detectors 25-32	. . . .
Detectors 33-40	. . . .
Detectors 41-44	. . . .

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Nu								
Sys Det	9	10	11	12	13	14	15	16
Det Nu								

CIC Operation (5-6-1)	
Enable in Plans	. . . .

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)			Table 2 (8-2-2)			Table 3 (8-2-3)			Table 4 (8-2-4)			Table 5 (8-2-5)			Table 6 (8-2-6)		
Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS
0600	1	A	0600	1	A			A			A			A			A
1900	255	A	1900	255	A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1			....	
2			....	
3			....	
4			....	
5			....	
6			....	
7			....	
8			....	
9			....	
10			....	
11			....	
12			....	
13			....	
14			....	
15			....	
16			....	

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1			....	
2			....	
3			....	
4			....	
5			....	
6			....	
7			....	
8			....	
9			....	
10			....	
11			....	
12			....	
13			....	
14			....	
15			....	
16			....	

Solar Clock Data (8-4)	
North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)	
Hebrew	Ped Recall
Sabbath	....
Holiday	....

Daylight Saving (8-6)	
Enabled	YES

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1			....		....
2			....		....
3			....		....
4			....		....
5			....		....
6			....		....
7			....		....
8			....		....
9			....		....
10			....		....
11			....		....
12			....		....
13			....		....
14			....		....
15			....		....
16			....		....

Action Codes:
0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11.Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting
100+Action Code = Phases removed
200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	2
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Access Levels:

0-Full Access
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan
4-Reserved
5-Full Access with No Set Pattern
6-Full Access with No Set Time
7-Full Access with No Set Pattern, Manual Plan
8-Full Access with No Set Time, Pattern, Manual Plan

SOFT LOGIC

Soft Logic (6-2)							
#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

Network (6-4)	
Address	
Protocol	AB3418
Port	27000
Type	STATIC
Central Access	6
Field Access	0

IP Address	0	0	0	0
Netmask	255	255	255	0
Broadcast	0	0	0	255
Gateway	0	0	0	254

RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Delay										
Clear 1	10	. 2 . . 5 . . .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . . .	. . . . . .	. . . . . .
Clear 2		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Clear 3		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Hold		. . . .	. . . .	1 2 3 4 5 6 7 8	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	A B C D E F
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-1-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . .	. . . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-1-6)			
Primary Port	Secondary Port	Latching	Power-Up
2.5	0.0	YES	FLASHING

RR 2

(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Delay										
Clear 1	10	. . . 4 . . 7 .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . . .	. . . . . .	. . . . . .
Clear 2		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Clear 3		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Hold		1 2 3 . . 6 . .	. . . .	. . . .	. 2 . . . 6 . .	. . . .	. . . 4 . . . 8	. . . . . .	. . . . . .	. . . . . .
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-2-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . .	. . . . . .	. . . 4 . . 7 .	. . . .

Configuration (3-2-6)			
Primary Port	Secondary Port	Latching	Power-up
2.6	0.0	YES	DARK

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		30	30	. 2 . . 5 . . .	. . . . . .

Port	Latching	Phase Termination
5.5	NO	ADVANCE

EVB (3-B)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		30	30	. . . 4 . . 7 .	. . . . . .

Port	Latching	Phase Termination
5.6	NO	ADVANCE

EVC (3-C)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		30	30	1 . . . . 6 . .	. . . . . .

Port	Latching	Phase Termination
5.7	NO	ADVANCE

EVD (3-D)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		30	30	. . 3 8	. . . . . .

Port	Latching	Phase Termination
5.8	NO	ADVANCE

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	NORMAL

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

OUTPUTS

Loadswitch Assignments (2-1-6)							+
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:
- 0 Unused (no output)
- 1-8 Vehicle 1-8
- 9-14 Overlap A-F
- 21-28 Ped 1-8
- 41-47 Special Functions
- 41 Protected Permissive Flashing Phase 1
- 43 Protected Permissive Flashing Phase 3
- 45 Protected Permissive Flashing Phase 5
- 47 Protected Permissive Flashing Phase 7
- 51-57 Special Functions
- 71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6
Channel 9 and 10

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)				Indicator Output	
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	. . . .	0.0	OPT	0	0
Plan 11-19	. . . .	0.0	OPT	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	. . . .
	. . . .

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	. . . .

Access Utilities (9-5)	
Password	***
Timeout	30

YELLOW YIELD COORDINATION

Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	Force-Offs -1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	. . . .	. . . .
Plan D													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	. . . .	. . . .

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
					. . . .	0.0	0.0	0.0	0	0.0	0

Location: 08-RIV-060-013.139-E/B DAY STREET
System: 60 DAY STREET
Master At: THIS LOCATION

District:
I/C:

Designed By:
Installed By:
Service Info:

Timing Change: | Date Start: | Date End: | Designed: | Installed:

PHASE		FLASH
1)	S/B L/T	[ ]
2)	N/B DAY STREET	[ ]
3)		[ ]
4)	E/B OFFRAMP	[ ]
5)		[ ]
6)	S/B DAY STREET	[ ]
7)		[ ]
8)		[ ]

OVERLAP		
A)		[ ]
B)		[ ]
C)	ON WITH 4; NOT WITH 1,2,6	[ ]
D)	ON WITH 1,4,6; NOT WITH 2	[ ]
E)		[ ]
F)		[ ]

Intersection Layout

Comments and Notes:

Loc # 1
GPS McCain Unit
Switch I.P. # 192.168.254.226
Fiber Converter I.P. # 192.168.254.99

RAM Checksum

Page 2:	212E	Page 8:	D621
Page 3:	A81A	Page 9:	D2FD
Page 4:	C49A	Page 10:	D7C1
Page 5:	191A	Page 11:	C3CB
Page 6:	191A	Page 12:	2FBE
Page 7:	7825	Page 13:	86F7

CONFIGURATION PHASE FLAGS

Cabinet
332
Configuration
CALTRANS

Phases (2-1-1-1)	
Permitted	1 2 . 4 . 6 . .
Restricted	. . . .

Phase Features (2-1-1-4)	
Double Entry	. . . .
Rest In Walk	. . . .
Rest In Red	. . . .
Walk 2	. . . .
Max Green 2	. . . .
Max Green 3	. . . .

Startup (2-1-1-5)	
First Green Phases	. . . 4 . . . .
Yellow Start Phases	. 2 . . . 6 . .
Vehicle Calls	. . . .
Pedestrian Calls	. . . .
Yellow Start Overlaps	. . . . . .
Startup All-Red	5.0

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . .
Pedestrian	. . . .
Bicycle	. . . .

Phase Locks (2-1-1-3)	
Red	. . . .
Yellow	. . . .
Force/Max	. . . .

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . .	1	. . . .
2	. . . .	2	. . . .
3	. . . .	3	. . . .
4	. . . .	4	. . . .
5	. . . .	5	. . . .
6	. . . .	6	. . . .
7	. . . .	7	. . . .
8	. . . .	8	. . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . .
Yellow Flash Overlap	. . . . . .
Flash In Red Phases	. . . .
Flash In Red Overlap	. . . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . .
Driveway Signal Phases	. . . .
Driveway Signal Overlaps	. . . . . .
Leading Ped Phases	. . . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . .

Pedestrian (2-1-3)	
P1	. . . .
P2	. 2 . . . . . .
P3	. . . .
P4	. . . .
P5	. . . .
P6	. . . .
P7	. . . .
P8	. . . .

Overlap (2-1-4)

Overlap	Parent	Omit	No Start	Not
A	. . . .	. . . .	. . . .	. . . .
B	. . . .	. . . .	. . . .	. . . .
C	. . . 4	. . . .	. . . .	1 2 . . . 6 . .
D	1 . . 4 . 6 . .	. . . .	. . . .	. 2 . . . . . .
E	. . . .	. . . .	. . . .	. . . .
F	. . . .	. . . .	. . . .	. . . .

PHASE TIMING

Phase (2-2)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 1 ---	0	7	0	0	0	0	0	0
Flash Don't Walk	0	40	0	0	0	0	0	0
Minimum Green	5	5	0	5	0	5	0	0
Det Limit	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	20	48	0	25	0	48	0	0
Max Green 2	0	0	0	0	0	0	0	0
Max Green 3	0	0	0	0	0	0	0	0
Extension	3.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0
Maximum Gap	3.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0
Minimum Gap	3.0	3.0	0.0	3.0	0.0	3.0	0.0	0.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.5	4.5	3.0	4.5	3.0	4.5	3.0	3.0
All-Red	1.5	0.5	0.0	0.5	0.0	0.5	0.0	0.0
Ped/Bike (2-3)	**-1-**	**-2-**	**-3-**	**-4-**	**-5-**	**-6-**	**-7-**	**-8-**
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	4.5	4.5	5.0	5.0
Red	0.0	0.0	0.5	0.5	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
All-Red Sec/Min (2-6)	
All-Red Sec/Min:	OFF

Max 2 Extension

Max/Gap Out (2-7)	
Max Cnt	0
Gap Cnt	0

Local Plan 1...9 (7-1) TIMING DATA

COORDINATION

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
					[Offsets]			Green Factors or Press [F] to Select Force-Off							
Plan 1	Green Factor	100		....	96			15	47		23		67		
Plan 2	Green Factor			....											
Plan 3	Green Factor			....											
Plan 4	Green Factor			....											
Plan 5	Green Factor			....											
Plan 6	Green Factor			....											
Plan 7	Green Factor			....											
Plan 8	Green Factor			....											
Plan 9	Green Factor			....											

Local Plan 1...9 (7-1) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	.2.4.6.8	.2...6..	....	....	....	....	....	....
Plan 2	....	....	....	....	....	....	....	....
Plan 3	....	....	....	....	....	....	....	....
Plan 4	....	....	....	....	....	....	....	....
Plan 5	....	....	....	....	....	....	....	....
Plan 6	....	....	....	....	....	....	....	....
Plan 7	....	....	....	....	....	....	....	....
Plan 8	....	....	....	....	....	....	....	....
Plan 9	....	....	....	....	....	....	....	....

Master Timer Sync (7-A)	
Enable in Plans	
1-9	....
11-19	....
21-29	....

Master Sub Master	
Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
.2.4.6.8	....
Veh Min	Veh Max
.2...6..	....
Ped	Bike
....	....
Cond	Cond Grn
....	10

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	OffSet
	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

Local Plan 11...19 (7-2) TIMING DATA

COORDINATION

[Offsets] Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 11	Green Factor			....											
Plan 12	Green Factor			....											
Plan 13	Green Factor			....											
Plan 14	Green Factor			....											
Plan 15	Green Factor			....											
Plan 16	Green Factor			....											
Plan 17	Green Factor			....											
Plan 18	Green Factor			....											
Plan 19	Green Factor			....											

Local Plan 11...19 (7-2) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 11	....	....	....	....	....	....	....	....
Plan 12	....	....	....	....	....	....	....	....
Plan 13	....	....	....	....	....	....	....	....
Plan 14	....	....	....	....	....	....	....	....
Plan 15	....	....	....	....	....	....	....	....
Plan 16	....	....	....	....	....	....	....	....
Plan 17	....	....	....	....	....	....	....	....
Plan 18	....	....	....	....	....	....	....	....
Plan 19	....	....	....	....	....	....	....	....

Local Plan 21...29 (7-3) TIMING DATA

COORDINATION

[Offsets]   Green Factors or Press [F] to Select Force-Off

		Cycle	Multi	Lag Gap	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 21	Green Factor			....											
Plan 22	Green Factor			....											
Plan 23	Green Factor			....											
Plan 24	Green Factor			....											
Plan 25	Green Factor			....											
Plan 26	Green Factor			....											
Plan 27	Green Factor			....											
Plan 28	Green Factor			....											
Plan 29	Green Factor			....											

Local Plan 21...29 (7-3) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 21	....	....	....	....	....	....	....	....
Plan 22	....	....	....	....	....	....	....	....
Plan 23	....	....	....	....	....	....	....	....
Plan 24	....	....	....	....	....	....	....	....
Plan 25	....	....	....	....	....	....	....	....
Plan 26	....	....	....	....	....	....	....	....
Plan 27	....	....	....	....	....	....	....	....
Plan 28	....	....	....	....	....	....	....	....
Plan 29	....	....	....	....	....	....	....	....

DETECTORS

Det	Type	Phases	Lock	Slot	Det	Delay	Extend	Recall	Port
1	COUNT+CALL+EXTEND	1.......	NO	I1U	1			10	3.2
2	COUNT+CALL+EXTEND	1.......	NO	I1L	2			10	7.2
3	COUNT+CALL+EXTEND	.2......	NO	I2U	3			10	1.1
4	COUNT+CALL+EXTEND	.2......	NO	I2L	4			10	1.5
5	COUNT+CALL+EXTEND	.2......	NO	I3U	5			10	4.5
6	CALL+EXTEND	.2......	NO	I3L	6			10	6.2
7	COUNT+CALL+EXTEND	.2......	NO	I4U	7			10	2.1
8	COUNT+CALL+EXTEND	.2......	NO	I4L	8			10	7.4
9	COUNT+CALL+EXTEND	..3.....	NO	I5U	9			10	3.4
10	COUNT+CALL+EXTEND	..3.....	NO	I5L	10			10	7.6
11	COUNT+CALL+EXTEND	...4....	NO	I6U	11			10	1.3
12	COUNT+CALL+EXTEND	...4....	NO	I6L	12			10	1.7
13	COUNT+CALL+EXTEND	...4....	NO	I7U	13			10	4.7
14	CALL+EXTEND	...4....	NO	I7L	14			10	6.4
15	COUNT+CALL+EXTEND	...4....	NO	I8U	15			10	2.3
16	COUNT+CALL+EXTEND	...4....	NO	I8L	16			10	7.8
17	COUNT+CALL+EXTEND	1.......	NO	I9U	17			10	3.6
18	COUNT+CALL+EXTEND	..3.....	NO	I9L	18			10	3.8
19	COUNT+CALL+EXTEND	.2......	NO	I10U	19			10	4.1
20	COUNT+CALL+EXTEND	...4....	NO	I10L	20			10	4.2
21	COUNT+CALL+EXTEND	....5...	NO	J1U	21			10	3.1
22	COUNT+CALL+EXTEND	....5...	NO	J1L	22			10	7.1
23	COUNT+CALL+EXTEND	.....6..	NO	J2U	23			10	1.2
24	COUNT+CALL+EXTEND	.....6..	NO	J2L	24			10	1.6
25	COUNT+CALL+EXTEND	.....6..	NO	J3U	25			10	4.6
26	CALL+EXTEND	.....6..	NO	J3L	26			10	6.3
27	COUNT+CALL+EXTEND	.....6..	NO	J4U	27			10	2.2
28	COUNT+CALL+EXTEND	.....6..	NO	J4L	28			10	7.3
29	COUNT+CALL+EXTEND	......7.	NO	J5U	29			10	3.3
30	COUNT+CALL+EXTEND	......7.	NO	J5L	30			10	7.5
31	COUNT+CALL+EXTEND	8	NO	J6U	31			10	1.4
32	COUNT+CALL+EXTEND	8	NO	J6L	32			10	1.8
33	COUNT+CALL+EXTEND	8	NO	J7U	33			10	4.8
34	CALL+EXTEND	8	NO	J7L	34			10	6.5
35	COUNT+CALL+EXTEND	8	NO	J8U	35			10	2.4
36	COUNT+CALL+EXTEND	8	NO	J8L	36			10	7.7
37	COUNT+CALL+EXTEND	....5...	NO	J9U	37			10	3.5
38	COUNT+CALL+EXTEND	......7.	NO	J9L	38			10	3.7
39	COUNT+CALL+EXTEND	.....6..	NO	J10U	39			10	4.3
40	COUNT+CALL+EXTEND	8	NO	J10L	40			10	4.4
41	PEDESTRIAN	.2......	NO	I12U	41			10	5.1
42	PEDESTRIAN	...4....	NO	I12L	42			10	5.3
43	PEDESTRIAN	.....6..	NO	I13U	43			10	5.2
44	PEDESTRIAN	8	NO	I13L	44			10	5.4

Detector Attributes (5-1) / Slot / Detector Configuration (5-2)

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	....
Detectors 9-16	....
Detectors17-24	....
Detectors 25-32	....
Detectors 33-40	....
Detectors 41-44	....

System Detector Assignment (5-5)

Sys Det	1	2	3	4	5	6	7	8
Det Nu								
Sys Det	9	10	11	12	13	14	15	16
Det Nu								

CIC Operation (5-6-1)	
Enable in Plans	....

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

Detector-to-Phase Assignment (5-6-3)

Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6	4.1	6.6	5.1	5.2	6.7
	7.2	1.5	6.2	7.4	7.6	1.7	6.4	7.8	3.8	4.2	2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5	4.3	2.8	5.5	5.6	2.5
	7.1	1.6	6.3	7.3	7.5	1.8	6.5	7.7	3.7	4.4	6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)			Table 2 (8-2-2)			Table 3 (8-2-3)			Table 4 (8-2-4)			Table 5 (8-2-5)			Table 6 (8-2-6)		
Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS
0600	1	A	0600	1	A			A			A			A			A
1900	255	A	1900	255	A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1			....	
2			....	
3			....	
4			....	
5			....	
6			....	
7			....	
8			....	
9			....	
10			....	
11			....	
12			....	
13			....	
14			....	
15			....	
16			....	

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1			....	
2			....	
3			....	
4			....	
5			....	
6			....	
7			....	
8			....	
9			....	
10			....	
11			....	
12			....	
13			....	
14			....	
15			....	
16			....	

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	....
Holiday	....

Daylight Saving (8-6)

Enabled	YES

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1			....		....
2			....		....
3			....		....
4			....		....
5			....		....
6			....		....
7			....		....
8			....		....
9			....		....
10			....		....
11			....		....
12			....		....
13			....		....
14			....		....
15			....		....
16			....		....

Action Codes:
0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11.Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
27. Traffic Actuated Max 2
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting
100+Action Code = Phases removed
200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	
Address	1
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Access Level	0
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Access Levels:

0-Full Access
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan
4-Reserved
5-Full Access with No Set Pattern
6-Full Access with No Set Time
7-Full Access with No Set Pattern, Manual Plan
8-Full Access with No Set Time, Pattern, Manual Plan

SOFT LOGIC

Soft Logic (6-2)							
#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

NETWORK

Network (6-4)	
Address	
Protocol	AB3418
Port	27000
Type	STATIC
Central Access	6
Field Access	0

IP Address	0	0	0	0
Netmask	255	255	255	0
Broadcast	0	0	0	255
Gateway	0	0	0	254

RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Delay										
Clear 1	10	. 2 . . 5 . . .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . . .	. . . . . .	. . . . . .
Clear 2		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Clear 3		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Hold		. . . .	. . . .	1 2 3 4 5 6 7 8	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	A B C D E F
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-1-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . .	. . . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-1-6)			
Primary Port	Secondary Port	Latching	Power-Up
2.5	0.0	YES	FLASHING

RR 2

(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Delay										
Clear 1	10	. . . 4 . . 7 .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . . .	. . . . . .	. . . . . .
Clear 2		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Clear 3		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Hold		1 2 3 . . 6 . .	. . . .	. . . .	. 2 . . . 6 . .	. . . .	. . . 4 . . . 8	. . . . . .	. . . . . .	. . . . . .
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-2-5)			
Phase Green	Overlap Green	Vehicle Call	Ped Call
. . . .	. . . . . .	. . . 4 . . 7 .	. . . .

Configuration (3-2-6)			
Primary Port	Secondary Port	Latching	Power-up
2.6	0.0	YES	DARK

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		30	30	. 2 . . 5 . . .	. . . . . .

Port	Latching	Phase Termination
5.5	NO	ADVANCE

EVB (3-B)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		30	30	. . . 4 . . 7 .	. . . . . .

Port	Latching	Phase Termination
5.6	NO	ADVANCE

EVC (3-C)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		30	30	1 . . . . 6 . .	. . . . . .

Port	Latching	Phase Termination
5.7	NO	ADVANCE

EVD (3-D)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
		30	30	. . 3 8	. . . . . .

Port	Latching	Phase Termination
5.8	NO	ADVANCE

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	
Advance Enable	

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

Battery Backup (2-1-5-5)	
Port	Operation
2.7	NORMAL

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

OUTPUTS

Loadswitch Assignments (2-1-6)							+
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:
- 0 Unused (no output)
- 1-8 Vehicle 1-8
- 9-14 Overlap A-F
- 21-28 Ped 1-8
- 41-47 Special Functions
- 41 Protected Permissive Flashing Phase 1
- 43 Protected Permissive Flashing Phase 3
- 45 Protected Permissive Flashing Phase 5
- 47 Protected Permissive Flashing Phase 7
- 51-57 Special Functions
- 71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6
Channel 9 and 10

TRANSIT PRIORITY

Local Plans (3-E) 1...9 11...19		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											
Plan 11	Green Factor											
Plan 12	Green Factor											
Plan 13	Green Factor											
Plan 14	Green Factor											
Plan 15	Green Factor											
Plan 16	Green Factor											
Plan 17	Green Factor											
Plan 18	Green Factor											
Plan 19	Green Factor											

Transit Priority Configuration (3-E-A)				Indicator Output	
Enable in Plans		Input	Type	Stop	Go
Plan 1-9	. . . .	0.0	OPT	0	0
Plan 11-19	. . . .	0.0	OPT	0	0

Queue Jump (3-E-B)	
Grn Hold	Hold Phase
	. . . .
	. . . .

Free Plans (3-E-E)	
Max Grn Hold	Hold Phase
	. . . .

Access Utilities (9-5)	
Password	***
Timeout	30

YELLOW YIELD COORDINATION

Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	Force-Offs -1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	. . . .	. . . .
Plan D													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	. . . .	. . . .

TRUCK PRIORITY

Truck Priority (3-F)	Passage	CarryOver	Clearance	Next Priority	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output
					. . . .	0.0	0.0	0.0	0	0.0	0

INTERSECTION: Day Street and Canyon Springs Parkway

Group Assignment:
Field Master Assignment:
System Reference Number:

N/S Street Name: Day St
E/W Street Name: Canyon Springs Pkwy

Last Database Change:

Change Record					
Change	By	Date	Change	By	Date

Notes:

Drop Number		<C+0+0>
Zone Number		<C+0+1>
Area Number		<C+0+2>
Area Address		<C+0+3>
QuicNet Channel		(QuicNet)

Communication Addresses

Manual Plan		<C+A+1>
Manual Offset		<C+B+1>

Manual Selection

Max Initial	20	<F+0+E>
Red Revert	5.0	<F+0+F>
All Red Start	6.0	<F+C+0>

Start / Revert Times

Row	Column Numbers ---->	1	2	3	4	5	6	7	8
	Phase Names ---->								
0	Ped Walk	0	7	0	7	0	7	0	7
1	Ped FDW	0	22	0	34	0	26	0	36
2	Min Green	5	5	5	5	5	5	5	5
3	Type 3 Limit	0	0	0	0	0	0	0	0
4	Added Initial	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0
5	Veh Extension	2.5	3.0	2.0	3.0	2.0	3.0	2.0	3.0
6	Max Gap	2.5	3.0	2.0	3.0	2.0	3.0	2.0	3.0
7	Min Gap	2.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0
8	Max Limit	30	40	30	30	25	4	30	30
9	Max Limit 2	30	70	30	70	30	70	30	70
A	- - - - - -	0	0	0	0	0	0	0	0
B	Call To Phase	0	0	0	0	0	0	0	0
C	Reduce By	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0
D	Reduce Every	0.0	4.0	0.0	3.0	0.0	4.0	0.0	3.0
E	Yellow Change	3.5	4.4	3.0	4.1	3.5	4.4	4.5	3.6
F	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

Phase Timing - Bank 1 <F Page>

	E
RR-1 Delay	0
RR-1 Clear	10
EV-A Delay	0
EV-A Clear	5
EV-B Delay	0
EV-B Clear	5
EV-C Delay	0
EV-C Clear	5
EV-D Delay	0
EV-D Clear	5
RR-2 Delay	0
RR-2 Clear	10
View EV Delay	- - -
View EV Clear	- - -
View RR Delay	- - -
View RR Clear	- - -

Preempt Timing

	F	Row
Permit	12345678	0
Red Lock	________	1
Yellow Lock	________	2
Min Recall	_2___6__	3
Ped Recall	________	4
View Set Peds	- - - - - - - -	5
Rest In Walk	________	6
Red Rest	________	7
Dual Entry	________	8
Max Recall	________	9
Soft Recall	________	A
Max 2	________	B
Cond. Service	________	C
Man Cntrl Calls	________	D
Yellow Start	___4___8	E
First Phases	_2___6__	F

Phase Functions <F Page>

Manual Plan
0 = Automatic
1-9 = Plan 1-9
14 = Free
15 = Flash

Manual Offset
0 = Automatic
1 = Offset A
2 = Offset B
3 = Offset C

INTERSECTION: Day Street and Campus Parkway

QuicNet System Parameters

Group Assignment:
Field Master Assignment:
System Reference Number:
Commications Channel:
Drop Address:
Area Number:
Area Address:

N/S Street Name: Day St
E/W Street Name: Campus Pkwy

Last *QuicNet* Database Change:

Notes:

Field Change Record					
Change	By	Date	Change	By	Date

Exclusive Ped Phase

Excl Ped Assignment	________
Exclusive Walk	0
Exclusive FDW	0
All Red Clear	0.0

Note: Set the Exclusive Ped Outputs on the "Outputs / General" page

Walk Output	0
Don't Walk Output	0

Phase Timing - Bank 1

		Phase 1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green	5	5	5	5	5	5	5	5
	Extension	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
	Max	20	40	20	30	20	40	20	30
	Max 2	30	70	30	50	30	70	30	50
	Cond Serve Check	0	0	0	0	0	0	0	0
Clear	Yellow Change	4.0	4.4	3.5	3.6	3.5	4.4	4.5	3.6
	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Pedestrian Timing	Walk	0	7	0	7	0	7	0	7
	Ped Clear - FDW	0	32	0	35	0	22	0	36
	Adv / Delay Walk	0	0	0	0	0	0	0	0
	PE Min Ped FDW	0	32	0	35	0	22	0	36
Volume Density	Type 3 Disconnect	0	0	0	0	0	0	0	0
	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Added Initial	0	0	0	0	0	0	0	0
	Min Gap	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	Max Gap	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
	Reduce Every	0.0	4.0	0.0	3.0	0.0	4.0	0.0	3.0

Alternate Timing - Bank 1

	Phase 1	2	3	4	5	6	7	8
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped Clear	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Functions - Page 1

Red Lock	________	Red Rest	________
Yellow Lock	________	Dual Entry	________
Simultaneous Gap	________	Sequential Timing	________
Rest In Walk	________	Inhibit Ped Reservice	________
Advance Walk	________	Semi-Actuated	________
Flashing Walk	________	Guaranteed Passage	________
Max Extension	________	Conditional Service	________

Phase Functions - Page 2

Minimum Recall	_2___6__	Soft Recall	________
Ped Recall	________	External Recall	________
Maximum Recall	________	Manual Control Calls	________
Green Flash	________	Fast Green Flash	________
Overlap Green Flash	________	Fast Overlap G. Flash	________

INTERSECTION: Day Street and Campus Parkway

Overlaps

	Overlap Number 1	2	3	4	5	6	7	8
Load Switch Number	9	0	0	0	0	0	0	0
Vehicle Set 1	____67_	________	________	________	________	________	________	________
Vehicle Set 2	________	________	________	________	________	________	________	________
Vehicle Set 3	________	________	________	________	________	________	________	________
Negative Vehicle	_____6__	________	________	________	________	________	________	________
Negative Ped	_____6__	________	________	________	________	________	________	________
Green Omit	_____6__	________	________	________	________	________	________	________
Green Clear Omit	________	________	________	________	________	________	________	________

	1	2	3	4	5	6	7	8
Green Clearance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow Change	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clearance	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

AND Gates

	AND 1	AND 2	AND 3	AND 4
Input - A	0	0	0	0
Input - B	0	0	0	0
Output	0	0	0	0

NAND Gates

	NAND 1	NAND 2	NAND 3	NAND 4
Input - A	0	0	0	0
Input - B	0	0	0	0
Output	0	0	0	0

2 Input - OR Gates

	OR 1	OR 2	OR 3	OR 4	OR 5	OR 6
Input - A	0	0	0	0	0	0
Input - B	0	0	0	0	0	0
Output	0	0	0	0	0	0

4 Input - OR Gates

	OR 7	OR 8
Input - A	0	0
Input - B	0	0
Input - C	0	0
Input - D	0	0
Output	0	0

NOT Gates (Inverters)

	NOT 1	NOT 2	NOT 3	NOT 4
Input	0	0	0	0
Output	0	0	0	0

DELAY Gates

	DELAY 1	DELAY 2	DELAY 3	DELAY 4	DELAY 5	DELAY 6
Input	0	0	0	0	0	0
Delay Time	0	0	0	0	0	0
Output	0	0	0	0	0	0

Logic Latches

Latch:	1	2	3	4	5	6	7	8
Set	0	0	0	0	0	0	0	0
Reset	0	0	0	0	0	0	0	0
Out	0	0	0	0	0	0	0	0
/Out	0	0	0	0	0	0	0	0

INTERSECTION: Day Street and Campus Parkway

Startup

Red Start Time	6.0
Yellow Start Phases	___4___8
First Green Phases	_2___6__
Startup Vehicle Calls	________
Startup Ped Calls	________

Detector Check

Max ON Time	5
Max OFF Time	15
Chatter	45

Advance Warning Signs

	Sign 1	Sign 2
Phase Number	0	0
Time Before Yellow	0.0	0.0

Flash Setup

Flash Entry Phases	________
Flash Phases Yellow	________
Flash Overlaps Yellow	________
Flash Type	

Configuration

Exclusive Phases	________
Protect / Permissive	________
Disable Yellow Range	________
Extra One	1_3_5___
Lag Phases - Free	_2_4_6_8

Configuration

Permitted Phases	12345678
Restricted Phases	________
Disable Overlap Range	________
Extra Two	________
External Permit 1	________
External Permit 2	___4____
External Permit 3	________

Miscellaneous

Keyboard Beep	
Backlight Timeout	
Spec Evnt 1 - Ltd Serv Interval	0
Spec Evnt 2 - Ltd Serv Interval	0
Red Start	6.0
Flash Start	0
Red Revert	5.0

Daylight Savings Time

Spring Month (Begin)	3
Spring Week (Begin)	2
Fall Month (End)	11
Fall Week (End)	1

Manual

Manual Plan	
Manual Offset	

Ethernet Port Address

Address				
Area Number				
Area Address				
IP Port				
IP Address				
Subnet Mask				
Gateway				

Communications Parameters

	Port 1	Port 2	Port 3	Port 4
Address				
Area Number				
Area Address				
Comm Time Out				
CTS Delay				
RTS Hold				
Baud Rate				
Data Format				

Manual Plan
1 thru 9 = Coordination
Plan 1 thru 9
14 = Free
15 = Flash

Extra One
1 =
2 =
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 =
8 =

Extra Two
1 =
2 =
3 = Disable Min Walk
4 = QuicNet/4 System
5 = Ignor P/P on EV
6 =
7 =
8 =

Flash Type
0 = All On-Off (12345678-0)
1 = Main-Side (1256-3478)
2 = Ping Pong (1234-5678
3 = Ring Pairs (1638-5247)

INTERSECTION: Day Street and Eucalyptus Avenue

QuicNet System Parameters

Group Assignment:
Field Master Assignment:
System Reference Number:
Commications Channel:
Drop Address:
Area Number:
Area Address:

N/S Street Name: Day St
E/W Street Name: Eucalyptus Ave

Last *QuicNet* Database Change:

Notes:

Field Change Record					
Change	By	Date	Change	By	Date

Exclusive Ped Phase

Excl Ped Assignment	________
Exclusive Walk	0
Exclusive FDW	0
All Red Clear	0.0

Walk Output	0
Don't Walk Output	0

Note: Set the Exclusive Ped Outputs on the "Outputs / General" page

Phase Timing - Bank 1

		Phase 1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green	5	5	5	5	5	5	5	5
	Extension	2.0	3.0	2.0	3.0	2.0	3.0	2.5	3.0
	Max	20	40	20	30	20	40	30	30
	Max 2	30	70	30	50	30	70	30	50
	Cond Serve Check	0	0	0	0	0	0	0	0
Clear	Yellow Change	3.5	4.4	3.5	4.4	3.5	4.4	3.5	4.4
	Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Pedestrian Timing	Walk	0	7	0	7	0	7	0	7
	Ped Clear - FDW	0	24	0	26	0	24	0	24
	Adv / Delay Walk	0	0	0	0	0	0	0	0
	PE Min Ped FDW	0	24	0	26	0	24	0	24
Volume Density	Type 3 Disconnect	0	0	0	0	0	0	0	0
	Added per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Max Added Initial	0	0	0	0	0	0	0	0
	Min Gap	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	Max Gap	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
	Reduce Every	0.0	4.0	0.0	3.0	0.0	4.0	0.0	3.0

Alternate Timing - Bank 1

	Phase 1	2	3	4	5	6	7	8
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped Clear	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Phase Functions - Page 1

Red Lock	________	Red Rest	________
Yellow Lock	________	Dual Entry	________
Simultaneous Gap	________	Sequential Timing	________
Rest In Walk	________	Inhibit Ped Reservice	________
Advance Walk	________	Semi-Actuated	________
Flashing Walk	________	Guaranteed Passage	________
Max Extension	________	Conditional Service	________

Phase Functions - Page 2

Minimum Recall	_2___6__	Soft Recall	________
Ped Recall	________	External Recall	________
Maximum Recall	________	Manual Control Calls	________
Green Flash	________	Fast Green Flash	________
Overlap Green Flash	________	Fast Overlap G. Flash	________

INTERSECTION: Day Street and Eucalyptus Avenue

	Overlap Number 1	2	3	4	5	6	7	8
Load Switch Number	9	0	0	0	0	0	0	0
Vehicle Set 1	____67_	________	________	________	________	________	________	________
Vehicle Set 2	________	________	________	________	________	________	________	________
Vehicle Set 3	________	________	________	________	________	________	________	________
Negative Vehicle	_____6__	________	________	________	________	________	________	________
Negative Ped	_____6__	________	________	________	________	________	________	________
Green Omit	_____6__	________	________	________	________	________	________	________
Green Clear Omit	________	________	________	________	________	________	________	________
Green Clearance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow Change	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clearance	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Overlaps

	AND 1	AND 2	AND 3	AND 4
Input - A	0	0	0	0
Input - B	0	0	0	0
Output	0	0	0	0

AND Gates

	NAND 1	NAND 2	NAND 3	NAND 4
Input - A	0	0	0	0
Input - B	0	0	0	0
Output	0	0	0	0

NAND Gates

	OR 1	OR 2	OR 3	OR 4	OR 5	OR 6
Input - A	0	0	0	0	0	0
Input - B	0	0	0	0	0	0
Output	0	0	0	0	0	0

2 Input - OR Gates

	OR 7	OR 8
Input - A	0	0
Input - B	0	0
Input - C	0	0
Input - D	0	0
Output	0	0

4 Input - OR Gates

	NOT 1	NOT 2	NOT 3	NOT 4
Input	0	0	0	0
Output	0	0	0	0

NOT Gates (Inverters)

	DELAY 1	DELAY 2	DELAY 3	DELAY 4	DELAY 5	DELAY 6
Input	0	0	0	0	0	0
Delay Time	0	0	0	0	0	0
Output	0	0	0	0	0	0

DELAY Gates

Latch:	1	2	3	4	5	6	7	8
Set	0	0	0	0	0	0	0	0
Reset	0	0	0	0	0	0	0	0
Out	0	0	0	0	0	0	0	0
/Out	0	0	0	0	0	0	0	0

Logic Latches

INTERSECTION: Day Street and Eucalyptus Avenue

Startup

Red Start Time	6.0
Yellow Start Phases	___4___8
First Green Phases	_2___6__
Startup Vehicle Calls	________
Startup Ped Calls	________

Detector Check

Max ON Time	5
Max OFF Time	15
Chatter	45

Advance Warning Signs

	Sign 1	Sign 2
Phase Number	0	0
Time Before Yellow	0.0	0.0

Flash Setup

Flash Entry Phases	________
Flash Phases Yellow	________
Flash Overlaps Yellow	________
Flash Type	

Configuration

Exclusive Phases	________
Protect / Permissive	________
Disable Yellow Range	________
Extra One	1_3_5___
Lag Phases - Free	_2_4_6_8

Configuration

Permitted Phases	12345678
Restricted Phases	________
Disable Overlap Range	________
Extra Two	________
External Permit 1	________
External Permit 2	________
External Permit 3	________

Miscellaneous

Keyboard Beep	
Backlight Timeout	
Spec Evnt 1 - Ltd Serv Interval	0
Spec Evnt 2 - Ltd Serv Interval	0
Red Start	6.0
Flash Start	0
Red Revert	5.0

Daylight Savings Time

Spring Month (Begin)	3
Spring Week (Begin)	2
Fall Month (End)	11
Fall Week (End)	1

Manual

Manual Plan	
Manual Offset	

Ethernet Port Address

Address				
Area Number				
Area Address				
IP Port				
IP Address				
Subnet Mask				
Gateway				

Communications Parameters

	Port 1	Port 2	Port 3	Port 4
Address				
Area Number				
Area Address				
Comm Time Out				
CTS Delay				
RTS Hold				
Baud Rate				
Data Format				

Manual Plan
1 thru 9 = Coordination
Plan 1 thru 9
14 = Free
15 = Flash

Extra One
1 =
2 =
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 =
8 =

Extra Two
1 =
2 =
3 = Disable Min Walk
4 = QuicNet/4 System
5 = Ignor P/P on EV
6 =
7 =
8 =

Flash Type
0 = All On-Off (12345678-0)
1 = Main-Side (1256-3478)
2 = Ping Pong (1234-5678
3 = Ring Pairs (1638-5247)

City of Moreno Valley

Local Intersection Timing Parameters for Advanced Trafic Controller (ATC)

Prepared by: John Kerenyi — Approved:

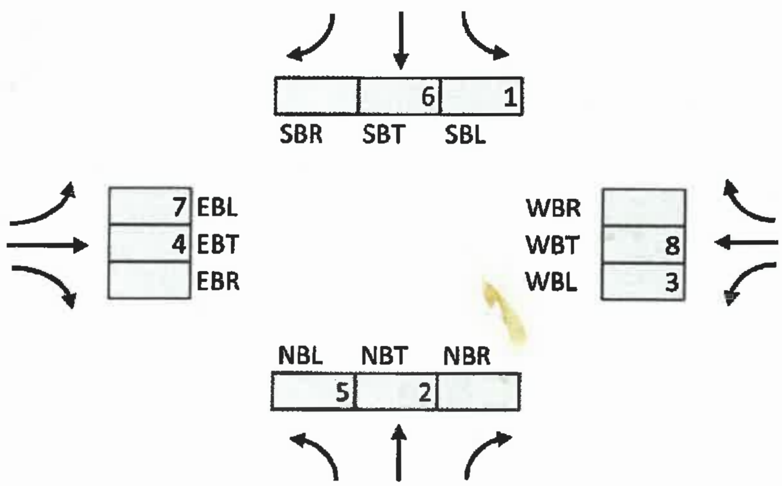
Date: September 9, 2019

N/S Street: Eucalyptus/Memorial

E/W Street: Eucalyptus/Towngate

Parameter	Phase 1	2	3	4	5	6	7	8
Min Green	4	6	4	6	4	6	4	6
Bike Min Green	12	9	12	8	12	9	12	8
Max Green	30	40	30	40	30	40	30	40
Veh Extension	2.0	4.0	2.0	4.0	2.0	4.0	2.0	4.0
Yellow	3.0	4.8	3.0	4.8	3.0	4.8	3.0	4.8
All-Red	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk		7		7		7		7
Flashing Don't Walk		21		16		21		16
Advance Walk								

Phase Assignments



Left-Turn Phasing

N/S: Protected

E/W: Protected

Exclusive Phases: n/a

Startup

Yellow Start: 4,8

First Phases: 2,6

Emergency Vehicle Pre-Emption

EVA: 2,5

EVB: 4,7

EVC: 1,6

EVD: 3,8

Min Recall: 4,8

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Pedestrian Clearance Interval (PCI) Calculation Sheet

North/South Street: **Eucalyptus/Memorial**
East/West Street: **Eucalyptus/Towngate**

The following calculation is for pedestrian crossing timing excerpted from the California Manual on Uniform Traffic Control Devices, 2019 Edition (Rev. 4), Section 4E.06 Pedestrian Intervals and Signal Phases:

"The pedestrian clearance time should be sufficient to allow a pedestrian crossing in the crosswalk who left the curb or shoulder at the end of the WALKING PERSON (symbolizing WALK) signal indication to travel at a walking speed of 3.5 feet per second to at least the far side of the traveled way or to a median of sufficient width for pedestrians to wait....
The total of the walk interval and pedestrian clearance time should be sufficient to allow a pedestrian crossing in the crosswalk who left the pedestrian detector... at the beginning of the WALKING PERSON (symbolizing WALK) signal indication to travel at a walking speed of 3 feet per second to the far side of the traveled way being crossed.... Any additional time that is required to satisfy the conditions of this paragraph should be added to the walk interval."
The pedestrian clearance interval is defined in the same section as the summation of the flashing don't walk interval and the vehicular clearance interval (called the buffer interval).

Using the following formulas: PCI = D/Vp and FDW = PCI - (Y + R)

Where PCI is the pedestrian clearance interval in seconds, D is the length in feet of the crossing distance as decribed above,
Vp is the pedestrian walk speed in ft/sec, and "Y+R" is the yellow plus the all-red time for the approach (from the vehicle clearance interval sheet).

PEDESTRIAN CLEARANCE INTERVAL (PCI)									
			Calculation 1: 3.5 feet per second		*Calculation 2: 3.0 feet per second*			**Recommended Settings**	
Phase	**D (ft)**	**Standard walk interval (sec)**	**Vp (ft/sec)**	**PCI1**	**Vp (ft/sec)**	**PCI2**	**Y+R**	**Walk interval**	**FDW**
NORTHBOUND / SOUTHBOUND									
2 (NB)	92	7	3.5	26.3	3.0	32.3	5.8	7	21
6 (SB)	92	7	3.5	26.3	3.0	32.3	5.8	7	21
EASTBOUND / WESTBOUND									
4 (EB)	74	7	3.5	21.1	3.0	26.3	5.8	7	16
8 (WB)	74	7	3.5	21.1	3.0	26.3	5.8	7	16

Approved By: [signature] Date: 9/9/19

Printed: *9/9/2019 17:05*

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Vehicle Clearance Interval (VCI) Calculation Sheet

North/South Street: **Eucalyptus/Memorial**
East/West Street: **Eucalyptus/Towngate**

The California MUTCD, 2014 Edition (Rev 4—2019), mandates that yellow clearance intervals be set no less than the values tabulated in Table 4D-102 (page 932), reproduced below (Part B). Moreno Valley's practice is to use the posted speed limit (Part B of Table 4D-102). The California MUTCD does not mandate the use of all-red clearance intervals but requires that they be determined using engineering practices. The City's engineering practice is to apply a one-second all-red clearance interval to all phases, unless otherwise determined by the Engineer.

Posted Speed or Prima Facie Speed	Minimum Yellow Interval
25 or less	3.6
30	3.7
35	4.1
40	4.4
45	4.8
50	5.2
55	5.5
60 or higher	5.9

VEHICULAR CLEARANCE INTERVAL (VCI)				
NORTHBOUND / SOUTHBOUND				
Phase	**Posted Speed**	**YELLOW**	**RED**	**VCI**
2 (NB)	40	4.8	1.0	5.8
6 (SB)	40	4.8	1.0	5.8
EASTBOUND / WESTBOUND				
Phase	**Posted Speed**	**YELLOW**	**RED**	**VCI**
4 (EB)	40	4.8	1.0	5.8
8 (WB)	40	4.8	1.0	5.8

Approved By: John Li
Traffic Engineer

Date: 9/9/19

Printed: 9/9/2019 17:05

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Bicycle Clearance Interval (BCI) Calculation Sheet

North/South Street: **Eucalyptus/Memorial**
East/West Street: **Eucalyptus/Towngate**

From California MUTCD Section 4D.105, paragraphs 13 and 14:

"Where a Limit Line Detection Zone that detects the Reference Bicycle-Rider has been provided, minimum bicycle timing should be provided as follows:

"For all phases, the sum of the minimum green, plus the yellow change interval, plus any red clearance interval should be sufficient to allow a bicyclist riding a bicycle 6 feet long to clear the last conflicting lane at a speed of 14.7 feet/sec plus an additional effective start-up time of 6 seconds, according the formula

$G_{min} + Y + R_{clear} \geq 6$ sec + (W+6 feet)/14.7 feet/sec,

Where:

G_{min} = Length of minimum green interval (sec)

Y = Length of yellow interval (sec)

R_{clear} = Length of red clearance interval (sec)

W = Distance from limit line to far side of last conflicting lane (feet)"

Minimum Green Required to Serve Bicycle

PHASE	YELLOW	RED	W	G_{min}
1 (SBLT)	3.0	1.0	135	12
2 (NBT)	4.8	1.0	120	9
3 (WBLT)	3.0	1.0	135	12
4 (EBT)	4.8	1.0	100	8
5 (NBLT)	3.0	1.0	135	12
6 (SBT)	4.8	1.0	120	9
7 (EBLT)	3.0	1.0	135	12
8 (WBT)	4.8	1.0	100	8

Approved By: ______________ Date: 9/9/19
Traffic Engineer

Printed: 9/9/2019 17:05

City of Moreno Valley

Local Intersection Timing Parameters for Advanced Trafic Controller (ATC)

Prepared by: John Kerenyi — Approved:

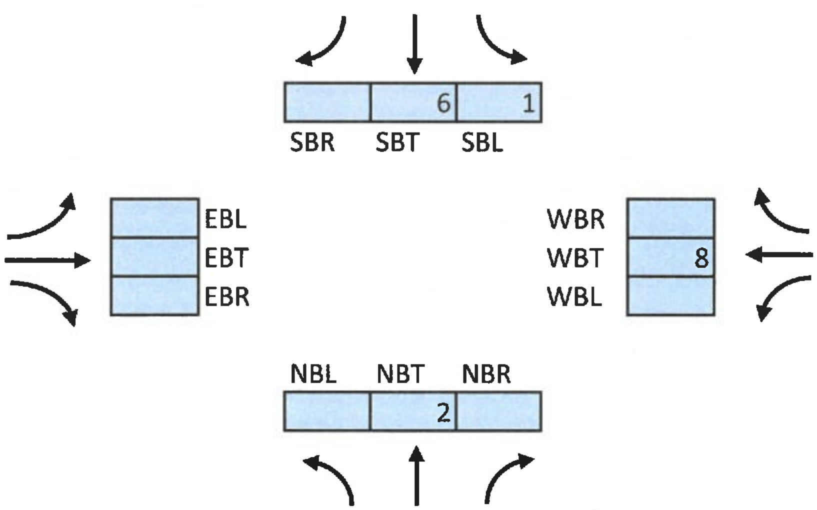
Date: April 3, 2020

N/S Street: Towngate Circle

E/W Street: Centerpoint Drive

Parameter	Phase 1	2	3	4	5	6	7	8
Min Green	4	8				8		5
Bike Min Green	12	10				11		11
Max Green	30	30				30		30
Veh Extension	2.0	4.0				4.0		4.0
Yellow	3.0	4.1				4.1		3.7
All-Red	1.0	1.0				1.0		1.0
Walk		7				0		7
Flashing Don't Walk		24				0		14
Advance Walk								

Phase Assignments



Left-Turn Phasing

N/S: Protected

W: Protected

Exclusive Phases: n/a

Startup

Yellow Start: 2,6

First Phases: 8

Emergency Vehicle Pre-Emption

EVA: 2

EVB: NA

EVC: 1,6

EVD: 8

Min Recall: 2,6

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Pedestrian Clearance Interval (PCI) Calculation Sheet

North/South Street: **Towngate Circle**
East/West Street: **Centerpoint Drive**

The following calculation is for pedestrian crossing timing excerpted from the California Manual on Uniform Traffic Control Devices, 2019 Edition (Rev. 4), Section 4E.06 Pedestrian Intervals and Signal Phases:

"The pedestrian clearance time should be sufficient to allow a pedestrian crossing in the crosswalk who left the curb or shoulder at the end of the WALKING PERSON (symbolizing WALK) signal indication to travel at a walking speed of 3.5 feet per second to at least the far side of the traveled way or to a median of sufficient width for pedestrians to wait....
The total of the walk interval and pedestrian clearance time should be sufficient to allow a pedestrian crossing in the crosswalk who left the pedestrian detector... at the beginning of the WALKING PERSON (symbolizing WALK) signal indication to travel at a walking speed of 3 feet per second to the far side of the traveled way being crossed.... Any additional time that is required to satisfy the conditions of this paragraph should be added to the walk interval."
The pedestrian clearance interval is defined in the same section as the summation of the flashing don't walk interval and the vehicular clearance interval (called the buffer interval).

Using the following formulas: PCI = D/Vp and FDW = PCI - (Y + R)

Where PCI is the pedestrian clearance interval in seconds, D is the length in feet of the crossing distance as decribed above,
Vp is the pedestrian walk speed in ft/sec, and "Y+R" is the yellow plus the all-red time for the approach (from the vehicle clearance interval sheet).

PEDESTRIAN CLEARANCE INTERVAL (PCI)									
			Calculation 1: 3.5 feet per second		*Calculation 2: 3.0 feet per second*			**Recommended Settings**	
Phase	**D (ft)**	**Standard walk interval (sec)**	**Vp (ft/sec)**	**PCI1**	**Vp (ft/sec)**	**PCI2**	**Y+R**	**Walk interval**	**FDW**
NORTHBOUND / SOUTHBOUND									
2 (NB)	100	7	3.5	28.6	3.0	35.0	5.1	7	24
EASTBOUND / WESTBOUND									
8 (WB)	65	7	3.5	18.6	3.0	23.3	4.7	7	14

Approved By: [signature] Date: 4/3/20

Printed: *4/3/2020 15:16*

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Vehicle Clearance Interval (VCI) Calculation Sheet

North/South Street: **Towngate Circle**
East/West Street: **Centerpoint Drive**

The California MUTCD, 2014 Edition (Rev 4—2019), mandates that yellow clearance intervals be set no less than the values tabulated in Table 4D-102 (page 932), reproduced below (Part B). Moreno Valley's practice is to use the posted speed limit (Part B of Table 4D-102). The California MUTCD does not mandate the use of all-red clearance intervals but requires that they be determined using engineering practices. The City's engineering practice is to apply a one-second all-red clearance interval to all phases, unless otherwise determined by the Engineer.

Posted Speed or Prima Facie Speed	Minimum Yellow Interval
25 or less	3.6
30	3.7
35	4.1
40	4.4
45	4.8
50	5.2
55	5.5
60 or higher	5.9

VEHICULAR CLEARANCE INTERVAL (VCI)				
NORTHBOUND / SOUTHBOUND				
Phase	**Posted Speed**	**YELLOW**	**RED**	**VCI**
2 (NB)	30	4.1	1.0	5.1
6 (SB)	30	4.1	1.0	5.1
EASTBOUND / WESTBOUND				
Phase	**Posted Speed**	**YELLOW**	**RED**	**VCI**
8 (WB)	25	3.7	1.0	4.7

Approved By: ______________ Date: 4/3/20
Traffic Engineer

Printed: 4/3/2020 15:16

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Bicycle Clearance Interval (BCI) Calculation Sheet

North/South Street: **Towngate Circle**
East/West Street: **Centerpoint Drive**

From California MUTCD Section 4D.105, paragraphs 13 and 14:

"Where a Limit Line Detection Zone that detects the Reference Bicycle-Rider has been provided, minimum bicycle timing should be provided as follows:

"For all phases, the sum of the minimum green, plus the yellow change interval, plus any red clearance interval should be sufficient to allow a bicyclist riding a bicycle 6 feet long to clear the last conflicting lane at a speed of 14.7 feet/sec plus an additional effective start-up time of 6 seconds, according the formula

$G_{min} + Y + R_{clear} \geq 6$ sec + (W+6 feet)/14.7 feet/sec,

Where:

G_{min} = Length of minimum green interval (sec)

Y = Length of yellow interval (sec)

R_{clear} = Length of red clearance interval (sec)

W = Distance from limit line to far side of last conflicting lane (feet)"

Minimum Green Required to Serve Bicycle

PHASE	YELLOW	RED	W	G_{min}
1 (SBLT)	3.0	1.0	135	12
2 (NBT)	4.1	1.0	120	10
6 (SBT)	4.1	1.0	130	11
8 (WBT)	3.7	1.0	130	11

Approved By: [signature]
Traffic Engineer

Date: 4/3/20

Printed: 4/3/2020 15:16

City of Moreno Valley

Local Intersection Timing Parameters for Advanced Trafic Controller (ATC)

Prepared by: John Kerenyi — Approved:

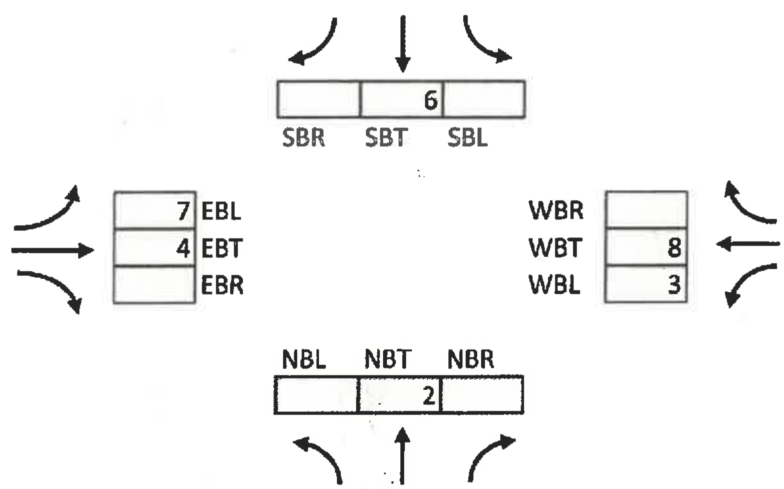
Date: September 9, 2019

N/S Street: Heritage Wy

E/W Street: Towngate Blvd

Parameter	Phase							
	1	2	3	4	5	6	7	8
Min Green		4	4	8		4	4	8
Bike Min Green		10	11	7		10	11	9
Max Green		30	30	45		30	30	45
Veh Extension		3.0	2.0	4.0		3.0	2.0	4.0
Yellow		4.1	3.0	4.8		4.4	3.0	4.8
All-Red		1.0	1.0	1.0		1.0	1.0	1.0
Walk		7		7		7		7
Flashing Don't Walk		23		9		23		15
Advance Walk								

Phase Assignments



Left-Turn Phasing

N/S: Split Phase

E/W: Protected

Exclusive Phases: 2,6

Startup

Yellow Start: 4,8

First Phases: 2

Min Recall: 4,8

Emergency Vehicle Pre-Emption

EVA: 2

EVB: 4,7

EVC: 6

EVD: 3,8

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Pedestrian Clearance Interval (PCI) Calculation Sheet

North/South Street: Heritage Wy
East/West Street: Towngate Blvd

The following calculation is for pedestrian crossing timing excerpted from the California Manual on Uniform Traffic Control Devices, 2019 Edition (Rev. 4), Section 4E.06 Pedestrian Intervals and Signal Phases:

"The pedestrian clearance time should be sufficient to allow a pedestrian crossing in the crosswalk who left the curb or shoulder at the end of the WALKING PERSON (symbolizing WALK) signal indication to travel at a walking speed of 3.5 feet per second to at least the far side of the traveled way or to a median of sufficient width for pedestrians to wait....
The total of the walk interval and pedestrian clearance time should be sufficient to allow a pedestrian crossing in the crosswalk who left the pedestrian detector... at the beginning of the WALKING PERSON (symbolizing WALK) signal indication to travel at a walking speed of 3 feet per second to the far side of the traveled way being crossed.... Any additional time that is required to satisfy the conditions of this paragraph should be added to the walk interval."
The pedestrian clearance interval is defined in the same section as the summation of the flashing don't walk interval and the vehicular clearance interval (called the buffer interval).

Using the following formulas: PCI = D/Vp and FDW = PCI - (Y + R)

Where PCI is the pedestrian clearance interval in seconds, D is the length in feet of the crossing distance as decribed above,
Vp is the pedestrian walk speed in ft/sec, and "Y+R" is the yellow plus the all-red time for the approach (from the vehicle clearance interval sheet).

PEDESTRIAN CLEARANCE INTERVAL (PCI)									
			Calculation 1: 3.5 feet per second		*Calculation 2: 3.0 feet per second*			**Recommended Settings**	
Phase	**D (ft)**	**Standard walk interval (sec)**	**Vp (ft/sec)**	**PCI1**	**Vp (ft/sec)**	**PCI2**	**Y+R**	**Walk interval**	**FDW**
NORTHBOUND / SOUTHBOUND									
2 (NB)	96	7	3.5	27.4	3.0	33.7	5.1	7	23
6 (SB)	96	7	3.5	27.4	3.0	33.7	5.4	7	23
EASTBOUND / WESTBOUND									
4 (EB)	50	7	3.5	14.3	3.0	18.3	5.8	7	9
8 (WB)	72	7	3.5	20.6	3.0	25.7	5.8	7	15

Approved By: ____________ Date: 9/9/19

Printed: *9/9/2019 16:56*

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Vehicle Clearance Interval (VCI) Calculation Sheet

North/South Street: Heritage Wy
East/West Street: Towngate Blvd

The California MUTCD, 2014 Edition (Rev 4—2019), mandates that yellow clearance intervals be set no less than the values tabulated in Table 4D-102 (page 932), reproduced below (Part B). Moreno Valley's practice is to use the posted speed limit (Part B of Table 4D-102). The California MUTCD does not mandate the use of all-red clearance intervals but requires that they be determined using engineering practices. The City's engineering practice is to apply a one-second all-red clearance interval to all phases, unless otherwise determined by the Engineer.

Posted Speed or Prima Facie Speed	Minimum Yellow Interval
25 or less	3.6
30	3.7
35	4.1
40	4.4
45	4.8
50	5.2
55	5.5
60 or higher	5.9

VEHICULAR CLEARANCE INTERVAL (VCI)				
NORTHBOUND / SOUTHBOUND				
Phase	**Posted Speed**	**YELLOW**	**RED**	**VCI**
2 (NB)	30	4.1	1.0	5.1
6 (SB)	35	4.4	1.0	5.4
EASTBOUND / WESTBOUND				
Phase	**Posted Speed**	**YELLOW**	**RED**	**VCI**
4 (EB)	40	4.8	1.0	5.8
8 (WB)	40	4.8	1.0	5.8

Approved By: ____________________ Date: 9/9/19
Traffic Engineer

Printed: 9/9/2019 16:56

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Bicycle Clearance Interval (BCI) Calculation Sheet

North/South Street: **Heritage Wy**
East/West Street: **Towngate Blvd**

From California MUTCD Section 4D.105, paragraphs 13 and 14:

"Where a Limit Line Detection Zone that detects the Reference Bicycle-Rider has been provided, minimum bicycle timing should be provided as follows:

"For all phases, the sum of the minimum green, plus the yellow change Interval, plus any red clearance interval should be sufficient to allow a bicyclist riding a bicycle 6 feet long to clear the last conflicting lane at a speed of 14.7 feet/sec plus an additional effective start-up time of 6 seconds, according the formula

$G_{min} + Y + R_{clear} \geq 6$ sec + (W+6 feet)/14.7 feet/sec,

Where:

G_{min} = Length of minimum green interval (sec)

Y = Length of yellow interval (sec)

R_{clear} = Length of red clearance interval (sec)

W = Distance from limit line to far side of last conflicting lane (feet)"

Minimum Green Required to Serve Bicycle

PHASE	YELLOW	RED	W	G_{min}
2 (NBT)	4.1	1.0	125	10
3 (WBLT)	3.0	1.0	125	11
4 (EBT)	4.8	1.0	85	7
6 (SBT)	4.4	1.0	125	10
7 (EBLT)	3.0	1.0	125	11
8 (WBT)	4.8	1.0	110	9

Approved By: [signature] Date: 9/9/19
Traffic Engineer

Printed: 9/9/2019 16:56

City of Moreno Valley

Local Intersection Timing Parameters for Advanced Trafic Controller (ATC)

Prepared by: John Kerenyi　　Approved:

Date: March 4, 2020

N/S Street: Pigeon Pass Rd

E/W Street: Hemlock Ave

Parameter	Phase 1	2	3	4	5	6	7	8
Min Green	4	8	4	4	4	8	4	5
Bike Min Green	10	8	11	10	11	7	10	8
Max Green	30	45	30	30	30	45	30	30
Veh Extension	2.0	4.0	2.0	4.0	2.0	4.0	2.0	4.0
Yellow	3.0	4.8	3.0	3.7	3.0	4.8	3.0	4.4
All-Red	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk		7		0		7		7
Flashing Don't Walk		15		0		15		19
Advance Walk								

Phase Assignments

SBR	SBT	SBL
	6	1

7	EBL
4	EBT
	EBR

WBR	
WBT	8
WBL	3

NBL	NBT	NBR
5	2	

Left-Turn Phasing

N/S: Protected

E/W: Protected

Exclusive Phases: n/a

Startup

Yellow Start: 2,6

First Phases: 4,8

Emergency Vehicle Pre-Emption

EVA: 2,5

EVB: 4,7

EVC: 1,6

EVD: 3,8

Min Recall: 2,6

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Pedestrian Clearance Interval (PCI) Calculation Sheet

North/South Street: **Pigeon Pass Rd**
East/West Street: **Hemlock Ave**

The following calculation is for pedestrian crossing timing excerpted from the California Manual on Uniform Traffic Control Devices, 2019 Edition (Rev. 4), Section 4E.06 Pedestrian Intervals and Signal Phases:

"The pedestrian clearance time should be sufficient to allow a pedestrian crossing in the crosswalk who left the curb or shoulder at the end of the WALKING PERSON (symbolizing WALK) signal indication to travel at a walking speed of 3.5 feet per second to at least the far side of the traveled way or to a median of sufficient width for pedestrians to wait....
The total of the walk interval and pedestrian clearance time should be sufficient to allow a pedestrian crossing in the crosswalk who left the pedestrian detector... at the beginning of the WALKING PERSON (symbolizing WALK) signal indication to travel at a walking speed of 3 feet per second to the far side of the traveled way being crossed.... Any additional time that is required to satisfy the conditions of this paragraph should be added to the walk interval."
The pedestrian clearance interval is defined in the same section as the summation of the flashing don't walk interval and the vehicular clearance interval (called the buffer interval).

Using the following formulas: PCI = D/Vp and FDW = PCI - (Y + R)

Where PCI is the pedestrian clearance interval in seconds, D is the length in feet of the crossing distance as decribed above,
Vp is the pedestrian walk speed in ft/sec, and "Y+R" is the yellow plus the all-red time for the approach (from the vehicle clearance interval sheet).

PEDESTRIAN CLEARANCE INTERVAL (PCI)									
			Calculation 1: 3.5 feet per second		*Calculation 2: 3.0 feet per second*			**Recommended Settings**	
Phase	**D (ft)**	**Standard walk interval (sec)**	**Vp (ft/sec)**	**PCI1**	**Vp (ft/sec)**	**PCI2**	**Y+R**	**Walk interval**	**FDW**
NORTHBOUND / SOUTHBOUND									
2 (NB)	72	7	3.5	20.6	3.0	25.7	5.8	7	15
6 (SB)	72	7	3.5	20.6	3.0	25.7	5.8	7	15
EASTBOUND / WESTBOUND									
8 (WB)	82	7	3.5	23.4	3.0	29.0	5.4	7	19

Approved By: [signature] Date: 3/4/20

Printed: *3/4/2020 9:32*

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Vehicle Clearance Interval (VCI) Calculation Sheet

North/South Street: **Pigeon Pass Rd**
East/West Street: **Hemlock Ave**

The California MUTCD, 2014 Edition (Rev 4—2019), mandates that yellow clearance intervals be set no less than the values tabulated in Table 4D-102 (page 932), reproduced below (Part B). Moreno Valley's practice is to use the posted speed limit (Part B of Table 4D-102). The California MUTCD does not mandate the use of all-red clearance intervals but requires that they be determined using engineering practices. The City's engineering practice is to apply a one-second all-red clearance interval to all phases, unless otherwise determined by the Engineer.

Posted Speed or Prima Facie Speed	Minimum Yellow Interval
25 or less	3.6
30	3.7
35	4.1
40	4.4
45	4.8
50	5.2
55	5.5
60 or higher	5.9

VEHICULAR CLEARANCE INTERVAL (VCI)				
NORTHBOUND / SOUTHBOUND				
Phase	**Posted Speed**	**YELLOW**	**RED**	**VCI**
2 (NB)	40	4.8	1.0	5.8
6 (SB)	40	4.8	1.0	5.8
EASTBOUND / WESTBOUND				
Phase	**Posted Speed**	**YELLOW**	**RED**	**VCI**
4 (EB)	25	3.7	1.0	4.7
8 (WB)	35	4.4	1.0	5.4

Approved By: [signature] Date: 3/4/20
Traffic Engineer

Printed: 3/4/2020 9:32

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Bicycle Clearance Interval (BCI) Calculation Sheet

North/South Street: **Pigeon Pass Rd**
East/West Street: **Hemlock Ave**

From California MUTCD Section 4D.105, paragraphs 13 and 14:

"Where a Limit Line Detection Zone that detects the Reference Bicycle-Rider has been provided, minimum bicycle timing should be provided as follows:

"For all phases, the sum of the minimum green, plus the yellow change interval, plus any red clearance interval should be sufficient to allow a bicyclist riding a bicycle 6 feet long to clear the last conflicting lane at a speed of 14.7 feet/sec plus an additional effective start-up time of 6 seconds, according the formula

$G_{min} + Y + R_{clear} \geq 6$ sec + (W+6 feet)/14.7 feet/sec,

Where:

G_{min} = Length of minimum green interval (sec)

Y = Length of yellow interval (sec)

R_{clear} = Length of red clearance interval (sec)

W = Distance from limit line to far side of last conflicting lane (feet)"

Minimum Green Required to Serve Bicycle

PHASE	YELLOW	RED	W	G_{min}
1 (SBLT)	3.0	1.0	100	10
2 (NBT)	4.8	1.0	100	8
3 (WBLT)	3.0	1.0	115	11
4 (EBT)	3.7	1.0	110	10
5 (NBLT)	3.0	1.0	115	11
6 (SBT)	4.8	1.0	90	7
7 (EBLT)	3.0	1.0	110	10
8 (WBT)	4.4	1.0	100	8

Approved By: ____________ Date: 3/4/20
Traffic Engineer

Printed: 3/4/2020 9:32

Location: 60 E/B @ FREDERICK STREET/PIGEON PASS
System: COORDINATED
Master At: 60 W/B OFF RAMP @ HEMLOCK
District: 08-RIVERSIDE
I/C:
Designed By:
Installed By: SAFWAN SAYED
Service Info:

Timing Change:	Date Start:	Date End:	Designed:	Installed:
7/11/2014	3/18/1987			6/25/2014

Intersection Layout

PHASE		FLASH
1)	S/B FREDERICK ST-LEFT TURN	[ ]
2)	N/B FREDRICK STREET	[ ]
3)	W/B SUNNYMEAD BLVD	[ ]
4)	E/B 60 OFF RAMP	[ ]
5)		[ ]
6)	S/B FREDERICK ST/PIGEON PASS	[ ]
7)		[ ]
8)		[ ]

OVERLAP		FLASH
A)		[ ]
B)		[ ]
C)		[ ]
D)	N/B FREDERICK ST-RIGHT TURN	[ ]
E)	N/B FREDERICK @ 60 E/B ON RAMP	[ ]
F)	S/B FREDERICK-LEFT TO E/B 60 ON R	[ ]

Comments and Notes:

RAM Checksum

Page 2: EE87	Page 7: 8FC9
Page 3: 30CF	Page 8: 1C04
Page 4: 5FE7	Page 9: B13A
Page 5: F774	Page 10: 1611
Page 6: 4C78	Page 11: C381

CONFIGURATION PHASE FLAGS

Phases (2-1-1-1) *	
Permitted	1 2 3 4 . 6 . .
Restricted	. . . .

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . .
Pedestrian	. . . .
Bicycle	. . . .

Phase Locks (2-1-1-3) *	
Red	. . . .
Yellow	. . . .
Force/Max	. . . .

Phase Features (2-1-1-4)	
Double Entry	. . . .
Rest In Walk	. . . .
Rest In Red	. . . .
Walk 2	. . . .
Max Green 2	. . . .
Max Green 3	. . . .

Startup (2-1-1-5)	*
First Green Phases	. 2 . . . 6 . .
Yellow Start Phases	. . . 4 . . . .
Yellow Start Overlaps	. . . . . .
Startup All-Red	5.0
Vehicle Calls	1 2 3 4 . 6 . .
Pedestrian Calls	. 2 3 4 . . . .

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . .	1	. . . .
2	. . . .	2	. . . .
3	. . . .	3	. . . .
4	. . . .	4	. . . .
5	. . . .	5	. . . .
6	. . . .	6	. . . .
7	. . . .	7	. . . .
8	. . . .	8	. . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . .
Yellow Flash Overlap	. . . . . .
Flash In Red Phases	. . . .
Flash In Red Overlap	. . . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . .
Driveway Signal Phases	. . . .
Driveway Signal Overlaps	. . . . . .
Leading Ped Phases	. . . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . .

Pedestrian (2-1-3) *	
P1	. . . .
P2	. 2 . . . . . .
P3	. . . .
P4	. . . 4 . . . .
P5	. . . .
P6	. . . .
P7	. . . .
P8	. . 3 . . . . .

Overlap (2-1-4) * *

Overlap	Parent	Omit	No Start	Not
A	. . . .	. . . .	. . . .	. . . .
B	. . . .	. . . .	. . . .	. . . .
C	. . . .	. . . .	. . . .	. . . .
D	. . 3	. . . .	. . . .	1 2 . 4 . 6 . .
E	. 2 3 4	. . . .	. . . .	1 . . . .
F	1	. . . .	. . . .	. 2 3 4 . . . .

PHASE TIMING

Phase (2-2)	-1- *	-2- *	-3- *	-4- *	-5- *	-6- *	-7- *	-8- *
--- Walk 1 ---	0	7	7	7	0	0	0	0
Flash Don't Walk	0	25	11	37	0	0	0	0
Minimum Green	5	5	5	5	0	5	0	0
Det Limit	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	20	55	20	45	0	55	0	0
Max Green 2	0	0	0	0	0	0	0	0
Max Green 3	0	0	0	0	0	0	0	0
Extension	2.0	2.0	2.0	2.0	0.0	3.0	0.0	0.0
Maximum Gap	2.0	2.0	2.0	2.0	0.0	3.0	0.0	0.0
Minimum Gap	2.0	2.0	2.0	2.0	0.0	3.0	0.0	0.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.5	4.5	4.0	4.5	3.0	4.5	3.0	3.0
All-Red	1.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0

Ped/Bike (2-3)	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
--- Walk 2 ---	0	0	0	0	0	0	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D *	E *	F *
Green	0.0	0.0	0.0	0.0	4.0	0.0
Yellow	5.0	5.0	5.0	4.0	4.5	3.5
Red	0.0	0.0	0.0	1.0	1.0	1.0

Red Revert

Red Revert (2-5)	
Time	5.0
Red To Sec (2-6)	
Red To Sec	OFF

COORDINATION

Local Plan (7-1...9) TIMING DATA [Offsets] Green Factors or Press [F] to Select Force-Off

	*	Cycle	Multi	Perm	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	110			13			12	21	19	33		40		
Plan 2	Green Factor	125			17			12	32	19	33		55		
Plan 3	Green Factor	140			17			15	33	20	44		59		
Plan 4	Green Factor														
Plan 5	Green Factor														
Plan 6	Green Factor														
Plan 7	Green Factor														
Plan 8	Green Factor														
Plan 9	Green Factor														

Local Plan (7-1...9) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	1 . . 4 . 6 . 8	. 2 . . . 6 . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
Plan 2	1 . . 4 . 6 . 8	. 2 . . . 6 . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
Plan 3	1 . . 4 . 6 . 8	. 2 . . . 6 . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
Plan 4	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
Plan 5	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
Plan 6	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
Plan 7	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
Plan 8	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
Plan 9	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .

Master Timer Sync (7-A)
Enable in Plans
. . . .

Master Sub Master	
Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
. 2 . 4 . 6 . 8	. . . .
Veh Min	Veh Max
. 2 . . . 6 . .	. . . .
Ped	Bike
. . . .	. . . .
Cond	Cond Grn
. . . .	10

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	OffSet
	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

DETECTORS

Detector Attributes (5-1)		*		Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	COUNT+CALL+EXTEND	. 2	NO	I2U	1			10	1.1
2	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2U	2			10	1.2
3	COUNT+CALL+EXTEND	. . . 4	NO	I6U	3			10	1.3
4	COUNT+CALL+EXTEND	. . 3	NO	J6U	4			10	1.4
5	COUNT+CALL+EXTEND	. 2	NO	I2L	5			10	1.5
6	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2L	6			10	1.6
7	COUNT+CALL+EXTEND	. . . 4	NO	I6L	7			10	1.7
8	COUNT+CALL+EXTEND	. . 3	NO	J6L	8			10	1.8
9	COUNT+CALL+EXTEND	. 2	NO	I4	9			10	2.1
10	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J4	10			10	2.2
11	COUNT+CALL+EXTEND	. 2	NO	I8	11			10	2.3
12	COUNT+CALL+EXTEND	. . 3	NO	J8	12			10	2.4
13	COUNT+CALL+EXTEND	1	NO	J1	13			10	3.1
14	COUNT+CALL+EXTEND	1	NO	I1	14			10	3.2
15	COUNT+CALL+EXTEND	. 2	NO	J5	15			10	3.3
16	COUNT+CALL+EXTEND	. . 3	NO	I5	16			10	3.4
17	COUNT+CALL+EXTEND	1	NO	J9U	17			10	3.5
18	COUNT+CALL+EXTEND	1	NO	I9U	18			10	3.6
19	COUNT+CALL+EXTEND	. 2	NO	J9L	19			10	3.7
20	COUNT+CALL+EXTEND	. . 3	NO	I9L	20			10	3.8
21	COUNT+CALL+EXTEND	. 2	NO	I3L	21			10	6.2
22	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J3L	22			10	6.3
23	COUNT+CALL+EXTEND	. . . 4	NO	I7L	23			10	6.4
24	COUNT+CALL+EXTEND	. 2	NO	J7L	24			10	6.5
25	COUNT+CALL+EXTEND	. 2	NO	I3U	25			10	4.5
26	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J3U	26			10	4.6
27	COUNT+CALL+EXTEND	. . . 4	NO	I7U	27			10	4.7
28	COUNT+CALL+EXTEND	. . 3	NO	J7U	28			10	4.8
29	PEDESTRIAN	. 2	NO	I 12U	29			10	5.1
30	PEDESTRIAN	. . . . . 6 . .	NO	I 13U	30			10	5.2
31	PEDESTRIAN	. . . 4	NO	I 12L	31			10	5.3
32	PEDESTRIAN	. . 3	NO	I 13L	32			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	. . . .
Detectors 9-16	. . . .
Detectors 17-24	. . . .
Detectors 25-32	. . . .

	System Detector Assignment (5-5)							
Sys Det	1	2	3	4	5	6	7	8
Det Num								
Sys Det	9	10	11	12	13	14	15	16
Det Num								

CIC Operation (5-6-1)	
Enable in Plans	. . . .

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

	Detector-to-Phase Assignment (5-6-3)							
Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6		6.6	5.1	5.2	6.7
		1.5	6.2			1.7	6.4		3.8		2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5		2.8	5.5	5.6	2.5
		1.6	6.3			1.8	6.5		3.7		6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1) *			Table 2 (8-2-2) *			Table 3 (8-2-3)			Table 4 (8-2-4)			Table 5 (8-2-5)			Table 6 (8-2-6)		
Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS	Time	Plan	OS
0600	3	A	0900	3	A			A			A			A			A
0745	255	A	2100	255	A			A			A			A			A
1045	3	A			A			A			A			A			A
1500	3	A			A			A			A			A			A
2000	255	A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A
		A			A			A			A			A			A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)				
#	Mnth	Week	DOW	Table
1			....	
2			....	
3			....	
4			....	
5			....	
6			....	
7			....	
8			....	
9			....	
10			....	
11			....	
12			....	
13			....	
14			....	
15			....	
16			....	

Fixed Holiday Table (8-2-9)				
#	Mnth	Day	DOW	Table
1			....	
2			....	
3			....	
4			....	
5			....	
6			....	
7			....	
8			....	
9			....	
10			....	
11			....	
12			....	
13			....	
14			....	
15			....	
16			....	

Solar Clock Data (8-4)	
North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)	
Hebrew	Ped Recall
Sabbath	....
Holiday	....

Daylight Saving (8-6)	
Enabled	YES

TOD FUNCTIONS

TOD Functions (8-3)					*
#	Start	End	DOW	Action	Phases
1	0530	0531	M T W T F S S	22	. . 3 . . . . .
2			....		....
3			....		....
4			....		....
5			....		....
6			....		....
7			....		....
8			....		....
9			....		....
10			....		....
11			....		....
12			....		....
13			....		....
14			....		....
15			....		....
16			....		....

Action Codes:
0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11.Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped

41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting
100+Action Code = Phases removed
200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	*
Address	3
Protocol	AB3418
Limit Access	
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Limit Access	
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Limit Access	
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Limit Access:
0-None
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

SOFT LOGIC

Soft Logic (6-2)							
#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear1	10	. 2 . . 5 . . .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . . .	. . . . . .	. . . . . .
Clear 2		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Clear 3		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Hold		. . . .	. . . .	1 2 3 4 5 6 7 8	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	A B C D E F
Exit	5									
Min Grn										
Ped Clr										

Exit Parameters (3-1-5)			
Phase Green	Overlap Green	Vehicle Recall	Ped Call
. . . .	. . . . . .	1 2 3 4 5 6 7 8	. 2 . 4 . 6 . 8

Configuration (3-1-6)		
Port	Latching	Power-Up
2.5	YES	FLASHING

RR 2

(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
Delay		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Clear1	10	. . . 4 . . 7 .	. . . .	. . . .	. . . .	. . . .	. 2 . 4 . 6 . 8	. . . . . .	. . . . . .	. . . . . .
Clear 2		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Clear 3		. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . . . .	. . . . . .	. . . . . .
Hold		1 2 3 . . 6 . .	. . . .	. . . .	. 2 . . . 6 . .	. . . .	. . . 4 . . . 8	. . . . . .	. . . . . .	. . . . . .
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-2-5)			
Phase Green	Overlap Green	Vehicle Recall	Ped Recall
. . . .	. . . . . .	. . . 4 . . 7 .	. . . .

Configuration (3-2-6)		
Port	Latching	Power-up
2.6	YES	DARK

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
*		10	30	. 2 . . 5 . . .	. . . . E .

Port	Latching	Phase Termination
5.5	NO	ADVANCE

EVB (3-B)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
*		10	30	. . . 4 . . 7 .	. . . . . .

Port	Latching	Phase Termination
5.6	NO	ADVANCE

EVC (3-C)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
*		10	30	1 . . . . 6 . .	. . . . . .

Port	Latching	Phase Termination
5.7	NO	ADVANCE

EVD (3-D)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
*		10	30	. . 3 8	. . . . . .

Port	Latching	Phase Termination
5.8	NO	ADVANCE

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	6.6
Advance Enable	6.6

Battery Backup (2-1-5-5) *	
Port	Operation
2.7	NORMAL

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

OUTPUTS

Loadswitch Assignments (2-1-6)							+
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:
- 0 Unused (no output)
- 1-8 Vehicle 1-8
- 9-14 Overlap A-F
- 21-28 Ped 1-8
- 41-47 Special Functions
- 41 Protected Permissive Flashing Phase 1
- 43 Protected Permissive Flashing Phase 3
- 45 Protected Permissive Flashing Phase 5
- 47 Protected Permissive Flashing Phase 7
- 51-57 Special Functions
- 71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6 Channel 9 and 10

YELLOW YIELD COOORDINATION

Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	Force-Offs -1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	. . . .	. . . .
Plan D													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	. . . .	. . . .

TRANSIT PRIORITY

Local Plans (3-E1...9)		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											

Enable Priority (3-E-A)	
Enable in Plan	. . . .

Free Plans (3-E-E)	
Max Green Hold	Hold Phase
	. . . .

Access Utilities (9-5)	
Password	***
Timeout	

TRUCK PREEMPTION

Truck Preemption (3-F)	Passage	CarryOver	Clearance	Next Preempt	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output

City of Moreno Valley

Local Intersection Timing Parameters for Advanced Trafic Controller (ATC)

Prepared by: John Kerenyi Approved:

Date: April 17, 2020

N/S Street: Frederick St.

E Street: Centerpoint Dr

Parameter	Phase 1	2	3	4	5	6	7	8
Min Green		10		6	4	10		
Bike Min Green		10		11	12	10		
Max Green		45		30	30	45		
Veh Extension		4.0		4.0	2.0	4.0		
Yellow		4.8		4.4	3.0	4.8		
All-Red		1.0		1.0	1.0	1.0		
Walk				7		7		
Flashing Don't Walk				27		26		
Advance Walk								

Phase Assignments

SBR	SBT	SBL
	6	

EBL	
EBT	4
EBR	

WBR	
WBT	
WBL	

NBL	NBT	NBR
5	2	

Left-Turn Phasing

N/S: Protected

E: Protected

Exclusive Phases: n/a

Startup

Yellow Start: 2,6

First Phases: 4

Min Recall: 2,6

Emergency Vehicle Pre-Emption

EVA: 2,5

EVB: 4

EVC: 6

EVD: NA

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Pedestrian Clearance Interval (PCI) Calculation Sheet

North/South Street: **Frederick St.**
East/West Street: **Centerpoint Dr**

The following calculation is for pedestrian crossing timing excerpted from the California Manual on Uniform Traffic Control Devices, 2019 Edition (Rev. 4), Section 4E.06 Pedestrian Intervals and Signal Phases:

"The pedestrian clearance time should be sufficient to allow a pedestrian crossing in the crosswalk who left the curb or shoulder at the end of the WALKING PERSON (symbolizing WALK) signal indication to travel at a walking speed of 3.5 feet per second to at least the far side of the traveled way or to a median of sufficient width for pedestrians to wait....
The total of the walk interval and pedestrian clearance time should be sufficient to allow a pedestrian crossing in the crosswalk who left the pedestrian detector... at the beginning of the WALKING PERSON (symbolizing WALK) signal indication to travel at a walking speed of 3 feet per second to the far side of the traveled way being crossed.... Any additional time that is required to satisfy the conditions of this paragraph should be added to the walk interval."
The pedestrian clearance interval is defined in the same section as the summation of the flashing don't walk interval and the vehicular clearance interval (called the buffer interval).

Using the following formulas: PCI = D/Vp and FDW = PCI - (Y + R)

Where PCI is the pedestrian clearance interval in seconds, D is the length in feet of the crossing distance as decribed above,
Vp is the pedestrian walk speed in ft/sec, and "Y+R" is the yellow plus the all-red time for the approach (from the vehicle clearance interval sheet).

PEDESTRIAN CLEARANCE INTERVAL (PCI)									
			Calculation 1: 3.5 feet per second		*Calculation 2: 3.0 feet per second*			**Recommended Settings**	
Phase	**D (ft)**	**Standard walk interval (sec)**	**Vp (ft/sec)**	**PCI1**	**Vp (ft/sec)**	**PCI2**	**Y+R**	**Walk interval**	**FDW**
NORTHBOUND / SOUTHBOUND									
6 (SB)	110	7	3.5	31.4	3.0	38.3	5.8	7	26
EASTBOUND / WESTBOUND									
4 (EB)	110	7	3.5	31.4	3.0	38.3	5.4	7	27

Approved By: [signature] Date: 4/17/20

Printed: *4/17/2020 14:23*

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Vehicle Clearance Interval (VCI) Calculation Sheet

North/South Street: Frederick St.
East/West Street: Centerpoint Dr

The California MUTCD, 2014 Edition (Rev 4—2019), mandates that yellow clearance intervals be set no less than the values tabulated in Table 4D-102 (page 932), reproduced below (Part B). Moreno Valley's practice is to use the posted speed limit (Part B of Table 4D-102). The California MUTCD does not mandate the use of all-red clearance intervals but requires that they be determined using engineering practices. The City's engineering practice is to apply a one-second all-red clearance interval to all phases, unless otherwise determined by the Engineer.

Posted Speed or Prima Facie Speed	Minimum Yellow Interval
25 or less	3.6
30	3.7
35	4.1
40	4.4
45	4.8
50	5.2
55	5.5
60 or higher	5.9

VEHICULAR CLEARANCE INTERVAL (VCI)				
NORTHBOUND / SOUTHBOUND				
Phase	**Posted Speed**	**YELLOW**	**RED**	**VCI**
2 (NB)	40	4.8	1.0	5.8
6 (SB)	40	4.8	1.0	5.8
EASTBOUND / WESTBOUND				
Phase	**Posted Speed**	**YELLOW**	**RED**	**VCI**
4 (EB)	35	4.4	1.0	5.4

Approved By: ____________________ Date: 4/17/20
Traffic Engineer

Printed: 4/17/2020 14:23

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Bicycle Clearance Interval (BCI) Calculation Sheet

North/South Street: **Frederick St.**
East/West Street: **Centerpoint Dr**

From California MUTCD Section 4D.105, paragraphs 13 and 14:

"Where a Limit Line Detection Zone that detects the Reference Bicycle-Rider has been provided, minimum bicycle timing should be provided as follows:

"For all phases, the sum of the minimum green, plus the yellow change interval, plus any red clearance interval should be sufficient to allow a bicyclist riding a bicycle 6 feet long to clear the last conflicting lane at a speed of 14.7 feet/sec plus an additional effective start-up time of 6 seconds, according the formula

$G_{min} + Y + R_{clear} \geq 6$ sec + (W+6 feet)/14.7 feet/sec,

Where:

G_{min} = Length of minimum green interval (sec)

Y = Length of yellow interval (sec)

R_{clear} = Length of red clearance interval (sec)

W = Distance from limit line to far side of last conflicting lane (feet)"

Minimum Green Required to Serve Bicycle

PHASE	YELLOW	RED	W	G_{min}
2 (NBT)	4.8	1.0	135	10
4 (EBT)	4.4	1.0	140	11
5 (NBLT)	3.0	1.0	135	12
6 (SBT)	4.8	1.0	135	10

Approved By: ______________ Date: 4/17/20
Traffic Engineer

Printed: 4/17/2020 14:23

City of Moreno Valley

Local Intersection Timing Parameters for Advanced Trafic Controller (ATC)

Prepared by: John Kerenyi Approved:

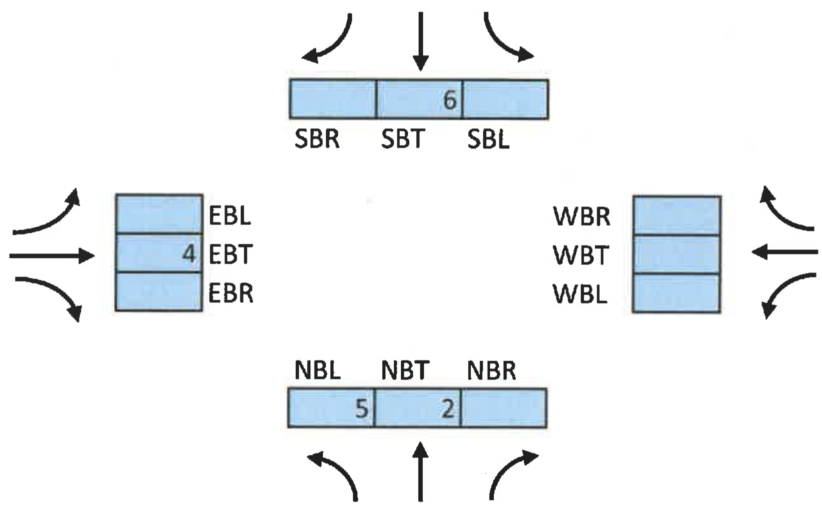
Date: April 17, 2020

N/S Street: Frederick St

E Street: Towngate Bl

Parameter	Phase 1	2	3	4	5	6	7	8
Min Green		10		6	4	10		
Bike Min Green		10		10	12	10		
Max Green		45		30	30	45		
Veh Extension		4.0		4.0	2.0	4.0		
Yellow		4.8		4.8	3.0	4.8		
All-Red		1.0		1.0	1.0	1.0		
Walk				7		7		
Flashing Don't Walk				25		19		
Advance Walk								

Phase Assignments



Left-Turn Phasing

N/S: Protected

E: Protected

Emergency Vehicle Pre-Emption

EVA: 2,5

EVB: 4

EVC: 6

EVD: NA

Exclusive Phases: n/a

Startup

Yellow Start: 2,6

First Phases: 4

Min Recall: 2,6

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Pedestrian Clearance Interval (PCI) Calculation Sheet

North/South Street: **Frederick St**
East/West Street: **Towngate Bl**

The following calculation is for pedestrian crossing timing excerpted from the California Manual on Uniform Traffic Control Devices, 2019 Edition (Rev. 4), Section 4E.06 Pedestrian Intervals and Signal Phases:

"The pedestrian clearance time should be sufficient to allow a pedestrian crossing in the crosswalk who left the curb or shoulder at the end of the WALKING PERSON (symbolizing WALK) signal indication to travel at a walking speed of 3.5 feet per second to at least the far side of the traveled way or to a median of sufficient width for pedestrians to wait....
The total of the walk interval and pedestrian clearance time should be sufficient to allow a pedestrian crossing in the crosswalk who left the pedestrian detector... at the beginning of the WALKING PERSON (symbolizing WALK) signal indication to travel at a walking speed of 3 feet per second to the far side of the traveled way being crossed.... Any additional time that is required to satisfy the conditions of this paragraph should be added to the walk interval."
The pedestrian clearance interval is defined in the same section as the summation of the flashing don't walk interval and the vehicular clearance interval (called the buffer interval).

Using the following formulas: PCI = D/Vp and FDW = PCI - (Y + R)

Where PCI is the pedestrian clearance interval in seconds, D is the length in feet of the crossing distance as decribed above,
Vp is the pedestrian walk speed in ft/sec, and "Y+R" is the yellow plus the all-red time for the approach (from the vehicle clearance interval sheet).

PEDESTRIAN CLEARANCE INTERVAL (PCI)									
			Calculation 1: 3.5 feet per second		*Calculation 2: 3.0 feet per second*			**Recommended Settings**	
Phase	**D (ft)**	**Standard walk interval (sec)**	**Vp (ft/sec)**	**PCI1**	**Vp (ft/sec)**	**PCI2**	**Y+R**	**Walk interval**	**FDW**
NORTHBOUND / SOUTHBOUND									
6 (SB)	85	7	3.5	24.3	3.0	30.0	5.8	7	19
EASTBOUND / WESTBOUND									
4 (EB)	105	7	3.5	30.0	3.0	36.7	5.8	7	25

Approved By: [signature] Date: 4/17/20

Printed: *4/17/2020 14:54*

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Vehicle Clearance Interval (VCI) Calculation Sheet

North/South Street: **Frederick St**
East/West Street: **Towngate Bl**

The California MUTCD, 2014 Edition (Rev 4—2019), mandates that yellow clearance intervals be set no less than the values tabulated in Table 4D-102 (page 932), reproduced below (Part B). Moreno Valley's practice is to use the posted speed limit (Part B of Table 4D-102). The California MUTCD does not mandate the use of all-red clearance intervals but requires that they be determined using engineering practices. The City's engineering practice is to apply a one-second all-red clearance interval to all phases, unless otherwise determined by the Engineer.

Posted Speed or Prima Facie Speed	Minimum Yellow Interval
25 or less	3.6
30	3.7
35	4.1
40	4.4
45	4.8
50	5.2
55	5.5
60 or higher	5.9

VEHICULAR CLEARANCE INTERVAL (VCI)				
NORTHBOUND / SOUTHBOUND				
Phase	**Posted Speed**	**YELLOW**	**RED**	**VCI**
2 (NB)	40	4.8	1.0	5.8
6 (SB)	40	4.8	1.0	5.8
EASTBOUND / WESTBOUND				
Phase	**Posted Speed**	**YELLOW**	**RED**	**VCI**
4 (EB)	40	4.8	1.0	5.8

Approved By: [signature] Date: 4/17/20
Traffic Engineer

Printed: 4/17/2020 14:54

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Bicycle Clearance Interval (BCI) Calculation Sheet

North/South Street: **Frederick St**
East/West Street: **Towngate Bl**

From California MUTCD Section 4D.105, paragraphs 13 and 14:

"Where a Limit Line Detection Zone that detects the Reference Bicycle-Rider has been provided, minimum bicycle timing should be provided as follows:

"For all phases, the sum of the minimum green, plus the yellow change interval, plus any red clearance interval should be sufficient to allow a bicyclist riding a bicycle 6 feet long to clear the last conflicting lane at a speed of 14.7 feet/sec plus an additional effective start-up time of 6 seconds, according the formula

$G_{min} + Y + R_{clear} \geq 6$ sec + (W+6 feet)/14.7 feet/sec,

Where:

G_{min} = Length of minimum green interval (sec)

Y = Length of yellow interval (sec)

R_{clear} = Length of red clearance interval (sec)

W = Distance from limit line to far side of last conflicting lane (feet)"

Minimum Green Required to Serve Bicycle

PHASE	YELLOW	RED	W	G_{min}
2 (NBT)	4.8	1.0	130	10
4 (EBT)	4.8	1.0	130	10
5 (NBLT)	3.0	1.0	130	12
6 (SBT)	4.8	1.0	130	10

Approved By: ______________ Date: 4/17/20
Traffic Engineer

Printed: 4/17/2020 14:54

City of Moreno Valley

Local Intersection Timing Parameters for Advanced Trafic Controller (ATC)

Prepared by: John Kerenyi Approved:

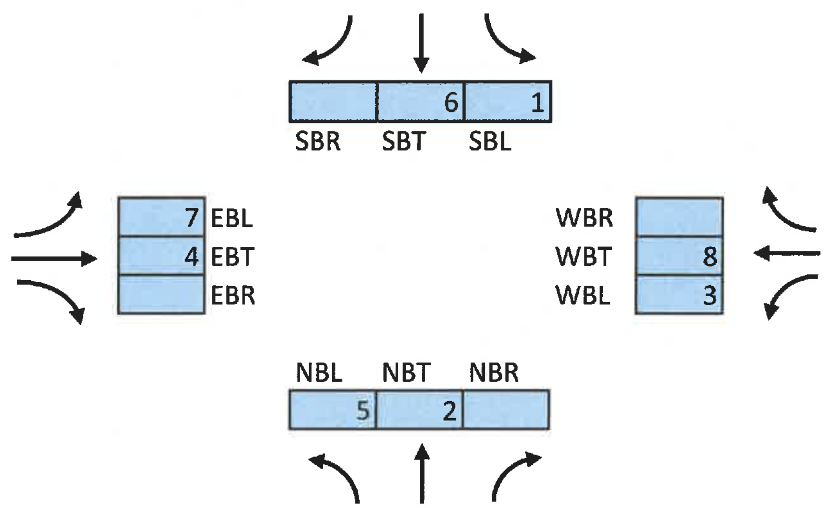
Date: April 17, 2020

N/S Street: Frederick St

E/W Street: Eucalyptus Ave

Parameter	Phase							
	1	2	3	4	5	6	7	8
Min Green	4	10	4	6	4	10	4	6
Bike Min Green	11	9	12	9	11	9	12	9
Max Green	30	45	30	30	30	45	30	30
Veh Extension	2.0	4.0	2.0	4.0	2.0	4.0	2.0	4.0
Yellow	3.0	4.8	3.0	4.8	3.0	4.8	3.0	4.8
All-Red	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Walk		7		7		7		7
Flashing Don't Walk		13		19		13		19
Advance Walk								

Phase Assignments



Left-Turn Phasing

N/S: Protected

E/W: Protected

Exclusive Phases: n/a

Startup

Yellow Start: 2,6

First Phases: 4,8

Emergency Vehicle Pre-Emption

EVA: 2,5

EVB: 4,7

EVC: 1,6

EVD: 3,8

Min Recall: 2,6

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Pedestrian Clearance Interval (PCI) Calculation Sheet

North/South Street: **Frederick St**
East/West Street: **Eucalyptus Ave**

The following calculation is for pedestrian crossing timing excerpted from the California Manual on Uniform Traffic Control Devices, 2019 Edition (Rev. 4), Section 4E.06 Pedestrian Intervals and Signal Phases:

"The pedestrian clearance time should be sufficient to allow a pedestrian crossing in the crosswalk who left the curb or shoulder at the end of the WALKING PERSON (symbolizing WALK) signal indication to travel at a walking speed of 3.5 feet per second to at least the far side of the traveled way or to a median of sufficient width for pedestrians to wait....
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The pedestrian clearance interval is defined in the same section as the summation of the flashing don't walk interval and the vehicular clearance interval (called the buffer interval).

Using the following formulas: PCI = D/Vp and FDW = PCI - (Y + R)

Where PCI is the pedestrian clearance interval in seconds, D is the length in feet of the crossing distance as decribed above,
Vp is the pedestrian walk speed in ft/sec, and "Y+R" is the yellow plus the all-red time for the approach (from the vehicle clearance interval sheet).

PEDESTRIAN CLEARANCE INTERVAL (PCI)									
			Calculation 1: 3.5 feet per second		*Calculation 2: 3.0 feet per second*			**Recommended Settings**	
Phase	**D (ft)**	**Standard walk interval (sec)**	**Vp (ft/sec)**	**PCI1**	**Vp (ft/sec)**	**PCI2**	**Y+R**	**Walk interval**	**FDW**
NORTHBOUND / SOUTHBOUND									
2 (NB)	65	7	3.5	18.6	3.0	23.3	5.8	7	13
6 (SB)	65	7	3.5	18.6	3.0	23.3	5.8	7	13
EASTBOUND / WESTBOUND									
4 (EB)	85	7	3.5	24.3	3.0	30.0	5.8	7	19
8 (WB)	85	7	3.5	24.3	3.0	30.0	5.8	7	19

Approved By: [signature] Date: 4/17/20

Printed: *4/17/2020 14:52*

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Vehicle Clearance Interval (VCI) Calculation Sheet

North/South Street: Frederick St
East/West Street: Eucalyptus Ave

The California MUTCD, 2014 Edition (Rev 4—2019), mandates that yellow clearance intervals be set no less than the values tabulated in Table 4D-102 (page 932), reproduced below (Part B). Moreno Valley's practice is to use the posted speed limit (Part B of Table 4D-102). The California MUTCD does not mandate the use of all-red clearance intervals but requires that they be determined using engineering practices. The City's engineering practice is to apply a one-second all-red clearance interval to all phases, unless otherwise determined by the Engineer.

Posted Speed or Prima Facie Speed	Minimum Yellow Interval
25 or less	3.6
30	3.7
35	4.1
40	4.4
45	4.8
50	5.2
55	5.5
60 or higher	5.9

VEHICULAR CLEARANCE INTERVAL (VCI)				
NORTHBOUND / SOUTHBOUND				
Phase	**Posted Speed**	**YELLOW**	**RED**	**VCI**
2 (NB)	40	4.8	1.0	5.8
6 (SB)	40	4.8	1.0	5.8
EASTBOUND / WESTBOUND				
Phase	**Posted Speed**	**YELLOW**	**RED**	**VCI**
4 (EB)	40	4.8	1.0	5.8
8 (WB)	40	4.8	1.0	5.8

Approved By: ______________ Date: 4/17/20
Traffic Engineer

Printed: 4/17/2020 14:52

City of Moreno Valley
Public Works Department/Transportation Engineering Division
Bicycle Clearance Interval (BCI) Calculation Sheet

North/South Street: Frederick St
East/West Street: Eucalyptus Ave

From California MUTCD Section 4D.105, paragraphs 13 and 14:

"Where a Limit Line Detection Zone that detects the Reference Bicycle-Rider has been provided, minimum bicycle timing should be provided as follows:

"For all phases, the sum of the minimum green, plus the yellow change interval, plus any red clearance interval should be sufficient to allow a bicyclist riding a bicycle 6 feet long to clear the last conflicting lane at a speed of 14.7 feet/sec plus an additional effective start-up time of 6 seconds, according the formula

$G_{min} + Y + R_{clear} \geq 6$ sec + (W+6 feet)/14.7 feet/sec,

Where:

G_{min} = Length of minimum green interval (sec)

Y = Length of yellow interval (sec)

R_{clear} = Length of red clearance interval (sec)

W = Distance from limit line to far side of last conflicting lane (feet)"

Minimum Green Required to Serve Bicycle

PHASE	YELLOW	RED	W	G_{min}
1 (SBLT)	3.0	1.0	125	11
2 (NBT)	4.8	1.0	110	9
3 (WBLT)	3.0	1.0	130	12
4 (EBT)	4.8	1.0	120	9
5 (NBLT)	3.0	1.0	125	11
6 (SBT)	4.8	1.0	110	9
7 (EBLT)	3.0	1.0	130	12
8 (WBT)	4.8	1.0	120	9

Approved By: [signature] Date: 4/17/20
Traffic Engineer

Printed: 4/17/2020 14:52

Location: 60 W/B @ HEMLOCK AVENUE		Designed By:
System: COORDINATED	District: 08-RIVERSIDE	Installed By: SAFWAN SAYED
Master At: THIS LOCATION	I/C:	Service Info:

Timing Change:	Date Start:	Date End:	Designed:	Installed:
7/11/2014	6/25/2014			11/9/1992

Intersection Layout

PHASE		FLASH
1)		[ ]
2)	W/B HEMLOCK AVE	[ ]
3)	S/B DRIVEWAY-RT ONLY	[ ]
4)	W/B 60 OFF RAMP	[ ]
5)		[ ]
6)	E/B HEMLOCK AVE	[ ]
7)		[ ]
8)		[ ]

OVERLAP		
A)		[ ]
B)		[ ]
C)		[ ]
D)		[ ]
E)		[ ]
F)		[ ]

Comments and Notes:

RAM Checksum

Page 2: AC3F	Page 7: D2FD
Page 3: 61EB	Page 8: 6E4B
Page 4: 0B1C	Page 9: F68A
Page 5: 296F	Page 10: 1611
Page 6: 4C78	Page 11: C381

CONFIGURATION PHASE FLAGS

Phases (2-1-1-1) *	
Permitted	. 2 3 4 . 6 . .
Restricted	. . . .

Phase Recalls (2-1-1-2)	
Vehicle Min	. 2 . . . 6 . .
Vehicle Max	. . . .
Pedestrian	. . . .
Bicycle	. . . .

Phase Locks (2-1-1-3) *	
Red	. . . .
Yellow	. . . .
Force/Max	. . . .

Phase Features (2-1-1-4) *	
Double Entry	. . . .
Rest In Walk	. . . .
Rest In Red	. . . .
Walk 2	. 2 . 4 . 6 . .
Max Green 2	. . . .
Max Green 3	. . . .

Startup (2-1-1-5)	*
First Green Phases	. . . 4 . . . .
Yellow Start Phases	. 2 . . . 6 . .
Yellow Start Overlaps	. . . . . .
Startup All-Red	5.0
Vehicle Calls	. 2 3 4 . 6 . .
Pedestrian Calls	. 2 . 4 . 6 . .

Call To Phase (2-1-2-1)		Omit On Green	
1	. . . .	1	. . . .
2	. . . .	2	. . . .
3	. . . .	3	. . . .
4	. . . .	4	. . . .
5	. . . .	5	. . . .
6	. . . .	6	. . . .
7	. . . .	7	. . . .
8	. . . .	8	. . . .

Flashing Colors (2-1-2-2)	
Yellow Flash Phases	. . . .
Yellow Flash Overlap	. . . . . .
Flash In Red Phases	. . . .
Flash In Red Overlap	. . . . . .

Special Operation (2-1-2-3)	
Single Exit Phase	. . . .
Driveway Signal Phases	. . . .
Driveway Signal Overlaps	. . . . . .
Leading Ped Phases	. . . .

Protected Permissive (2-1-2-4)	
Protected Permissive	. . . .

Pedestrian (2-1-3) *	
P1	. . . .
P2	. 2 . . . . . .
P3	. . . .
P4	. . . 4 . . . .
P5	. . . .
P6	. . . . . 6 . .
P7	. . . .
P8	. . . .

Overlap (2-1-4)

Overlap	Parent	Omit	No Start	Not
A	. . . .	. . . .	. . . .	. . . .
B	. . . .	. . . .	. . . .	. . . .
C	. . . .	. . . .	. . . .	. . . .
D	. . . .	. . . .	. . . .	. . . .
E	. . . .	. . . .	. . . .	. . . .
F	. . . .	. . . .	. . . .	. . . .

PHASE TIMING

Phase (2-2)	-1- *	-2- *	-3- *	-4- *	-5- *	-6- *	-7- *	-8- *
--- Walk 1 ---	0	0	0	0	0	0	0	0
Flash Don't Walk	0	12	0	26	0	20	0	0
Minimum Green	0	5	5	5	0	5	0	0
Det Limit	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0
Max Green 1	0	35	15	40	0	35	0	0
Max Green 2	0	0	0	0	0	0	0	0
Max Green 3	0	0	0	0	0	0	0	0
Extension	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0
Maximum Gap	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0
Minimum Gap	0.0	2.0	2.0	2.0	0.0	2.0	0.0	0.0
Add Per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Gap By	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Reduce Every	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	4.0	3.0	4.0	3.0	4.0	3.0	3.0
All-Red	0.0	1.0	1.0	1.0	0.0	1.0	0.0	0.0

Ped/Bike (2-3)	-1-	-2- *	-3-	-4- *	-5-	-6- *	-7-	-8-
--- Walk 2 ---	0	7	0	7	0	7	0	0
Delay/Early Walk	0	0	0	0	0	0	0	0
Solid Don't Walk	0	0	0	0	0	0	0	0
Bike Green	0	0	0	0	0	0	0	0
Bike All-Red	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

OVERLAP TIMING

Overlap (2-4)	A	B	C	D	E	F
Green	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	5.0	5.0	5.0	5.0	5.0	5.0
Red	0.0	0.0	0.0	0.0	0.0	0.0

Red Revert

Red Revert (2-5)	
Time	5.0
Red To Sec (2-6)	
Red To Sec	OFF

COORDINATION

Local Plan (7-1...9) TIMING DATA

[Offsets] Green Factors or Press [F] to Select Force-Off

	*	Cycle	Multi	Perm	A	B	C	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-
Plan 1	Green Factor	110	0.5		18				17	8	16		17		
Plan 2	Green Factor	125	0.5		16				18	8	23		18		
Plan 3	Green Factor	140	0.5		16				25	8	23		25		
Plan 4	Green Factor														
Plan 5	Green Factor														
Plan 6	Green Factor														
Plan 7	Green Factor														
Plan 8	Green Factor														
Plan 9	Green Factor														

Local Plan (7-1...9) PHASE FLAGS

	Lag	Sync	Hold	Omit	Veh Min	Veh Max	Ped	Bike
Plan 1	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
Plan 2	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
Plan 3	. 2 . 4 . 6 . 8	. 2 . . . 6 . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
Plan 4	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
Plan 5	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
Plan 6	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
Plan 7	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
Plan 8	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .
Plan 9	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .	. . . .

Master Timer Sync (7-A)
Enable in Plans
. . . .

Master Sub Master	
Input	
Output	

FREE PLAN PHASE FLAGS

(7-E) Free	
Lag	Omit
. 2 . 4 . 6 . 8	. . . .
Veh Min	Veh Max
. 2 . . . 6 . .	. . . .
Ped	Bike
. . . .	. . . .
Cond	Cond Grn
. . . .	10

MANUAL COMMANDS

Manual Plan (4-1)	
Plan	OffSet
	A

Plan: 1-9
15 or 254 = Flash
14 or 255 = Free
Offset A, B, or C

Special Function Override (4-2)			
#	Control	#	Control
1	NORMAL	3	NORMAL
2	NORMAL	4	NORMAL

Detector Reset	(4-3)
Local Manual (4-4)	OFF

DETECTORS

Detector Attributes (5-1) *				Slot	Detector Configuration (5-2)				
Det	Type	Phases	Lock		Det	Delay	Extend	Recall	Port
1	COUNT+CALL+EXTEND	. 2	NO	I2U	1			10	1.1
2	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2U	2			10	1.2
3	COUNT+CALL+EXTEND	. . . 4	NO	I6U	3			10	1.3
4	COUNT+CALL+EXTEND	 8	NO	J6U	4			10	1.4
5	COUNT+CALL+EXTEND	. 2	NO	I2L	5			10	1.5
6	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J2L	6			10	1.6
7	COUNT+CALL+EXTEND	. . . 4	NO	I6L	7			10	1.7
8	COUNT+CALL+EXTEND	 8	NO	J6L	8			10	1.8
9	COUNT+CALL+EXTEND	. 2	NO	I4	9			10	2.1
10	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J4	10			10	2.2
11	COUNT+CALL+EXTEND	. . . 4	NO	I8	11			10	2.3
12	COUNT+CALL+EXTEND	 8	NO	J8	12			10	2.4
13	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J1	13			10	3.1
14	COUNT+CALL+EXTEND	1	NO	I1	14			10	3.2
15	COUNT+CALL+EXTEND	. . . . . . 7 .	NO	J5	15			10	3.3
16	COUNT+CALL+EXTEND	. . 3	NO	I5	16			10	3.4
17	COUNT+CALL+EXTEND	. . . . 5 . . .	NO	J9U	17			10	3.5
18	COUNT+CALL+EXTEND	1	NO	I9U	18			10	3.6
19	COUNT+CALL+EXTEND	. . . . . . 7 .	NO	J9L	19			10	3.7
20	COUNT+CALL+EXTEND	. . 3	NO	I9L	20			10	3.8
21	COUNT+CALL+EXTEND	. 2	NO	I3L	21			10	6.2
22	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J3L	22			10	6.3
23	COUNT+CALL+EXTEND	. . . 4	NO	I7L	23			10	6.4
24	COUNT+CALL+EXTEND	 8	NO	J7L	24			10	6.5
25	COUNT+CALL+EXTEND	. 2	NO	I3U	25			10	4.5
26	COUNT+CALL+EXTEND	. . . . . 6 . .	NO	J3U	26			10	4.6
27	COUNT+CALL+EXTEND	. . . 4	NO	I7U	27			10	4.7
28	COUNT+CALL+EXTEND	 8	NO	J7U	28			10	4.8
29	PEDESTRIAN	. 2	NO	I 12U	29			10	5.1
30	PEDESTRIAN	. . . . . 6 . .	NO	I 13U	30			10	5.2
31	PEDESTRIAN	. . . 4	NO	I 12L	31			10	5.3
32	PEDESTRIAN	 8	NO	I 13L	32			10	5.4

Failure Times(5-3)	Minutes
Maximum On Time	
Fail Reset Time	

Failure Override (5-4)	
Detectors 1-8	. . . .
Detectors 9-16	. . . .
Detectors 17-24	. . . .
Detectors 25-32	. . . .

	System Detector Assignment (5-5)							
Sys Det	1	2	3	4	5	6	7	8
Det Num								
Sys Det	9	10	11	12	13	14	15	16
Det Num								

CIC Operation (5-6-1)	
Enable in Plans	. . . .

CIC Values (5-6-2)	Volume	Occupancy	Demand
Smoothing	0.66	0.66	0.66
Multiplier	4.0	0.33	
Exponent	0.50	1.00	

	Detector-to-Phase Assignment (5-6-3)							
Sys Det	1	2	3	4	5	6	7	8
Phase								
Sys Det	9	10	11	12	13	14	15	16
Phase								

Input File Port-Bit Assignments

332 Cabinet - For Reference Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I-	3.2	1.1	4.5	2.1	3.4	1.3	4.7	2.3	3.6		6.6	5.1	5.2	6.7
		1.5	6.2			1.7	6.4		3.8		2.7	5.3	5.4	6.8
J-	3.1	1.2	4.6	2.2	3.3	1.4	4.8	2.4	3.5		2.8	5.5	5.6	2.5
		1.6	6.3			1.8	6.5		3.7		6.1	5.7	5.8	2.6

TOD SCHEDULE

Table 1 (8-2-1)		*
Time	Plan	OS
0600	3	A
0745	255	A
1045	3	A
1500	3	A
2000	255	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 2 (8-2-2)		*
Time	Plan	OS
0900	3	A
2100	255	A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 3 (8-2-3)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 4 (8-2-4)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 5 (8-2-5)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

Table 6 (8-2-6)		
Time	Plan	OS
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A
		A

WEEKDAY ASSIGNMENT

Weekday Table Assignments (8-2-7)						
Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	1	1	1	1	2	2

HOLIDAY TABLES

Floating Holiday Table (8-2-8)

#	Mnth	Week	DOW	Table
1			....	
2			....	
3			....	
4			....	
5			....	
6			....	
7			....	
8			....	
9			....	
10			....	
11			....	
12			....	
13			....	
14			....	
15			....	
16			....	

Fixed Holiday Table (8-2-9)

#	Mnth	Day	DOW	Table
1			....	
2			....	
3			....	
4			....	
5			....	
6			....	
7			....	
8			....	
9			....	
10			....	
11			....	
12			....	
13			....	
14			....	
15			....	
16			....	

Solar Clock Data (8-4)

North Latitude	34
West Longitude	118
Local Time Zone	8

Sabbatical Clock (8-5)

Hebrew	Ped Recall
Sabbath	....
Holiday	....

Daylight Saving (8-6)

Enabled	YES

TOD FUNCTIONS

TOD Functions (8-3)

#	Start	End	DOW	Action	Phases
1			....		....
2			....		....
3			....		....
4			....		....
5			....		....
6			....		....
7			....		....
8			....		....
9			....		....
10			....		....
11			....		....
12			....		....
13			....		....
14			....		....
15			....		....
16			....		....

Action Codes:
0. None
1. Permitted
2. Restricted
4. Veh Min Recall
5. Veh Max Recall
6. Ped Recall
7. Bike Recall
8. Red Lock
9. Yellow Lock
10. Force/Max Lock
11.Double Entry
12. Y-Coord C
13. Y-Coord D
14. Free
15. Flashing
16. Walk 2
17. Max Green 2
18. Max Green 3
19. Rest in Walk
20. Rest in Red
21. Free Lag Phases
22. Special Functions
23. Truck Preempt
24. Conditional Service
25. Conditional Service
26. Leading Ped
41. Protected Permissive
42. Protected Permissive

Action Code = Phases added to normal setting
100+Action Code = Phases removed
200+Action Code = Phases replaced

COMMUNICATIONS

C2 (6-1-1)	*
Address	1
Protocol	AB3418
Limit Access	
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C20 (6-1-2)	
Address	
Protocol	AB3418
Limit Access	
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

C21 (6-1-3)	
Address	
Protocol	AB3418
Limit Access	
Baud	1200
Parity	NONE
Data Bits	8
Stop Bits	1
RTS On Time	20
RTS Off Time	20
Handshaking	NORMAL

Limit Access:
0-None
1-Status Only
2-Status, Set Pattern, Time
3-Status, Set Pattern, Time, Manual Plan

SOFT LOGIC

Soft Logic (6-2)							
#	Data	OP	Data	OP	Data	OP	Data
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							

*Refer to User's Manual for Data and OP Codes

CALLBACK NUMBERS

Callback Numbers (6-3...3)	
Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

Line Out	
Local Toll	
Long Distance	
Delay	10
Area Code	
Phone Number	

RAILROAD PREEMPTION

RR 1

(3-1-1)	Timing	Phase Flags (3-1-2)			Pedestrian Flags (3-1-3)			Overlap Flags (3-1-4)		
		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Delay										
Clear1	10	.2..5...	....	....	....	....	.2.4.6.8	......	......	......
Clear 2		....	....	....	....	....	....	......	......	......
Clear 3		....	....	....	....	....	....	......	......	......
Hold		....	....	1 2 3 4 5 6 7 8	....	....	....	......	......	A B C D E F
Exit	5									
Min Grn										
Ped Clr										

Exit Parameters (3-1-5)			
Phase Green	Overlap Green	Vehicle Recall	Ped Call
....	......	1 2 3 4 5 6 7 8	.2.4.6.8

Configuration (3-1-6)		
Port	Latching	Power-Up
2.5	YES	FLASHING

RR 2

(3-2-1)	Timing	Phase Flags (3-2-2)			Pedestrian Flags (3-2-3)			Overlap Flags (3-2-4)		
		Grn Hold	Yel Flash	Red Flash	Walk	Flash DW	Solid DW	Grn Hold	Yel Flash	Red Flash
Delay										
Clear1	10	...4..7.	....	....	....	....	.2.4.6.8	......	......	......
Clear 2		....	....	....	....	....	....	......	......	......
Clear 3		....	....	....	....	....	....	......	......	......
Hold		1 2 3..6..	....	....	.2...6..	....	...4...8	......	......	......
Exit										
Min Grn										
Ped Clr										

Exit Parameters (3-2-5)			
Phase Green	Overlap Green	Vehicle Recall	Ped Recall
....	......	...4..7.	....

Configuration (3-2-6)		
Port	Latching	Power-up
2.6	YES	DARK

EMERGENCY VEHICLE PREEMPTION

EVA (3-A)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
*		10	30	.2..5...	......

Port	Latching	Phase Termination
5.5	NO	ADVANCE

EVB (3-B)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
*		10	30	...4..7.	......

Port	Latching	Phase Termination
5.6	NO	ADVANCE

EVC (3-C)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
*		10	30	1....6..	......

Port	Latching	Phase Termination
5.7	NO	ADVANCE

EVD (3-D)	Preempt Timers			Phase Green	Overlap Green
	Delay	Clear	Max		
*		10	30	..3....8	......

Port	Latching	Phase Termination
5.8	NO	ADVANCE

INPUTS

		7 Wire I/C (2-1-5-1)			
		Input	Port	Input	Port
Enable	NO	R1	3.8	Free	3.6
Max ON		R2	3.5	D2	2.8
Max OFF		R3	3.7	D3	6.1

Manual Control (2-1-5-2)	
Input	Port
Manual Advance	6.6
Advance Enable	6.6

Battery Backup (2-1-5-5) *	
Port	Operation
2.7	NORMAL

Cabinet Status (2-1-5-3)	
Input	Port
Flash Bus	
Door Ajar	
Flash Sense	6.7
Stop Time	6.8

Special Function (2-1-5-4)	
Input	Port
1	
2	
3	
4	

Y-Coordination (2-1-5-6)	
Port C	Port D
6.1	2.8

OUTPUTS

Loadswitch Assignments (2-1-6)							+
A	1	2	22	3	4	24	9
B	5	6	26	7	8	28	10
X	13	14	0	11	12	0	0

Loadswitch Codes:
0 Unused (no output)
1-8 Vehicle 1-8
9-14 Overlap A-F
21-28 Ped 1-8
41-47 Special Functions
41 Protected Permissive Flashing Phase 1
43 Protected Permissive Flashing Phase 3
45 Protected Permissive Flashing Phase 5
47 Protected Permissive Flashing Phase 7
51-57 Special Functions
71-72 Seven Wire I/C

+ middle output of loadswitches 3 and 6 Channel 9 and 10

YELLOW YIELD COOORDINATION

Y-Coord Plans (7-C,D)	Long Grn	No Grn	Offset	Perm	Force-Offs -1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	Coord	Lag	Min Recall	Restricted
Plan C													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	. . . .	. . . .
Plan D													. 2 . . . 6 . .	. 2 . 4 . 6 . 8	. . . .	. . . .

TRANSIT PRIORITY

Local Plans (3-E1...9)		Early Green	Green Extend	Inhibit Cycles	Phase 1 Minimum	Phase 2 Minimum	Phase 3 Minimum	Phase 4 Minimum	Phase 5 Minimum	Phase 6 Minimum	Phase 7 Minimum	Phase 8 Minimum
Plan 1	Green Factor											
Plan 2	Green Factor											
Plan 3	Green Factor											
Plan 4	Green Factor											
Plan 5	Green Factor											
Plan 6	Green Factor											
Plan 7	Green Factor											
Plan 8	Green Factor											
Plan 9	Green Factor											

Enable Priority (3-E-A)	
Enable in Plan	. . . .

Free Plans (3-E-E)	
Max Green Hold	Hold Phase
	. . . .

Access Utilities (9-5)	
Password	***
Timeout	

TRUCK PREEMPTION

Truck Preemption (3-F)	Passage	CarryOver	Clearance	Next Preempt	Phase Green	Det 2 Port	Det 3 Port	Det 4 Port	Sign Output	Slave Input	Slave Output

Appendix C
Intersection Traffic Count Data

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Wed, Dec 8, 21	NORTH & SOUTH:	I-215 Ramps	LOCATION #:	18
	EAST & WEST:	Eucalyptus	CONTROL:	SIGNAL

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

	NORTHBOUND I-215 Ramps			SOUTHBOUND I-215 Ramps			EASTBOUND Eucalyptus			WESTBOUND Eucalyptus				U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	2	X	2	2	X	1	1	2	1	2	2	1		0	0	0	0	
AM 7:00 AM	121	0	33	38	0	10	15	32	18	79	117	40	503	1	1	0	0	2
7:15 AM	90	0	29	31	0	3	6	38	9	100	133	62	501	0	0	0	0	0
7:30 AM	94	0	31	45	0	16	16	30	7	85	124	60	508	0	0	0	0	0
7:45 AM	79	0	40	37	0	8	10	33	12	89	144	49	501	0	0	0	0	0
8:00 AM	69	0	45	59	0	28	16	51	15	69	115	36	503	1	1	0	0	2
8:15 AM	64	0	49	41	0	37	8	32	19	53	120	37	460	1	0	0	0	1
8:30 AM	56	0	50	58	0	36	12	36	19	75	93	49	484	0	0	0	0	0
8:45 AM	27	0	61	44	0	40	11	52	17	44	100	39	435	0	2	0	0	2
VOLUMES	600	0	338	353	0	178	94	304	116	594	946	372	3,895	3	4	0	0	7
APPROACH %	64%	0%	36%	66%	0%	34%	18%	59%	23%	31%	49%	19%						
APP/DEPART	938	/	470	531	/	713	514	/	991	1,912	/	1,721	0	1	1	0	0	
BEGIN PEAK HR		7:00 AM																
VOLUMES	332	0	145	172	0	55	48	152	43	343	516	207	2,013					
APPROACH %	70%	0%	30%	76%	0%	24%	20%	63%	18%	32%	48%	19%						
PEAK HR FACTOR		0.774			0.652			0.741			0.903		0.991					
APP/DEPART	477	/	256	227	/	387	243	/	468	1,066	/	902	0					
PM 4:00 PM	22	0	62	94	0	20	36	124	37	107	131	55	688	1	0	0	0	1
4:15 PM	26	0	51	94	0	25	26	105	34	107	127	60	655	0	1	0	0	1
4:30 PM	34	0	106	109	0	27	32	149	36	108	111	66	778	0	0	0	0	0
4:45 PM	28	0	95	93	0	24	14	88	26	136	122	56	682	1	0	0	1	2
5:00 PM	35	0	72	100	0	24	22	112	25	109	121	74	694	1	0	0	0	1
5:15 PM	20	0	78	131	0	71	15	80	10	105	130	61	701	0	0	1	0	1
5:30 PM	28	0	80	154	0	30	19	124	19	103	125	70	752	1	1	0	1	3
5:45 PM	38	0	89	113	0	27	18	101	15	107	87	59	654	1	0	0	0	1
VOLUMES	231	0	633	888	0	248	182	883	202	882	954	501	5,604	5	2	1	2	10
APPROACH %	27%	0%	73%	78%	0%	22%	14%	70%	16%	38%	41%	21%						
APP/DEPART	864	/	684	1,136	/	1,087	1,267	/	2,404	2,337	/	1,429	0	2	0	1	1	
BEGIN PEAK HR		4:30 PM																
VOLUMES	117	0	351	433	0	146	83	429	97	458	484	257	2,855					
APPROACH %	25%	0%	75%	75%	0%	25%	14%	70%	16%	38%	40%	21%						
PEAK HR FACTOR		0.836			0.717			0.702			0.955		0.917					
APP/DEPART	468	/	339	579	/	556	609	/	1,214	1,199	/	746	0					

I-215 Ramps

NORTH SIDE

Eucalyptus WEST SIDE EAST SIDE **Eucalyptus**

SOUTH SIDE

I-215 Ramps

	ALL PED AND BIKE				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM 7:00 AM	0	0	0	0	0
7:15 AM	1	0	0	0	1
7:30 AM	3	1	0	0	4
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	1	0	0	1
TOTAL	4	2	0	0	6
PM 4:00 PM	0	0	0	0	0
4:15 PM	2	0	0	0	2
4:30 PM	0	0	0	0	0
4:45 PM	3	0	0	0	3
5:00 PM	0	0	0	0	0
5:15 PM	1	0	0	0	1
5:30 PM	4	0	0	0	4
5:45 PM	1	0	0	0	1
TOTAL	11	0	0	0	11

	PEDESTRIAN CROSSINGS				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM 7:00 AM	0	0	0	0	0
7:15 AM	1	0	0	0	1
7:30 AM	2	0	0	0	2
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	1	0	0	1
TOTAL	3	1	0	0	4
PM 4:00 PM	0	0	0	0	0
4:15 PM	1	0	0	0	1
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	4	0	0	0	4
5:45 PM	0	0	0	0	0
TOTAL	5	0	0	0	5

	BICYCLE CROSSINGS				
	ES	WS	SS	NS	TOTAL
AM 7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	1	1	0	0	2
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	1	1	0	0	2
PM 4:00 PM	0	0	0	0	0
4:15 PM	1	0	0	0	1
4:30 PM	0	0	0	0	0
4:45 PM	3	0	0	0	3
5:00 PM	0	0	0	0	0
5:15 PM	1	0	0	0	1
5:30 PM	0	0	0	0	0
5:45 PM	1	0	0	0	1
TOTAL	6	0	0	0	6

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Sat, Dec 11, 21	LOCATION:	Moreno Valley	PROJECT #:	SC3215
	NORTH & SOUTH:	I-215 Ramps	LOCATION #:	18
	EAST & WEST:	Eucalyptus	CONTROL:	SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

▲ N
◄ W
E ►
S ▼

☑ Add U-Turns to Left Turns

	NORTHBOUND I-215 Ramps			SOUTHBOUND I-215 Ramps			EASTBOUND Eucalyptus			WESTBOUND Eucalyptus			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	X	2	2	X	1	1	2	1	2	2	1	
MD 11:00 AM	25	0	107	87	0	15	17	74	23	126	71	71	616
11:15 AM	26	0	132	77	0	18	12	45	7	140	79	56	592
11:30 AM	27	0	97	71	0	22	9	60	11	143	108	72	620
11:45 AM	40	0	123	85	0	17	19	27	8	169	91	78	657
12:00 PM	38	0	158	93	0	17	10	55	12	151	104	59	697
12:15 PM	56	0	129	114	0	24	7	53	12	171	94	63	723
12:30 PM	43	0	163	81	0	13	11	86	15	159	95	71	737
12:45 PM	45	0	155	104	0	13	6	47	8	212	63	61	714
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
VOLUMES	300	0	1,064	712	0	139	91	447	96	1,271	705	531	5,356
APPROACH %	22%	0%	78%	84%	0%	16%	14%	71%	15%	51%	28%	21%	
APP/DEPART	1,364	/	625	851	/	1,376	634	/	2,219	2,507	/	1,136	0
BEGIN PEAK HR		12:00 PM											
VOLUMES	182	0	605	392	0	67	34	241	47	693	356	254	2,871
APPROACH %	23%	0%	77%	85%	0%	15%	11%	75%	15%	53%	27%	19%	
PEAK HR FACTOR		0.955			0.832			0.719			0.969		0.974
APP/DEPART	787	/	290	459	/	746	322	/	1,237	1,303	/	598	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
0	0	0	0	0
2	1	0	0	3
0	1	0	0	1
1	1	2	0	4
3	1	0	0	4
2	0	0	0	2
0	0	0	1	1
2	1	0	0	3
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
10	5	2	1	18
7	2	0	1	

I-215 Ramps

NORTH SIDE

Eucalyptus WEST SIDE

EAST SIDE **Eucalyptus**

SOUTH SIDE

I-215 Ramps

	ALL PED AND BIKE				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
MD 11:00 AM	0	0	0	0	0
11:15 AM	1	0	0	0	1
11:30 AM	0	0	0	0	0
11:45 AM	0	0	0	0	0
12:00 PM	0	0	0	0	0
12:15 PM	1	0	0	0	1
12:30 PM	0	0	0	0	0
12:45 PM	0	0	0	0	0
TOTAL	2	0	0	0	2

PEDESTRIAN CROSSINGS				
E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1

BICYCLE CROSSINGS				
ES	WS	SS	NS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Wed, Dec 8, 21	NORTH & SOUTH:	Valley Springs	LOCATION #:	17
	EAST & WEST:	Eucalyptus	CONTROL:	SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

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S ▼

☑ Add U-Turns to Left Turns

	NORTHBOUND Valley Springs			SOUTHBOUND Valley Springs			EASTBOUND Eucalyptus			WESTBOUND Eucalyptus			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	0	1	1	2	2	2	1	1	2	1	
AM													
7:00 AM	43	26	9	8	7	52	37	45	10	4	142	4	387
7:15 AM	35	22	6	3	8	71	41	50	7	5	190	6	444
7:30 AM	48	19	11	1	6	57	44	51	11	0	164	11	423
7:45 AM	49	59	21	5	10	61	59	52	9	12	172	5	514
8:00 AM	52	47	14	2	8	60	74	71	10	7	108	16	469
8:15 AM	40	68	16	1	8	66	57	65	14	6	104	17	462
8:30 AM	35	54	22	7	16	70	57	64	8	5	112	25	475
8:45 AM	30	58	9	4	14	75	86	61	5	7	80	16	445
VOLUMES	332	353	108	31	77	512	455	459	74	46	1,072	100	3,619
APPROACH %	42%	45%	14%	5%	12%	83%	46%	46%	7%	4%	88%	8%	
APP/DEPART	793	/	909	620	/	197	988	/	597	1,218	/	1,916	0
BEGIN PEAK HR		7:45 AM											
VOLUMES	176	228	73	15	42	257	247	252	41	30	496	63	1,920
APPROACH %	37%	48%	15%	5%	13%	82%	46%	47%	8%	5%	84%	11%	
PEAK HR FACTOR		0.924			0.844			0.871			0.779		0.934
APP/DEPART	477	/	538	314	/	113	540	/	340	589	/	929	0
PM													
4:00 PM	24	76	27	16	44	158	100	144	36	9	111	18	763
4:15 PM	29	89	25	23	32	168	83	134	33	8	97	21	742
4:30 PM	41	92	20	12	61	156	143	184	37	12	87	21	866
4:45 PM	27	75	22	17	63	161	77	164	33	11	126	24	800
5:00 PM	19	80	23	11	57	190	91	155	38	10	97	25	796
5:15 PM	26	90	31	23	64	170	95	142	52	8	99	21	821
5:30 PM	18	67	21	18	80	173	99	220	39	8	108	24	875
5:45 PM	16	82	17	16	55	159	99	169	33	10	78	13	747
VOLUMES	200	651	186	136	456	1,335	787	1,312	301	76	803	167	6,410
APPROACH %	19%	63%	18%	7%	24%	69%	33%	55%	13%	7%	77%	16%	
APP/DEPART	1,037	/	1,601	1,927	/	832	2,400	/	1,635	1,046	/	2,342	0
BEGIN PEAK HR		4:45 PM											
VOLUMES	90	312	97	69	264	694	362	681	162	37	430	94	3,292
APPROACH %	18%	63%	19%	7%	26%	68%	30%	57%	13%	7%	77%	17%	
PEAK HR FACTOR		0.849			0.947			0.841			0.871		0.941
APP/DEPART	499	/	766	1,027	/	462	1,205	/	848	561	/	1,216	0

U-TURNS					
	NB	SB	EB	WB	TTL
	0	0	0	0	
7:00 AM	0	1	0	0	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	0	1	0	0	1
APP/DEPART	0	0	0	0	
4:00 PM	0	0	1	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	1	0	1
4:45 PM	0	0	0	1	1
5:00 PM	0	0	0	0	0
5:15 PM	0	0	1	0	1
5:30 PM	0	0	1	0	1
5:45 PM	0	0	0	0	0
VOLUMES	0	0	4	1	5
APP/DEPART	0	0	2	1	

Valley Springs

← NORTH SIDE →

Eucalyptus WEST SIDE EAST SIDE **Eucalyptus**

← SOUTH SIDE →

Valley Springs

	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM															
7:00 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	3	1	0	0	4	2	0	0	0	2	1	1	0	0	2
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	4	1	0	0	5	3	0	0	0	3	1	1	0	0	2
AM BEGIN PEAK HR			7:45 AM			0	0	0	0	0					
PM															
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	2	1	0	0	3	1	1	0	0	2	1	0	0	0	1
4:30 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
4:45 PM	2	0	1	0	3	1	0	1	0	2	1	0	0	0	1
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	2	0	1	0	3	1	0	1	0	2	1	0	0	0	1
5:30 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	7	1	3	0	11	4	1	3	0	8	3	0	0	0	3
PM BEGIN PEAK HR			4:45 PM			3	0	2	0	5					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Sat, Dec 11, 21	NORTH & SOUTH:	Valley Springs	LOCATION #:	17
	EAST & WEST:	Eucalyptus	CONTROL:	SIGNAL

NOTES:

AM
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OTHER
OTHER

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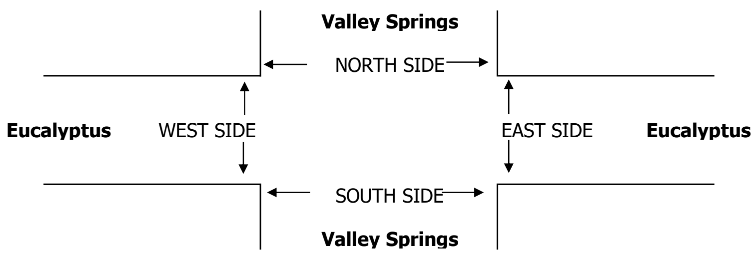
☑ Add U-Turns to Left Turns

	NORTHBOUND Valley Springs			SOUTHBOUND Valley Springs			EASTBOUND Eucalyptus			WESTBOUND Eucalyptus			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	1	2	0	1	1	2	2	2	1	1	2	1	
MIDDAY 11:00 AM	19	108	32	28	35	152	114	136	18	3	97	24	766
11:15 AM	13	98	25	18	41	158	128	113	10	8	103	18	733
11:30 AM	21	99	39	19	46	188	102	122	4	8	115	19	782
11:45 AM	15	93	28	23	48	181	113	106	14	1	142	24	788
12:00 PM	17	76	18	22	42	177	145	150	11	9	120	33	820
12:15 PM	9	95	22	25	47	184	141	140	15	8	135	28	849
12:30 PM	14	94	29	23	49	183	163	151	16	10	128	24	884
12:45 PM	14	99	26	21	59	196	132	162	9	2	127	32	879
VOLUMES	122	762	219	179	367	1,419	1,038	1,080	97	49	967	202	6,501
APPROACH %	11%	69%	20%	9%	19%	72%	47%	49%	4%	4%	79%	17%	
APP/DEPART	1,103	/	2,002	1,965	/	512	2,215	/	1,478	1,218	/	2,509	0
BEGIN PEAK HR		12:00 PM											
VOLUMES	54	364	95	91	197	740	581	603	51	29	510	117	3,432
APPROACH %	11%	71%	19%	9%	19%	72%	47%	49%	4%	4%	78%	18%	
PEAK HR FACTOR		0.923			0.931			0.936			0.959		0.971
APP/DEPART	513	/	1,063	1,028	/	277	1,235	/	788	656	/	1,304	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
0	0	0	0	0
0	0	1	1	2
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	1	1	3
0	1	0	0	



	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
MIDDAY 11:00 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	2	1	0	3	0	0	0	0	0	0	2	1	0	3
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	2	2	0	4	0	0	1	0	1	0	2	1	0	3
MD BEGIN PEAK HR			12:00 PM			0	0	0	0	0					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Wed, Dec 8, 21	NORTH & SOUTH:	Day	LOCATION #:	14
	EAST & WEST:	SR-60 WB Ramps	CONTROL:	SIGNAL

NOTES:

AM
PM
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OTHER
OTHER

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Add U-Turns to Left Turns

	NORTHBOUND (Day)			SOUTHBOUND (Day)			EASTBOUND (SR-60 WB Ramps)			WESTBOUND (SR-60 WB Ramps)			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	X	2	1	1	2	X	X	X	X	2	X	1	
AM													
7:00 AM	0	62	64	17	96	0	0	0	0	41	0	25	305
7:15 AM	0	93	66	28	90	0	0	0	0	28	0	28	333
7:30 AM	0	96	57	39	109	0	0	0	0	41	0	23	365
7:45 AM	0	122	49	16	130	0	0	0	0	68	0	47	432
8:00 AM	0	130	53	20	127	0	0	0	0	58	0	66	454
8:15 AM	0	114	41	16	134	0	0	0	0	86	0	66	457
8:30 AM	0	115	46	10	150	0	0	0	0	85	0	39	445
8:45 AM	0	97	38	10	141	0	0	0	0	89	0	43	418
VOLUMES	0	829	414	156	977	0	0	0	0	496	0	337	3,209
APPROACH %	0%	67%	33%	14%	86%	0%	0%	0%	0%	60%	0%	40%	
APP/DEPART	1,243	/	1,166	1,133	/	1,471	0	/	572	833	/	0	0
BEGIN PEAK HR		7:45 AM											
VOLUMES	0	481	189	62	541	0	0	0	0	297	0	218	1,788
APPROACH %	0%	72%	28%	10%	90%	0%	0%	0%	0%	58%	0%	42%	
PEAK HR FACTOR		0.915			0.942			0.000			0.847		0.978
APP/DEPART	670	/	699	603	/	837	0	/	252	515	/	0	0
PM													
4:00 PM	0	231	83	12	200	0	0	0	0	120	0	46	692
4:15 PM	0	256	69	12	169	0	0	0	0	103	0	37	646
4:30 PM	0	277	81	7	157	0	0	0	0	112	0	49	683
4:45 PM	0	280	75	12	191	0	0	0	0	136	0	68	762
5:00 PM	0	284	71	22	230	0	0	0	0	142	0	38	787
5:15 PM	0	311	98	13	159	0	0	0	0	130	0	32	743
5:30 PM	0	263	89	14	194	0	0	0	0	113	0	43	716
5:45 PM	0	242	89	20	200	0	0	0	0	127	0	64	742
VOLUMES	0	2,144	655	112	1,500	0	0	0	0	983	0	377	5,771
APPROACH %	0%	77%	23%	7%	93%	0%	0%	0%	0%	72%	0%	28%	
APP/DEPART	2,799	/	2,521	1,612	/	2,482	0	/	768	1,360	/	0	0
BEGIN PEAK HR		4:45 PM											
VOLUMES	0	1,138	333	61	774	0	0	0	0	521	0	181	3,008
APPROACH %	0%	77%	23%	7%	93%	0%	0%	0%	0%	74%	0%	26%	
PEAK HR FACTOR		0.899			0.828			0.000			0.860		0.956
APP/DEPART	1,471	/	1,319	835	/	1,295	0	/	394	702	/	0	0

U-TURNS					
	NB	SB	EB	WB	TTL
	0	0	0	0	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	1	1
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	1	1
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	0	0	0	2	2
APP/DEPART	0	0	0	1	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	1	1
VOLUMES	0	0	0	1	1
APP/DEPART	0	0	0	0	

Day

NORTH SIDE

SR-60 WB Ramps WEST SIDE

EAST SIDE **SR-60 WB Ramps**

SOUTH SIDE

Day

	ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM															
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM															
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Sat, Dec 11, 21	NORTH & SOUTH:	Day	LOCATION #:	14
	EAST & WEST:	SR-60 WB Ramps	CONTROL:	SIGNAL

NOTES:

AM
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OTHER

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Add U-Turns to Left Turns

	NORTHBOUND Day			SOUTHBOUND Day			EASTBOUND SR-60 WB Ramps			WESTBOUND SR-60 WB Ramps			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	X	2	1	1	2	X	X	X	X	2	X	1	
MD 11:00 AM	0	155	102	18	162	0	0	0	0	136	0	30	603
11:15 AM	0	176	144	14	165	0	0	0	0	175	0	56	730
11:30 AM	1	167	131	8	185	0	0	0	0	166	0	38	696
11:45 AM	0	189	121	20	194	0	0	0	0	167	0	33	724
12:00 PM	0	178	99	16	220	0	0	0	0	178	0	58	749
12:15 PM	0	199	112	14	174	0	0	0	0	225	0	54	778
12:30 PM	0	186	127	12	188	0	0	0	0	149	0	55	717
12:45 PM	0	209	137	16	183	0	0	0	0	177	0	51	773
VOLUMES	1	1,459	973	118	1,471	0	0	0	0	1,373	0	375	5,770
APPROACH %	0%	60%	40%	7%	93%	0%	0%	0%	0%	79%	0%	21%	
APP/DEPART	2,433	/	1,834	1,589	/	2,845	0	/	1,091	1,748	/	0	0
BEGIN PEAK HR		12:00 PM											
VOLUMES	0	772	475	58	765	0	0	0	0	729	0	218	3,017
APPROACH %	0%	62%	38%	7%	93%	0%	0%	0%	0%	77%	0%	23%	
PEAK HR FACTOR		0.901			0.872			0.000			0.849		0.969
APP/DEPART	1,247	/	990	823	/	1,494	0	/	533	947	/	0	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
1	0	0	0	1
0	0	0	0	

Day

NORTH SIDE

SR-60 WB Ramps WEST SIDE

EAST SIDE **SR-60 WB Ramps**

SOUTH SIDE

Day

	ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
MD 11:00 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	2	0	0	0	2	2	0	0	0	2	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	3	0	0	0	3	3	0	0	0	3	0	0	0	0	0
12:45 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
TOTAL	6	0	0	1	7	6	0	0	1	7	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Wed, Dec 15, 21	NORTH & SOUTH:	Day	LOCATION #:	13
	EAST & WEST:	SR-60 EB Ramps	CONTROL:	SIGNAL

NOTES:

Queue SB PM

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

Add U-Turns to Left Turns

	NORTHBOUND Day			SOUTHBOUND Day			EASTBOUND SR-60 EB Ramps			WESTBOUND SR-60 EB Ramps				U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	X	2	1	1	3	X	X	X	X	2	X	1		0	0	0	0	
AM																		
7:00 AM	0	97	74	23	116	0	0	0	0	45	0	9	364	0	0	0	0	0
7:15 AM	0	122	72	22	119	0	0	0	0	54	0	19	408	0	0	0	0	0
7:30 AM	0	140	72	31	113	0	0	0	0	54	0	23	433	0	0	0	0	0
7:45 AM	0	139	78	30	195	0	0	0	0	80	0	28	550	0	0	0	0	0
8:00 AM	0	125	86	24	183	0	0	0	0	93	0	16	527	0	0	0	0	0
8:15 AM	0	151	73	26	184	0	0	0	0	76	0	22	532	0	0	0	0	0
8:30 AM	0	126	69	18	198	0	0	0	0	99	0	19	529	0	0	0	0	0
8:45 AM	0	110	84	14	225	0	0	0	0	114	0	15	562	0	0	0	0	0
VOLUMES	0	1,010	608	188	1,333	0	0	0	0	615	0	151	3,905	0	0	0	0	0
APPROACH %	0%	62%	38%	12%	88%	0%	0%	0%	0%	80%	0%	20%						
APP/DEPART	1,618	/	1,161	1,521	/	1,948	0	/	796	766	/	0	0	0	0	0	0	
BEGIN PEAK HR		8:00 AM																
VOLUMES	0	512	312	82	790	0	0	0	0	382	0	72	2,150					
APPROACH %	0%	62%	38%	9%	91%	0%	0%	0%	0%	84%	0%	16%						
PEAK HR FACTOR		0.920			0.912			0.000			0.880		0.956					
APP/DEPART	824	/	584	872	/	1,172	0	/	394	454	/	0	0					
PM																		
4:00 PM	0	262	139	32	285	0	0	0	0	156	0	45	919	0	0	0	0	0
4:15 PM	1	323	174	18	287	0	0	0	0	165	0	66	1,034	1	1	0	0	2
4:30 PM	0	309	141	22	289	0	0	0	0	170	0	89	1,020	0	0	0	0	0
4:45 PM	0	299	138	31	296	0	0	0	0	189	0	126	1,079	0	0	0	0	0
5:00 PM	0	286	165	35	337	0	0	0	0	156	0	94	1,073	0	0	0	0	0
5:15 PM	0	289	169	19	304	0	0	0	0	171	0	84	1,036	0	0	0	0	0
5:30 PM	0	277	164	27	314	0	0	0	0	173	0	87	1,042	0	0	0	1	1
5:45 PM	0	287	153	31	324	0	0	0	0	177	0	96	1,068	0	0	0	0	0
VOLUMES	1	2,332	1,243	215	2,436	0	0	0	0	1,357	0	687	8,271	1	1	0	1	3
APPROACH %	0%	65%	35%	8%	92%	0%	0%	0%	0%	66%	0%	34%						
APP/DEPART	3,576	/	3,020	2,651	/	3,793	0	/	1,458	2,044	/	0	0	0	0	0	1	
BEGIN PEAK HR		4:45 PM																
VOLUMES	0	1,151	636	112	1,251	0	0	0	0	689	0	391	4,230					
APPROACH %	0%	64%	36%	8%	92%	0%	0%	0%	0%	64%	0%	36%						
PEAK HR FACTOR		0.975			0.916			0.000			0.857		0.980					
APP/DEPART	1,787	/	1,542	1,363	/	1,939	0	/	749	1,080	/	0	0					

Day

NORTH SIDE

SR-60 EB Ramps WEST SIDE EAST SIDE SR-60 EB Ramps

SOUTH SIDE

Day

	ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM															
7:00 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	2	0	0	0	2	2	0	0	0	2	0	0	0	0	0
PM															
4:00 PM	4	0	0	0	4	4	0	0	0	4	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	2	0	2	0	0	2	0	2	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
5:45 PM	3	0	0	0	3	3	0	0	0	3	0	0	0	0	0
TOTAL	9	0	2	0	11	9	0	2	0	11	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Sat, Dec 18, 21	NORTH & SOUTH:	Day	LOCATION #:	13
	EAST & WEST:	SR-60 EB Ramps	CONTROL:	SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

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S

Add U-Turns to Left Turns

	NORTHBOUND Day			SOUTHBOUND Day			EASTBOUND SR-60 EB Ramps			WESTBOUND SR-60 EB Ramps			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	X	2	1	1	3	X	X	X	X	2	X	1	
MD 11:00 AM	0	286	156	10	351	0	0	0	0	171	0	30	1,004
11:15 AM	0	271	176	29	333	0	0	0	0	166	0	27	1,002
11:30 AM	0	285	163	25	316	0	0	0	0	165	0	31	985
11:45 AM	0	288	178	20	327	0	0	0	0	177	0	27	1,017
12:00 PM	0	267	170	21	337	0	0	0	0	160	0	43	998
12:15 PM	0	298	155	30	362	0	0	0	0	159	0	24	1,028
12:30 PM	0	302	177	18	351	0	0	0	0	178	0	39	1,065
12:45 PM	0	293	207	25	361	0	0	0	0	164	0	26	1,076
VOLUMES	0	2,290	1,382	178	2,738	0	0	0	0	1,340	0	247	8,175
APPROACH %	0%	62%	38%	6%	94%	0%	0%	0%	0%	84%	0%	16%	
APP/DEPART	3,672	/	2,537	2,916	/	4,077	0	/	1,561	1,587	/	0	0
BEGIN PEAK HR		12:00 PM											
VOLUMES	0	1,160	709	94	1,411	0	0	0	0	661	0	132	4,167
APPROACH %	0%	62%	38%	6%	94%	0%	0%	0%	0%	83%	0%	17%	
PEAK HR FACTOR		0.935			0.960			0.000			0.914		0.968
APP/DEPART	1,869	/	1,292	1,505	/	2,072	0	/	803	793	/	0	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	

Day

NORTH SIDE

SR-60 EB Ramps WEST SIDE EAST SIDE SR-60 EB Ramps

SOUTH SIDE

Day

MD	ALL PED AND BIKE E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	PEDESTRIAN CROSSINGS E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	BICYCLE CROSSINGS ES	WS	SS	NS	TOTAL
11:00 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	2	0	0	0	2	2	0	0	0	2	0	0	0	0	0
12:30 PM	2	0	0	0	2	2	0	0	0	2	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	6	0	0	0	6	6	0	0	0	6	0	0	0	0	0

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:			
Wed, Dec 8, 21	LOCATION: Moreno Valley	PROJECT #: SC3215	
	NORTH & SOUTH: Day	LOCATION #: 12	
	EAST & WEST: Canyon Springs	CONTROL: SIGNAL	

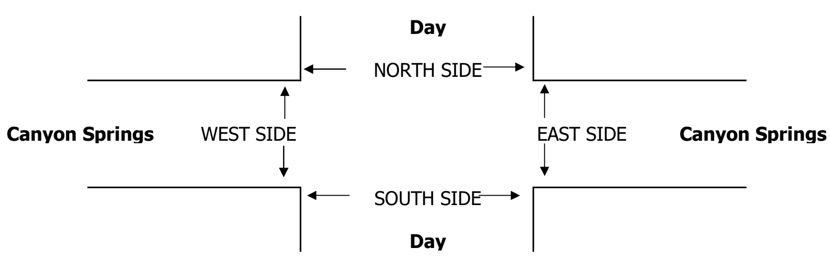
NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

	NORTHBOUND Day			SOUTHBOUND Day			EASTBOUND Canyon Springs			WESTBOUND Canyon Springs				U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	1	3	0	1	3	2	2	1	1	1	1	1		0	0	0	0	
AM 7:00 AM	7	115	8	25	98	33	28	0	4	5	5	15	343	1	6	0	0	7
7:15 AM	7	149	8	19	93	29	39	6	5	5	9	21	390	1	5	0	0	6
7:30 AM	16	130	18	27	90	48	29	3	1	6	8	16	392	0	4	0	0	4
7:45 AM	10	157	13	36	134	65	45	5	5	11	12	27	520	0	2	0	0	2
8:00 AM	13	134	17	33	135	69	45	7	6	7	6	32	504	0	4	2	0	6
8:15 AM	18	134	4	40	153	76	59	10	6	11	11	24	546	2	5	3	0	10
8:30 AM	18	115	17	40	139	101	46	2	18	8	16	12	532	2	4	0	0	6
8:45 AM	28	80	20	41	147	98	74	12	14	5	17	36	572	2	1	1	0	4
VOLUMES	117	1,014	105	261	989	519	365	45	59	58	84	183	3,799	8	31	6	0	45
APPROACH %	9%	82%	8%	15%	56%	29%	78%	10%	13%	18%	26%	56%						
APP/DEPART	1,236	/	1,587	1,769	/	1,114	469	/	380	325	/	718	0	6	14	6	0	
BEGIN PEAK HR		8:00 AM																
VOLUMES	77	463	58	154	574	344	224	31	44	31	50	104	2,154					
APPROACH %	13%	77%	10%	14%	54%	32%	75%	10%	15%	17%	27%	56%						
PEAK HR FACTOR		0.912			0.937			0.748			0.797		0.941					
APP/DEPART	598	/	799	1,072	/	655	299	/	229	185	/	471	0					
PM 4:00 PM	41	273	18	44	215	167	154	25	43	9	15	55	1,059	1	1	0	0	2
4:15 PM	57	209	17	44	168	138	165	23	59	18	21	62	981	1	3	1	0	5
4:30 PM	46	236	14	45	194	123	147	30	68	11	18	53	985	1	4	0	0	5
4:45 PM	58	258	15	42	198	158	161	41	62	10	21	46	1,070	6	6	2	0	14
5:00 PM	38	263	20	44	231	161	120	37	51	5	21	56	1,047	1	2	2	0	5
5:15 PM	37	270	21	43	214	132	131	37	59	7	17	74	1,042	0	9	0	0	9
5:30 PM	54	235	16	44	219	122	161	36	59	9	11	49	1,015	2	4	0	0	6
5:45 PM	44	204	23	63	227	155	163	42	65	12	28	65	1,091	2	4	2	0	8
VOLUMES	375	1,948	144	369	1,666	1,156	1,202	271	466	81	152	460	8,290	14	33	7	0	54
APPROACH %	15%	79%	6%	12%	52%	36%	62%	14%	24%	12%	22%	66%						
APP/DEPART	2,467	/	3,636	3,191	/	2,227	1,939	/	751	693	/	1,676	0	5	19	4	0	
BEGIN PEAK HR		5:00 PM																
VOLUMES	173	972	80	194	891	570	575	152	234	33	77	244	4,195					
APPROACH %	14%	79%	7%	12%	54%	34%	60%	16%	24%	9%	22%	69%						
PEAK HR FACTOR		0.934			0.930			0.890			0.843		0.961					
APP/DEPART	1,225	/	1,806	1,655	/	1,163	961	/	407	354	/	819	0					



PEDESTRIAN + BIKE CROSSINGS

	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM 7:00 AM	0	1	0	0	1
7:15 AM	1	0	0	0	1
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	1	0	0	1
8:15 AM	0	0	0	0	0
8:30 AM	0	1	0	0	1
8:45 AM	1	1	0	1	3
TOTAL	2	4	0	1	7
AM BEGIN PEAK HR			8:00 AM		
PM 4:00 PM	1	1	2	1	5
4:15 PM	2	1	0	3	6
4:30 PM	3	1	1	1	6
4:45 PM	1	0	0	0	1
5:00 PM	3	0	0	0	3
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	1	0	0	1
TOTAL	10	4	3	5	22
PM BEGIN PEAK HR			5:00 PM		

PEDESTRIAN CROSSINGS

	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM 7:00 AM	0	1	0	0	1
7:15 AM	1	0	0	0	1
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	1	0	0	1
8:15 AM	0	0	0	0	0
8:30 AM	0	1	0	0	1
8:45 AM	1	1	0	1	3
TOTAL	2	4	0	1	7
AM BEGIN PEAK HR	1	3	0	1	5
PM 4:00 PM	0	1	2	1	4
4:15 PM	2	1	0	3	6
4:30 PM	3	1	1	1	6
4:45 PM	1	0	0	0	1
5:00 PM	2	0	0	0	2
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	1	0	0	1
TOTAL	8	4	3	5	20
PM BEGIN PEAK HR	2	1	0	0	3

BICYCLE CROSSINGS

	NS	SS	ES	WS	TOTAL
AM 7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR					
PM 4:00 PM	1	0	0	0	1
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	1	0	0	0	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	2	0	0	0	2
PM BEGIN PEAK HR					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Sat, Dec 11, 21	LOCATION: Moreno Valley	PROJECT #:	SC3215
	NORTH & SOUTH: Day	LOCATION #:	12
	EAST & WEST: Canyon Springs	CONTROL:	SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

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☑ Add U-Turns to Left Turns

MIDDAY	NORTHBOUND (Day)			SOUTHBOUND (Day)			EASTBOUND (Canyon Springs)			WESTBOUND (Canyon Springs)			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	1	3	0	1	3	2	2	1	1	1	1	1	
11:00 AM	51	209	25	39	233	159	159	44	60	12	21	58	1,070
11:15 AM	66	251	28	50	210	176	155	44	61	17	28	64	1,150
11:30 AM	55	231	19	58	237	151	158	39	62	15	27	55	1,107
11:45 AM	68	253	23	80	226	176	138	33	72	5	21	68	1,163
12:00 PM	58	229	24	63	211	181	155	61	69	12	22	66	1,151
12:15 PM	55	251	31	55	273	179	158	59	64	18	23	70	1,236
12:30 PM	59	310	22	64	233	164	136	34	70	16	32	66	1,206
12:45 PM	64	269	25	54	213	181	142	34	70	22	35	72	1,181
VOLUMES	476	2,003	197	463	1,836	1,367	1,201	348	528	117	209	519	9,264
APPROACH %	18%	75%	7%	13%	50%	37%	58%	17%	25%	14%	25%	61%	
APP/DEPART	2,676	/	3,749	3,666	/	2,495	2,077	/	982	845	/	2,038	0
BEGIN PEAK HR		12:00 PM											
VOLUMES	236	1,059	102	236	930	705	591	188	273	68	112	274	4,774
APPROACH %	17%	76%	7%	13%	50%	38%	56%	18%	26%	15%	25%	60%	
PEAK HR FACTOR		0.893			0.923			0.923			0.880		0.966
APP/DEPART	1,397	/	1,937	1,871	/	1,277	1,052	/	513	454	/	1,047	0

U-TURNS	NB	SB	EB	WB	TTL
	0	0	0	0	
11:00 AM	2	4	0	0	6
11:15 AM	1	1	0	0	2
11:30 AM	2	5	0	0	7
11:45 AM	3	3	0	0	6
12:00 PM	0	5	0	0	5
12:15 PM	1	2	0	0	3
12:30 PM	3	2	0	0	5
12:45 PM	2	4	0	0	6
VOLUMES	14	26	0	0	40
	8	13	0	0	

Day

NORTH SIDE

Canyon Springs WEST SIDE

EAST SIDE **Canyon Springs**

SOUTH SIDE

Day

MIDDAY	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
11:00 AM	2	1	0	0	3	2	1	0	0	3	0	0	0	0	0
11:15 AM	0	1	1	2	4	0	1	1	2	4	0	0	0	0	0
11:30 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
11:45 AM	0	1	1	0	2	0	1	1	0	2	0	0	0	0	0
12:00 PM	4	1	0	2	7	2	1	0	2	5	2	0	0	0	2
12:15 PM	0	4	0	0	4	0	4	0	0	4	0	0	0	0	0
12:30 PM	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1
12:45 PM	5	2	1	0	8	5	2	1	0	8	0	0	0	0	0
TOTAL	11	13	3	4	31	9	12	3	4	28	2	1	0	0	3
MD BEGIN PEAK HR		12:00 PM				7	8	1	2	18					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Wed, Dec 8, 21	NORTH & SOUTH:	Day	LOCATION #:	11
	EAST & WEST:	Campus	CONTROL:	SIGNAL

NOTES:

Queue NB PM

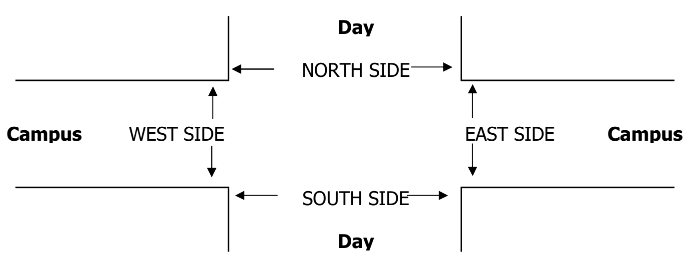
AM PM MD OTHER OTHER

N ▲ ◄ W E ► S ▼

Add U-Turns to Left Turns

	NORTHBOUND Day			SOUTHBOUND Day			EASTBOUND Campus			WESTBOUND Campus			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	3	0	2	3	1	2	1	0	1	2	1	
AM 7:00 AM	19	101	2	12	108	5	4	1	5	1	9	16	283
7:15 AM	11	141	4	11	82	7	8	1	9	3	11	20	308
7:30 AM	10	133	7	11	78	12	8	7	4	8	10	17	305
7:45 AM	20	159	6	15	112	17	7	5	8	8	11	14	382
8:00 AM	28	122	4	12	102	15	14	3	3	4	15	20	342
8:15 AM	24	126	8	15	140	11	7	8	16	7	22	25	409
8:30 AM	23	111	13	29	132	14	7	11	13	4	26	18	401
8:45 AM	44	112	14	33	115	16	13	3	10	11	19	15	405
VOLUMES	179	1,005	58	138	869	97	68	39	68	46	123	145	2,835
APPROACH %	14%	81%	5%	13%	79%	9%	39%	22%	39%	15%	39%	46%	
APP/DEPART	1,242	/	1,240	1,104	/	985	175	/	213	314	/	397	0
BEGIN PEAK HR		8:00 AM											
VOLUMES	119	471	39	89	489	56	41	25	42	26	82	78	1,557
APPROACH %	19%	75%	6%	14%	77%	9%	38%	23%	39%	14%	44%	42%	
PEAK HR FACTOR		0.925			0.906			0.871			0.861		0.952
APP/DEPART	629	/	602	634	/	558	108	/	141	186	/	256	0
PM 4:00 PM	56	163	17	79	171	14	45	34	38	19	65	74	775
4:15 PM	76	206	27	94	191	7	45	32	47	27	71	73	896
4:30 PM	57	185	20	81	162	16	51	37	43	21	61	70	804
4:45 PM	63	171	32	70	193	16	42	35	41	17	75	75	830
5:00 PM	58	211	29	65	220	11	55	37	48	16	61	62	873
5:15 PM	57	193	36	83	178	11	47	38	76	29	51	66	865
5:30 PM	46	172	31	87	174	13	53	45	58	20	51	61	811
5:45 PM	57	197	33	90	180	10	34	38	47	15	54	67	822
VOLUMES	470	1,498	225	649	1,469	98	372	296	398	164	489	548	6,676
APPROACH %	21%	68%	10%	29%	66%	4%	35%	28%	37%	14%	41%	46%	
APP/DEPART	2,193	/	2,472	2,216	/	2,059	1,066	/	1,122	1,201	/	1,023	0
BEGIN PEAK HR		4:15 PM											
VOLUMES	254	773	108	310	766	50	193	141	179	81	268	280	3,403
APPROACH %	22%	68%	10%	28%	68%	4%	38%	27%	35%	13%	43%	45%	
PEAK HR FACTOR		0.918			0.951			0.916			0.920		0.949
APP/DEPART	1,135	/	1,274	1,126	/	1,041	513	/	536	629	/	552	0

U-TURNS					
	NB	SB	EB	WB	TTL
LANES	0	0	0	0	
7:00 AM	1	4	0	0	5
7:15 AM	0	3	0	0	3
7:30 AM	0	0	0	0	0
7:45 AM	0	3	0	0	3
8:00 AM	0	2	0	0	2
8:15 AM	0	5	0	0	5
8:30 AM	0	3	0	0	3
8:45 AM	1	2	0	0	3
VOLUMES	2	22	0	0	24
APP/DEPART	1	12	0	0	
4:00 PM	5	7	0	0	12
4:15 PM	8	10	0	2	20
4:30 PM	6	7	0	2	15
4:45 PM	4	2	0	1	7
5:00 PM	2	9	0	0	11
5:15 PM	3	4	0	0	7
5:30 PM	3	5	0	1	9
5:45 PM	3	10	0	0	13
VOLUMES	34	54	0	6	94
APP/DEPART	20	28	0	5	



	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
7:30 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	0	1	0	2	1	0	1	0	2	0	0	0	0	0
8:15 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	2	0	0	0	2	1	0	0	0	1	1	0	0	0	1
TOTAL	4	2	1	0	7	3	2	1	0	6	1	0	0	0	1
AM BEGIN PEAK HR			8:00 AM			2	1	1	0	4					
PM 4:00 PM	3	1	2	1	7	3	1	2	1	7	0	0	0	0	0
4:15 PM	4	1	1	1	7	4	1	1	1	7	0	0	0	0	0
4:30 PM	0	2	0	1	3	0	2	0	1	3	0	0	0	0	0
4:45 PM	1	1	0	0	2	1	1	0	0	2	0	0	0	0	0
5:00 PM	2	0	2	0	4	2	0	2	0	4	0	0	0	0	0
5:15 PM	2	2	0	2	6	0	2	0	2	4	2	0	0	0	2
5:30 PM	2	1	3	0	6	2	1	3	0	6	0	0	0	0	0
5:45 PM	2	2	2	0	6	2	2	1	0	5	0	0	1	0	1
TOTAL	16	10	10	5	41	14	10	9	5	38	2	0	1	0	3
PM BEGIN PEAK HR			4:15 PM			7	4	3	2	16					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Sat, Dec 11, 21	NORTH & SOUTH:	Day	LOCATION #:	11
	EAST & WEST:	Campus	CONTROL:	SIGNAL

NOTES:

AM
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OTHER

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Add U-Turns to Left Turns

	NORTHBOUND Day			SOUTHBOUND Day			EASTBOUND Campus			WESTBOUND Campus			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	2	3	0	2	3	1	2	1	0	1	2	1	
MIDDAY 11:00 AM	68	162	38	94	171	20	28	46	36	14	75	89	841
11:15 AM	83	212	40	101	193	12	42	51	41	23	41	81	920
11:30 AM	79	191	48	94	190	20	37	33	36	26	76	68	898
11:45 AM	57	189	37	95	183	5	60	50	38	32	74	93	913
12:00 PM	79	191	35	114	172	24	39	47	41	29	74	71	916
12:15 PM	86	224	43	101	238	16	35	59	36	23	74	68	1,003
12:30 PM	71	233	48	108	213	18	56	45	55	29	99	97	1,072
12:45 PM	85	210	54	100	176	15	54	49	41	25	76	83	968
VOLUMES	608	1,612	343	807	1,536	130	351	380	324	201	589	650	7,531
APPROACH %	24%	63%	13%	33%	62%	5%	33%	36%	31%	14%	41%	45%	
APP/DEPART	2,563	/	2,679	2,473	/	2,078	1,055	/	1,473	1,440	/	1,301	0
BEGIN PEAK HR		12:00 PM											
VOLUMES	321	858	180	423	799	73	184	200	173	106	323	319	3,959
APPROACH %	24%	63%	13%	33%	62%	6%	33%	36%	31%	14%	43%	43%	
PEAK HR FACTOR		0.962			0.912			0.893			0.831		0.923
APP/DEPART	1,359	/	1,397	1,295	/	1,085	557	/	774	748	/	703	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
3	6	0	0	9
3	10	0	0	13
3	12	0	1	16
3	2	0	1	6
6	10	0	2	18
4	10	0	2	16
2	5	0	3	10
2	11	0	0	13
26	66	0	9	101
12	30	0	2	

Day

NORTH SIDE

Campus WEST SIDE

EAST SIDE Campus

SOUTH SIDE

Day

MIDDAY	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
11:00 AM	0	0	0	0	0
11:15 AM	0	0	0	1	1
11:30 AM	1	0	2	0	3
11:45 AM	2	0	0	0	2
12:00 PM	3	2	1	0	6
12:15 PM	1	3	2	0	6
12:30 PM	5	2	3	2	12
12:45 PM	0	0	0	0	0
TOTAL	12	7	8	3	30
MD BEGIN PEAK HR		12:00 PM			

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	1	1
1	0	2	0	3
2	0	0	0	2
3	2	1	0	6
1	3	2	0	6
5	1	2	2	10
0	0	0	0	0
12	6	7	3	28
9	6	5	2	22

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	1	0	2
0	0	0	0	0
0	1	1	0	2

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Dec 8, 21	LOCATION:	Moreno Valley	PROJECT #: SC3215
	NORTH & SOUTH:	Day	LOCATION #: 10
	EAST & WEST:	Eucalyptus	CONTROL: SIGNAL

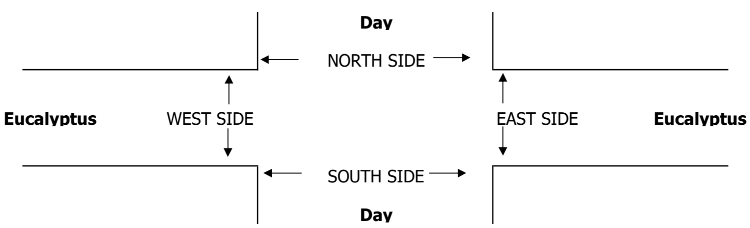
NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

Add U-Turns to Left Turns

		NORTHBOUND Day			SOUTHBOUND Day			EASTBOUND Eucalyptus			WESTBOUND Eucalyptus				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	1	2	0	1	2	1	1	2	0	1	3	0		0	0	0	0	
AM	7:00 AM	30	58	5	12	22	38	34	25	5	8	78	18	333	0	4	0	2	6
AM	7:15 AM	34	84	3	7	31	33	30	23	10	17	131	10	413	0	0	0	2	2
AM	7:30 AM	29	97	2	9	20	30	36	19	13	12	124	18	409	0	2	0	3	5
AM	7:45 AM	38	108	8	13	34	36	26	48	16	8	154	26	515	0	3	0	3	6
AM	8:00 AM	64	99	5	12	27	28	30	48	12	15	95	26	461	0	3	0	2	5
AM	8:15 AM	78	110	14	25	39	39	39	45	11	21	107	19	547	0	7	0	6	13
AM	8:30 AM	33	76	12	18	43	26	42	52	20	20	74	33	449	0	2	0	2	4
AM	8:45 AM	14	106	14	27	30	26	47	35	13	8	89	27	436	0	3	0	0	3
AM	VOLUMES	320	738	63	123	246	256	284	295	100	109	852	177	3,563	0	24	0	20	44
AM	APPROACH %	29%	66%	6%	20%	39%	41%	42%	43%	15%	10%	75%	16%						
AM	APP/DEPART	1,121	/	1,223	625	/	435	679	/	477	1,138	/	1,428	0	0	15	0	13	
AM	BEGIN PEAK HR		7:45 AM																
AM	VOLUMES	213	393	39	68	143	129	137	193	59	64	430	104	1,972					
AM	APPROACH %	33%	61%	6%	20%	42%	38%	35%	50%	15%	11%	72%	17%						
AM	PEAK HR FACTOR		0.798			0.825			0.853			0.795		0.901					
AM	APP/DEPART	645	/	649	340	/	253	389	/	298	598	/	772	0					
PM	4:00 PM	18	120	14	31	98	40	57	93	25	18	82	33	629	0	3	0	4	7
PM	4:15 PM	12	131	10	44	121	42	50	101	41	22	74	37	685	0	0	0	5	5
PM	4:30 PM	9	122	13	44	94	41	70	114	20	25	74	43	669	0	2	0	6	8
PM	4:45 PM	19	137	16	42	105	46	58	129	23	21	87	35	718	0	3	0	6	9
PM	5:00 PM	7	127	10	30	123	36	54	103	20	24	75	34	643	0	3	0	4	7
PM	5:15 PM	8	118	15	35	110	44	67	125	31	21	83	44	701	0	2	0	4	6
PM	5:30 PM	8	125	13	40	115	48	66	131	29	30	87	37	729	0	0	0	5	5
PM	5:45 PM	16	105	11	41	108	34	64	119	29	20	68	34	649	0	5	0	2	7
PM	VOLUMES	97	985	102	307	874	331	486	915	218	181	630	297	5,423	0	18	0	36	54
PM	APPROACH %	8%	83%	9%	20%	58%	22%	30%	57%	13%	16%	57%	27%						
PM	APP/DEPART	1,184	/	1,786	1,512	/	1,237	1,619	/	1,342	1,108	/	1,058	0	0	8	0	19	
PM	BEGIN PEAK HR		4:45 PM																
PM	VOLUMES	42	507	54	147	453	174	245	488	103	96	332	150	2,791					
PM	APPROACH %	7%	84%	9%	19%	59%	22%	29%	58%	12%	17%	57%	26%						
PM	PEAK HR FACTOR		0.876			0.953			0.925			0.938		0.957					
PM	APP/DEPART	603	/	910	774	/	633	836	/	700	578	/	548	0					



		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
AM	7:15 AM	0	1	2	0	3	0	1	2	0	3	0	0	0	0	0
AM	7:30 AM	1	0	3	0	4	0	0	3	0	3	1	0	0	0	1
AM	7:45 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
AM	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:15 AM	0	4	0	0	4	0	4	0	0	4	0	0	0	0	0
AM	8:30 AM	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	TOTAL	2	8	5	0	15	1	7	5	0	13	1	1	0	0	2
AM BEGIN PEAK HR				7:45 AM			0	6	0	0	6					
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:15 PM	1	2	0	1	4	1	2	0	1	4	0	0	0	0	0
PM	4:30 PM	0	3	0	0	3	0	3	0	0	3	0	0	0	0	0
PM	4:45 PM	2	0	4	2	8	2	0	2	2	6	0	0	2	0	2
PM	5:00 PM	0	1	0	1	2	0	0	0	0	0	0	1	0	1	2
PM	5:15 PM	5	0	0	4	9	5	0	0	4	9	0	0	0	0	0
PM	5:30 PM	4	0	0	4	8	4	0	0	4	8	0	0	0	0	0
PM	5:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
PM	TOTAL	12	6	5	12	35	12	5	2	11	30	0	1	3	1	5
PM BEGIN PEAK HR				4:45 PM			11	0	2	10	23					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Sat, Dec 11, 21	NORTH & SOUTH:	Day	LOCATION #:	10
	EAST & WEST:	Eucalyptus	CONTROL:	SIGNAL

NOTES:

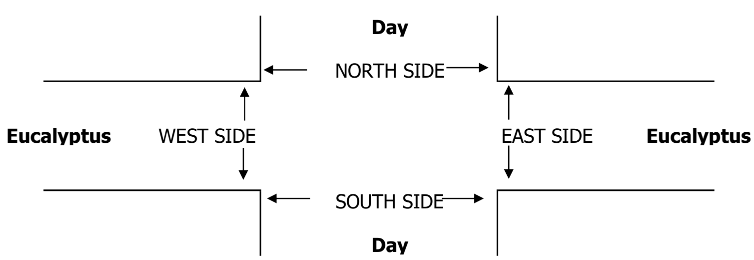
AM PM MD OTHER OTHER

N W E S

☑ Add U-Turns to Left Turns

	NORTHBOUND Day			SOUTHBOUND Day			EASTBOUND Eucalyptus			WESTBOUND Eucalyptus			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	1	2	0	1	2	1	1	2	0	1	3	0	
MIDDAY 11:00 AM	18	113	12	22	69	29	68	89	21	19	84	36	580
11:15 AM	12	145	5	34	93	52	79	66	13	22	67	38	626
11:30 AM	12	131	14	26	61	40	77	88	14	19	80	30	592
11:45 AM	19	137	18	23	98	53	73	83	14	16	104	31	669
12:00 PM	15	128	14	28	88	44	81	87	14	20	101	40	660
12:15 PM	15	128	20	33	87	46	58	105	12	16	108	52	680
12:30 PM	13	111	18	27	93	62	85	102	15	20	80	51	677
12:45 PM	16	136	7	33	67	42	95	109	19	30	116	55	725
VOLUMES	120	1,029	108	226	656	368	616	729	122	162	740	333	5,209
APPROACH %	10%	82%	9%	18%	52%	29%	42%	50%	8%	13%	60%	27%	
APP/DEPART	1,257	/	1,998	1,250	/	904	1,467	/	1,079	1,235	/	1,228	0
BEGIN PEAK HR		12:00 PM											
VOLUMES	59	503	59	121	335	194	319	403	60	86	405	198	2,742
APPROACH %	10%	81%	10%	19%	52%	30%	41%	52%	8%	12%	59%	29%	
PEAK HR FACTOR		0.952			0.893			0.877			0.857		0.946
APP/DEPART	621	/	1,029	650	/	461	782	/	594	689	/	658	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
0	2	0	6	8
0	4	0	4	8
0	1	0	2	3
0	4	0	4	8
0	4	0	2	6
0	4	0	5	9
0	0	0	8	8
0	1	0	5	6
0	20	0	36	56
0	9	0	20	



MIDDAY	PEDESTRIAN + BIKE CROSSINGS N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	PEDESTRIAN CROSSINGS N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	BICYCLE CROSSINGS NS	SS	ES	WS	TOTAL
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
12:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
TOTAL	0	0	1	1	2	0	0	0	0	0	0	0	1	1	2
AM BEGIN PEAK HR			12:00 PM			0	0	0	0	0					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Wed, Dec 8, 21	NORTH & SOUTH:	Town Circle	LOCATION #:	1
	EAST & WEST:	Campus	CONTROL:	STOP ALL

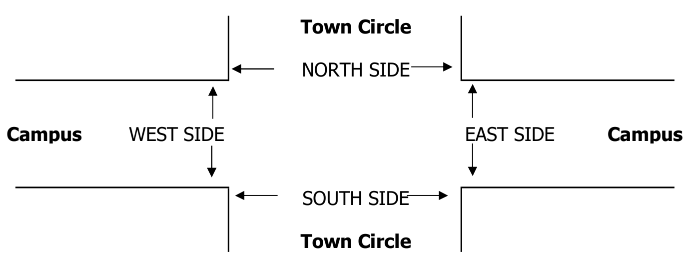
NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

	NORTHBOUND Town Circle			SOUTHBOUND Town Circle			EASTBOUND Campus			WESTBOUND Campus				U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	1.5	1.5	X	X	2	0	2	X	2	X	X	X		0	0	0	0	
AM 7:00 AM	28	5	0	0	2	1	2	0	2	0	0	0	40	0	0	0	0	0
7:15 AM	24	1	0	0	2	2	2	0	5	0	0	0	36	0	0	0	0	0
7:30 AM	21	4	0	0	3	1	3	0	11	0	0	0	43	0	0	0	0	0
7:45 AM	26	4	0	0	2	5	2	0	12	0	0	0	51	0	0	0	0	0
8:00 AM	32	3	0	0	1	13	4	0	14	0	0	0	67	0	0	0	0	0
8:15 AM	43	7	0	0	2	10	3	0	16	0	0	0	81	0	0	0	0	0
8:30 AM	26	2	0	1	4	8	9	0	14	0	0	0	64	0	1	0	0	1
8:45 AM	36	2	0	0	2	10	3	0	19	0	0	0	72	0	0	0	0	0
VOLUMES	236	28	0	1	18	50	28	0	93	0	0	0	454	0	1	0	0	1
APPROACH %	89%	11%	0%	1%	26%	72%	23%	0%	77%	0%	0%	0%						
APP/DEPART	264	/	57	69	/	111	121	/	0	0	/	286	0	0	1	0	0	
BEGIN PEAK HR		8:00 AM																
VOLUMES	137	14	0	1	9	41	19	0	63	0	0	0	284					
APPROACH %	91%	9%	0%	2%	18%	80%	23%	0%	77%	0%	0%	0%						
PEAK HR FACTOR		0.755			0.911			0.891			0.000		0.877					
APP/DEPART	151	/	34	51	/	72	82	/	0	0	/	178	0					
PM 4:00 PM	83	17	0	0	5	56	25	0	57	0	0	0	243	0	0	0	0	0
4:15 PM	89	13	0	0	10	51	36	0	71	0	0	0	270	0	0	0	0	0
4:30 PM	90	15	0	0	13	38	34	0	68	0	0	0	258	0	0	0	0	0
4:45 PM	91	18	0	0	13	45	38	0	75	0	0	0	280	0	0	1	0	1
5:00 PM	102	19	0	0	16	44	28	0	74	0	0	0	283	0	0	0	0	0
5:15 PM	71	15	0	0	12	41	41	0	79	0	0	0	259	0	0	0	0	0
5:30 PM	78	19	0	0	10	46	43	0	88	0	0	0	284	0	0	0	0	0
5:45 PM	66	24	0	1	9	47	40	0	68	0	0	0	255	0	1	0	0	1
VOLUMES	670	140	0	1	88	368	285	0	580	0	0	0	2,132	0	1	1	0	2
APPROACH %	83%	17%	0%	0%	19%	81%	33%	0%	67%	0%	0%	0%						
APP/DEPART	810	/	425	457	/	668	865	/	0	0	/	1,039	0	0	0	1	0	
BEGIN PEAK HR		4:45 PM																
VOLUMES	342	71	0	0	51	176	150	0	316	0	0	0	1,106					
APPROACH %	83%	17%	0%	0%	22%	78%	32%	0%	68%	0%	0%	0%						
PEAK HR FACTOR		0.853			0.946			0.889			0.000		0.974					
APP/DEPART	413	/	220	227	/	367	466	/	0	0	/	519	0					



	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
8:30 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	3	0	0	0	3	3	0	0	0	3	0	0	0	0	0
AM BEGIN PEAK HR			8:00 AM			2	0	0	0	2					
PM 4:00 PM	2	0	0	0	2	2	0	0	0	2	0	0	0	0	0
4:15 PM	3	0	0	0	3	3	0	0	0	3	0	0	0	0	0
4:30 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
4:45 PM	1	0	0	2	3	1	0	0	2	3	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	7	0	0	2	9	7	0	0	2	9	0	0	0	0	0
PM BEGIN PEAK HR			4:45 PM			1	0	0	2	3					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Sat, Dec 11, 21	NORTH & SOUTH:	Town Circle	LOCATION #:	1
	EAST & WEST:	Campus	CONTROL:	STOP ALL

NOTES:

AM
PM
MD
OTHER
OTHER

▲ N
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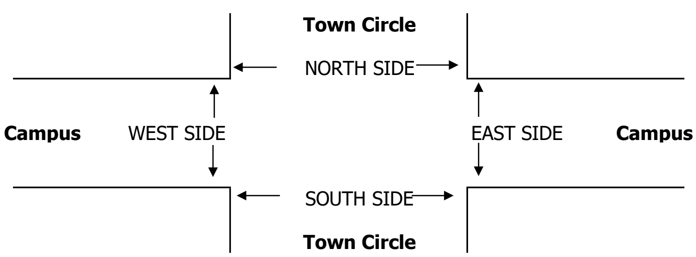
☑ Add U-Turns to Left Turns

	NORTHBOUND Town Circle			SOUTHBOUND Town Circle			EASTBOUND Campus			WESTBOUND Campus			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	1.5	1.5	X	X	2	0	2	X	2	X	X	X	
MIDDAY 11:00 AM	88	19	0	0	18	60	52	0	73	0	0	0	310
11:15 AM	97	10	0	0	16	40	52	0	60	0	0	0	275
11:30 AM	100	24	0	0	15	41	46	0	74	0	0	0	300
11:45 AM	101	25	0	0	6	56	49	0	71	0	0	0	308
12:00 PM	106	32	0	0	14	50	49	0	95	0	0	0	346
12:15 PM	103	31	0	0	20	51	66	0	103	0	0	0	374
12:30 PM	135	23	0	0	21	44	59	0	97	0	0	0	379
12:45 PM	114	38	0	0	20	57	75	0	81	0	0	0	385
VOLUMES	844	202	0	0	130	399	448	0	654	0	0	0	2,677
APPROACH %	81%	19%	0%	0%	25%	75%	41%	0%	59%	0%	0%	0%	
APP/DEPART	1,046	/	641	529	/	784	1,102	/	0	0	/	1,252	0
BEGIN PEAK HR		12:00 PM											
VOLUMES	458	124	0	0	75	202	249	0	376	0	0	0	1,484
APPROACH %	79%	21%	0%	0%	27%	73%	40%	0%	60%	0%	0%	0%	
PEAK HR FACTOR		0.921			0.899			0.925			0.000		0.964
APP/DEPART	582	/	369	277	/	451	625	/	0	0	/	664	0

U-TURNS

	NB	SB	EB	WB	TTL
	0	0	0	0	
11:00 AM	0	0	1	0	1
11:15 AM	0	0	2	0	2
11:30 AM	0	0	2	0	2
11:45 AM	0	0	0	0	0
12:00 PM	0	0	0	0	0
12:15 PM	0	0	2	0	2
12:30 PM	0	0	2	0	2
12:45 PM	0	0	0	0	0
VOLUMES	0	0	9	0	9
	0	0	4	0	



PEDESTRIAN + BIKE CROSSINGS

MIDDAY	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
11:00 AM	0	0	0	0	0
11:15 AM	0	0	0	1	1
11:30 AM	0	0	0	0	0
11:45 AM	1	0	0	0	1
12:00 PM	0	0	0	0	0
12:15 PM	0	0	0	0	0
12:30 PM	1	0	0	0	1
12:45 PM	7	0	0	0	7
TOTAL	9	0	0	1	10
MD BEGIN PEAK HR			12:00 PM		

PEDESTRIAN CROSSINGS

MIDDAY	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
11:00 AM	0	0	0	0	0
11:15 AM	0	0	0	0	0
11:30 AM	0	0	0	0	0
11:45 AM	1	0	0	0	1
12:00 PM	0	0	0	0	0
12:15 PM	0	0	0	0	0
12:30 PM	1	0	0	0	1
12:45 PM	7	0	0	0	7
TOTAL	9	0	0	0	9
MD BEGIN PEAK HR	8	0	0	0	8

BICYCLE CROSSINGS

MIDDAY	NS	SS	ES	WS	TOTAL
11:00 AM	0	0	0	0	0
11:15 AM	0	0	0	1	1
11:30 AM	0	0	0	0	0
11:45 AM	0	0	0	0	0
12:00 PM	0	0	0	0	0
12:15 PM	0	0	0	0	0
12:30 PM	0	0	0	0	0
12:45 PM	0	0	0	0	0
TOTAL	0	0	0	1	1

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Wed, Dec 8, 21	NORTH & SOUTH:	Memorial	LOCATION #:	2
	EAST & WEST:	Town Circle	CONTROL:	STOP ALL

NOTES:

AM
PM
MD
OTHER
OTHER

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☑ Add U-Turns to Left Turns

	NORTHBOUND Memorial			SOUTHBOUND Memorial			EASTBOUND Town Circle			WESTBOUND Town Circle			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	X	1	X	X	X	X	2	0	0.5	1.5	X	
AM 7:00 AM	29	0	6	0	0	0	0	5	8	3	6	0	57
7:15 AM	18	0	6	0	0	0	0	2	8	7	9	0	50
7:30 AM	21	0	6	0	0	0	0	5	12	9	5	0	58
7:45 AM	19	0	17	0	0	0	0	10	6	17	17	0	86
8:00 AM	25	0	16	0	0	0	0	4	10	12	14	0	81
8:15 AM	30	0	11	0	0	0	0	7	13	19	24	0	104
8:30 AM	20	0	13	0	0	0	0	12	17	10	13	0	85
8:45 AM	26	0	17	0	0	0	0	14	5	14	15	0	91
VOLUMES	188	0	92	0	0	0	0	59	79	91	103	0	612
APPROACH %	67%	0%	33%	0%	0%	0%	0%	43%	57%	47%	53%	0%	
APP/DEPART	280	/	0	0	/	171	138	/	151	194	/	290	0
BEGIN PEAK HR		8:00 AM											
VOLUMES	101	0	57	0	0	0	0	37	45	55	66	0	361
APPROACH %	64%	0%	36%	0%	0%	0%	0%	45%	55%	45%	55%	0%	
PEAK HR FACTOR		0.919			0.000			0.707			0.703		0.868
APP/DEPART	158	/	0	0	/	100	82	/	94	121	/	167	0
PM 4:00 PM	72	0	43	0	0	0	0	45	41	25	50	0	276
4:15 PM	58	0	44	0	0	0	0	61	42	27	61	0	293
4:30 PM	59	0	50	0	0	0	0	67	51	30	51	0	308
4:45 PM	65	0	54	0	0	0	0	50	55	35	67	0	326
5:00 PM	74	0	39	0	0	0	0	61	61	40	62	0	337
5:15 PM	49	0	36	0	0	0	0	58	60	38	58	0	299
5:30 PM	52	0	55	0	0	0	0	63	55	23	56	0	304
5:45 PM	57	0	54	0	0	0	0	59	58	23	47	0	298
VOLUMES	486	0	375	0	0	0	0	464	423	241	452	0	2,441
APPROACH %	56%	0%	44%	0%	0%	0%	0%	52%	48%	35%	65%	0%	
APP/DEPART	861	/	0	0	/	664	887	/	839	693	/	938	0
BEGIN PEAK HR		4:30 PM											
VOLUMES	247	0	179	0	0	0	0	236	227	143	238	0	1,270
APPROACH %	58%	0%	42%	0%	0%	0%	0%	51%	49%	38%	62%	0%	
PEAK HR FACTOR		0.895			0.000			0.949			0.934		0.942
APP/DEPART	426	/	0	0	/	370	463	/	415	381	/	485	0

U-TURNS

	NB	SB	EB	WB	TTL
LANES	0	0	0	0	
7:00 AM	1	0	0	0	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	1	0	0	0	1
APP/DEPART	0	0	0	0	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	0	0	0
APP/DEPART	0	0	0	0	

Memorial

NORTH SIDE

Town Circle WEST SIDE

EAST SIDE **Town Circle**

SOUTH SIDE

Memorial

	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM 7:00 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
TOTAL	0	2	1	0	3	0	2	1	0	3	0	0	0	0	0
AM BEGIN PEAK HR			8:00 AM			0	2	0	0	2					
PM 4:00 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
4:15 PM	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
4:30 PM	0	0	0	3	3	0	0	0	3	3	0	0	0	0	0
4:45 PM	0	1	0	1	2	0	1	0	1	2	0	0	0	0	0
5:00 PM	0	2	1	0	3	0	2	1	0	3	0	0	0	0	0
5:15 PM	1	1	0	0	2	0	0	0	0	0	1	1	0	0	2
5:30 PM	0	0	1	1	2	0	0	1	1	2	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	5	2	7	15	0	4	2	7	13	1	1	0	0	2
PM BEGIN PEAK HR			4:30 PM			0	3	1	4	8					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Sat, Dec 11, 21	NORTH & SOUTH:	Memorial	LOCATION #:	2
	EAST & WEST:	Town Circle	CONTROL:	STOP ALL

NOTES:

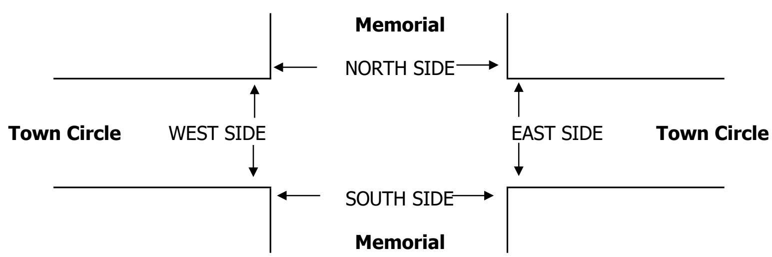
AM
PM
MD
OTHER
OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

MIDDAY	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Memorial			Memorial			Town Circle			Town Circle			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	X	1	X	X	X	X	2	0	0.5	1.5	X	
11:00 AM	82	0	52	0	0	0	0	62	38	23	54	0	311
11:15 AM	67	0	72	0	0	0	0	53	38	34	61	0	325
11:30 AM	78	0	61	0	0	0	0	59	50	30	68	0	346
11:45 AM	85	0	67	0	0	0	0	57	45	40	90	0	384
12:00 PM	89	0	73	0	0	0	0	76	64	60	93	0	455
12:15 PM	96	0	77	0	0	0	0	89	65	51	92	0	470
12:30 PM	82	0	86	0	0	0	0	87	52	42	98	0	447
12:45 PM	86	0	75	0	0	0	0	75	59	36	97	0	428
VOLUMES	665	0	563	0	0	0	0	558	411	316	653	0	3,166
APPROACH %	54%	0%	46%	0%	0%	0%	0%	58%	42%	33%	67%	0%	
APP/DEPART	1,228	/	0	0	/	728	969	/	1,122	969	/	1,316	0
BEGIN PEAK HR		12:00 PM											
VOLUMES	353	0	311	0	0	0	0	327	240	189	380	0	1,800
APPROACH %	53%	0%	47%	0%	0%	0%	0%	58%	42%	33%	67%	0%	
PEAK HR FACTOR		0.960			0.000			0.920			0.930		0.957
APP/DEPART	664	/	0	0	/	428	567	/	639	569	/	733	0

U-TURNS	NB	SB	EB	WB	TTL
	0	0	0	0	
11:00 AM	2	0	0	0	2
11:15 AM	0	0	0	0	0
11:30 AM	0	0	0	0	0
11:45 AM	0	0	0	0	0
12:00 PM	0	0	0	1	1
12:15 PM	0	0	0	0	0
12:30 PM	0	0	0	0	0
12:45 PM	0	0	0	0	0
VOLUMES	2	0	0	1	3
APP/DEPART	0	0	0	1	



MIDDAY	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
11:00 AM	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
11:15 AM	1	0	1	0	2	0	0	0	0	0	1	0	1	0	2
11:30 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
11:45 AM	0	0	0	3	3	0	0	0	3	3	0	0	0	0	0
12:00 PM	0	1	0	3	4	0	1	0	3	4	0	0	0	0	0
12:15 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	1	2	1	9	13	0	1	0	9	10	1	1	1	0	3
AM BEGIN PEAK HR			12:00 PM			0	1	0	4	5					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Wed, Dec 8, 21	NORTH & SOUTH:	Memorial	LOCATION #:	9
	EAST & WEST:	Towngate	CONTROL:	SIGNAL

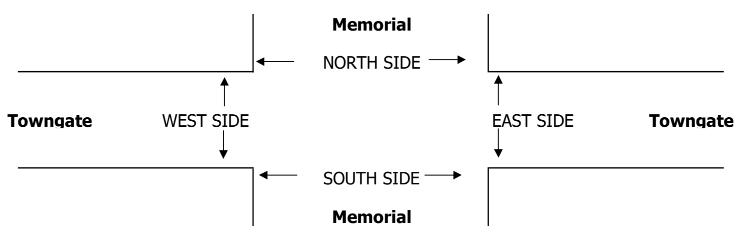
NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

Add U-Turns to Left Turns

	NORTHBOUND Memorial - Eucalyptus			SOUTHBOUND Memorial - Eucalyptus			EASTBOUND Towngate			WESTBOUND Towngate				U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	1	2	0	1	2	0	1	2	0	1	2	0		0	0	0	0	
AM 7:00 AM	35	40	1	4	18	4	3	11	12	0	29	8	165	0	0	1	0	1
7:15 AM	60	30	2	4	20	6	7	20	20	1	41	9	220	0	0	2	0	2
7:30 AM	51	48	7	4	36	13	1	19	9	6	67	8	269	0	0	0	0	0
7:45 AM	63	52	3	7	24	14	8	24	20	8	61	7	291	0	0	0	0	0
8:00 AM	59	58	8	4	28	5	10	30	16	5	52	11	286	0	0	0	0	0
8:15 AM	64	78	3	11	25	9	5	36	28	7	48	9	323	0	0	0	0	0
8:30 AM	51	50	4	6	37	4	9	50	30	6	44	10	301	0	0	0	0	0
8:45 AM	59	66	9	7	28	5	6	42	18	2	42	9	293	0	0	1	0	1
VOLUMES	442	422	37	47	216	60	49	232	153	35	384	71	2,148	0	0	4	0	4
APPROACH %	49%	47%	4%	15%	67%	19%	11%	53%	35%	7%	78%	14%						
APP/DEPART	901	/	538	323	/	404	434	/	316	490	/	890	0	0	0	1	0	
BEGIN PEAK HR		8:00 AM																
VOLUMES	233	252	24	28	118	23	30	158	92	20	186	39	1,203					
APPROACH %	46%	50%	5%	17%	70%	14%	11%	56%	33%	8%	76%	16%						
PEAK HR FACTOR		0.878			0.899			0.787			0.901		0.931					
APP/DEPART	509	/	320	169	/	230	280	/	210	245	/	443	0					
PM 4:00 PM	52	116	4	16	101	29	13	73	40	10	44	23	521	0	0	0	2	2
4:15 PM	44	114	5	17	93	11	18	72	62	2	73	19	530	0	0	1	0	1
4:30 PM	54	121	8	16	111	20	22	82	44	2	62	22	564	0	0	0	0	0
4:45 PM	38	128	3	16	118	19	27	92	58	4	56	23	582	0	0	0	0	0
5:00 PM	50	122	8	15	114	15	20	52	44	7	58	25	530	0	0	0	0	0
5:15 PM	39	104	10	24	131	18	17	67	71	11	57	19	568	0	0	0	0	0
5:30 PM	43	88	10	27	132	18	33	69	53	8	61	28	570	0	0	2	0	2
5:45 PM	46	103	4	20	110	10	23	80	53	9	64	18	540	0	0	0	0	0
VOLUMES	366	896	52	151	910	140	173	587	425	53	475	177	4,405	0	0	3	2	5
APPROACH %	28%	68%	4%	13%	76%	12%	15%	50%	36%	8%	67%	25%						
APP/DEPART	1,314	/	1,243	1,201	/	1,386	1,185	/	792	705	/	984	0	0	0	2	0	
BEGIN PEAK HR		4:45 PM																
VOLUMES	170	442	31	82	495	70	97	280	226	30	232	95	2,250					
APPROACH %	26%	69%	5%	13%	77%	11%	16%	46%	37%	8%	65%	27%						
PEAK HR FACTOR		0.893			0.914			0.852			0.920		0.966					
APP/DEPART	643	/	632	647	/	751	603	/	393	357	/	474	0					



	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM 7:00 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
7:15 AM	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
7:30 AM	0	1	1	0	2	0	0	1	0	1	0	1	0	0	1
7:45 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
8:00 AM	0	1	0	1	2	0	1	0	1	2	0	0	0	0	0
8:15 AM	1	0	0	1	2	1	0	0	0	1	0	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	2	2	2	4	10	2	1	2	3	8	0	1	0	1	2
AM BEGIN PEAK HR			8:00 AM			1	1	0	1	3					
PM 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	1	2	1	0	0	1	2	0	0	0	0	0
4:30 PM	0	1	0	1	2	0	1	0	1	2	0	0	0	0	0
4:45 PM	3	0	0	1	4	3	0	0	1	4	0	0	0	0	0
5:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
5:15 PM	0	2	0	1	3	0	1	0	0	1	0	1	0	1	2
5:30 PM	0	1	0	1	2	0	0	0	0	0	0	1	0	1	2
5:45 PM	2	2	1	1	6	2	2	1	1	6	0	0	0	0	0
TOTAL	6	6	2	6	20	6	4	1	4	15	0	2	1	2	5
PM BEGIN PEAK HR			4:45 PM			3	1	0	1	5					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Sat, Dec 11, 21	NORTH & SOUTH:	Memorial	LOCATION #:	9
	EAST & WEST:	Towngate	CONTROL:	SIGNAL

NOTES:

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OTHER

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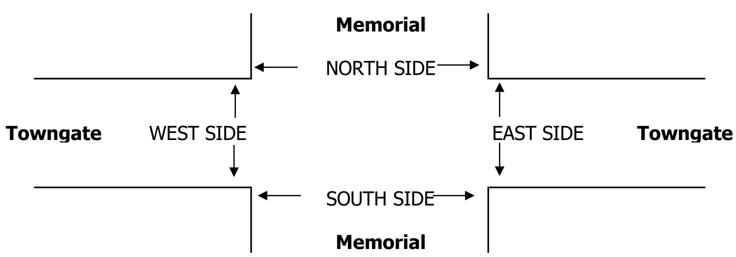
Add U-Turns to Left Turns

MIDDAY	NORTHBOUND Memorial - Eucalyptus			SOUTHBOUND Memorial - Eucalyptus			EASTBOUND Towngate			WESTBOUND Towngate			TOTAL	U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR		NB	SB	EB	WB	TTL
LANES:	1	2	0	1	2	0	1	2	0	1	2	0		0	0	0	0	
11:00 AM	42	110	5	14	73	19	42	52	36	3	51	29	476	0	0	0	0	0
11:15 AM	35	135	11	18	82	15	30	45	24	5	45	16	461	0	0	0	0	0
11:30 AM	42	134	6	21	106	18	30	48	31	5	47	24	512	0	0	0	0	0
11:45 AM	50	122	9	21	82	21	30	58	38	3	65	23	522	0	0	1	0	1
12:00 PM	39	140	13	21	94	25	30	51	31	3	58	36	541	0	0	0	0	0
12:15 PM	46	126	6	24	110	30	33	66	53	5	87	26	612	0	0	0	0	0
12:30 PM	42	125	8	16	106	27	44	65	32	8	57	45	575	0	0	0	0	0
12:45 PM	38	141	11	21	95	25	36	69	29	9	78	37	589	0	0	0	0	0
VOLUMES	334	1,033	69	156	748	180	275	454	274	41	488	236	4,288	0	0	1	0	1
APPROACH %	23%	72%	5%	14%	69%	17%	27%	45%	27%	5%	64%	31%						
APP/DEPART	1,436	/	1,543	1,084	/	1,063	1,003	/	679	765	/	1,003	0	0	0	0	0	
BEGIN PEAK HR		12:00 PM																
VOLUMES	165	532	38	82	405	107	143	251	145	25	280	144	2,317					
APPROACH %	22%	72%	5%	14%	68%	18%	27%	47%	27%	6%	62%	32%						
PEAK HR FACTOR		0.957			0.905			0.887			0.905		0.946					
APP/DEPART	735	/	819	594	/	575	539	/	371	449	/	552	0					



MIDDAY	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
11:00 AM	1	0	0	1	2	1	0	0	1	2	0	0	0	0	0
11:15 AM	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
11:30 AM	1	1	0	0	2	1	0	0	0	1	0	1	0	0	1
11:45 AM	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
12:00 PM	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
12:15 PM	0	1	1	4	6	0	1	1	4	6	0	0	0	0	0
12:30 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
12:45 PM	1	0	0	1	2	0	0	0	0	0	1	0	0	1	2
TOTAL	3	2	1	13	19	2	1	1	12	16	1	1	0	1	3
AM BEGIN PEAK HR			12:00 PM			0	1	1	7	9					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Wed, Dec 8, 21	NORTH & SOUTH:	Town Circle	LOCATION #:	4
	EAST & WEST:	Centerpoint	CONTROL:	SIGNAL

NOTES:

AM
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OTHER

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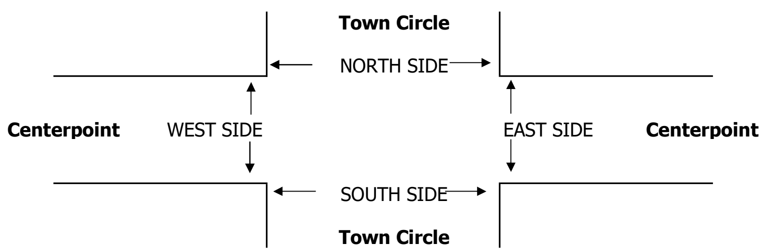
☑ Add U-Turns to Left Turns

	NORTHBOUND Town Circle			SOUTHBOUND Town Circle			EASTBOUND Centerpoint			WESTBOUND Centerpoint				U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	X	2	1	2	1	X	X	X	X	2	X	1		0	0	0	0	
AM 7:00 AM	0	0	11	3	1	0	0	0	0	9	0	8	32	0	0	0	1	1
7:15 AM	0	1	11	4	1	0	0	0	0	19	0	5	41	0	0	0	0	0
7:30 AM	0	2	11	1	1	0	0	0	0	15	0	11	41	0	0	0	0	0
7:45 AM	0	2	12	6	3	0	0	0	0	37	0	26	86	0	0	0	0	0
8:00 AM	0	1	16	6	2	0	0	0	0	25	0	23	73	0	0	0	0	0
8:15 AM	0	3	11	6	2	0	0	0	0	39	0	18	79	0	0	0	0	0
8:30 AM	0	6	12	7	4	0	0	0	0	26	0	16	71	0	0	0	0	0
8:45 AM	0	8	26	9	3	0	0	0	0	27	0	35	108	0	0	0	0	0
VOLUMES	0	23	110	42	17	0	0	0	0	197	0	142	531	0	0	0	1	1
APPROACH %	0%	17%	83%	71%	29%	0%	0%	0%	0%	58%	0%	42%						
APP/DEPART	133	/	165	59	/	213	0	/	153	339	/	0	0	0	0	0	0	
BEGIN PEAK HR		8:00 AM																
VOLUMES	0	18	65	28	11	0	0	0	0	117	0	92	331					
APPROACH %	0%	22%	78%	72%	28%	0%	0%	0%	0%	56%	0%	44%						
PEAK HR FACTOR		0.610			0.813			0.000			0.843		0.766					
APP/DEPART	83	/	110	39	/	128	0	/	93	209	/	0	0					
PM 4:00 PM	0	13	55	44	10	0	0	0	0	67	0	59	248	0	0	0	1	1
4:15 PM	0	9	73	50	8	0	0	0	0	61	0	75	276	0	0	0	2	2
4:30 PM	0	10	61	50	12	0	0	0	0	61	0	55	249	0	0	0	1	1
4:45 PM	0	16	54	68	10	0	0	0	0	63	0	49	260	0	0	0	3	3
5:00 PM	0	12	58	61	13	0	0	0	0	59	0	57	260	0	0	0	0	0
5:15 PM	0	12	62	55	15	0	0	0	0	56	0	66	266	0	0	0	1	1
5:30 PM	0	11	63	67	16	0	0	0	0	51	0	56	264	0	0	0	0	0
5:45 PM	0	16	67	60	18	0	0	0	0	56	0	73	290	0	0	0	2	2
VOLUMES	0	99	493	455	102	0	0	0	0	474	0	490	2,113	0	0	0	10	10
APPROACH %	0%	17%	83%	82%	18%	0%	0%	0%	0%	49%	0%	51%						
APP/DEPART	592	/	589	557	/	566	0	/	958	964	/	0	0	0	0	0	3	
BEGIN PEAK HR		5:00 PM																
VOLUMES	0	51	250	243	62	0	0	0	0	222	0	252	1,080					
APPROACH %	0%	17%	83%	80%	20%	0%	0%	0%	0%	47%	0%	53%						
PEAK HR FACTOR		0.907			0.919			0.000			0.919		0.931					
APP/DEPART	301	/	303	305	/	281	0	/	496	474	/	0	0					



	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
8:45 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
TOTAL	2	0	0	1	3	2	0	0	0	2	0	0	0	1	1
AM BEGIN PEAK HR			8:00 AM			1	0	0	0	1					
PM 4:00 PM	3	0	3	0	6	3	0	2	0	5	0	0	1	0	1
4:15 PM	6	1	4	0	11	6	1	4	0	11	0	0	0	0	0
4:30 PM	1	0	2	0	3	1	0	2	0	3	0	0	0	0	0
4:45 PM	2	0	1	0	3	2	0	1	0	3	0	0	0	0	0
5:00 PM	3	0	1	0	4	3	0	1	0	4	0	0	0	0	0
5:15 PM	1	0	2	0	3	1	0	2	0	3	0	0	0	0	0
5:30 PM	2	0	0	0	2	2	0	0	0	2	0	0	0	0	0
5:45 PM	1	0	0	1	2	0	0	0	0	0	1	0	0	1	2
TOTAL	19	1	13	1	34	18	1	12	0	31	1	0	1	1	3
PM BEGIN PEAK HR			5:00 PM			6	0	3	0	9					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Sat, Dec 11, 21	NORTH & SOUTH:	Town Circle	LOCATION #:	4
	EAST & WEST:	Centerpoint	CONTROL:	SIGNAL

NOTES:

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OTHER

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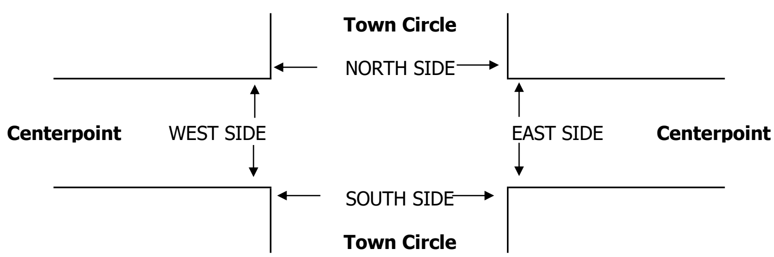
☑ Add U-Turns to Left Turns

	NORTHBOUND Town Circle			SOUTHBOUND Town Circle			EASTBOUND Centerpoint			WESTBOUND Centerpoint			TOTAL	U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR		NB	SB	EB	WB	TTL
LANES:	X	2	1	2	1	X	X	X	X	2	X	1		0	0	0	0	
MIDDAY 11:00 AM	0	7	53	37	14	0	0	0	0	57	0	79	247	0	0	0	0	0
11:15 AM	0	13	59	51	13	0	0	0	0	67	0	77	280	0	0	0	1	1
11:30 AM	0	10	46	58	10	0	0	0	0	77	0	88	289	0	0	0	0	0
11:45 AM	0	13	59	49	13	0	0	0	0	93	0	74	301	0	0	0	1	1
12:00 PM	0	16	62	70	21	0	0	0	0	132	0	72	373	0	0	0	1	1
12:15 PM	0	13	71	67	21	0	0	0	0	89	0	77	338	0	0	0	1	1
12:30 PM	0	17	86	60	13	0	0	0	0	96	0	86	358	0	0	0	1	1
12:45 PM	0	12	69	71	19	0	0	0	0	93	0	84	348	0	0	0	1	1
VOLUMES	0	101	505	463	124	0	0	0	0	704	0	637	2,534	0	0	0	6	6
APPROACH %	0%	17%	83%	79%	21%	0%	0%	0%	0%	52%	0%	48%						
APP/DEPART	606	/	738	587	/	822	0	/	974	1,341	/	0	0	0	0	0	4	
BEGIN PEAK HR		12:00 PM																
VOLUMES	0	58	288	268	74	0	0	0	0	410	0	319	1,417					
APPROACH %	0%	17%	83%	78%	22%	0%	0%	0%	0%	56%	0%	44%						
PEAK HR FACTOR		0.840			0.940			0.000			0.893		0.950					
APP/DEPART	346	/	377	342	/	480	0	/	560	729	/	0	0					



MIDDAY	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
11:00 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	2	0	1	0	3	2	0	1	0	3	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
12:15 PM	4	0	0	0	4	4	0	0	0	4	0	0	0	0	0
12:30 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
12:45 PM	2	0	0	0	2	1	0	0	0	1	1	0	0	0	1
TOTAL	11	0	1	0	12	9	0	1	0	10	2	0	0	0	2
AM BEGIN PEAK HR			12:00 PM			7	0	0	0	7					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Wed, Dec 8, 21	NORTH & SOUTH:	Heritage	LOCATION #:	3
	EAST & WEST:	Town Circle	CONTROL:	STOP ALL

NOTES:

AM PM MD OTHER OTHER

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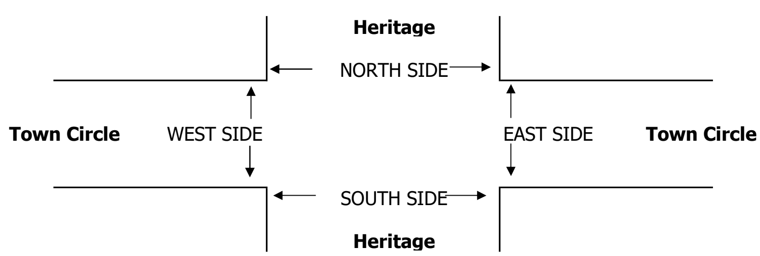
Add U-Turns to Left Turns

	NORTHBOUND Heritage			SOUTHBOUND Heritage			EASTBOUND Town Circle			WESTBOUND Town Circle			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	X	1.5	X	X	X	X	2	0	1.5	1.5	X	
AM 7:00 AM	6	0	1	0	0	0	0	8	2	7	3	0	27
7:15 AM	4	0	4	0	0	0	0	5	2	2	13	0	30
7:30 AM	5	0	3	0	0	0	0	8	2	2	12	0	32
7:45 AM	7	0	6	0	0	0	0	10	5	11	34	0	73
8:00 AM	5	0	1	0	0	0	0	16	6	4	21	0	53
8:15 AM	12	0	8	0	0	0	0	13	3	4	32	0	72
8:30 AM	6	0	4	0	0	0	0	13	3	9	21	0	56
8:45 AM	10	0	15	0	0	0	0	23	5	6	22	0	81
VOLUMES	55	0	42	0	0	0	0	96	28	45	158	0	424
APPROACH %	57%	0%	43%	0%	0%	0%	0%	77%	23%	22%	78%	0%	
APP/DEPART	97	/	0	0	/	73	124	/	138	203	/	213	0
BEGIN PEAK HR		8:00 AM											
VOLUMES	33	0	28	0	0	0	0	65	17	23	96	0	262
APPROACH %	54%	0%	46%	0%	0%	0%	0%	79%	21%	19%	81%	0%	
PEAK HR FACTOR		0.610			0.000			0.732			0.826		0.809
APP/DEPART	61	/	0	0	/	40	82	/	93	119	/	129	0
PM 4:00 PM	30	0	20	0	0	0	0	57	32	17	59	0	215
4:15 PM	30	0	15	0	0	0	0	58	31	14	48	0	196
4:30 PM	23	0	16	0	0	0	0	64	35	20	45	0	203
4:45 PM	47	0	18	0	0	0	1	58	28	12	52	0	216
5:00 PM	32	0	15	0	0	0	0	55	44	15	54	0	215
5:15 PM	21	0	12	0	0	0	0	64	43	15	54	0	209
5:30 PM	26	0	14	0	0	0	0	64	32	17	43	0	196
5:45 PM	28	0	21	0	0	0	0	68	46	23	41	0	227
VOLUMES	237	0	131	0	0	0	1	488	291	133	396	0	1,677
APPROACH %	64%	0%	36%	0%	0%	0%	0%	63%	37%	25%	75%	0%	
APP/DEPART	368	/	0	0	/	424	780	/	619	529	/	634	0
BEGIN PEAK HR		5:00 PM											
VOLUMES	107	0	62	0	0	0	0	251	165	70	192	0	847
APPROACH %	63%	0%	37%	0%	0%	0%	0%	60%	40%	27%	73%	0%	
PEAK HR FACTOR		0.862			0.000			0.912			0.949		0.933
APP/DEPART	169	/	0	0	/	235	416	/	313	262	/	299	0

U-TURNS

	NB	SB	EB	WB	TTL
LANES	0	0	0	0	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
VOLUMES	0	0	0	0	0
APP/DEPART	0	0	0	0	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	1	0	1
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	1	0	1
APP/DEPART	0	0	0	0	



PEDESTRIAN + BIKE CROSSINGS

	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM 7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	1	1
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	2	2
8:45 AM	0	1	0	0	1
TOTAL	0	1	0	3	4
AM BEGIN PEAK HR			8:00 AM		
PM 4:00 PM	0	3	1	2	6
4:15 PM	0	0	0	1	1
4:30 PM	0	0	0	2	2
4:45 PM	0	0	0	7	7
5:00 PM	0	1	0	1	2
5:15 PM	0	1	0	0	1
5:30 PM	0	0	0	1	1
5:45 PM	0	0	0	2	2
TOTAL	0	5	1	16	22
PM BEGIN PEAK HR			5:00 PM		

PEDESTRIAN CROSSINGS

	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM 7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	1	1
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	2	2
8:45 AM	0	1	0	0	1
TOTAL	0	1	0	3	4
AM BEGIN PEAK HR	0	1	0	2	3
PM 4:00 PM	0	2	1	1	4
4:15 PM	0	0	0	1	1
4:30 PM	0	0	0	2	2
4:45 PM	0	0	0	7	7
5:00 PM	0	1	0	1	2
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	2	2
TOTAL	0	3	1	14	18
PM BEGIN PEAK HR	0	1	0	3	4

BICYCLE CROSSINGS

	NS	SS	ES	WS	TOTAL
AM 7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR					
PM 4:00 PM	0	1	0	1	2
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	1	0	0	1
5:30 PM	0	0	0	1	1
5:45 PM	0	0	0	0	0
TOTAL	0	2	0	2	4

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Sat, Dec 11, 21	NORTH & SOUTH:	Heritage	LOCATION #:	3
	EAST & WEST:	Town Circle	CONTROL:	STOP ALL

NOTES:

AM
PM
MD
OTHER
OTHER

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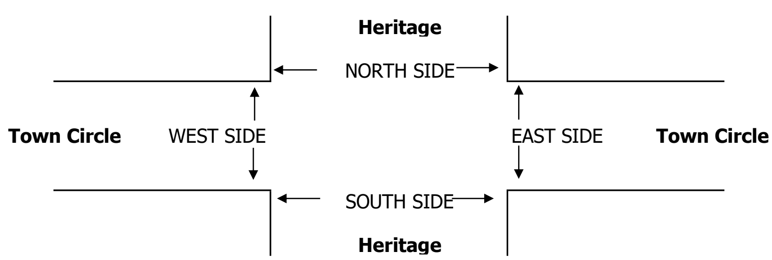
☑ Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Heritage			Heritage			Town Circle			Town Circle			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	X	1.5	X	X	X	X	2	0	1.5	1.5	X	
MIDDAY 11:00 AM	22	0	10	0	0	0	0	46	29	14	53	0	174
11:15 AM	40	0	12	0	0	0	0	51	35	10	69	0	217
11:30 AM	42	0	18	0	0	0	1	47	31	16	77	0	232
11:45 AM	52	0	15	0	0	0	2	60	29	14	87	0	259
12:00 PM	45	0	16	0	0	0	1	70	41	24	120	0	317
12:15 PM	45	0	13	0	0	0	0	73	58	27	102	0	318
12:30 PM	48	0	19	0	0	0	0	80	45	18	77	0	287
12:45 PM	46	0	18	0	0	0	1	68	39	30	89	0	291
VOLUMES	340	0	121	0	0	0	5	495	307	153	674	0	2,095
APPROACH %	74%	0%	26%	0%	0%	0%	1%	61%	38%	19%	81%	0%	
APP/DEPART	461	/	0	0	/	460	807	/	616	827	/	1,019	0
BEGIN PEAK HR		12:00 PM											
VOLUMES	184	0	66	0	0	0	2	291	183	99	388	0	1,213
APPROACH %	74%	0%	26%	0%	0%	0%	0%	61%	38%	20%	80%	0%	
PEAK HR FACTOR		0.933			0.000			0.908			0.845		0.954
APP/DEPART	250	/	0	0	/	282	476	/	357	487	/	574	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	2	0	2
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	5	0	5
0	0	2	0	



	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
MIDDAY 11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
11:30 AM	0	1	0	2	3	0	0	0	2	2	0	1	0	0	1
11:45 AM	0	3	0	2	5	0	2	0	2	4	0	1	0	0	1
12:00 PM	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
12:15 PM	0	0	0	5	5	0	0	0	5	5	0	0	0	0	0
12:30 PM	0	1	0	1	2	0	1	0	1	2	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	6	0	12	18	0	3	0	12	15	0	3	0	0	3
AM BEGIN PEAK HR			12:00 PM			0	1	0	8	9					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Mar 1, 22	LOCATION:	Moreno Valley	PROJECT #:	SC
	NORTH & SOUTH:	Heritage	LOCATION #:	22
	EAST & WEST:	Towngate	CONTROL:	SIGNAL

NOTES:

AM PM MD OTHER OTHER

N ▲ ◄ W E ► S ▼

Add U-Turns to Left Turns

	NORTHBOUND Heritage			SOUTHBOUND Heritage			EASTBOUND Towngate			WESTBOUND Towngate			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	0	1	0	1	1	1	1	2	0	1	2	0	
AM 7:00 AM	7	2	8	3	0	2	1	22	2	2	38	7	94
7:15 AM	3	1	8	5	2	2	3	38	1	2	63	4	132
7:30 AM	2	0	3	6	0	2	2	32	0	1	70	4	122
7:45 AM	3	2	11	4	3	7	6	41	1	3	86	7	174
8:00 AM	5	2	5	12	1	7	5	39	1	6	80	6	169
8:15 AM	1	1	8	9	1	6	4	48	0	4	77	8	167
8:30 AM	2	0	9	6	1	8	9	45	2	4	77	3	166
8:45 AM	2	4	4	4	0	8	6	38	0	5	72	11	154
VOLUMES	25	12	56	49	8	42	36	303	7	27	563	50	1,178
APPROACH %	27%	13%	60%	49%	8%	42%	10%	88%	2%	4%	88%	8%	
APP/DEPART	93	/	97	99	/	38	346	/	412	640	/	631	0
BEGIN PEAK HR		7:45 AM											
VOLUMES	11	5	33	31	6	28	24	173	4	17	320	24	676
APPROACH %	22%	10%	67%	48%	9%	43%	12%	86%	2%	5%	89%	7%	
PEAK HR FACTOR		0.766			0.813			0.897			0.940		0.971
APP/DEPART	49	/	53	65	/	27	201	/	237	361	/	359	0
PM 4:00 PM	0	5	5	20	1	8	14	48	2	4	65	22	194
4:15 PM	2	3	8	35	0	10	10	64	3	9	87	26	257
4:30 PM	1	2	6	10	2	12	9	71	5	7	67	22	214
4:45 PM	4	6	2	23	4	6	17	70	3	3	52	23	213
5:00 PM	2	3	6	28	1	10	15	82	2	5	69	14	237
5:15 PM	3	3	3	31	2	9	4	63	5	8	82	21	234
5:30 PM	4	8	7	38	0	8	16	73	2	6	65	16	243
5:45 PM	0	1	7	33	2	9	9	53	0	11	64	18	207
VOLUMES	16	31	44	218	12	72	94	524	22	53	551	162	1,799
APPROACH %	18%	34%	48%	72%	4%	24%	15%	82%	3%	7%	72%	21%	
APP/DEPART	91	/	283	302	/	86	640	/	787	766	/	643	0
BEGIN PEAK HR		4:45 PM											
VOLUMES	13	20	18	120	7	33	52	288	12	22	268	74	927
APPROACH %	25%	39%	35%	75%	4%	21%	15%	82%	3%	6%	74%	20%	
PEAK HR FACTOR		0.671			0.870			0.889			0.820		0.954
APP/DEPART	51	/	144	160	/	41	352	/	426	364	/	316	0

U-TURNS	NB	SB	EB	WB	TTL
LANES	0	0	0	0	
7:00 AM	0	0	1	0	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	1	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	3	3
VOLUMES	0	0	1	4	5
	0	0	0	0	
4:00 PM	0	0	1	0	1
4:15 PM	0	0	1	0	1
4:30 PM	0	0	0	1	1
4:45 PM	0	0	1	0	1
5:00 PM	0	0	1	0	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	0	4	1	5
	0	0	2	0	

RTOR	NRR	SRR	ERR	WRR
LANES	0	0	0	0
7:00 AM	8	2	0	0
7:15 AM	5	2	0	0
7:30 AM	3	1	0	1
7:45 AM	10	3	0	0
8:00 AM	5	4	0	1
8:15 AM	5	3	0	1
8:30 AM	8	5	0	1
8:45 AM	3	2	0	4
VOLUMES	47	22	0	8
PEAK HR	28	15	0	3
4:00 PM	5	1	0	8
4:15 PM	5	5	2	4
4:30 PM	3	8	1	7
4:45 PM	2	2	2	7
5:00 PM	4	1	1	6
5:15 PM	3	2	1	10
5:30 PM	6	4	0	5
5:45 PM	5	3	0	5
VOLUMES	33	26	7	52
PEAK HR	15	9	4	28

Heritage

NORTH SIDE

Towngate WEST SIDE

EAST SIDE **Towngate**

SOUTH SIDE

Heritage

	ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
AM 7:00 AM	0	1	3	1	5	0	1	3	0	4	0	0	0	1	1
7:15 AM	0	1	0	1	2	0	1	0	0	1	0	0	0	1	1
7:30 AM	1	1	1	2	5	1	1	1	2	5	0	0	0	0	0
7:45 AM	0	1	1	2	4	0	1	1	1	3	0	0	0	1	1
8:00 AM	0	2	1	1	4	0	1	0	1	2	0	1	1	0	2
8:15 AM	3	0	2	1	6	3	0	2	1	6	0	0	0	0	0
8:30 AM	1	1	1	0	3	1	1	1	0	3	0	0	0	0	0
8:45 AM	1	0	2	0	3	1	0	2	0	3	0	0	0	0	0
TOTAL	6	7	11	8	32	6	6	10	5	27	0	1	1	3	5
PM 4:00 PM	2	1	0	5	8	2	1	0	5	8	0	0	0	0	0
4:15 PM	0	3	3	0	6	0	3	3	0	6	0	0	0	0	0
4:30 PM	2	4	0	3	9	1	2	0	3	6	1	2	0	0	3
4:45 PM	0	0	2	1	3	0	0	2	1	3	0	0	0	0	0
5:00 PM	0	2	2	1	5	0	1	1	1	3	0	1	1	0	2
5:15 PM	1	0	2	0	3	1	0	2	0	3	0	0	0	0	0
5:30 PM	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
5:45 PM	3	0	1	2	6	3	0	1	2	6	0	0	0	0	0
TOTAL	8	10	10	14	42	7	7	9	14	37	1	3	1	0	5

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC
Sat, Feb 26, 22	NORTH & SOUTH:	Heritage	LOCATION #:	22
	EAST & WEST:	Towngate	CONTROL:	SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

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Add U-Turns to Left Turns

	NORTHBOUND Heritage			SOUTHBOUND Heritage			EASTBOUND Towngate			WESTBOUND Towngate			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	0	1	0	1	1	1	1	2	0	1	2	0	
MD 11:00 AM	4	7	6	25	0	7	13	51	0	2	82	24	221
11:15 AM	0	2	2	16	0	15	9	55	0	5	83	26	213
11:30 AM	0	3	6	19	3	6	15	58	4	4	81	23	222
11:45 AM	1	3	4	27	0	11	10	57	1	7	84	36	241
12:00 PM	1	4	4	24	2	10	14	48	2	4	74	26	213
12:15 PM	3	4	7	25	0	9	10	78	0	7	92	27	262
12:30 PM	2	0	6	39	1	15	12	71	1	3	83	26	259
12:45 PM	3	8	4	26	3	15	18	64	0	3	97	32	273
VOLUMES	14	31	39	201	9	88	101	482	8	35	676	220	1,904
APPROACH %	17%	37%	46%	67%	3%	30%	17%	82%	1%	4%	73%	24%	
APP/DEPART	84	/	349	298	/	46	591	/	728	931	/	781	0
BEGIN PEAK HR		12:00 PM											
VOLUMES	9	16	21	114	6	49	54	261	3	17	346	111	1,007
APPROACH %	20%	35%	46%	67%	4%	29%	17%	82%	1%	4%	73%	23%	
PEAK HR FACTOR		0.767			0.768			0.903			0.898		0.922
APP/DEPART	46	/	178	169	/	20	318	/	402	474	/	407	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	1	2
0	0	0	2	2
0	0	2	1	3
0	0	0	2	2
0	0	3	6	9

RTOR			
NRR	SRR	ERR	WRR
0	0	0	0
4	3	0	14
2	6	0	2
6	4	0	6
4	6	0	15
3	7	0	12
7	3	0	6
6	5	1	14
2	7	0	9
34	41	1	78
18	22	1	41

Heritage

NORTH SIDE

Towngate WEST SIDE EAST SIDE **Towngate**

SOUTH SIDE

Heritage

	ALL PED AND BIKE				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
MD 11:00 AM	0	1	1	3	5
11:15 AM	1	1	1	2	5
11:30 AM	1	0	1	2	4
11:45 AM	5	0	2	0	7
12:00 PM	2	3	1	2	8
12:15 PM	0	0	0	4	4
12:30 PM	0	1	0	3	4
12:45 PM	0	0	1	0	1
TOTAL	9	6	7	16	38

	PEDESTRIAN CROSSINGS				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
11:00 AM	0	0	0	3	3
11:15 AM	1	1	1	2	5
11:30 AM	1	0	1	1	3
11:45 AM	5	0	0	0	5
12:00 PM	2	3	1	2	8
12:15 PM	0	0	0	4	4
12:30 PM	0	0	0	2	2
12:45 PM	0	0	0	0	0
TOTAL	9	4	3	14	30

	BICYCLE CROSSINGS				
	ES	WS	SS	NS	TOTAL
11:00 AM	0	1	1	0	2
11:15 AM	0	0	0	0	0
11:30 AM	0	0	0	1	1
11:45 AM	0	0	2	0	2
12:00 PM	0	0	0	0	0
12:15 PM	0	0	0	0	0
12:30 PM	0	1	0	1	2
12:45 PM	0	0	1	0	1
TOTAL	0	2	4	2	8

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Dec 8, 21	LOCATION: NORTH & SOUTH: EAST & WEST:	Moreno Valley Pigeon Pass Hemlock	PROJECT #: LOCATION #: CONTROL:	SC3215 19 SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

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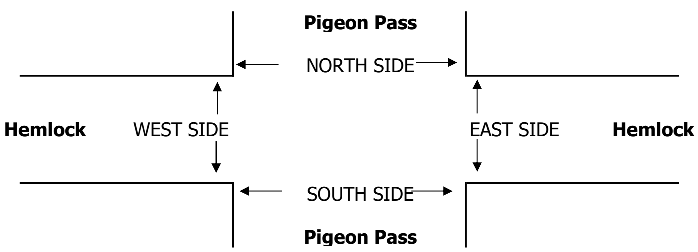
Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND				U-TURNS				
	Pigeon Pass			Pigeon Pass			Hemlock			Hemlock								
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	1	2	1	1	3	0	1	0.5	0.5	2	0.5	0.5		0	0	0	0	
AM 7:00 AM	8	97	10	6	165	3	3	1	14	90	9	51	457	0	0	0	0	0
7:15 AM	6	127	14	8	209	0	0	1	14	86	3	43	511	0	0	0	0	0
7:30 AM	14	138	36	25	194	1	0	2	14	105	2	39	570	0	0	0	0	0
7:45 AM	14	153	31	19	267	0	0	3	12	128	16	58	701	0	0	0	0	0
8:00 AM	20	176	34	27	244	2	5	3	15	94	10	62	692	0	0	0	0	0
8:15 AM	13	202	45	21	214	3	2	6	16	98	9	61	690	0	0	0	0	0
8:30 AM	20	117	37	11	205	3	2	4	15	79	11	26	530	0	0	0	0	0
8:45 AM	31	101	54	20	190	6	7	7	38	92	14	30	590	0	0	0	0	0
VOLUMES	126	1,111	261	137	1,688	18	19	27	138	772	74	370	4,741	0	0	0	0	0
APPROACH %	8%	74%	17%	7%	92%	1%	10%	15%	75%	63%	6%	30%						
APP/DEPART	1,498	/	1,500	1,843	/	2,598	184	/	425	1,216	/	218	0	0	0	0	0	
BEGIN PEAK HR		7:30 AM																
VOLUMES	61	669	146	92	919	6	7	14	57	425	37	220	2,653					
APPROACH %	7%	76%	17%	9%	90%	1%	9%	18%	73%	62%	5%	32%						
PEAK HR FACTOR		0.842			0.889			0.813			0.844		0.946					
APP/DEPART	876	/	896	1,017	/	1,401	78	/	252	682	/	104	0					
PM 4:00 PM	20	233	80	24	196	1	8	13	48	96	15	67	801	0	0	0	0	0
4:15 PM	36	218	86	17	178	1	8	6	32	100	12	47	741	0	0	0	1	1
4:30 PM	23	254	102	14	196	1	6	8	32	125	18	47	826	0	0	0	1	1
4:45 PM	21	265	108	16	174	4	6	10	48	100	15	53	820	0	0	0	1	1
5:00 PM	21	239	81	29	195	4	10	8	29	136	14	54	820	2	0	0	1	3
5:15 PM	21	273	101	25	198	4	5	6	42	99	11	47	832	0	0	0	1	1
5:30 PM	24	259	103	17	155	1	5	6	18	139	15	61	803	0	0	0	1	1
5:45 PM	23	253	74	32	175	2	7	7	41	134	20	69	837	0	0	0	0	0
VOLUMES	189	1,994	735	174	1,467	18	55	64	290	929	120	445	6,480	2	0	0	6	8
APPROACH %	6%	68%	25%	10%	88%	1%	13%	16%	71%	62%	8%	30%						
APP/DEPART	2,918	/	2,494	1,659	/	2,682	409	/	979	1,494	/	325	0	2	0	0	4	
BEGIN PEAK HR		4:30 PM																
VOLUMES	86	1,031	392	84	763	13	27	32	151	460	58	201	3,298					
APPROACH %	6%	68%	26%	10%	89%	2%	13%	15%	72%	64%	8%	28%						
PEAK HR FACTOR		0.955			0.943			0.820			0.881		0.991					
APP/DEPART	1,509	/	1,259	860	/	1,372	210	/	512	719	/	155	0					



	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
7:45 AM	0	0	0	2	2	0	0	0	1	1	0	0	0	1	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	1	3	4	0	0	1	1	2	0	0	0	2	2
AM BEGIN PEAK HR			7:30 AM			0	0	0	1	1					
PM 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	1	2	0	0	1	1	2	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	3	1	4	0	0	3	1	4	0	0	0	0	0
PM BEGIN PEAK HR			4:30 PM			0	0	2	1	3					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Sat, Dec 11, 21	NORTH & SOUTH:	Pigeon Pass	LOCATION #:	19
	EAST & WEST:	Hemlock	CONTROL:	SIGNAL

NOTES:

AM
PM
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OTHER
OTHER

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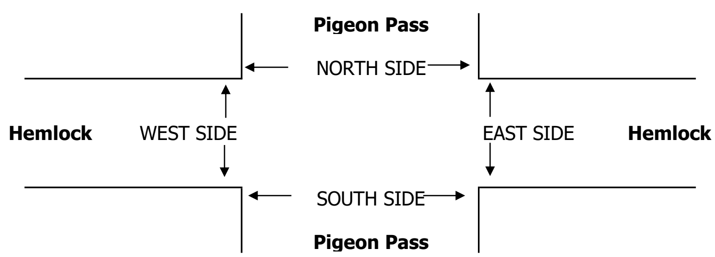
Add U-Turns to Left Turns

MIDDAY	NORTHBOUND Pigeon Pass			SOUTHBOUND Pigeon Pass			EASTBOUND Hemlock			WESTBOUND Hemlock			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	1	2	1	1	3	0	1	0.5	0.5	2	0.5	0.5	
11:00 AM	37	153	57	17	171	2	7	10	36	120	9	42	661
11:15 AM	35	156	56	22	177	8	7	10	38	137	16	45	707
11:30 AM	43	171	67	9	183	5	8	13	48	114	22	48	731
11:45 AM	26	187	67	20	200	2	16	10	50	151	34	51	814
12:00 PM	24	205	60	26	220	0	9	8	48	114	25	54	793
12:15 PM	35	158	71	17	206	2	14	8	43	142	22	50	768
12:30 PM	28	207	85	24	224	4	17	9	48	114	24	35	819
12:45 PM	36	194	82	20	187	2	11	13	34	149	23	47	798
VOLUMES	264	1,431	545	155	1,568	25	89	81	345	1,041	175	372	6,091
APPROACH %	12%	64%	24%	9%	90%	1%	17%	16%	67%	66%	11%	23%	
APP/DEPART	2,240	/	1,892	1,748	/	2,954	515	/	782	1,588	/	463	0
BEGIN PEAK HR		11:45 AM											
VOLUMES	113	757	283	87	850	8	56	35	189	521	105	190	3,194
APPROACH %	10%	66%	25%	9%	90%	1%	20%	13%	68%	64%	13%	23%	
PEAK HR FACTOR		0.901			0.938			0.921			0.864		0.975
APP/DEPART	1,153	/	1,003	945	/	1,559	280	/	406	816	/	226	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
1	0	0	0	1
1	0	0	1	2
0	0	0	1	



MIDDAY	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
11:00 AM	1	0	0	0	1
11:15 AM	1	0	3	0	4
11:30 AM	2	0	3	3	8
11:45 AM	1	0	1	0	2
12:00 PM	1	0	1	0	2
12:15 PM	0	0	1	1	2
12:30 PM	1	0	1	0	2
12:45 PM	0	0	1	0	1
TOTAL	7	0	11	4	22
AM BEGIN PEAK HR			11:45 AM		

MIDDAY	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
11:00 AM	1	0	0	0	1
11:15 AM	1	0	2	0	3
11:30 AM	2	0	2	1	5
11:45 AM	0	0	1	0	1
12:00 PM	1	0	1	0	2
12:15 PM	0	0	1	0	1
12:30 PM	1	0	1	0	2
12:45 PM	0	0	1	0	1
TOTAL	6	0	9	1	16
AM BEGIN PEAK HR	2	0	4	0	6

MIDDAY	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
11:00 AM	0	0	0	0	0
11:15 AM	0	0	1	0	1
11:30 AM	0	0	1	2	3
11:45 AM	1	0	0	0	1
12:00 PM	0	0	0	0	0
12:15 PM	0	0	0	1	1
12:30 PM	0	0	0	0	0
12:45 PM	0	0	0	0	0
TOTAL	1	0	2	3	6

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Wed, Dec 15, 21	NORTH & SOUTH:	Pigeon Pass	LOCATION #:	21
	EAST & WEST:	SR-60 EB Ramp	CONTROL:	SIGNAL

NOTES:

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OTHER

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Add U-Turns to Left Turns

		NORTHBOUND Pigeon Pass			SOUTHBOUND Pigeon Pass			EASTBOUND SR-60 EB Ramp			WESTBOUND SR-60 EB Ramp				U-TURNS				
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
	LANES:	X	2	1	1	2	X	X	X	X	X	X	X		0	0	0	0	
AM	7:00 AM	0	189	43	43	124	0	0	0	0	0	0	0	399	0	0	0	0	0
	7:15 AM	0	260	49	39	129	0	0	0	0	0	0	0	477	0	0	0	0	0
	7:30 AM	0	295	35	55	175	0	0	0	0	0	0	0	560	0	0	0	0	0
	7:45 AM	0	302	42	53	215	0	0	0	0	0	0	0	612	0	0	0	0	0
	8:00 AM	0	270	38	32	219	0	0	0	0	0	0	0	559	0	0	0	0	0
	8:15 AM	0	266	36	27	188	0	0	0	0	0	0	0	517	0	0	0	0	0
	8:30 AM	0	246	38	27	198	0	0	0	0	0	0	0	509	0	0	0	0	0
	8:45 AM	0	216	46	21	188	0	0	0	0	0	0	0	471	0	0	0	0	0
	VOLUMES	0	2,044	327	297	1,436	0	0	0	0	0	0	0	4,104	0	0	0	0	0
	APPROACH %	0%	86%	14%	17%	83%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	2,371	/	2,044	1,733	/	1,436	0	/	624	0	/	0	0	0	0	0	0	
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	0	1,133	151	167	797	0	0	0	0	0	0	0	2,248					
	APPROACH %	0%	88%	12%	17%	83%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.933			0.899			0.000			0.000		0.918					
	APP/DEPART	1,284	/	1,133	964	/	797	0	/	318	0	/	0	0					
PM	4:00 PM	0	405	98	34	212	0	0	0	0	0	0	0	749	0	0	0	0	0
	4:15 PM	0	423	74	32	207	0	0	0	0	0	0	0	736	0	0	0	0	0
	4:30 PM	0	399	103	22	215	0	0	0	0	0	0	0	739	0	0	0	0	0
	4:45 PM	0	415	88	32	260	0	0	0	0	0	0	0	795	0	0	0	0	0
	5:00 PM	0	422	86	25	201	0	0	0	0	0	0	0	734	0	0	0	0	0
	5:15 PM	0	396	127	16	202	0	0	0	0	0	0	0	741	0	0	0	0	0
	5:30 PM	0	349	127	11	198	0	0	0	0	0	0	0	685	0	0	0	0	0
	5:45 PM	0	407	96	34	212	0	0	0	0	0	0	0	749	0	0	0	0	0
	VOLUMES	0	3,216	799	206	1,707	0	0	0	0	0	0	0	5,928	0	0	0	0	0
	APPROACH %	0%	80%	20%	11%	89%	0%	0%	0%	0%	0%	0%	0%						
	APP/DEPART	4,015	/	3,216	1,913	/	1,707	0	/	1,005	0	/	0	0	0	0	0	0	
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	1,642	363	120	894	0	0	0	0	0	0	0	3,019					
	APPROACH %	0%	82%	18%	12%	88%	0%	0%	0%	0%	0%	0%	0%						
	PEAK HR FACTOR		0.997			0.868			0.000			0.000		0.949					
	APP/DEPART	2,005	/	1,642	1,014	/	894	0	/	483	0	/	0	0					

Pigeon Pass

NORTH SIDE

SR-60 EB Ramp WEST SIDE

EAST SIDE SR-60 EB Ramp

SOUTH SIDE

Pigeon Pass

		PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	2	0	2	0	0	2	0	2	0	0	0	0	0
	8:00 AM	0	0	2	0	2	0	0	2	0	2	0	0	0	0	0
	8:15 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	8:30 AM	0	0	2	0	2	0	0	2	0	2	0	0	0	0	0
	8:45 AM	0	0	2	0	2	0	0	2	0	2	0	0	0	0	0
	TOTAL	0	0	9	0	9	0	0	9	0	9	0	0	0	0	0
	AM BEGIN PEAK HR			7:30 AM			0	0	5	0	5					
PM	4:00 PM	0	0	5	0	5	0	0	5	0	5	0	0	0	0	0
	4:15 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	4:30 PM	0	0	2	0	2	0	0	2	0	2	0	0	0	0	0
	4:45 PM	0	0	3	0	3	0	0	3	0	3	0	0	0	0	0
	5:00 PM	0	0	5	0	5	0	0	5	0	5	0	0	0	0	0
	5:15 PM	0	0	3	0	3	0	0	3	0	3	0	0	0	0	0
	5:30 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	20	0	20	0	0	20	0	20	0	0	0	0	0
	PM BEGIN PEAK HR			4:00 PM			0	0	11	0	11					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Sat, Dec 18, 21	NORTH & SOUTH:	Pigeon Pass	LOCATION #:	21
	EAST & WEST:	SR-60 EB Ramp	CONTROL:	SIGNAL

NOTES:

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OTHER

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☑ Add U-Turns to Left Turns

MIDDAY	NORTHBOUND Pigeon Pass			SOUTHBOUND Pigeon Pass			EASTBOUND SR-60 EB Ramp			WESTBOUND SR-60 EB Ramp			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	X	2	1	1	2	X	X	X	X	X	X	X	
11:00 AM	0	333	62	24	192	0	0	0	0	0	0	0	611
11:15 AM	0	393	46	18	230	0	0	0	0	0	0	0	687
11:30 AM	0	399	74	24	273	0	0	0	0	0	0	0	770
11:45 AM	0	396	57	36	258	0	0	0	0	0	0	0	747
12:00 PM	0	429	73	22	237	0	0	0	0	0	0	0	761
12:15 PM	0	406	82	28	301	0	0	0	0	0	0	0	817
12:30 PM	0	375	63	35	272	0	0	0	0	0	0	0	745
12:45 PM	0	401	88	37	253	0	0	0	0	0	0	0	779
VOLUMES	0	3,132	545	224	2,016	0	0	0	0	0	0	0	5,917
APPROACH %	0%	85%	15%	10%	90%	0%	0%	0%	0%	0%	0%	0%	
APP/DEPART	3,677	/	3,132	2,240	/	2,016	0	/	769	0	/	0	0
BEGIN PEAK HR		12:00 PM											
VOLUMES	0	1,611	306	122	1,063	0	0	0	0	0	0	0	3,102
APPROACH %	0%	84%	16%	10%	90%	0%	0%	0%	0%	0%	0%	0%	
PEAK HR FACTOR		0.955			0.900			0.000			0.000		0.949
APP/DEPART	1,917	/	1,611	1,185	/	1,063	0	/	428	0	/	0	0

U-TURNS	NB	SB	EB	WB	TTL
LANES	0	0	0	0	
11:00 AM	0	0	0	0	0
11:15 AM	0	0	0	0	0
11:30 AM	0	0	0	0	0
11:45 AM	0	0	0	0	0
12:00 PM	0	0	0	0	0
12:15 PM	0	0	0	0	0
12:30 PM	0	0	0	0	0
12:45 PM	0	0	0	0	0
VOLUMES	0	0	0	0	0
APP/DEPART	0	0	0	0	

Pigeon Pass

NORTH SIDE

SR-60 EB Ramp WEST SIDE EAST SIDE SR-60 EB Ramp

SOUTH SIDE

Pigeon Pass

MIDDAY	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
11:00 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
11:15 AM	0	0	5	0	5	0	0	5	0	5	0	0	0	0	0
11:30 AM	0	0	6	0	6	0	0	6	0	6	0	0	0	0	0
11:45 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
12:00 PM	0	0	4	1	5	0	0	3	0	3	0	0	1	1	2
12:15 PM	0	0	5	0	5	0	0	5	0	5	0	0	0	0	0
12:30 PM	0	0	2	0	2	0	0	2	0	2	0	0	0	0	0
12:45 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
TOTAL	0	0	25	1	26	0	0	24	0	24	0	0	1	1	2
AM BEGIN PEAK HR			12:00 PM			0	0	11	0	11					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Wed, Dec 15, 21	NORTH & SOUTH:	Frederick	LOCATION #:	5
	EAST & WEST:	Sunnymead	CONTROL:	SIGNAL

NOTES:

AM
PM
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OTHER
OTHER

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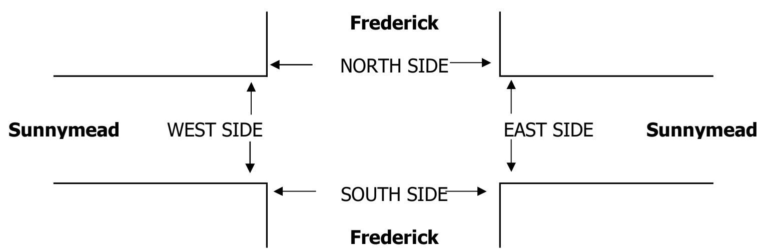
☑ Add U-Turns to Left Turns

	NORTHBOUND Frederick - Pigeon Pass			SOUTHBOUND Frederick - Pigeon Pass			EASTBOUND Sunnymead			WESTBOUND Sunnymead				U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	X	3	1	1	2	X	2	1	1	2	X	1		0	0	0	0	
AM																		
7:00 AM	0	142	13	15	109	0	39	18	52	18	0	51	457	0	0	0	0	0
7:15 AM	0	168	15	13	116	0	66	23	37	20	0	75	533	0	0	0	0	0
7:30 AM	0	174	15	13	161	0	81	25	49	41	0	75	634	0	0	0	0	0
7:45 AM	0	177	31	21	194	0	84	34	67	57	0	85	750	0	0	0	0	0
8:00 AM	0	167	29	28	191	0	69	27	46	55	0	72	684	0	0	0	0	0
8:15 AM	0	155	35	23	165	0	74	35	58	70	0	73	688	0	0	0	0	0
8:30 AM	0	163	53	16	182	0	52	35	75	64	0	69	709	0	0	0	2	2
8:45 AM	0	124	47	22	166	0	77	28	63	60	0	61	648	0	0	0	0	0
VOLUMES	0	1,270	238	151	1,284	0	542	225	447	385	0	561	5,103	0	0	0	2	2
APPROACH %	0%	84%	16%	11%	89%	0%	45%	19%	37%	41%	0%	59%						
APP/DEPART	1,508	/	2,373	1,435	/	2,114	1,214	/	616	946	/	0	0	0	0	0	2	
BEGIN PEAK HR		7:45 AM																
VOLUMES	0	662	148	88	732	0	279	131	246	246	0	299	2,831					
APPROACH %	0%	82%	18%	11%	89%	0%	43%	20%	38%	45%	0%	55%						
PEAK HR FACTOR		0.938			0.936			0.886			0.953		0.944					
APP/DEPART	810	/	1,240	820	/	1,222	656	/	369	545	/	0	0					
PM																		
4:00 PM	0	299	89	23	189	0	129	91	114	80	0	75	1,089	0	0	0	0	0
4:15 PM	0	237	93	29	178	0	158	109	77	89	0	102	1,072	0	0	0	0	0
4:30 PM	0	304	82	24	191	0	122	104	91	54	0	76	1,048	0	0	0	1	1
4:45 PM	0	318	86	31	229	0	111	94	85	66	0	74	1,094	0	0	0	0	0
5:00 PM	0	281	68	34	167	0	149	119	95	79	0	82	1,074	0	0	0	2	2
5:15 PM	0	314	107	15	187	0	130	102	102	83	0	79	1,119	0	0	0	0	0
5:30 PM	0	280	85	25	173	0	114	101	100	53	0	82	1,013	0	0	0	0	0
5:45 PM	0	255	65	27	185	0	174	112	102	49	0	74	1,043	0	0	0	1	1
VOLUMES	0	2,288	675	208	1,499	0	1,087	832	766	553	0	644	8,552	0	0	0	4	4
APPROACH %	0%	77%	23%	12%	88%	0%	40%	31%	29%	46%	0%	54%						
APP/DEPART	2,963	/	4,019	1,707	/	2,814	2,685	/	1,719	1,197	/	0	0	0	0	0	3	
BEGIN PEAK HR		4:30 PM																
VOLUMES	0	1,217	343	104	774	0	512	419	373	282	0	311	4,335					
APPROACH %	0%	78%	22%	12%	88%	0%	39%	32%	29%	48%	0%	52%						
PEAK HR FACTOR		0.926			0.844			0.898			0.915		0.968					
APP/DEPART	1,560	/	2,040	878	/	1,426	1,304	/	869	593	/	0	0					



	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM															
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	1	0	2	0	1	1	0	2	0	0	0	0	0
8:00 AM	0	4	2	0	6	0	4	2	0	6	0	0	0	0	0
8:15 AM	0	3	1	0	4	0	3	1	0	4	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	1	2	0	0	1	1	2	0	0	0	0	0
TOTAL	0	8	5	1	14	0	8	5	1	14	0	0	0	0	0
AM BEGIN PEAK HR			7:45 AM			0	8	4	0	12					
PM															
4:00 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
4:15 PM	0	1	3	0	4	0	1	3	0	4	0	0	0	0	0
4:30 PM	0	0	2	0	2	0	0	2	0	2	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	3	5	1	9	0	2	3	1	6	0	1	2	0	3
5:15 PM	0	1	2	3	6	0	1	2	3	6	0	0	0	0	0
5:30 PM	0	0	2	0	2	0	0	2	0	2	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	5	14	5	24	0	4	12	5	21	0	1	2	0	3
PM BEGIN PEAK HR			4:30 PM			0	3	7	4	14					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Sat, Dec 18, 21	LOCATION:	Moreno Valley	PROJECT #:	SC3215
	NORTH & SOUTH:	Frederick	LOCATION #:	5
	EAST & WEST:	Sunnymead	CONTROL:	SIGNAL

NOTES:

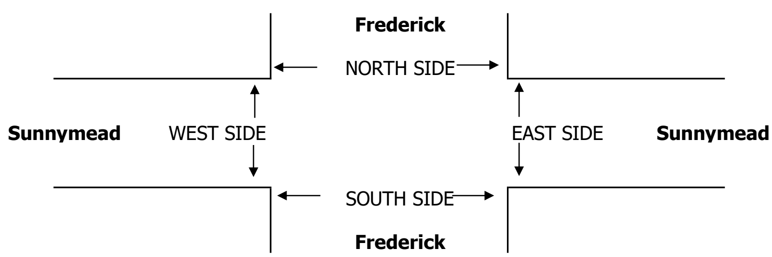
AM
PM
MD
OTHER
OTHER

▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

MIDDAY	NORTHBOUND Frederick - Pigeon Pass			SOUTHBOUND Frederick - Pigeon Pass			EASTBOUND Sunnymead			WESTBOUND Sunnymead			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	X	3	1	1	2	X	2	1	1	2	X	1	
11:00 AM	0	215	70	21	171	0	96	52	110	101	0	84	920
11:15 AM	0	228	77	25	205	0	103	59	109	90	0	108	1,004
11:30 AM	0	289	77	31	242	0	104	51	99	78	0	83	1,054
11:45 AM	0	231	86	33	225	0	126	50	114	84	0	96	1,045
12:00 PM	0	265	92	34	202	0	121	42	116	105	0	116	1,093
12:15 PM	0	284	80	41	260	0	96	47	115	87	0	108	1,118
12:30 PM	0	223	107	31	241	0	107	50	111	98	0	108	1,076
12:45 PM	0	288	104	32	221	0	114	53	103	111	0	87	1,113
VOLUMES	0	2,023	693	248	1,767	0	867	404	877	754	0	790	8,423
APPROACH %	0%	74%	26%	12%	88%	0%	40%	19%	41%	49%	0%	51%	
APP/DEPART	2,716	/	3,680	2,015	/	3,396	2,148	/	1,347	1,544	/	0	0
BEGIN PEAK HR		12:00 PM											
VOLUMES	0	1,060	383	138	924	0	438	192	445	401	0	419	4,400
APPROACH %	0%	73%	27%	13%	87%	0%	41%	18%	41%	49%	0%	51%	
PEAK HR FACTOR		0.920			0.882			0.963			0.928		0.984
APP/DEPART	1,443	/	1,917	1,062	/	1,769	1,075	/	714	820	/	0	0

U-TURNS	NB	SB	EB	WB	TTL
	0	0	0	0	
11:00 AM	0	0	0	0	0
11:15 AM	0	0	0	1	1
11:30 AM	0	0	0	0	0
11:45 AM	0	0	0	0	0
12:00 PM	0	0	0	0	0
12:15 PM	0	0	0	0	0
12:30 PM	0	0	0	0	0
12:45 PM	0	0	0	1	1
VOLUMES	0	0	0	2	2
	0	0	0	0	



MIDDAY	PEDESTRIAN + BIKE CROSSINGS N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	PEDESTRIAN CROSSINGS N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	BICYCLE CROSSINGS NS	SS	ES	WS	TOTAL
11:00 AM	0	1	1	1	3	0	0	1	1	2	0	1	0	0	1
11:15 AM	0	2	4	2	8	0	2	4	2	8	0	0	0	0	0
11:30 AM	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0
11:45 AM	0	0	3	0	3	0	0	3	0	3	0	0	0	0	0
12:00 PM	0	1	2	1	4	0	1	0	0	1	0	0	2	1	3
12:15 PM	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0
12:30 PM	0	0	2	0	2	0	0	2	0	2	0	0	0	0	0
12:45 PM	0	2	1	0	3	0	2	1	0	3	0	0	0	0	0
TOTAL	0	10	13	4	27	0	9	11	3	23	0	1	2	1	4
AM BEGIN PEAK HR		12:00 PM				0	5	3	0	8					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Wed, Dec 8, 21	NORTH & SOUTH:	Frederick	LOCATION #:	6
	EAST & WEST:	Centerpoint	CONTROL:	SIGNAL

NOTES: Queue SB AM, NB PM

AM / PM / MD / OTHER / OTHER

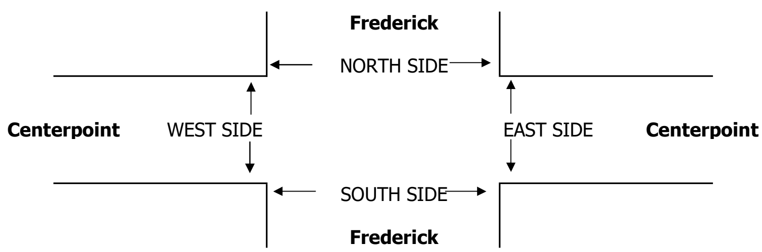
▲ N / ◄ W / E ► / S ▼

Add U-Turns to Left Turns

	NORTHBOUND Frederick			SOUTHBOUND Frederick			EASTBOUND Centerpoint			WESTBOUND Centerpoint			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
LANES:	2	3	X	X	2	1	2	X	1	X	X	X	
AM													
7:00 AM	3	114	0	0	111	17	31	0	8	0	0	0	284
7:15 AM	5	145	0	0	139	14	29	0	13	0	0	0	345
7:30 AM	4	148	0	0	188	33	23	0	11	0	0	0	407
7:45 AM	13	191	0	0	225	86	34	0	18	0	0	0	567
8:00 AM	25	160	0	0	167	56	50	0	16	0	0	0	474
8:15 AM	16	172	0	1	198	74	44	0	18	0	0	0	523
8:30 AM	9	159	0	0	183	47	38	0	13	0	0	0	449
8:45 AM	20	164	0	1	188	74	51	0	12	0	0	0	510
VOLUMES	95	1,253	0	2	1,399	401	300	0	109	0	0	0	3,559
APPROACH %	7%	93%	0%	0%	78%	22%	73%	0%	27%	0%	0%	0%	
APP/DEPART	1,348	/	1,554	1,802	/	1,508	409	/	0	0	/	497	0
BEGIN PEAK HR		7:45 AM											
VOLUMES	63	682	0	1	773	263	166	0	65	0	0	0	2,013
APPROACH %	8%	92%	0%	0%	75%	25%	72%	0%	28%	0%	0%	0%	
PEAK HR FACTOR		0.913			0.834			0.875			0.000		0.888
APP/DEPART	745	/	848	1,037	/	838	231	/	0	0	/	327	0
PM													
4:00 PM	22	260	0	0	200	144	142	0	56	0	0	0	824
4:15 PM	31	209	0	0	189	126	148	0	38	0	0	0	741
4:30 PM	22	276	0	0	215	112	125	0	34	0	0	0	784
4:45 PM	32	268	0	1	207	119	147	0	47	0	0	0	821
5:00 PM	21	263	0	0	223	131	125	0	45	0	0	0	808
5:15 PM	43	230	0	0	204	130	142	0	56	0	0	0	805
5:30 PM	29	237	0	0	199	108	130	0	53	0	0	0	756
5:45 PM	37	233	0	0	187	135	145	0	41	0	0	0	778
VOLUMES	237	1,976	0	1	1,624	1,005	1,104	0	370	0	0	0	6,317
APPROACH %	11%	89%	0%	0%	62%	38%	75%	0%	25%	0%	0%	0%	
APP/DEPART	2,213	/	3,080	2,630	/	1,994	1,474	/	0	0	/	1,243	0
BEGIN PEAK HR		4:30 PM											
VOLUMES	118	1,037	0	1	849	492	539	0	182	0	0	0	3,218
APPROACH %	10%	90%	0%	0%	63%	37%	75%	0%	25%	0%	0%	0%	
PEAK HR FACTOR		0.963			0.948			0.910			0.000		0.980
APP/DEPART	1,155	/	1,576	1,342	/	1,031	721	/	0	0	/	611	0

U-TURNS

	NB	SB	EB	WB	TTL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	1	0	1
8:00 AM	0	0	0	0	0
8:15 AM	0	1	0	0	1
8:30 AM	0	0	0	0	0
8:45 AM	0	1	0	0	1
VOLUMES	0	2	1	0	3
APP/DEPART	0	1	1	0	
PM					
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	1	0	0	1
5:00 PM	0	0	1	0	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
VOLUMES	0	1	1	0	2
APP/DEPART	0	1	1	0	



PEDESTRIAN + BIKE CROSSINGS

	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	1	0	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	1	0	1	2
8:00 AM	0	1	0	0	1
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	1	0	0	1
TOTAL	0	3	1	1	5
AM BEGIN PEAK HR			7:45 AM		
PM					
4:00 PM	0	2	1	0	3
4:15 PM	0	1	1	3	5
4:30 PM	0	0	0	0	0
4:45 PM	0	2	1	0	3
5:00 PM	0	0	1	0	1
5:15 PM	0	2	0	0	2
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	7	4	3	14
PM BEGIN PEAK HR			4:30 PM		

PEDESTRIAN CROSSINGS

	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	1	0	0	1
8:00 AM	0	1	0	0	1
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	1	0	0	1
TOTAL	0	3	0	0	3
AM BEGIN PEAK HR	0	2	0	0	2
PM					
4:00 PM	0	2	0	0	2
4:15 PM	0	0	0	3	3
4:30 PM	0	0	0	0	0
4:45 PM	0	1	0	0	1
5:00 PM	0	0	0	0	0
5:15 PM	0	2	0	0	2
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	5	0	3	8
PM BEGIN PEAK HR	0	3	0	0	3

BICYCLE CROSSINGS

	NS	SS	ES	WS	TOTAL
AM					
7:00 AM	0	0	1	0	1
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	1	1
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	1	1	2
PM					
4:00 PM	0	0	1	0	1
4:15 PM	0	1	1	0	2
4:30 PM	0	0	0	0	0
4:45 PM	0	1	1	0	2
5:00 PM	0	0	1	0	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	2	4	0	6

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Sat, Dec 11, 21	NORTH & SOUTH:	Frederick	LOCATION #:	6
	EAST & WEST:	Centerpoint	CONTROL:	SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

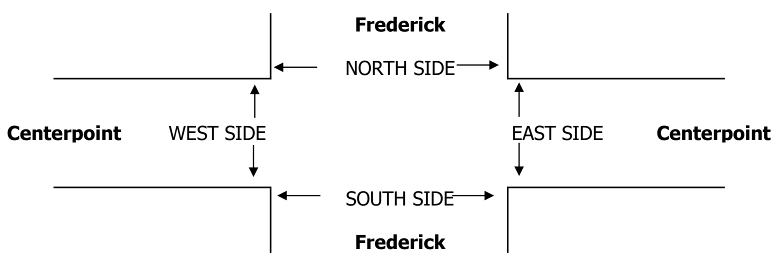
▲ N ◄ W E ► S ▼

☑ Add U-Turns to Left Turns

	NORTHBOUND Frederick			SOUTHBOUND Frederick			EASTBOUND Centerpoint			WESTBOUND Centerpoint			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	2	3	X	X	2	1	2	X	1	X	X	X	
MIDDAY 11:00 AM	37	204	0	0	155	160	126	0	30	0	0	0	712
11:15 AM	30	203	0	0	170	148	124	0	38	0	0	0	713
11:30 AM	29	191	0	2	209	182	113	0	39	0	0	0	765
11:45 AM	34	211	0	1	209	190	145	0	46	0	0	0	836
12:00 PM	28	176	0	0	195	178	154	0	35	0	0	0	766
12:15 PM	28	235	0	0	204	184	148	0	45	0	0	0	844
12:30 PM	28	203	0	1	171	165	163	0	39	0	0	0	770
12:45 PM	46	192	0	1	190	164	169	0	46	0	0	0	808
VOLUMES	260	1,615	0	5	1,503	1,371	1,142	0	318	0	0	0	6,214
APPROACH %	14%	86%	0%	0%	52%	48%	78%	0%	22%	0%	0%	0%	
APP/DEPART	1,875	/	2,759	2,879	/	1,821	1,460	/	0	0	/	1,634	0
BEGIN PEAK HR		11:45 AM											
VOLUMES	118	825	0	2	779	717	610	0	165	0	0	0	3,216
APPROACH %	13%	87%	0%	0%	52%	48%	79%	0%	21%	0%	0%	0%	
PEAK HR FACTOR		0.896			0.936			0.959			0.000		0.953
APP/DEPART	943	/	1,434	1,498	/	944	775	/	0	0	/	838	0

U-TURNS

	NB	SB	EB	WB	TTL
	0	0	0	0	
11:00 AM	0	0	0	0	0
11:15 AM	0	0	0	0	0
11:30 AM	0	2	0	0	2
11:45 AM	0	1	1	0	2
12:00 PM	0	0	2	0	2
12:15 PM	0	0	0	0	0
12:30 PM	0	1	0	0	1
12:45 PM	0	1	0	0	1
VOLUMES	0	5	3	0	8
	0	2	3	0	



MIDDAY	PEDESTRIAN + BIKE CROSSINGS N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
11:00 AM	0	3	1	0	4
11:15 AM	0	0	1	0	1
11:30 AM	0	0	0	1	1
11:45 AM	0	3	0	0	3
12:00 PM	0	0	1	1	2
12:15 PM	0	0	0	2	2
12:30 PM	0	0	0	1	1
12:45 PM	0	3	0	0	3
TOTAL	0	9	3	5	17
AM BEGIN PEAK HR		11:45 AM			

MIDDAY	PEDESTRIAN CROSSINGS N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
11:00 AM	0	2	0	0	2
11:15 AM	0	0	0	0	0
11:30 AM	0	0	0	1	1
11:45 AM	0	3	0	0	3
12:00 PM	0	0	0	1	1
12:15 PM	0	0	0	1	1
12:30 PM	0	0	0	1	1
12:45 PM	0	2	0	0	2
TOTAL	0	7	0	4	11
AM BEGIN PEAK HR	0	3	0	3	6

MIDDAY	BICYCLE CROSSINGS NS	SS	ES	WS	TOTAL
11:00 AM	0	1	1	0	2
11:15 AM	0	0	1	0	1
11:30 AM	0	0	0	0	0
11:45 AM	0	0	0	0	0
12:00 PM	0	0	1	0	1
12:15 PM	0	0	0	1	1
12:30 PM	0	0	0	0	0
12:45 PM	0	1	0	0	1
TOTAL	0	2	3	1	6

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Wed, Dec 8, 21	LOCATION:	Moreno Valley	PROJECT #:	SC3215
	NORTH & SOUTH:	Frederick	LOCATION #:	7
	EAST & WEST:	Towngate	CONTROL:	SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

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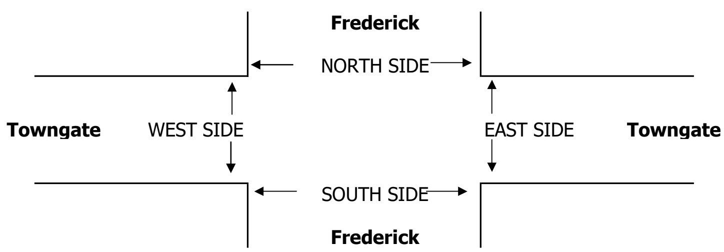
Add U-Turns to Left Turns

	NORTHBOUND Frederick			SOUTHBOUND Frederick			EASTBOUND Towngate			WESTBOUND Towngate			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	X	X	2	1	2	X	1	X	X	X	
AM 7:00 AM	7	97	0	0	76	25	23	0	8	0	0	0	236
7:15 AM	14	101	0	0	100	37	28	0	18	0	0	0	298
7:30 AM	21	120	0	0	130	44	33	0	13	0	0	0	361
7:45 AM	34	158	0	0	165	59	45	0	29	0	0	0	490
8:00 AM	20	159	0	0	124	38	40	0	13	0	0	0	394
8:15 AM	30	129	0	0	151	36	31	0	9	0	0	0	386
8:30 AM	37	127	0	0	152	33	51	0	13	0	0	0	413
8:45 AM	43	127	0	1	142	34	42	0	22	0	0	0	411
VOLUMES	206	1,018	0	1	1,040	306	293	0	125	0	0	0	2,989
APPROACH %	17%	83%	0%	0%	77%	23%	70%	0%	30%	0%	0%	0%	
APP/DEPART	1,224	/	1,298	1,347	/	1,165	418	/	0	0	/	526	0
BEGIN PEAK HR		7:45 AM											
VOLUMES	121	573	0	0	592	166	167	0	64	0	0	0	1,683
APPROACH %	17%	83%	0%	0%	78%	22%	72%	0%	28%	0%	0%	0%	
PEAK HR FACTOR		0.904			0.846			0.780			0.000		0.859
APP/DEPART	694	/	730	758	/	656	231	/	0	0	/	297	0
PM 4:00 PM	61	207	0	0	236	39	57	0	52	0	0	0	652
4:15 PM	69	198	0	0	187	38	58	0	59	0	0	0	609
4:30 PM	52	193	0	0	206	50	67	0	57	0	0	0	625
4:45 PM	78	215	0	0	209	44	75	0	42	0	0	0	663
5:00 PM	40	204	0	0	228	54	61	0	40	0	0	0	627
5:15 PM	52	191	0	0	214	49	64	0	48	0	0	0	618
5:30 PM	39	188	0	0	203	60	60	0	44	0	0	0	594
5:45 PM	58	162	0	0	192	46	80	0	55	0	0	0	593
VOLUMES	449	1,558	0	0	1,675	380	522	0	397	0	0	0	4,981
APPROACH %	22%	78%	0%	0%	82%	18%	57%	0%	43%	0%	0%	0%	
APP/DEPART	2,007	/	2,068	2,055	/	2,076	919	/	0	0	/	837	0
BEGIN PEAK HR		4:00 PM											
VOLUMES	260	813	0	0	838	171	257	0	210	0	0	0	2,549
APPROACH %	24%	76%	0%	0%	83%	17%	55%	0%	45%	0%	0%	0%	
PEAK HR FACTOR		0.916			0.917			0.942			0.000		0.961
APP/DEPART	1,073	/	1,062	1,009	/	1,052	467	/	0	0	/	435	0

U-TURNS

	NB	SB	EB	WB	TTL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	1	0	1
7:30 AM	0	0	1	0	1
7:45 AM	0	0	2	0	2
8:00 AM	0	0	1	0	1
8:15 AM	0	0	4	0	4
8:30 AM	0	0	3	0	3
8:45 AM	0	1	2	0	3
VOLUMES	0	1	14	0	15
APP/DEPART	0	0	10	0	
4:00 PM	1	0	2	0	3
4:15 PM	1	0	4	0	5
4:30 PM	1	0	2	0	3
4:45 PM	1	0	0	0	1
5:00 PM	0	0	1	0	1
5:15 PM	0	0	2	0	2
5:30 PM	0	0	0	0	0
5:45 PM	0	0	1	0	1
VOLUMES	4	0	12	0	16
APP/DEPART	4	0	8	0	



	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM 7:00 AM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
7:15 AM	0	2	0	3	5	0	2	0	3	5	0	0	0	0	0
7:30 AM	0	0	0	2	2	0	0	0	1	1	0	0	0	1	1
7:45 AM	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
8:00 AM	0	2	0	1	3	0	1	0	1	2	0	1	0	0	1
8:15 AM	0	1	0	2	3	0	1	0	2	3	0	0	0	0	0
8:30 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
8:45 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
TOTAL	0	6	0	12	18	0	4	0	11	15	0	2	0	1	3
AM BEGIN PEAK HR			7:45 AM			0	2	0	6	8					
PM 4:00 PM	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
4:15 PM	0	0	0	7	7	0	0	0	7	7	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
5:00 PM	0	1	1	0	2	0	0	0	0	0	0	1	1	0	2
5:15 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
5:30 PM	0	1	0	1	2	0	0	0	1	1	0	1	0	0	1
5:45 PM	0	1	0	2	3	0	1	0	1	2	0	0	0	1	1
TOTAL	0	3	1	14	18	0	1	0	13	14	0	2	1	1	4
PM BEGIN PEAK HR			4:00 PM			0	0	0	10	10					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Sat, Dec 11, 21	LOCATION:	Moreno Valley	PROJECT #:	SC3215
	NORTH & SOUTH:	Frederick	LOCATION #:	7
	EAST & WEST:	Towngate	CONTROL:	SIGNAL

NOTES:

AM
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OTHER
OTHER

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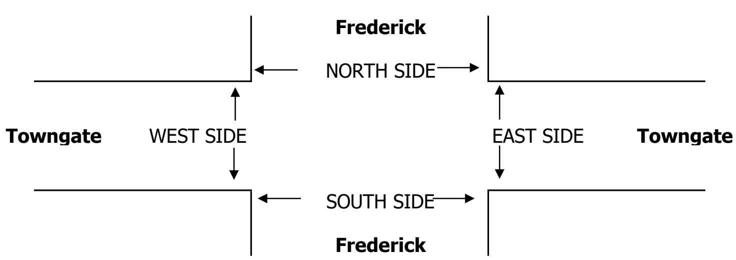
☑ Add U-Turns to Left Turns

	NORTHBOUND Frederick			SOUTHBOUND Frederick			EASTBOUND Towngate			WESTBOUND Towngate			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1	2	X	X	2	1	2	X	1	X	X	X	
MIDDAY 11:00 AM	61	213	0	0	122	37	39	0	42	0	0	0	514
11:15 AM	65	137	0	0	155	39	62	0	27	0	0	0	485
11:30 AM	56	153	0	0	167	49	58	0	41	0	0	0	524
11:45 AM	73	176	0	1	186	49	44	0	41	0	0	0	570
12:00 PM	81	146	0	0	162	69	58	0	51	0	0	0	567
12:15 PM	67	148	0	1	180	47	82	0	61	0	0	0	586
12:30 PM	92	163	0	0	121	48	55	0	51	0	0	0	530
12:45 PM	85	174	0	0	186	59	68	0	45	0	0	0	617
VOLUMES	580	1,310	0	2	1,279	397	466	0	359	0	0	0	4,393
APPROACH %	31%	69%	0%	0%	76%	24%	56%	0%	44%	0%	0%	0%	
APP/DEPART	1,890	/	1,764	1,678	/	1,640	825	/	0	0	/	989	0
BEGIN PEAK HR		12:00 PM											
VOLUMES	325	631	0	1	649	223	263	0	208	0	0	0	2,300
APPROACH %	34%	66%	0%	0%	74%	26%	56%	0%	44%	0%	0%	0%	
PEAK HR FACTOR		0.923			0.891			0.823			0.000		0.932
APP/DEPART	956	/	890	873	/	857	471	/	0	0	/	553	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	
0	0	2	0	2
0	0	5	0	5
0	0	2	0	2
2	1	0	0	3
0	0	4	0	4
0	1	0	0	1
0	0	0	0	0
0	0	1	0	1
2	2	14	0	18
0	1	5	0	



	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
MIDDAY 11:00 AM	0	0	0	0	0
11:15 AM	0	1	1	1	3
11:30 AM	0	1	0	1	2
11:45 AM	0	1	0	0	1
12:00 PM	0	0	1	1	2
12:15 PM	0	0	0	1	1
12:30 PM	0	0	0	2	2
12:45 PM	0	0	0	0	0
TOTAL	0	3	2	6	11
AM BEGIN PEAK HR			12:00 PM		

PEDESTRIAN CROSSINGS				
N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	1	1
0	0	0	0	0
0	0	0	4	4
0	0	0	2	2

BICYCLE CROSSINGS				
NS	SS	ES	WS	TOTAL
0	0	0	0	0
0	1	1	0	2
0	1	0	0	1
0	1	0	0	1
0	0	1	1	2
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	3	2	2	7

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Wed, Dec 8, 21	NORTH & SOUTH:	Frederick	LOCATION #:	8
	EAST & WEST:	Eucalyptus	CONTROL:	SIGNAL

NOTES:

AM PM MD OTHER OTHER

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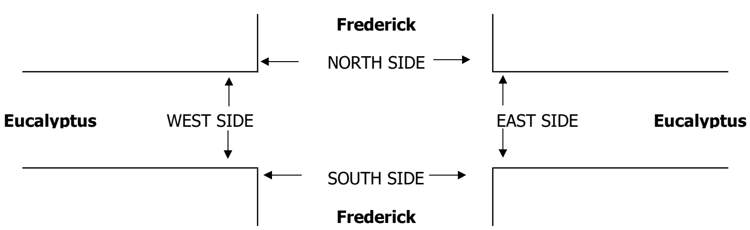
☑ Add U-Turns to Left Turns

	NORTHBOUND Frederick			SOUTHBOUND Frederick			EASTBOUND Eucalyptus			WESTBOUND Eucalyptus				U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	1	2	0	1	2	0	1	2	0	1	2	0		0	0	0	0	
AM 7:00 AM	8	83	7	8	79	10	8	24	4	3	35	19	288	0	0	0	0	0
7:15 AM	15	66	7	12	76	9	21	27	10	6	64	22	335	0	1	0	0	1
7:30 AM	23	112	13	17	121	7	21	27	25	8	54	17	445	0	0	0	0	0
7:45 AM	15	139	19	23	159	24	21	25	16	17	90	27	575	0	2	0	0	2
8:00 AM	33	151	35	23	105	16	21	38	11	20	73	31	557	0	0	0	0	0
8:15 AM	27	105	25	33	109	19	20	48	8	20	85	31	530	0	1	0	0	1
8:30 AM	17	120	22	27	128	15	23	47	19	28	64	41	551	0	1	0	0	1
8:45 AM	26	106	15	38	101	15	11	33	11	29	87	63	535	0	3	0	0	3
VOLUMES	164	882	143	181	878	115	146	269	104	131	552	251	3,816	0	8	0	0	8
APPROACH %	14%	74%	12%	15%	75%	10%	28%	52%	20%	14%	59%	27%						
APP/DEPART	1,189	/	1,287	1,174	/	1,113	519	/	585	934	/	831	0	0	4	0	0	
BEGIN PEAK HR		7:45 AM																
VOLUMES	92	515	101	106	501	74	85	158	54	85	312	130	2,213					
APPROACH %	13%	73%	14%	16%	74%	11%	29%	53%	18%	16%	59%	25%						
PEAK HR FACTOR		0.808			0.826			0.834			0.969		0.962					
APP/DEPART	708	/	734	681	/	640	297	/	361	527	/	478	0					
PM 4:00 PM	21	190	10	46	199	21	16	104	23	12	112	58	812	0	3	0	0	3
4:15 PM	34	201	15	44	216	16	18	83	27	15	75	41	785	0	0	0	0	0
4:30 PM	44	181	13	55	175	21	15	92	31	10	106	52	795	0	0	0	0	0
4:45 PM	32	206	10	39	210	19	19	83	35	11	86	58	808	0	1	0	0	1
5:00 PM	27	182	9	50	150	26	13	91	42	13	88	36	727	0	1	0	0	1
5:15 PM	35	199	11	51	233	21	11	106	39	10	81	36	833	0	1	0	0	1
5:30 PM	31	173	10	51	154	19	17	124	37	11	79	37	743	0	0	0	1	1
5:45 PM	32	171	18	56	200	19	11	91	28	7	62	33	728	0	0	0	0	0
VOLUMES	256	1,503	96	392	1,537	162	120	774	262	89	689	351	6,231	0	6	0	1	7
APPROACH %	14%	81%	5%	19%	74%	8%	10%	67%	23%	8%	61%	31%						
APP/DEPART	1,855	/	1,980	2,091	/	1,887	1,156	/	1,257	1,129	/	1,107	0	0	4	0	0	
BEGIN PEAK HR		4:00 PM																
VOLUMES	131	778	48	184	800	77	68	362	116	48	379	209	3,200					
APPROACH %	14%	81%	5%	17%	75%	7%	12%	66%	21%	8%	60%	33%						
PEAK HR FACTOR		0.957			0.961			0.955			0.874		0.985					
APP/DEPART	957	/	1,059	1,061	/	964	546	/	590	636	/	587	0					



	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM 7:00 AM	0	0	3	0	3	0	0	3	0	3	0	0	0	0	0
7:15 AM	1	0	0	4	5	0	0	0	4	4	1	0	0	0	1
7:30 AM	2	2	4	4	12	2	2	4	3	11	0	0	0	1	1
7:45 AM	4	1	0	3	8	3	0	0	2	5	1	1	0	1	3
8:00 AM	1	2	1	1	5	1	2	1	1	5	0	0	0	0	0
8:15 AM	2	2	0	2	6	2	2	0	2	6	0	0	0	0	0
8:30 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
8:45 AM	0	1	0	1	2	0	1	0	1	2	0	0	0	0	0
TOTAL	10	8	9	15	42	8	7	9	13	37	2	1	0	2	5
AM BEGIN PEAK HR			7:45 AM			6	4	2	5	17					
PM 4:00 PM	0	2	2	1	5	0	0	0	1	1	0	2	2	0	4
4:15 PM	0	0	1	1	2	0	0	1	1	2	0	0	0	0	0
4:30 PM	2	0	1	0	3	1	0	1	0	2	1	0	0	0	1
4:45 PM	0	0	1	2	3	0	0	1	2	3	0	0	0	0	0
5:00 PM	0	0	3	1	4	0	0	3	1	4	0	0	0	0	0
5:15 PM	1	0	1	2	4	1	0	1	2	4	0	0	0	0	0
5:30 PM	0	0	1	1	2	0	0	0	1	1	0	0	1	0	1
5:45 PM	0	0	0	3	3	0	0	0	2	2	0	0	0	1	1
TOTAL	3	2	10	11	26	2	0	7	10	19	1	2	3	1	7
PM BEGIN PEAK HR			4:00 PM			1	0	3	4	8					

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Sat, Dec 11, 21	LOCATION: Moreno Valley	PROJECT #:	SC3215
	NORTH & SOUTH: Frederick	LOCATION #:	8
	EAST & WEST: Eucalyptus	CONTROL:	SIGNAL

NOTES:

AM
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OTHER

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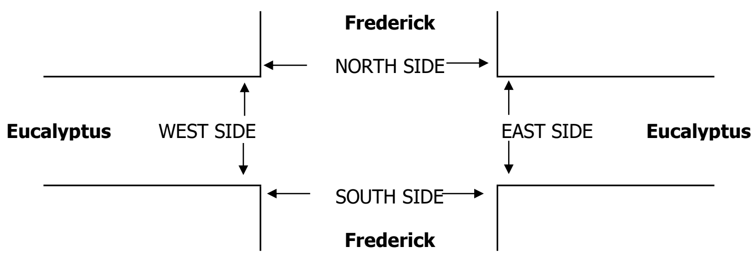
☑ Add U-Turns to Left Turns

MIDDAY	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
	NORTHBOUND (Frederick)			SOUTHBOUND (Frederick)			EASTBOUND (Eucalyptus)			WESTBOUND (Eucalyptus)			
LANES:	1	2	0	1	2	0	1	2	0	1	2	0	
11:00 AM	34	219	6	19	117	22	16	60	24	5	66	39	627
11:15 AM	31	152	6	27	156	22	18	57	23	5	68	41	606
11:30 AM	22	155	6	23	147	16	14	76	22	10	93	38	622
11:45 AM	34	156	9	41	168	23	26	62	24	6	76	50	675
12:00 PM	31	162	3	35	170	14	5	71	28	10	84	57	670
12:15 PM	23	145	5	42	153	20	16	77	26	8	85	52	652
12:30 PM	43	173	3	36	152	12	21	66	32	6	63	45	652
12:45 PM	43	175	6	32	169	18	18	71	22	5	80	52	691
VOLUMES	261	1,337	44	255	1,232	147	134	540	201	55	615	374	5,195
APPROACH %	16%	81%	3%	16%	75%	9%	15%	62%	23%	5%	59%	36%	
APP/DEPART	1,642	/	1,852	1,634	/	1,488	875	/	832	1,044	/	1,023	0
BEGIN PEAK HR		12:00 PM											
VOLUMES	140	655	17	145	644	64	60	285	108	29	312	206	2,665
APPROACH %	17%	81%	2%	17%	75%	8%	13%	63%	24%	5%	57%	38%	
PEAK HR FACTOR		0.906			0.974			0.952			0.906		0.964
APP/DEPART	812	/	927	853	/	781	453	/	441	547	/	516	0

U-TURNS

	NB	SB	EB	WB	TTL
LANES:	0	0	0	0	
11:00 AM	0	0	0	0	0
11:15 AM	0	0	0	0	0
11:30 AM	0	0	0	0	0
11:45 AM	0	1	0	0	1
12:00 PM	0	1	0	0	1
12:15 PM	0	3	0	0	3
12:30 PM	0	1	0	0	1
12:45 PM	0	1	0	0	1
VOLUMES	0	7	0	0	7
APP/DEPART	0	6	0	0	



PEDESTRIAN + BIKE CROSSINGS

MIDDAY	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
11:00 AM	0	0	0	1	1
11:15 AM	0	1	1	0	2
11:30 AM	0	0	1	0	1
11:45 AM	0	0	1	0	1
12:00 PM	0	1	1	3	5
12:15 PM	2	0	0	2	4
12:30 PM	0	1	0	2	3
12:45 PM	0	0	0	1	1
TOTAL	2	3	4	9	18
AM BEGIN PEAK HR			12:00 PM		

PEDESTRIAN CROSSINGS

MIDDAY	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
11:00 AM	0	0	0	1	1
11:15 AM	0	1	0	0	1
11:30 AM	0	0	0	0	0
11:45 AM	0	0	1	0	1
12:00 PM	0	0	0	0	0
12:15 PM	2	0	0	2	4
12:30 PM	0	0	0	1	1
12:45 PM	0	0	0	1	1
TOTAL	2	1	1	5	9
AM BEGIN PEAK HR	2	0	0	4	6

BICYCLE CROSSINGS

MIDDAY	NS	SS	ES	WS	TOTAL
11:00 AM	0	0	0	0	0
11:15 AM	0	0	1	0	1
11:30 AM	0	0	1	0	1
11:45 AM	0	0	0	0	0
12:00 PM	0	1	1	3	5
12:15 PM	0	0	0	0	0
12:30 PM	0	1	0	1	2
12:45 PM	0	0	0	0	0
TOTAL	0	2	3	4	9

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley		PROJECT #:	SC3215
Wed, Dec 8, 21	NORTH & SOUTH:	SR-60 WB Ramp		LOCATION #:	20
	EAST & WEST:	Hemlock		CONTROL:	SIGNAL

NOTES:

AM PM MD OTHER OTHER

▲ N ◄ W E ► S ▼

Add U-Turns to Left Turns

	NORTHBOUND SR-60 WB Ramp			SOUTHBOUND SR-60 WB Ramp			EASTBOUND Hemlock			WESTBOUND Hemlock			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
LANES:	1.5	0.5	1	X	X	1	0	2	X	X	2	0	
AM 7:00 AM	66	2	1	0	0	0	0	21	0	0	87	0	177
7:15 AM	26	0	6	0	0	0	0	21	0	0	111	1	165
7:30 AM	35	0	2	0	0	1	2	55	0	1	121	3	220
7:45 AM	70	2	6	0	0	1	2	51	0	0	109	1	242
8:00 AM	70	0	8	0	0	1	5	60	0	0	115	1	260
8:15 AM	57	0	5	0	0	0	1	71	0	0	100	2	236
8:30 AM	49	0	9	0	0	2	2	51	0	0	63	2	178
8:45 AM	55	2	13	0	0	0	4	78	0	0	72	2	226
VOLUMES	428	6	50	0	0	5	16	408	0	1	778	12	1,704
APPROACH %	88%	1%	10%	0%	0%	100%	4%	96%	0%	0%	98%	2%	
APP/DEPART	484	/	33	5	/	0	424	/	459	791	/	1,212	0
BEGIN PEAK HR		7:30 AM											
VOLUMES	232	2	21	0	0	3	10	237	0	1	445	7	958
APPROACH %	91%	1%	8%	0%	0%	100%	4%	96%	0%	0%	98%	2%	
PEAK HR FACTOR		0.817			0.750			0.858			0.906		0.921
APP/DEPART	255	/	19	3	/	0	247	/	259	453	/	680	0
PM 4:00 PM	94	0	9	0	0	3	6	111	0	0	73	2	298
4:15 PM	94	2	13	0	0	2	3	111	0	0	73	0	298
4:30 PM	94	0	4	0	0	1	5	113	0	0	83	0	300
4:45 PM	99	1	9	0	0	5	8	144	0	0	78	0	344
5:00 PM	94	1	6	0	0	2	8	106	0	0	93	0	310
5:15 PM	80	0	5	0	0	2	6	126	0	0	93	1	313
5:30 PM	108	0	9	0	0	1	4	117	0	0	89	0	328
5:45 PM	115	0	8	0	0	1	10	98	0	0	106	0	338
VOLUMES	778	4	63	0	0	17	50	926	0	0	688	3	2,529
APPROACH %	92%	0%	7%	0%	0%	100%	5%	95%	0%	0%	100%	0%	
APP/DEPART	845	/	21	17	/	0	976	/	989	691	/	1,519	0
BEGIN PEAK HR		4:45 PM											
VOLUMES	381	2	29	0	0	10	26	493	0	0	353	1	1,295
APPROACH %	92%	0%	7%	0%	0%	100%	5%	95%	0%	0%	100%	0%	
PEAK HR FACTOR		0.880			0.500			0.854			0.941		0.941
APP/DEPART	412	/	10	10	/	0	519	/	522	354	/	763	0

U-TURNS

	NB	SB	EB	WB	TTL
LANES	0	0	0	0	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	1	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	1	0	1
VOLUMES	0	0	1	1	2
APP/DEPART	0	0	0	1	
4:00 PM	0	0	3	0	3
4:15 PM	0	0	1	0	1
4:30 PM	0	0	4	0	4
4:45 PM	0	0	7	0	7
5:00 PM	0	0	6	0	6
5:15 PM	0	0	3	0	3
5:30 PM	0	0	3	0	3
5:45 PM	0	0	9	0	9
VOLUMES	0	0	36	0	36
APP/DEPART	0	0	19	0	

SR-60 WB Ramp

NORTH SIDE

Hemlock WEST SIDE EAST SIDE **Hemlock**

SOUTH SIDE

SR-60 WB Ramp

ALL PED AND BIKE

	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
AM 7:00 AM	0	0	1	1	2
7:15 AM	1	0	2	3	6
7:30 AM	0	0	2	0	2
7:45 AM	0	0	1	0	1
8:00 AM	0	0	1	2	3
8:15 AM	0	0	0	0	0
8:30 AM	0	0	1	1	2
8:45 AM	0	0	1	1	2
TOTAL	1	0	9	8	18
PM 4:00 PM	1	0	4	4	9
4:15 PM	1	0	0	2	3
4:30 PM	0	0	2	3	5
4:45 PM	0	0	3	3	6
5:00 PM	0	0	4	0	4
5:15 PM	0	0	0	0	0
5:30 PM	3	0	4	0	7
5:45 PM	1	1	1	1	4
TOTAL	6	1	18	13	38

PEDESTRIAN CROSSINGS

	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL
7:00 AM	0	0	1	1	2
7:15 AM	1	0	2	3	6
7:30 AM	0	0	2	0	2
7:45 AM	0	0	1	0	1
8:00 AM	0	0	1	2	3
8:15 AM	0	0	0	0	0
8:30 AM	0	0	1	1	2
8:45 AM	0	0	1	1	2
TOTAL	1	0	9	8	18
4:00 PM	1	0	3	3	7
4:15 PM	1	0	0	2	3
4:30 PM	0	0	1	3	4
4:45 PM	0	0	2	3	5
5:00 PM	0	0	4	0	4
5:15 PM	0	0	0	0	0
5:30 PM	3	0	4	0	7
5:45 PM	1	1	1	1	4
TOTAL	6	1	15	12	34

BICYCLE CROSSINGS

	ES	WS	SS	NS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
4:00 PM	0	0	1	1	2
4:15 PM	0	0	0	0	0
4:30 PM	0	0	1	0	1
4:45 PM	0	0	1	0	1
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	3	1	4

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:	LOCATION:	Moreno Valley	PROJECT #:	SC3215
Sat, Dec 11, 21	NORTH & SOUTH:	SR-60 WB Ramp	LOCATION #:	20
	EAST & WEST:	Hemlock	CONTROL:	SIGNAL

NOTES:

AM PM MD OTHER OTHER

N S W E

Add U-Turns to Left Turns

	NORTHBOUND SR-60 WB Ramp			SOUTHBOUND SR-60 WB Ramp			EASTBOUND Hemlock			WESTBOUND Hemlock				U-TURNS				
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL	NB	SB	EB	WB	TTL
LANES:	1.5	0.5	1	X	X	1	0	2	X	X	2	0		0	0	0	0	
MD 11:00 AM	94	2	7	0	0	0	17	88	0	0	82	0	290	0	0	8	0	8
11:15 AM	99	1	8	0	0	6	12	79	0	0	94	0	299	0	0	5	0	5
11:30 AM	96	0	7	0	0	11	12	70	0	0	62	2	260	0	0	6	0	6
11:45 AM	129	1	11	0	0	2	12	87	0	0	92	2	336	0	0	6	0	6
12:00 PM	103	1	6	0	0	5	17	87	0	0	89	0	308	0	0	9	0	9
12:15 PM	94	2	9	0	0	5	13	89	0	0	97	0	309	0	0	9	0	9
12:30 PM	81	0	8	0	0	2	12	110	0	0	98	1	312	0	0	10	0	10
12:45 PM	130	1	9	0	0	7	13	121	0	0	89	1	371	0	0	7	0	7
VOLUMES	826	8	65	0	0	38	108	731	0	0	703	6	2,485	0	0	60	0	60
APPROACH %	92%	1%	7%	0%	0%	100%	13%	87%	0%	0%	99%	1%						
APP/DEPART	899	/	62	38	/	0	839	/	796	709	/	1,627	0	0	0	35	0	
BEGIN PEAK HR		12:00 PM																
VOLUMES	408	4	32	0	0	19	55	407	0	0	373	2	1,300					
APPROACH %	92%	1%	7%	0%	0%	100%	12%	88%	0%	0%	99%	1%						
PEAK HR FACTOR		0.793			0.679			0.862			0.947		0.876					
APP/DEPART	444	/	26	19	/	0	462	/	439	375	/	835	0					

SR-60 WB Ramp

NORTH SIDE

Hemlock WEST SIDE EAST SIDE Hemlock

SOUTH SIDE

SR-60 WB Ramp

	ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	E SIDE	W SIDE	S SIDE	N SIDE	TOTAL	ES	WS	SS	NS	TOTAL
MD 11:00 AM	2	0	2	5	9	2	0	1	5	8	0	0	1	0	1
11:15 AM	2	0	5	4	11	2	0	5	4	11	0	0	0	0	0
11:30 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
11:45 AM	1	0	3	2	6	1	0	2	1	4	0	0	1	1	2
12:00 PM	0	0	1	5	6	0	0	1	5	6	0	0	0	0	0
12:15 PM	3	0	3	1	7	3	0	3	1	7	0	0	0	0	0
12:30 PM	2	0	2	3	7	2	0	2	3	7	0	0	0	0	0
12:45 PM	1	0	2	1	4	1	0	2	1	4	0	0	0	0	0
TOTAL	11	0	18	22	51	11	0	16	21	48	0	0	2	1	3

Appendix D

Roadway Segment Traffic Count Data

Saturday, December 11, 2021 | CITY: Moreno Valley | PROJECT: SC3215

ADT2 Day Street between Canyon Springs Parkway and I-215 Eastbound Ramps_SAT.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	NB		SB			PM Period	NB		SB		
0:00	82		51			12:00	456		455		
0:15	52		61			12:15	475		514		
0:30	58		64			12:30	512		446		
0:45	67	259	49	225	484	12:45	487	1930	455	1870	3800
1:00	62		52			13:00	488		455		
1:15	38		44			13:15	520		406		
1:30	31		27			13:30	508		385		
1:45	29	160	28	151	311	13:45	455	1971	513	1759	3730
2:00	30		24			14:00	497		507		
2:15	27		20			14:15	502		488		
2:30	23		23			14:30	538		432		
2:45	23	103	18	85	188	14:45	483	2020	469	1896	3916
3:00	26		18			15:00	405		463		
3:15	21		23			15:15	497		448		
3:30	19		24			15:30	528		474		
3:45	25	91	44	109	200	15:45	490	1920	431	1816	3736
4:00	20		18			16:00	525		381		
4:15	13		21			16:15	494		386		
4:30	20		25			16:30	497		380		
4:45	23	76	24	88	164	16:45	517	2033	474	1621	3654
5:00	26		38			17:00	507		398		
5:15	32		42			17:15	497		394		
5:30	37		50			17:30	496		430		
5:45	47	142	82	212	354	17:45	497	1997	373	1595	3592
6:00	54		96			18:00	603		310		
6:15	73		82			18:15	624		352		
6:30	96		91			18:30	535		352		
6:45	77	300	135	404	704	18:45	523	2285	289	1303	3588
7:00	99		145			19:00	470		318		
7:15	110		128			19:15	416		320		
7:30	132		167			19:30	420		260		
7:45	156	497	210	650	1147	19:45	430	1736	274	1172	2908
8:00	168		218			20:00	284		221		
8:15	164		231			20:15	294		209		
8:30	172		259			20:30	285		207		
8:45	197	701	299	1007	1708	20:45	258	1121	196	833	1954
9:00	202		302			21:00	283		166		
9:15	230		353			21:15	239		181		
9:30	283		376			21:30	258		170		
9:45	298	1013	399	1430	2443	21:45	207	987	126	643	1630
10:00	341		406			22:00	198		115		
10:15	379		363			22:15	181		110		
10:30	355		456			22:30	145		83		
10:45	411	1486	436	1661	3147	22:45	144	668	92	400	1068
11:00	433		427			23:00	127		68		
11:15	479		435			23:15	102		80		
11:30	442		464			23:30	93		64		
11:45	465	1819	470	1796	3615	23:45	88	410	70	282	692
Total Vol.		6647		7818	**14465**			19078		15190	**34268**

Daily Totals

NB	SB	Combined
25725	23008	**48733**

	AM			PM		
Split %	46.0%	54.0%	**29.7%**	55.7%	44.3%	**70.3%**
Peak Hour	11:45	11:30	**11:45**	18:00	13:45	**13:45**
Volume	1908	1903	**3793**	2285	1940	**3932**
P.H.F.	0.93	0.93	**0.96**	0.92	0.95	**0.98**

Wednesday, December 08, 2021 CITY: Moreno Valley PROJECT: SC3215

ADT2 Day Street between Canyon Springs Parkway and I-215 Eastbound Ramps_WED. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB			PM Period	NB		SB		
0:00	43		19			12:00	433		389		
0:15	39		28			12:15	400		447		
0:30	36		17			12:30	483		398		
0:45	35	153	18	82	235	12:45	502	1818	373	1607	3425
1:00	23		18			13:00	502		372		
1:15	23		14			13:15	437		386		
1:30	11		17			13:30	484		400		
1:45	22	79	22	71	150	13:45	460	1883	405	1563	3446
2:00	18		16			14:00	467		388		
2:15	18		7			14:15	441		369		
2:30	13		18			14:30	440		407		
2:45	16	65	22	63	128	14:45	449	1797	356	1520	3317
3:00	19		17			15:00	454		384		
3:15	21		17			15:15	412		396		
3:30	12		21			15:30	414		387		
3:45	26	78	59	114	192	15:45	450	1730	335	1502	3232
4:00	29		30			16:00	483		426		
4:15	30		27			16:15	438		350		
4:30	36		40			16:30	440		362		
4:45	38	133	51	148	281	16:45	469	1830	398	1536	3366
5:00	34		59			17:00	439		436		
5:15	54		53			17:15	484		389		
5:30	101		91			17:30	449		385		
5:45	98	287	122	325	612	17:45	434	1806	445	1655	3461
6:00	104		87			18:00	436		370		
6:15	146		113			18:15	433		382		
6:30	126		136			18:30	389		345		
6:45	167	543	151	487	1030	18:45	354	1612	355	1452	3064
7:00	164		156			19:00	369		329		
7:15	214		141			19:15	379		282		
7:30	179		165			19:30	353		321		
7:45	231	788	235	697	1485	19:45	386	1487	310	1242	2729
8:00	213		237			20:00	381		256		
8:15	219		269			20:15	339		185		
8:30	177		280			20:30	349		207		
8:45	190	799	286	1072	1871	20:45	266	1335	193	841	2176
9:00	255		284			21:00	310		163		
9:15	258		260			21:15	190		131		
9:30	270		332			21:30	211		130		
9:45	278	1061	342	1218	2279	21:45	165	876	89	513	1389
10:00	279		304			22:00	161		87		
10:15	293		341			22:15	121		79		
10:30	349		337			22:30	110		75		
10:45	368	1289	376	1358	2647	22:45	78	470	72	313	783
11:00	415		383			23:00	115		52		
11:15	398		345			23:15	60		39		
11:30	426		355			23:30	72		31		
11:45	394	1633	393	1476	3109	23:45	64	311	47	169	480
Total Vol.		6908		7111	**14019**			16955		13913	**30868**

Daily Totals

NB	SB	Combined
23863	21024	**44887**

	AM			PM		
Split %	49.3%	50.7%	**31.2%**	54.9%	45.1%	**68.8%**
Peak Hour	11:45	11:45	**11:45**	12:45	17:00	**12:15**
Volume	1710	1627	**3337**	1925	1655	**3477**
P.H.F.	0.89	0.91	**0.95**	0.94	0.93	**0.99**

Saturday, December 11, 2021 | CITY: Moreno Valley | PROJECT: SC3215

ADT4 Centerpoint Drive west of Frederick Street_SAT.

Prepared by AimTD LLC tel. 714 253 7888

AM Period	EB		WB			PM Period	EB		WB		
0:00	40		6			12:00	189		208		
0:15	25		12			12:15	193		212		
0:30	36		9			12:30	202		193		
0:45	19	120	4	31	151	12:45	215	799	210	823	1622
1:00	9		4			13:00	229		214		
1:15	18		4			13:15	212		221		
1:30	13		8			13:30	228		221		
1:45	8	48	4	20	68	13:45	237	906	238	894	1800
2:00	7		10			14:00	253		202		
2:15	8		2			14:15	259		213		
2:30	8		7			14:30	218		206		
2:45	6	29	4	23	52	14:45	281	1011	193	814	1825
3:00	3		8			15:00	273		201		
3:15	4		3			15:15	225		191		
3:30	6		2			15:30	239		208		
3:45	4	17	6	19	36	15:45	232	969	199	799	1768
4:00	5		6			16:00	276		186		
4:15	4		2			16:15	239		181		
4:30	4		6			16:30	222		196		
4:45	10	23	11	25	48	16:45	234	971	174	737	1708
5:00	10		8			17:00	227		191		
5:15	16		11			17:15	245		182		
5:30	16		13			17:30	236		182		
5:45	16	58	27	59	117	17:45	205	913	171	726	1639
6:00	13		17			18:00	211		178		
6:15	19		16			18:15	175		164		
6:30	21		14			18:30	199		170		
6:45	20	73	18	65	138	18:45	211	796	154	666	1462
7:00	30		19			19:00	169		167		
7:15	28		31			19:15	189		142		
7:30	42		53			19:30	220		142		
7:45	53	153	66	169	322	19:45	186	764	107	558	1322
8:00	45		64			20:00	211		95		
8:15	61		73			20:15	185		95		
8:30	67		83			20:30	190		77		
8:45	85	258	106	326	584	20:45	157	743	86	353	1096
9:00	70		91			21:00	176		72		
9:15	81		100			21:15	140		64		
9:30	99		124			21:30	133		62		
9:45	121	371	170	485	856	21:45	132	581	62	260	841
10:00	112		160			22:00	121		61		
10:15	133		177			22:15	114		57		
10:30	150		203			22:30	119		39		
10:45	143	538	221	761	1299	22:45	107	461	38	195	656
11:00	156		197			23:00	74		20		
11:15	162		178			23:15	79		17		
11:30	152		211			23:30	50		7		
11:45	191	661	225	811	1472	23:45	46	249	11	55	304
Total Vol.		2349		2794	**5143**			9163		6880	**16043**

Daily Totals

EB	WB	Combined
11512	9674	**21186**

	AM			PM		
Split %	45.7%	54.3%	**24.3%**	57.1%	42.9%	**75.7%**
Peak Hour	11:45	11:30	**11:45**	14:15	13:00	**13:30**
Volume	775	856	**1613**	1031	894	**1851**
P.H.F.	0.96	0.95	**0.97**	0.92	0.94	**0.97**

Wednesday, December 08, 2021 CITY: Moreno Valley PROJECT: SC3215

ADT4 Centerpoint Drive west of Frederick Street. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	EB		WB			PM Period	EB		WB		
0:00	24		8			12:00	162		149		
0:15	14		8			12:15	153		160		
0:30	11		3			12:30	175		148		
0:45	18	67	5	24	91	12:45	155	645	135	592	1237
1:00	7		0			13:00	191		157		
1:15	5		3			13:15	182		184		
1:30	7		1			13:30	149		169		
1:45	3	22	1	5	27	13:45	172	694	150	660	1354
2:00	4		1			14:00	177		134		
2:15	5		1			14:15	178		134		
2:30	3		1			14:30	156		133		
2:45	2	14	1	4	18	14:45	180	691	157	558	1249
3:00	3		2			15:00	193		127		
3:15	6		4			15:15	170		121		
3:30	3		3			15:30	146		128		
3:45	3	15	4	13	28	15:45	166	675	151	527	1202
4:00	9		10			16:00	198		166		
4:15	7		11			16:15	186		157		
4:30	16		9			16:30	159		134		
4:45	9	41	14	44	85	16:45	194	737	151	608	1345
5:00	10		11			17:00	170		153		
5:15	13		18			17:15	198		173		
5:30	19		13			17:30	183		137		
5:45	18	60	19	61	121	17:45	186	737	172	635	1372
6:00	28		17			18:00	175		144		
6:15	17		22			18:15	196		133		
6:30	30		24			18:30	151		139		
6:45	44	119	27	90	209	18:45	211	733	113	529	1262
7:00	39		20			19:00	152		89		
7:15	42		19			19:15	299		99		
7:30	34		37			19:30	192		81		
7:45	52	167	100	176	343	19:45	177	820	92	361	1181
8:00	66		81			20:00	157		85		
8:15	62		90			20:15	132		55		
8:30	51		56			20:30	124		72		
8:45	63	242	94	321	563	20:45	96	509	46	258	767
9:00	79		83			21:00	122		70		
9:15	75		101			21:15	108		64		
9:30	78		109			21:30	90		64		
9:45	81	313	102	395	708	21:45	63	383	59	257	640
10:00	78		123			22:00	86		51		
10:15	109		126			22:15	56		51		
10:30	109		127			22:30	47		36		
10:45	99	395	137	513	908	22:45	43	232	34	172	404
11:00	118		140			23:00	27		11		
11:15	144		133			23:15	34		13		
11:30	136		148			23:30	34		6		
11:45	159	557	129	550	1107	23:45	44	139	7	37	176
Total Vol.		2012		2196	**4208**			6995		5194	**12189**

Daily Totals

EB	WB	Combined
9007	7390	**16397**

	AM			PM		
Split %	47.8%	52.2%	**25.7%**	57.4%	42.6%	**74.3%**
Peak Hour	11:45	11:30	**11:45**	18:45	13:00	**17:00**
Volume	649	586	**1235**	854	660	**1372**
P.H.F.	0.93	0.92	**0.96**	0.71	0.90	**0.92**

cs@aimtd.com Tell. 714 253 7888

Saturday, December 11, 2021 | CITY: Moreno Valley | PROJECT: SC3215

ADT3 Towngate Boulevard west of Frederick Street_SAT. | **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	EB		WB			PM Period	EB		WB		
0:00	17		18			12:00	109		152		
0:15	10		13			12:15	143		115		
0:30	13		12			12:30	106		140		
0:45	9	49	18	61	110	12:45	113	471	144	551	1022
1:00	10		15			13:00	121		157		
1:15	9		16			13:15	121		141		
1:30	8		11			13:30	144		130		
1:45	4	31	11	53	84	13:45	138	524	152	580	1104
2:00	6		12			14:00	122		127		
2:15	6		8			14:15	116		101		
2:30	4		11			14:30	114		127		
2:45	6	22	11	42	64	14:45	144	496	122	477	973
3:00	1		13			15:00	129		105		
3:15	5		8			15:15	124		117		
3:30	8		9			15:30	120		111		
3:45	5	19	9	39	58	15:45	128	501	133	466	967
4:00	2		4			16:00	138		134		
4:15	2		3			16:15	132		128		
4:30	10		6			16:30	135		117		
4:45	3	17	9	22	39	16:45	126	531	95	474	1005
5:00	7		5			17:00	141		100		
5:15	7		11			17:15	113		92		
5:30	13		10			17:30	103		118		
5:45	14	41	12	38	79	17:45	118	475	104	414	889
6:00	8		12			18:00	95		91		
6:15	13		15			18:15	124		98		
6:30	14		14			18:30	91		97		
6:45	10	45	18	59	104	18:45	89	399	88	374	773
7:00	20		16			19:00	96		80		
7:15	24		31			19:15	99		67		
7:30	24		26			19:30	63		52		
7:45	25	93	36	109	202	19:45	65	323	50	249	572
8:00	35		36			20:00	60		55		
8:15	34		40			20:15	75		53		
8:30	26		37			20:30	51		39		
8:45	32	127	65	178	305	20:45	42	228	51	198	426
9:00	54		69			21:00	59		43		
9:15	40		75			21:15	50		30		
9:30	53		80			21:30	43		41		
9:45	58	205	94	318	523	21:45	37	189	44	158	347
10:00	62		84			22:00	45		31		
10:15	77		106			22:15	22		21		
10:30	65		101			22:30	22		24		
10:45	84	288	95	386	674	22:45	37	126	24	100	226
11:00	81		98			23:00	21		25		
11:15	89		109			23:15	16		17		
11:30	99		111			23:30	17		12		
11:45	85	354	120	438	792	23:45	21	75	23	77	152
Total Vol.		1291		1743	**3034**			4338		4118	**8456**

Daily Totals

EB	WB	Combined
5629	5861	**11490**

	AM			PM		
Split %	42.6%	57.4%	**26.4%**	51.3%	48.7%	**73.6%**
Peak Hour	11:45	11:45	**11:45**	16:15	12:30	**13:00**
Volume	443	527	**970**	534	582	**1104**
P.H.F.	0.77	0.87	**0.93**	0.95	0.93	**0.95**

Wednesday, December 08, 2021 CITY: Moreno Valley PROJECT: SC3215

ADT3 Towngate Boulevard west of Frederick Street_WED. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	EB		WB			PM Period	EB		WB		
0:00	10		11			12:00	73		92		
0:15	10		9			12:15	95		88		
0:30	9		10			12:30	117		113		
0:45	7	36	5	35	71	12:45	115	400	136	429	829
1:00	4		8			13:00	103		134		
1:15	5		10			13:15	94		116		
1:30	2		3			13:30	75		106		
1:45	4	15	7	28	43	13:45	114	386	124	480	866
2:00	4		6			14:00	99		121		
2:15	0		2			14:15	117		109		
2:30	4		5			14:30	96		90		
2:45	1	9	2	15	24	14:45	92	404	98	418	822
3:00	0		6			15:00	110		86		
3:15	5		1			15:15	119		114		
3:30	5		2			15:30	94		102		
3:45	3	13	6	15	28	15:45	138	461	104	406	867
4:00	5		6			16:00	109		101		
4:15	10		12			16:15	117		110		
4:30	6		8			16:30	124		103		
4:45	5	26	15	41	67	16:45	117	467	121	435	902
5:00	12		14			17:00	101		95		
5:15	10		20			17:15	112		103		
5:30	20		19			17:30	104		99		
5:45	17	59	16	69	128	17:45	135	452	105	402	854
6:00	22		20			18:00	106		111		
6:15	20		22			18:15	116		96		
6:30	30		43			18:30	77		88		
6:45	48	120	27	112	232	18:45	101	400	83	378	778
7:00	31		32			19:00	91		60		
7:15	46		52			19:15	70		75		
7:30	46		66			19:30	66		53		
7:45	74	197	95	245	442	19:45	67	294	66	254	548
8:00	53		59			20:00	78		54		
8:15	40		70			20:15	68		41		
8:30	64		73			20:30	44		40		
8:45	64	221	79	281	502	20:45	39	229	41	176	405
9:00	52		68			21:00	38		31		
9:15	49		75			21:15	44		43		
9:30	50		80			21:30	34		34		
9:45	55	206	104	327	533	21:45	20	136	31	139	275
10:00	65		88			22:00	23		28		
10:15	51		71			22:15	13		25		
10:30	45		85			22:30	20		25		
10:45	69	230	87	331	561	22:45	18	74	10	88	162
11:00	64		70			23:00	22		18		
11:15	74		100			23:15	14		12		
11:30	86		105			23:30	11		9		
11:45	87	311	82	357	668	23:45	12	59	17	56	115
Total Vol.		1443		1856	**3299**			3762		3661	**7423**

Daily Totals

EB	WB	Combined
5205	5517	**10722**

	AM			PM		
Split %	43.7%	56.3%	**30.8%**	50.7%	49.3%	**69.2%**
Peak Hour	11:45	11:15	**11:45**	15:45	12:30	**12:30**
Volume	372	379	**747**	488	499	**928**
P.H.F.	0.79	0.90	**0.81**	0.88	0.92	**0.92**

Saturday, December 11, 2021 | CITY: Moreno Valley | PROJECT: SC3215

ADT1 Frederick Street between Centerpoint Drive and Sunnymead Boulevard. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB			PM Period	NB		SB		
0:00	83		65			12:00	328		373		
0:15	47		54			12:15	383		388		
0:30	57		51			12:30	367		337		
0:45	53	240	52	222	462	12:45	362	1440	355	1453	2893
1:00	26		45			13:00	379		395		
1:15	34		44			13:15	369		398		
1:30	34		36			13:30	418		404		
1:45	23	117	48	173	290	13:45	418	1584	415	1612	3196
2:00	23		64			14:00	391		394		
2:15	31		34			14:15	403		369		
2:30	24		38			14:30	366		374		
2:45	20	98	31	167	265	14:45	412	1572	368	1505	3077
3:00	22		40			15:00	410		360		
3:15	22		23			15:15	372		360		
3:30	24		22			15:30	374		343		
3:45	24	92	29	114	206	15:45	369	1525	347	1410	2935
4:00	10		23			16:00	409		351		
4:15	23		24			16:15	427		364		
4:30	33		14			16:30	400		370		
4:45	38	104	28	89	193	16:45	387	1623	344	1429	3052
5:00	42		25			17:00	389		361		
5:15	54		33			17:15	371		351		
5:30	51		27			17:30	375		334		
5:45	66	213	52	137	350	17:45	361	1496	331	1377	2873
6:00	49		47			18:00	374		319		
6:15	52		43			18:15	283		333		
6:30	67		48			18:30	305		320		
6:45	78	246	62	200	446	18:45	331	1293	271	1243	2536
7:00	92		71			19:00	284		302		
7:15	91		104			19:15	289		247		
7:30	105		115			19:30	291		247		
7:45	133	421	132	422	843	19:45	267	1131	212	1008	2139
8:00	118		147			20:00	257		206		
8:15	157		139			20:15	261		232		
8:30	155		180			20:30	236		180		
8:45	171	601	200	666	1267	20:45	218	972	156	774	1746
9:00	173		219			21:00	239		175		
9:15	178		211			21:15	189		138		
9:30	245		237			21:30	184		154		
9:45	228	824	294	961	1785	21:45	180	792	151	618	1410
10:00	249		288			22:00	197		130		
10:15	264		349			22:15	165		133		
10:30	289		353			22:30	148		121		
10:45	283	1085	351	1341	2426	22:45	173	683	107	491	1174
11:00	330		315			23:00	116		88		
11:15	327		318			23:15	112		87		
11:30	306		393			23:30	101		79		
11:45	356	1319	400	1426	2745	23:45	80	409	75	329	738
Total Vol.		5360		5918	**11278**			14520		13249	**27769**

Daily Totals

NB	SB	**Combined**
19880	19167	**39047**

	AM			PM		
Split %	47.5%	52.5%	**28.9%**	52.3%	47.7%	**71.1%**
Peak Hour	11:45	11:30	**11:45**	13:30	13:00	**13:30**
Volume	1434	1554	**2932**	1630	1612	**3212**
P.H.F.	0.94	0.97	**0.95**	0.97	0.97	**0.96**

cs@aimtd.com Tell. 714 253 7888

Wednesday, December 08, 2021 | CITY: Moreno Valley | PROJECT: SC3215

ADT1 Frederick Street between Centerpoint Drive and Sunnymead Boulevard. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB			PM Period	NB		SB		
0:00	41		35			12:00	307		316		
0:15	35		42			12:15	319		322		
0:30	29		29			12:30	366		317		
0:45	35	140	30	136	276	12:45	388	1380	327	1282	2662
1:00	25		19			13:00	378		365		
1:15	12		26			13:15	363		406		
1:30	17		13			13:30	313		366		
1:45	15	69	18	76	145	13:45	353	1407	336	1473	2880
2:00	18		12			14:00	327		309		
2:15	16		11			14:15	397		298		
2:30	25		19			14:30	380		363		
2:45	18	77	12	54	131	14:45	355	1459	349	1319	2778
3:00	25		15			15:00	380		312		
3:15	36		15			15:15	343		324		
3:30	23		19			15:30	343		336		
3:45	23	107	28	77	184	15:45	347	1413	296	1268	2681
4:00	47		29			16:00	403		344		
4:15	57		27			16:15	357		315		
4:30	77		34			16:30	401		327		
4:45	67	248	48	138	386	16:45	415	1576	327	1313	2889
5:00	96		39			17:00	387		354		
5:15	79		49			17:15	372		334		
5:30	83		54			17:30	367		307		
5:45	85	343	95	237	580	17:45	378	1504	322	1317	2821
6:00	109		51			18:00	354		340		
6:15	89		75			18:15	324		304		
6:30	113		99			18:30	267		301		
6:45	147	458	118	343	801	18:45	332	1277	264	1209	2486
7:00	145		128			19:00	215		234		
7:15	174		153			19:15	443		200		
7:30	171		221			19:30	281		189		
7:45	224	714	311	813	1527	19:45	250	1189	208	831	2020
8:00	210		223			20:00	234		181		
8:15	217		273			20:15	202		150		
8:30	197		230			20:30	201		164		
8:45	216	840	263	989	1829	20:45	156	793	142	637	1430
9:00	199		193			21:00	202		169		
9:15	201		232			21:15	179		144		
9:30	200		233			21:30	132		159		
9:45	180	780	216	874	1654	21:45	113	626	151	623	1249
10:00	190		248			22:00	122		127		
10:15	236		260			22:15	84		132		
10:30	228		251			22:30	82		121		
10:45	232	886	241	1000	1886	22:45	61	349	107	487	836
11:00	250		248			23:00	54		47		
11:15	280		264			23:15	67		60		
11:30	304		300			23:30	59		48		
11:45	309	1143	270	1082	2225	23:45	73	253	58	213	466
Total Vol.		5805		5819	**11624**			13226		11972	**25198**

Daily Totals

NB	SB	Combined
19031	17791	**36822**

	AM			PM		
Split %	49.9%	50.1%	**31.6%**	52.5%	47.5%	**68.4%**
Peak Hour	11:45	11:45	**11:45**	16:00	13:00	**16:30**
Volume	1301	1225	**2526**	1576	1473	**2917**
P.H.F.	0.89	0.95	**0.92**	0.97	0.91	**0.98**

cs@aimtd.com Tell. 714 253 7888

Saturday, February 26, 2022 CITY: Moreno Valley PROJECT: SC

ADT2 Day between Canyon Springs and I-215 EB Ramps_SA. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB			PM Period	NB		SB		
0:00	62		47			12:00	422		501		
0:15	51		32			12:15	423		509		
0:30	44		29			12:30	438		462		
0:45	31	188	24	132	320	12:45	461	1744	496	1968	3712
1:00	21		11			13:00	473		507		
1:15	28		17			13:15	461		458		
1:30	21		21			13:30	450		474		
1:45	18	88	22	71	159	13:45	488	1872	439	1878	3750
2:00	16		13			14:00	447		487		
2:15	18		14			14:15	450		465		
2:30	21		15			14:30	459		435		
2:45	11	66	15	57	123	14:45	431	1787	451	1838	3625
3:00	14		13			15:00	435		477		
3:15	15		11			15:15	446		474		
3:30	12		8			15:30	492		445		
3:45	11	52	30	62	114	15:45	475	1848	460	1856	3704
4:00	11		17			16:00	457		452		
4:15	19		15			16:15	515		393		
4:30	17		25			16:30	453		432		
4:45	22	69	30	87	156	16:45	462	1887	412	1689	3576
5:00	22		35			17:00	462		403		
5:15	24		43			17:15	441		405		
5:30	35		39			17:30	453		449		
5:45	35	116	84	201	317	17:45	434	1790	379	1636	3426
6:00	61		86			18:00	465		401		
6:15	64		79			18:15	463		380		
6:30	78		106			18:30	405		366		
6:45	91	294	143	414	708	18:45	449	1782	378	1525	3307
7:00	112		123			19:00	377		338		
7:15	86		136			19:15	396		331		
7:30	140		182			19:30	361		303		
7:45	127	465	189	630	1095	19:45	343	1477	268	1240	2717
8:00	134		219			20:00	322		249		
8:15	168		226			20:15	316		220		
8:30	198		217			20:30	286		221		
8:45	204	704	289	951	1655	20:45	266	1190	174	864	2054
9:00	204		291			21:00	265		171		
9:15	241		366			21:15	195		121		
9:30	241		350			21:30	234		130		
9:45	272	958	348	1355	2313	21:45	157	851	133	555	1406
10:00	279		419			22:00	181		106		
10:15	313		426			22:15	140		90		
10:30	358		443			22:30	136		83		
10:45	345	1295	443	1731	3026	22:45	115	572	104	383	955
11:00	373		460			23:00	98		79		
11:15	390		445			23:15	78		55		
11:30	430		467			23:30	57		66		
11:45	405	1598	493	1865	3463	23:45	83	316	31	231	547
Total Vol.		5893		7556	**13449**			17116		15663	**32779**

Daily Totals

NB	SB	Combined
23009	23219	**46228**

	AM			PM		
Split %	43.8%	56.2%	**29.1%**	52.2%	47.8%	**70.9%**
Peak Hour	11:45	11:30	**11:45**	15:30	12:15	**12:45**
Volume	1688	1970	**3653**	1939	1974	**3780**
P.H.F.	0.96	0.97	**0.98**	0.96	0.97	**0.96**

Tuesday, March 01, 2022 | CITY: Moreno Valley | PROJECT: SC

ADT2 Day between Canyon Springs and I-215 EB Ramps_TU. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB			PM Period	NB		SB		
0:00	33		24			12:00	434		404		
0:15	39		18			12:15	386		407		
0:30	45		17			12:30	373		388		
0:45	19	136	12	71	207	12:45	446	1639	378	1577	3216
1:00	24		13			13:00	424		364		
1:15	16		14			13:15	411		367		
1:30	19		18			13:30	396		330		
1:45	11	70	10	55	125	13:45	409	1640	353	1414	3054
2:00	13		16			14:00	412		348		
2:15	13		9			14:15	424		333		
2:30	10		5			14:30	393		369		
2:45	7	43	10	40	83	14:45	380	1609	390	1440	3049
3:00	9		9			15:00	437		321		
3:15	8		10			15:15	415		405		
3:30	12		20			15:30	367		363		
3:45	21	50	27	66	116	15:45	422	1641	418	1507	3148
4:00	12		30			16:00	414		382		
4:15	21		16			16:15	396		375		
4:30	17		36			16:30	440		391		
4:45	32	82	56	138	220	16:45	449	1699	420	1568	3267
5:00	32		73			17:00	425		434		
5:15	51		62			17:15	451		429		
5:30	82		84			17:30	379		418		
5:45	60	225	118	337	562	17:45	413	1668	404	1685	3353
6:00	118		119			18:00	446		438		
6:15	131		109			18:15	410		389		
6:30	135		158			18:30	401		398		
6:45	156	540	177	563	1103	18:45	400	1657	406	1631	3288
7:00	214		181			19:00	397		360		
7:15	189		190			19:15	442		346		
7:30	233		267			19:30	373		314		
7:45	194	830	297	935	1765	19:45	347	1559	301	1321	2880
8:00	254		265			20:00	373		248		
8:15	253		301			20:15	354		186		
8:30	282		274			20:30	300		216		
8:45	259	1048	297	1137	2185	20:45	277	1304	154	804	2108
9:00	239		268			21:00	223		154		
9:15	251		277			21:15	228		144		
9:30	274		270			21:30	167		129		
9:45	320	1084	336	1151	2235	21:45	172	790	99	526	1316
10:00	272		334			22:00	153		72		
10:15	251		332			22:15	92		61		
10:30	316		344			22:30	82		63		
10:45	324	1163	350	1360	2523	22:45	82	409	53	249	658
11:00	321		387			23:00	61		42		
11:15	355		382			23:15	66		46		
11:30	380		359			23:30	58		37		
11:45	435	1491	371	1499	2990	23:45	50	235	39	164	399
Total Vol.		6762		7352	**14114**			15850		13886	**29736**

Daily Totals

NB	SB	Combined
22612	21238	**43850**

	AM			PM		
Split %	47.9%	52.1%	**32.2%**	53.3%	46.7%	**67.8%**
Peak Hour	11:30	11:45	**11:45**	16:30	16:45	**16:30**
Volume	1635	1570	**3198**	1765	1701	**3439**
P.H.F.	0.94	0.96	**0.95**	0.97	0.98	**0.98**

Saturday, February 26, 2022 | CITY: Moreno Valley | PROJECT: SC

ADT4 Centerpoint west of Frederick_SA. | **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	EB		WB			PM Period	EB		WB		
0:30	37		5			12:00	165		174		
0:15	34		2			12:15	192		183		
0:30	23		8			12:30	188		181		
0:45	20	114	5	20	134	12:45	186	731	172	710	1441
1:00	15		1			13:00	168		184		
1:15	15		3			13:15	183		164		
1:30	6		3			13:30	185		159		
1:45	14	50	1	8	58	13:45	217	753	166	673	1426
2:00	4		1			14:00	213		157		
2:15	5		4			14:15	152		181		
2:30	2		0			14:30	162		178		
2:45	2	13	2	7	20	14:45	202	729	153	669	1398
3:00	3		4			15:00	189		160		
3:15	5		1			15:15	187		140		
3:30	0		3			15:30	197		149		
3:45	3	11	6	14	25	15:45	189	762	184	633	1395
4:00	7		6			16:00	198		179		
4:15	2		3			16:15	202		153		
4:30	8		8			16:30	202		141		
4:45	4	21	7	24	45	16:45	200	802	175	648	1450
5:00	7		7			17:00	174		123		
5:15	9		6			17:15	225		120		
5:30	14		7			17:30	175		128		
5:45	8	38	16	36	74	17:45	212	786	151	522	1308
6:00	25		10			18:00	210		144		
6:15	15		14			18:15	176		135		
6:30	24		9			18:30	154		112		
6:45	28	92	23	56	148	18:45	194	734	96	487	1221
7:00	31		36			19:00	193		125		
7:15	28		34			19:15	150		115		
7:30	43		43			19:30	156		94		
7:45	43	145	57	170	315	19:45	145	644	73	407	1051
8:00	51		51			20:00	183		77		
8:15	58		56			20:15	145		64		
8:30	50		56			20:30	126		63		
8:45	71	230	81	244	474	20:45	124	578	77	281	859
9:00	79		77			21:00	139		50		
9:15	86		94			21:15	87		43		
9:30	85		90			21:30	79		50		
9:45	95	345	112	373	718	21:45	84	389	43	186	575
10:00	95		135			22:00	99		32		
10:15	126		136			22:15	68		25		
10:30	125		140			22:30	72		29		
10:45	133	479	189	600	1079	22:45	57	296	20	106	402
11:00	141		141			23:00	57		13		
11:15	131		200			23:15	54		8		
11:30	150		164			23:30	44		16		
11:45	155	577	176	681	1258	23:45	45	200	8	45	245
Total Vol.		2115		2233	**4348**			7404		5367	**12771**

Daily Totals

EB	WB	**Combined**
9519	7600	**17119**

			AM				PM		
Split %			48.6%	51.4%	**25.4%**		58.0%	42.0%	**74.6%**
Peak Hour	0:30	0:30	11:45	11:15	**11:45**		17:15	12:15	**12:15**
Volume			700	714	**1414**		822	720	**1454**
P.H.F.			0.91	0.89	**0.94**		0.91	0.98	**0.97**

Tuesday, March 01, 2022 CITY: Moreno Valley PROJECT: SC

ADT4 Centerpoint west of Frederick_TU. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	EB		WB			PM Period	EB		WB		
0:00	9		5			12:00	132		136		
0:15	23		6			12:15	142		129		
0:30	11		5			12:30	146		122		
0:45	10	53	3	19	72	12:45	183	603	144	531	1134
1:00	17		2			13:00	139		129		
1:15	9		4			13:15	167		103		
1:30	5		5			13:30	143		105		
1:45	0	31	3	14	45	13:45	190	639	97	434	1073
2:00	4		3			14:00	142		102		
2:15	2		3			14:15	165		113		
2:30	1		0			14:30	125		114		
2:45	4	11	1	7	18	14:45	167	599	107	436	1035
3:00	4		3			15:00	137		99		
3:15	3		5			15:15	141		115		
3:30	7		9			15:30	149		119		
3:45	3	17	3	20	37	15:45	183	610	136	469	1079
4:00	7		4			16:00	157		147		
4:15	6		9			16:15	162		114		
4:30	13		8			16:30	154		127		
4:45	10	36	17	38	74	16:45	163	636	123	511	1147
5:00	10		13			17:00	171		137		
5:15	14		10			17:15	149		128		
5:30	14		19			17:30	155		124		
5:45	19	57	14	56	113	17:45	160	635	119	508	1143
6:00	13		16			18:00	137		110		
6:15	18		24			18:15	141		103		
6:30	28		27			18:30	123		98		
6:45	29	88	32	99	187	18:45	111	512	83	394	906
7:00	43		27			19:00	115		88		
7:15	37		41			19:15	95		65		
7:30	50		52			19:30	81		72		
7:45	42	172	93	213	385	19:45	78	369	54	279	648
8:00	59		86			20:00	69		63		
8:15	64		126			20:15	54		52		
8:30	62		112			20:30	56		49		
8:45	65	250	126	450	700	20:45	61	240	39	203	443
9:00	84		109			21:00	47		41		
9:15	77		109			21:15	48		28		
9:30	96		100			21:30	38		30		
9:45	98	355	92	410	765	21:45	35	168	38	137	305
10:00	102		113			22:00	26		27		
10:15	119		133			22:15	29		23		
10:30	97		113			22:30	20		16		
10:45	125	443	153	512	955	22:45	25	100	14	80	180
11:00	108		124			23:00	18		10		
11:15	126		143			23:15	14		9		
11:30	123		134			23:30	17		11		
11:45	145	502	144	545	1047	23:45	15	64	8	38	102
Total Vol.		2015		2383	**4398**			5175		4020	**9195**

Daily Totals

EB	WB	Combined
7190	6403	**13593**

	AM			PM		
Split %	45.8%	54.2%	**32.4%**	56.3%	43.7%	**67.6%**
Peak Hour	11:45	11:15	**11:45**	15:45	12:00	**15:45**
Volume	565	557	**1096**	656	531	**1180**
P.H.F.	0.97	0.97	**0.95**	0.90	0.92	**0.92**

Saturday, February 26, 2022 CITY: Moreno Valley PROJECT: SC

ADT5 Frederick north of Eucalyptus_SA. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB			PM Period	NB		SB		
0:00	23		37			12:00	204		200		
0:15	28		43			12:15	230		231		
0:30	22		48			12:30	223		230		
0:45	23	96	32	160	256	12:45	207	864	216	877	1741
1:00	21		28			13:00	230		245		
1:15	12		29			13:15	194		244		
1:30	13		31			13:30	206		241		
1:45	12	58	27	115	173	13:45	208	838	236	966	1804
2:00	9		18			14:00	213		221		
2:15	13		14			14:15	214		242		
2:30	15		19			14:30	216		241		
2:45	14	51	18	69	120	14:45	213	856	210	914	1770
3:00	12		15			15:00	180		237		
3:15	16		14			15:15	202		244		
3:30	21		15			15:30	197		220		
3:45	22	71	15	59	130	15:45	231	810	214	915	1725
4:00	13		11			16:00	190		237		
4:15	19		8			16:15	200		205		
4:30	23		17			16:30	195		217		
4:45	16	71	17	53	124	16:45	215	800	213	872	1672
5:00	26		18			17:00	200		217		
5:15	32		26			17:15	188		192		
5:30	39		31			17:30	196		197		
5:45	39	136	29	104	240	17:45	150	734	202	808	1542
6:00	43		31			18:00	196		221		
6:15	50		29			18:15	170		208		
6:30	45		42			18:30	174		191		
6:45	58	196	55	157	353	18:45	150	690	170	790	1480
7:00	63		49			19:00	166		192		
7:15	57		68			19:15	124		219		
7:30	77		73			19:30	122		161		
7:45	93	290	79	269	559	19:45	114	526	136	708	1234
8:00	106		65			20:00	109		168		
8:15	100		84			20:15	110		162		
8:30	103		89			20:30	72		141		
8:45	127	436	109	347	783	20:45	70	361	135	606	967
9:00	122		122			21:00	88		126		
9:15	129		121			21:15	81		121		
9:30	173		116			21:30	87		106		
9:45	182	606	137	496	1102	21:45	65	321	104	457	778
10:00	202		152			22:00	51		98		
10:15	173		135			22:15	52		84		
10:30	193		161			22:30	34		73		
10:45	177	745	148	596	1341	22:45	48	185	63	318	503
11:00	212		179			23:00	45		58		
11:15	225		179			23:15	49		74		
11:30	206		199			23:30	32		47		
11:45	229	872	246	803	1675	23:45	32	158	54	233	391
Total Vol.		3628		3228	**6856**			7143		8464	**15607**

Daily Totals

NB	SB	Combined
10771	11692	**22463**

	AM			PM		
Split %	52.9%	47.1%	**30.5%**	45.8%	54.2%	**69.5%**
Peak Hour	11:45	11:45	**11:45**	12:15	13:00	**12:15**
Volume	886	907	**1793**	890	966	**1812**
P.H.F.	0.96	0.92	**0.94**	0.94	0.99	**0.95**

Tuesday, March 01, 2022 CITY: Moreno Valley PROJECT: SC

ADT5 Frederick north of Eucalyptus_TU. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB			PM Period	NB		SB		
0:00	14		38			12:00	211		201		
0:15	16		23			12:15	208		160		
0:30	14		28			12:30	199		207		
0:45	8	52	12	101	153	12:45	208	826	185	753	1579
1:00	16		20			13:00	209		210		
1:15	9		15			13:15	183		197		
1:30	11		19			13:30	184		190		
1:45	7	43	13	67	110	13:45	193	769	206	803	1572
2:00	8		19			14:00	186		215		
2:15	7		11			14:15	220		217		
2:30	9		10			14:30	236		238		
2:45	11	35	11	51	86	14:45	219	861	195	865	1726
3:00	17		7			15:00	263		214		
3:15	21		14			15:15	260		255		
3:30	40		9			15:30	229		247		
3:45	28	106	16	46	152	15:45	269	1021	236	952	1973
4:00	32		17			16:00	270		233		
4:15	45		17			16:15	245		245		
4:30	56		33			16:30	235		218		
4:45	53	186	33	100	286	16:45	259	1009	275	971	1980
5:00	65		25			17:00	253		268		
5:15	69		41			17:15	207		262		
5:30	82		62			17:30	214		244		
5:45	79	295	79	207	502	17:45	229	903	262	1036	1939
6:00	74		42			18:00	164		261		
6:15	70		55			18:15	192		229		
6:30	83		80			18:30	172		184		
6:45	107	334	122	299	633	18:45	159	687	214	888	1575
7:00	118		117			19:00	174		190		
7:15	139		132			19:15	137		176		
7:30	178		168			19:30	112		163		
7:45	213	648	203	620	1268	19:45	99	522	175	704	1226
8:00	245		168			20:00	117		166		
8:15	184		180			20:15	78		150		
8:30	149		153			20:30	87		122		
8:45	218	796	131	632	1428	20:45	81	363	122	560	923
9:00	155		138			21:00	89		106		
9:15	178		93			21:15	69		96		
9:30	173		117			21:30	67		95		
9:45	193	699	146	494	1193	21:45	48	273	85	382	655
10:00	199		155			22:00	33		79		
10:15	199		130			22:15	44		68		
10:30	208		164			22:30	28		51		
10:45	197	803	130	579	1382	22:45	40	145	57	255	400
11:00	211		163			23:00	37		42		
11:15	192		151			23:15	25		47		
11:30	196		186			23:30	21		43		
11:45	220	819	176	676	1495	23:45	21	104	46	178	282
Total Vol.		4816		3872	**8688**			7483		8347	**15830**

Daily Totals

NB	SB	Combined
12299	12219	**24518**

	AM			PM		
Split %	55.4%	44.6%	**35.4%**	47.3%	52.7%	**64.6%**
Peak Hour	11:45	11:45	**11:45**	15:15	16:45	**15:15**
Volume	838	744	**1582**	1028	1049	**1999**
P.H.F.	0.95	0.90	**0.96**	0.95	0.95	**0.97**

Saturday, February 26, 2022 | CITY: Moreno Valley | PROJECT: SC

ADT1 Frederick between Centerpoint and I-215 EB Ramps_SA. | **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB			PM Period	NB		SB		
0:30	79		41			12:00	290		356		
0:15	58		42			12:15	362		360		
0:30	47		59			12:30	347		340		
0:45	38	222	34	176	398	12:45	316	1315	353	1409	2724
1:00	38		36			13:00	301		396		
1:15	25		32			13:15	351		347		
1:30	15		37			13:30	335		361		
1:45	35	113	29	134	247	13:45	384	1371	333	1437	2808
2:00	17		26			14:00	365		337		
2:15	20		22			14:15	312		348		
2:30	19		16			14:30	336		350		
2:45	17	73	21	85	158	14:45	347	1360	326	1361	2721
3:00	20		22			15:00	312		335		
3:15	21		17			15:15	311		295		
3:30	25		23			15:30	354		327		
3:45	21	87	16	78	165	15:45	356	1333	351	1308	2641
4:00	11		17			16:00	340		341		
4:15	21		13			16:15	355		323		
4:30	25		25			16:30	377		276		
4:45	16	73	27	82	155	16:45	363	1435	327	1267	2702
5:00	33		19			17:00	358		294		
5:15	40		32			17:15	357		276		
5:30	45		31			17:30	322		250		
5:45	47	165	45	127	292	17:45	339	1376	291	1111	2487
6:00	65		37			18:00	316		290		
6:15	56		50			18:15	310		277		
6:30	78		67			18:30	271		248		
6:45	78	277	81	235	512	18:45	304	1201	223	1038	2239
7:00	86		83			19:00	301		248		
7:15	83		92			19:15	247		221		
7:30	92		111			19:30	246		212		
7:45	131	392	134	420	812	19:45	235	1029	187	868	1897
8:00	142		126			20:00	261		182		
8:15	157		145			20:15	238		183		
8:30	137		164			20:30	190		157		
8:45	170	606	194	629	1235	20:45	176	865	166	688	1553
9:00	179		211			21:00	206		142		
9:15	203		206			21:15	154		120		
9:30	219		213			21:30	154		128		
9:45	209	810	234	864	1674	21:45	131	645	126	516	1161
10:00	238		271			22:00	133		94		
10:15	243		264			22:15	116		105		
10:30	239		282			22:30	114		98		
10:45	252	972	315	1132	2104	22:45	103	466	83	380	846
11:00	283		308			23:00	95		77		
11:15	286		344			23:15	89		77		
11:30	313		317			23:30	77		64		
11:45	271	1153	339	1308	2461	23:45	74	335	75	293	628
Total Vol.		4943		5270	**10213**			12731		11676	**24407**

Daily Totals

NB	SB	Combined
17674	16946	**34620**

	AM					PM		
Split %	48.4%	51.6%			**29.5%**	52.2%	47.8%	**70.5%**
Peak Hour	11:45	11:45	0:30	0:30	**11:45**	16:30	12:45	**13:15**
Volume	1270	1395			**2665**	1455	1457	**2813**
P.H.F.	0.88	0.97			**0.92**	0.97	0.92	**0.98**

Tuesday, March 01, 2022 | CITY: Moreno Valley | PROJECT: SC

ADT1 Frederick between Centerpoint and I-215 EB Ramps_TU. **Prepared by AimTD LLC tel. 714 253 7888**

AM Period	NB		SB			PM Period	NB		SB		
0:00	23		43			12:00	283		261		
0:15	34		31			12:15	315		250		
0:30	21		27			12:30	303		268		
0:45	23	101	18	119	220	12:45	323	1224	306	1085	2309
1:00	32		29			13:00	322		275		
1:15	21		25			13:15	333		264		
1:30	21		23			13:30	280		244		
1:45	7	81	16	93	174	13:45	330	1265	267	1050	2315
2:00	17		19			14:00	324		234		
2:15	8		14			14:15	315		286		
2:30	14		15			14:30	318		311		
2:45	21	60	11	59	119	14:45	346	1303	288	1119	2422
3:00	22		14			15:00	382		311		
3:15	26		16			15:15	373		290		
3:30	40		21			15:30	346		374		
3:45	36	124	24	75	199	15:45	379	1480	307	1282	2762
4:00	39		26			16:00	370		319		
4:15	50		26			16:15	340		295		
4:30	70		32			16:30	352		307		
4:45	55	214	50	134	348	16:45	376	1438	335	1256	2694
5:00	71		39			17:00	372		346		
5:15	80		43			17:15	304		332		
5:30	99		89			17:30	315		319		
5:45	92	342	68	239	581	17:45	334	1325	337	1334	2659
6:00	86		53			18:00	262		321		
6:15	99		66			18:15	283		209		
6:30	114		106			18:30	255		248		
6:45	134	433	145	370	803	18:45	244	1044	269	1047	2091
7:00	163		135			19:00	232		256		
7:15	188		213			19:15	203		230		
7:30	225		248			19:30	167		213		
7:45	222	798	315	911	1709	19:45	145	747	228	927	1674
8:00	238		299			20:00	151		217		
8:15	196		294			20:15	126		196		
8:30	191		281			20:30	117		158		
8:45	199	824	279	1153	1977	20:45	118	512	138	709	1221
9:00	185		234			21:00	124		144		
9:15	217		239			21:15	101		132		
9:30	212		244			21:30	98		124		
9:45	196	810	220	937	1747	21:45	70	393	111	511	904
10:00	244		251			22:00	49		103		
10:15	274		240			22:15	62		89		
10:30	241		261			22:30	42		67		
10:45	264	1023	273	1025	2048	22:45	57	210	73	332	542
11:00	242		241			23:00	51		59		
11:15	265		276			23:15	38		51		
11:30	257		274			23:30	29		48		
11:45	296	1060	293	1084	2144	23:45	31	149	40	198	347
Total Vol.		5870		6199	**12069**			11090		10850	**21940**

Daily Totals

NB	SB	Combined
16960	17049	**34009**

	AM			PM		
Split %	48.6%	51.4%	**35.5%**	50.5%	49.5%	**64.5%**
Peak Hour	11:45	7:45	**11:45**	15:00	17:00	**15:00**
Volume	1197	1189	**2269**	1480	1334	**2762**
P.H.F.	0.95	0.94	**0.96**	0.95	0.96	**0.96**

Appendix E

Existing Conditions Intersection Operations Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	152	43	343	516	207	332	0	145	172	0	55
Future Volume (veh/h)	48	152	43	343	516	207	332	0	145	172	0	55
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1565	1565	1565	1565	1565	1565	1565	0	1565	1565	0	1565
Adj Flow Rate, veh/h	48	154	0	346	521	0	335	0	146	174	0	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	0	3	3	0	3
Cap, veh/h	58	1608		413	1916		403	0	0	403	0	
Arrive On Green	0.04	0.54	0.00	0.14	0.64	0.00	0.14	0.00	0.00	0.14	0.00	0.00
Sat Flow, veh/h	1491	2974	1327	2892	2974	1327	2892	335		2892	174	
Grp Volume(v), veh/h	48	154	0	346	521	0	335	50.6		174	44.1	
Grp Sat Flow(s),veh/h/ln	1491	1487	1327	1446	1487	1327	1446	D		1446	D	
Q Serve(g_s), s	3.5	2.8	0.0	12.8	8.3	0.0	12.4			6.1		
Cycle Q Clear(g_c), s	3.5	2.8	0.0	12.8	8.3	0.0	12.4			6.1		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	58	1608		413	1916		403			403		
V/C Ratio(X)	0.82	0.10		0.84	0.27		0.83			0.43		
Avail Cap(c_a), veh/h	339	1608		657	1916		684			684		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.81	0.81	0.00	1.00			1.00		
Uniform Delay (d), s/veh	52.5	12.2	0.0	45.9	8.4	0.0	46.1			43.4		
Incr Delay (d2), s/veh	23.9	0.1	0.0	4.4	0.3	0.0	4.5			0.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	1.7	0.9	0.0	4.8	2.5	0.0	4.7			2.2		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.4	12.4	0.0	50.4	8.7	0.0	50.6			44.1		
LnGrp LOS	E	B		D	A		D			D		
Approach Vol, veh/h		202	A		867	A						
Approach Delay, s/veh		27.6			25.3							
Approach LOS		C			C							

Timer - Assigned Phs	1	2	3		5	6	7
Phs Duration (G+Y+Rc), s	22.2	67.5	20.3		10.8	78.9	20.3
Change Period (Y+Rc), s	6.5	8.0	5.0		6.5	8.0	5.0
Max Green Setting (Gmax), s	25.0	39.5	26.0		25.0	39.5	26.0
Max Q Clear Time (g_c+I1), s	14.8	4.8	14.4		5.5	10.3	8.1
Green Ext Time (p_c), s	0.9	1.0	0.9		0.1	3.6	0.5

Intersection Summary	
HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	247	252	41	30	496	63	176	228	73	15	42	257
Future Volume (veh/h)	247	252	41	30	496	63	176	228	73	15	42	257
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	266	271	44	32	533	68	189	245	78	16	45	276
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	404	1256	560	62	852	380	239	684	213	35	281	419
Arrive On Green	0.11	0.34	0.34	0.03	0.24	0.24	0.14	0.26	0.26	0.02	0.15	0.15
Sat Flow, veh/h	3645	3749	1672	1767	3526	1572	1767	2647	823	1767	1856	2768
Grp Volume(v), veh/h	266	271	44	32	533	68	189	161	162	16	45	276
Grp Sat Flow(s),veh/h/ln	1823	1874	1672	1767	1763	1572	1767	1763	1707	1767	1856	1384
Q Serve(g_s), s	4.0	3.0	1.0	1.0	7.7	2.0	5.9	4.3	4.4	0.5	1.2	5.4
Cycle Q Clear(g_c), s	4.0	3.0	1.0	1.0	7.7	2.0	5.9	4.3	4.4	0.5	1.2	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	404	1256	560	62	852	380	239	455	441	35	281	419
V/C Ratio(X)	0.66	0.22	0.08	0.52	0.63	0.18	0.79	0.35	0.37	0.46	0.16	0.66
Avail Cap(c_a), veh/h	1277	2627	1172	619	2285	1019	929	926	897	619	975	1455
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.3	13.6	13.0	27.1	19.3	17.2	23.9	17.3	17.3	27.7	21.1	22.8
Incr Delay (d2), s/veh	0.7	0.1	0.1	2.5	0.8	0.2	2.2	0.5	0.5	3.5	0.3	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.1	0.3	0.4	3.0	0.6	2.2	1.5	1.5	0.2	0.5	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.0	13.7	13.0	29.6	20.1	17.4	26.1	17.7	17.9	31.2	21.3	24.6
LnGrp LOS	C	B	B	C	C	B	C	B	B	C	C	C
Approach Vol, veh/h		581			633			512			337	
Approach Delay, s/veh		18.8			20.3			20.9			24.5	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	24.5	11.7	14.8	11.3	19.2	5.6	20.9
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	3.0	5.0	7.9	7.4	6.0	9.7	2.5	6.4
Green Ext Time (p_c), s	0.0	2.0	0.2	1.3	0.4	4.1	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	297	218	481	189	62	541
Future Volume (veh/h)	297	218	481	189	62	541
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	303	222	491	193	63	552
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	567	337	2233	1240	82	2590
Arrive On Green	0.16	0.16	0.21	0.21	0.05	0.73
Sat Flow, veh/h	3645	1672	3618	1572	1767	3618
Grp Volume(v), veh/h	303	222	491	193	63	552
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1572	1767	1763
Q Serve(g_s), s	7.7	12.2	11.5	5.8	3.5	4.9
Cycle Q Clear(g_c), s	7.7	12.2	11.5	5.8	3.5	4.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	567	337	2233	1240	82	2590
V/C Ratio(X)	0.53	0.66	0.22	0.16	0.77	0.21
Avail Cap(c_a), veh/h	838	462	2233	1240	300	2590
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	36.7	19.1	6.1	47.2	4.2
Incr Delay (d2), s/veh	0.8	2.2	0.2	0.3	14.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	5.1	5.3	4.0	1.8	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	39.7	38.9	19.3	6.4	61.2	4.4
LnGrp LOS	D	D	B	A	E	A
Approach Vol, veh/h	525		684			615
Approach Delay, s/veh	39.4		15.7			10.2
Approach LOS	D		B			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.1	68.8				79.0		21.0
Change Period (Y+Rc), s	5.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	17.0	43.5				66.0		23.0
Max Q Clear Time (g_c+I1), s	5.5	13.5				6.9		14.2
Green Ext Time (p_c), s	0.1	3.9				3.9		1.3

Intersection Summary	
HCM 6th Ctrl Delay	20.6
HCM 6th LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	382	72	512	312	82	790
Future Volume (veh/h)	382	72	512	312	82	790
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	398	75	533	325	85	823
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	505	334	2292	1240	108	3857
Arrive On Green	0.14	0.14	0.65	0.65	0.12	1.00
Sat Flow, veh/h	3645	1672	3618	1572	1767	5233
Grp Volume(v), veh/h	398	75	533	325	85	823
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1572	1767	1689
Q Serve(g_s), s	10.6	3.8	6.2	5.5	4.7	0.0
Cycle Q Clear(g_c), s	10.6	3.8	6.2	5.5	4.7	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	505	334	2292	1240	108	3857
V/C Ratio(X)	0.79	0.22	0.23	0.26	0.78	0.21
Avail Cap(c_a), veh/h	838	487	2292	1240	265	3857
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.87	0.87	1.00	1.00
Uniform Delay (d), s/veh	41.6	33.5	7.2	2.8	43.2	0.0
Incr Delay (d2), s/veh	2.8	0.3	0.2	0.4	11.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	3.8	2.1	2.8	2.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.4	33.9	7.4	3.3	54.9	0.1
LnGrp LOS	D	C	A	A	D	A
Approach Vol, veh/h	473		858			908
Approach Delay, s/veh	42.8		5.8			5.3
Approach LOS	D		A			A
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.1	70.0		18.9		81.1
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	47.0		23.0		67.0
Max Q Clear Time (g_c+I1), s	6.7	8.2		12.6		2.0
Green Ext Time (p_c), s	0.1	5.0		1.3		6.5
Intersection Summary						
HCM 6th Ctrl Delay			13.4			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Summary
105: Day St & Canyon Springs Pkwy

01/20/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	31	44	31	50	104	77	463	58	154	574	344
Future Volume (veh/h)	224	31	44	31	50	104	77	463	58	154	574	344
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	238	33	47	33	53	111	82	493	62	164	611	366
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	382	409	345	70	227	191	122	1037	128	216	1420	775
Arrive On Green	0.11	0.22	0.22	0.04	0.11	0.11	0.07	0.23	0.23	0.12	0.28	0.28
Sat Flow, veh/h	3428	1856	1566	1879	1973	1659	1767	4564	565	1767	5066	2765
Grp Volume(v), veh/h	238	33	47	33	53	111	82	363	192	164	611	366
Grp Sat Flow(s),veh/h/ln	1714	1856	1566	1879	1973	1659	1767	1689	1752	1767	1689	1382
Q Serve(g_s), s	3.2	0.7	1.2	0.8	1.2	3.1	2.2	4.5	4.6	4.3	4.8	5.3
Cycle Q Clear(g_c), s	3.2	0.7	1.2	0.8	1.2	3.1	2.2	4.5	4.6	4.3	4.8	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		1.00
Lane Grp Cap(c), veh/h	382	409	345	70	227	191	122	767	398	216	1420	775
V/C Ratio(X)	0.62	0.08	0.14	0.47	0.23	0.58	0.67	0.47	0.48	0.76	0.43	0.47
Avail Cap(c_a), veh/h	2129	1152	972	1167	1225	1030	914	2796	1451	1097	4194	2289
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.5	14.9	15.1	22.8	19.4	20.3	22.0	16.2	16.2	20.5	14.2	14.4
Incr Delay (d2), s/veh	0.6	0.1	0.2	1.9	0.5	2.8	2.4	0.5	0.9	4.1	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.3	0.4	0.4	0.5	1.2	0.9	1.5	1.6	1.8	1.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	15.0	15.3	24.7	20.0	23.1	24.3	16.6	17.1	24.6	14.4	14.9
LnGrp LOS	C	B	B	C	B	C	C	B	B	C	B	B
Approach Vol, veh/h		318			197			637			1141	
Approach Delay, s/veh		19.6			22.5			17.8			16.0	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	16.4	5.8	15.7	7.8	18.9	10.9	10.7
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	30.0	40.0	30.0	30.0	25.0	40.0	30.0	* 30
Max Q Clear Time (g_c+I1), s	6.3	6.6	2.8	3.2	4.2	7.3	5.2	5.1
Green Ext Time (p_c), s	0.3	3.6	0.0	0.3	0.1	6.1	0.4	0.6

Intersection Summary	
HCM 6th Ctrl Delay	17.6
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	25	42	26	82	78	119	471	39	89	489	56
Future Volume (veh/h)	41	25	42	26	82	78	119	471	39	89	489	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	43	26	44	27	86	82	125	496	41	94	515	59
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	163	96	162	61	428	190	325	1117	91	280	1184	442
Arrive On Green	0.05	0.15	0.15	0.03	0.11	0.11	0.09	0.23	0.23	0.08	0.23	0.23
Sat Flow, veh/h	3428	618	1045	1879	3749	1664	3428	4772	390	3428	5066	1572
Grp Volume(v), veh/h	43	0	70	27	86	82	125	349	188	94	515	59
Grp Sat Flow(s),veh/h/ln	1714	0	1663	1879	1874	1664	1714	1689	1785	1714	1689	1572
Q Serve(g_s), s	0.5	0.0	1.5	0.6	0.8	1.8	1.3	3.5	3.5	1.0	3.4	1.1
Cycle Q Clear(g_c), s	0.5	0.0	1.5	0.6	0.8	1.8	1.3	3.5	3.5	1.0	3.4	1.1
Prop In Lane	1.00		0.63	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	163	0	258	61	428	190	325	790	418	280	1184	442
V/C Ratio(X)	0.26	0.00	0.27	0.44	0.20	0.43	0.38	0.44	0.45	0.34	0.44	0.13
Avail Cap(c_a), veh/h	1747	0	1271	958	2865	1272	1747	3442	1820	1747	5163	1678
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.0	0.0	14.6	18.6	15.8	16.2	16.7	12.8	12.9	17.0	12.8	10.5
Incr Delay (d2), s/veh	0.3	0.0	0.6	1.9	0.2	1.5	0.3	0.4	0.8	0.3	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.5	0.2	0.3	0.7	0.4	1.0	1.1	0.3	1.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	0.0	15.2	20.5	16.0	17.7	17.0	13.2	13.6	17.3	13.1	10.7
LnGrp LOS	B	A	B	C	B	B	B	B	B	B	B	B
Approach Vol, veh/h		113			195			662			668	
Approach Delay, s/veh		16.4			17.3			14.0			13.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	14.6	5.8	10.7	8.2	14.6	7.4	9.1
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	3.0	5.5	2.6	3.5	3.3	5.4	2.5	3.8
Green Ext Time (p_c), s	0.1	3.4	0.0	0.3	0.2	3.8	0.0	0.8

Intersection Summary			
HCM 6th Ctrl Delay			14.4
HCM 6th LOS			B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	193	59	64	430	104	213	393	39	68	143	129
Future Volume (veh/h)	137	193	59	64	430	104	213	393	39	68	143	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	152	214	66	71	478	116	237	437	43	76	159	143
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	199	761	228	106	819	362	292	777	76	109	481	391
Arrive On Green	0.11	0.29	0.29	0.06	0.23	0.23	0.17	0.24	0.24	0.06	0.14	0.14
Sat Flow, veh/h	1767	2668	800	1767	3526	1560	1767	3243	318	1767	3526	1572
Grp Volume(v), veh/h	152	139	141	71	478	116	237	237	243	76	159	143
Grp Sat Flow(s),veh/h/ln	1767	1763	1705	1767	1763	1560	1767	1763	1798	1767	1763	1572
Q Serve(g_s), s	4.7	3.4	3.6	2.2	6.7	3.5	7.2	6.6	6.7	2.4	2.3	4.2
Cycle Q Clear(g_c), s	4.7	3.4	3.6	2.2	6.7	3.5	7.2	6.6	6.7	2.4	2.3	4.2
Prop In Lane	1.00		0.47	1.00		1.00	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	199	503	486	106	819	362	292	422	431	109	481	391
V/C Ratio(X)	0.76	0.28	0.29	0.67	0.58	0.32	0.81	0.56	0.56	0.69	0.33	0.37
Avail Cap(c_a), veh/h	947	945	914	631	1889	836	631	1260	1285	631	2519	1301
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.1	15.5	15.6	25.8	19.1	17.8	22.5	18.7	18.7	25.7	21.9	17.4
Incr Delay (d2), s/veh	4.5	0.3	0.3	2.8	0.7	0.5	2.1	1.2	1.2	2.9	0.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.3	1.3	0.9	2.5	1.2	2.9	2.5	2.6	1.0	0.9	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	15.8	15.9	28.5	19.7	18.3	24.6	19.9	19.9	28.7	22.3	17.9
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	C	B
Approach Vol, veh/h		432			665			717			378	
Approach Delay, s/veh		20.4			20.4			21.4			21.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	18.8	7.8	21.4	13.7	13.0	10.8	18.4				
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4				
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	30.0	30.0				
Max Q Clear Time (g_c+I1), s	4.4	8.7	4.2	5.6	9.2	6.2	6.7	8.7				
Green Ext Time (p_c), s	0.1	2.9	0.1	1.6	0.2	1.4	0.3	3.4				
Intersection Summary												
HCM 6th Ctrl Delay			21.0									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	63	137	14	9	41
Future Vol, veh/h	19	63	137	14	9	41
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	72	156	16	10	47
Number of Lanes	2	1	1	2	2	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	3	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	3
HCM Control Delay	6.9	8.6	7.5
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	SBLn1	SBLn2
Vol Left, %	100%	94%	0%	100%	17%	0%	0%	0%
Vol Thru, %	0%	6%	100%	0%	0%	0%	100%	7%
Vol Right, %	0%	0%	0%	0%	83%	100%	0%	93%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	73	9	13	38	32	6	44
LT Vol	69	68	0	13	6	0	0	0
Through Vol	0	5	9	0	0	0	6	3
RT Vol	0	0	0	0	32	32	0	41
Lane Flow Rate	78	83	11	14	43	36	7	50
Geometry Grp	8	8	8	7	7	7	8	8
Degree of Util (X)	0.115	0.122	0.009	0.022	0.055	0.026	0.01	0.062
Departure Headway (Hd)	5.3	5.268	3.046	5.606	4.607	2.655	5.114	4.461
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	671	675	1154	642	781	1354	703	807
Service Time	3.074	3.042	0.82	3.312	2.312	0.36	2.822	2.169
HCM Lane V/C Ratio	0.116	0.123	0.01	0.022	0.055	0.027	0.01	0.062
HCM Control Delay	8.8	8.8	5.8	8.4	7.6	5.4	7.9	7.5
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.4	0.4	0	0.1	0.2	0.1	0	0.2

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	37	45	55	66	101	57
Future Vol, veh/h	37	45	55	66	101	57
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	43	52	63	76	116	66
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	8	7.8	7.7
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	100%	0%	0%	0%	100%	41%	0%
Vol Thru, %	0%	0%	0%	100%	22%	0%	59%	100%
Vol Right, %	0%	0%	100%	0%	78%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	51	51	57	25	57	40	37	44
LT Vol	51	51	0	0	0	40	15	0
Through Vol	0	0	0	25	12	0	22	44
RT Vol	0	0	57	0	45	0	0	0
Lane Flow Rate	58	58	66	28	66	46	43	51
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.09	0.09	0.048	0.041	0.086	0.072	0.064	0.048
Departure Headway (Hd)	5.58	5.58	2.628	5.257	4.706	5.681	5.386	3.423
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	644	644	1361	682	762	632	666	1045
Service Time	3.298	3.298	0.346	2.985	2.433	3.404	3.109	1.146
HCM Lane V/C Ratio	0.09	0.09	0.048	0.041	0.087	0.073	0.065	0.049
HCM Control Delay	8.9	8.9	5.5	8.2	7.9	8.8	8.5	6.3
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.2	0.1	0.3	0.2	0.2	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	158	92	20	186	39	233	252	24	28	118	23
Future Volume (veh/h)	30	158	92	20	186	39	233	252	24	28	118	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	32	170	99	22	200	42	251	271	26	30	127	25
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	53	571	254	38	543	242	320	996	95	51	462	89
Arrive On Green	0.03	0.16	0.16	0.02	0.15	0.15	0.18	0.31	0.31	0.03	0.15	0.15
Sat Flow, veh/h	1767	3526	1570	1767	3526	1569	1767	3253	310	1810	3019	580
Grp Volume(v), veh/h	32	170	99	22	200	42	251	146	151	30	75	77
Grp Sat Flow(s),veh/h/ln	1767	1763	1570	1767	1763	1569	1767	1763	1799	1810	1805	1794
Q Serve(g_s), s	0.7	1.7	2.3	0.5	2.1	0.9	5.5	2.5	2.6	0.7	1.5	1.6
Cycle Q Clear(g_c), s	0.7	1.7	2.3	0.5	2.1	0.9	5.5	2.5	2.6	0.7	1.5	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.32
Lane Grp Cap(c), veh/h	53	571	254	38	543	242	320	540	551	51	276	275
V/C Ratio(X)	0.61	0.30	0.39	0.58	0.37	0.17	0.78	0.27	0.27	0.59	0.27	0.28
Avail Cap(c_a), veh/h	1303	3467	1544	1303	3467	1543	1303	1734	1770	1335	1775	1765
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	15.0	15.2	19.7	15.4	15.0	15.9	10.7	10.7	19.5	15.2	15.2
Incr Delay (d2), s/veh	4.1	0.4	1.4	5.0	0.6	0.5	1.6	0.4	0.4	3.9	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.6	0.7	0.2	0.7	0.3	1.9	0.8	0.8	0.3	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.6	15.4	16.6	24.7	16.0	15.4	17.5	11.1	11.1	23.4	16.0	16.0
LnGrp LOS	C	B	B	C	B	B	B	B	B	C	B	B
Approach Vol, veh/h		301			264			548			182	
Approach Delay, s/veh		16.7			16.7			14.0			17.2	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	18.2	4.9	12.4	11.4	12.0	5.2	12.1
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	30.0	40.0	30.0	40.0	30.0	40.0	30.0	40.0
Max Q Clear Time (g_c+I1), s	2.7	4.6	2.5	4.3	7.5	3.6	2.7	4.1
Green Ext Time (p_c), s	0.0	2.5	0.0	2.1	0.3	1.3	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	15.6
HCM 6th LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	117	92	18	65	28	11
Future Volume (veh/h)	117	92	18	65	28	11
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	152	119	23	84	36	14
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	573	318	1032	723	120	880
Arrive On Green	0.17	0.17	0.29	0.29	0.04	0.47
Sat Flow, veh/h	3428	1572	3618	1572	3428	1856
Grp Volume(v), veh/h	152	119	23	84	36	14
Grp Sat Flow(s),veh/h/ln	1714	1572	1763	1572	1714	1856
Q Serve(g_s), s	1.1	1.8	0.1	0.8	0.3	0.1
Cycle Q Clear(g_c), s	1.1	1.8	0.1	0.8	0.3	0.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	573	318	1032	723	120	880
V/C Ratio(X)	0.27	0.37	0.02	0.12	0.30	0.02
Avail Cap(c_a), veh/h	3764	1782	3871	1989	3764	2037
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.9	9.4	6.9	4.2	12.9	3.8
Incr Delay (d2), s/veh	0.3	1.0	0.0	0.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.5	0.0	0.2	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.3	10.4	6.9	4.3	13.4	3.8
LnGrp LOS	B	B	A	A	B	A
Approach Vol, veh/h	271		107			50
Approach Delay, s/veh	10.3		4.9			10.7
Approach LOS	B		A			B

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	5.0	13.1	18.1	9.3
Change Period (Y+Rc), s	4.0	5.1	5.1	4.7
Max Green Setting (Gmax), s	30.0	30.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	2.3	2.8	2.1	3.8
Green Ext Time (p_c), s	0.0	0.6	0.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	9.0
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	65	17	23	96	33	28
Future Vol, veh/h	65	17	23	96	33	28
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	80	21	28	119	41	35
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	7.9	7	7.3
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	55%	0%	0%	0%	100%	7%	0%
Vol Thru, %	0%	0%	0%	100%	56%	0%	93%	100%
Vol Right, %	0%	45%	100%	0%	44%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	22	20	19	43	39	21	34	64
LT Vol	22	11	0	0	0	21	2	0
Through Vol	0	0	0	43	22	0	32	64
RT Vol	0	9	19	0	17	0	0	0
Lane Flow Rate	27	25	24	53	48	26	42	79
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.042	0.034	0.017	0.074	0.062	0.039	0.059	0.07
Departure Headway (Hd)	5.573	5.034	2.621	4.991	4.682	5.442	4.975	3.187
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	645	714	1367	722	770	661	723	1128
Service Time	3.286	2.748	0.335	2.691	2.382	3.149	2.682	0.894
HCM Lane V/C Ratio	0.042	0.035	0.018	0.073	0.062	0.039	0.058	0.07
HCM Control Delay	8.5	7.9	5.4	8.1	7.7	8.4	8	6.1
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	173	4	17	320	24	11	5	33	31	6	28
Future Volume (veh/h)	24	173	4	17	320	24	11	5	33	31	6	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	25	178	4	18	330	25	11	5	34	32	6	29
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	44	894	399	33	871	389	16	7	50	101	106	90
Arrive On Green	0.02	0.25	0.25	0.02	0.25	0.25	0.04	0.04	0.04	0.06	0.06	0.06
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	360	164	1113	1810	1900	1610
Grp Volume(v), veh/h	25	178	4	18	330	25	50	0	0	32	6	29
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1637	0	0	1810	1900	1610
Q Serve(g_s), s	0.5	1.3	0.1	0.3	2.5	0.4	1.0	0.0	0.0	0.6	0.1	0.6
Cycle Q Clear(g_c), s	0.5	1.3	0.1	0.3	2.5	0.4	1.0	0.0	0.0	0.6	0.1	0.6
Prop In Lane	1.00		1.00	1.00		1.00	0.22		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	44	894	399	33	871	389	73	0	0	101	106	90
V/C Ratio(X)	0.57	0.20	0.01	0.55	0.38	0.06	0.68	0.00	0.00	0.32	0.06	0.32
Avail Cap(c_a), veh/h	1638	4902	2187	1638	4902	2187	1518	0	0	1677	1761	1493
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.6	9.5	9.0	15.7	10.1	9.3	15.2	0.0	0.0	14.7	14.5	14.7
Incr Delay (d2), s/veh	4.2	0.2	0.0	5.3	0.4	0.1	10.6	0.0	0.0	1.8	0.2	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.3	0.0	0.1	0.7	0.1	0.5	0.0	0.0	0.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	9.6	9.1	21.1	10.5	9.4	25.9	0.0	0.0	16.4	14.7	16.7
LnGrp LOS	B	A	A	C	B	A	C	A	A	B	B	B
Approach Vol, veh/h		207			373			50			67	
Approach Delay, s/veh		10.9			10.9			25.9			16.4	
Approach LOS		B			B			C			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.5	4.6	14.0		7.2	4.8	13.8				
Change Period (Y+Rc), s		5.1	4.0	5.8		5.4	4.0	5.8				
Max Green Setting (Gmax), s		30.0	30.0	45.0		30.0	30.0	45.0				
Max Q Clear Time (g_c+I1), s		3.0	2.3	3.3		2.6	2.5	4.5				
Green Ext Time (p_c), s		0.2	0.0	1.6		0.2	0.0	3.3				

Intersection Summary		
HCM 6th Ctrl Delay		12.5
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	14	57	425	37	220	61	669	146	92	919	6
Future Volume (veh/h)	7	14	57	425	37	220	61	669	146	92	919	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	7	15	60	447	39	232	64	704	154	97	967	6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	12	20	82	504	47	280	82	2065	920	119	3150	20
Arrive On Green	0.01	0.06	0.06	0.15	0.20	0.20	0.02	0.19	0.19	0.07	0.61	0.61
Sat Flow, veh/h	1767	324	1298	3428	231	1376	1767	3526	1572	1767	5195	32
Grp Volume(v), veh/h	7	0	75	447	0	271	64	704	154	97	629	344
Grp Sat Flow(s),veh/h/ln	1767	0	1622	1714	0	1608	1767	1763	1572	1767	1689	1850
Q Serve(g_s), s	0.6	0.0	6.4	17.9	0.0	22.6	5.1	24.1	11.4	7.6	12.6	12.6
Cycle Q Clear(g_c), s	0.6	0.0	6.4	17.9	0.0	22.6	5.1	24.1	11.4	7.6	12.6	12.6
Prop In Lane	1.00		0.80	1.00		0.86	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	12	0	102	504	0	327	82	2065	920	119	2048	1122
V/C Ratio(X)	0.58	0.00	0.73	0.89	0.00	0.83	0.78	0.34	0.17	0.82	0.31	0.31
Avail Cap(c_a), veh/h	379	0	348	735	0	345	199	2065	920	199	2048	1122
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.97	0.00	0.97	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.3	0.0	64.4	58.6	0.0	53.4	68.2	33.1	28.0	64.4	13.3	13.3
Incr Delay (d2), s/veh	15.4	0.0	13.4	6.7	0.0	15.3	5.9	0.5	0.4	5.1	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	3.0	8.2	0.0	10.5	2.5	11.6	4.9	3.5	4.7	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.8	0.0	77.9	65.3	0.0	68.7	74.1	33.6	28.4	69.5	13.7	14.0
LnGrp LOS	F	A	E	E	A	E	E	C	C	E	B	B
Approach Vol, veh/h		82			718			922			1070	
Approach Delay, s/veh		78.5			66.6			35.5			18.9	
Approach LOS		E			E			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	87.8	24.6	14.2	10.5	90.7	5.0	33.9
Change Period (Y+Rc), s	4.0	5.8	4.0	* 5.4	4.0	5.8	4.0	5.4
Max Green Setting (Gmax), s	15.8	45.0	30.0	* 30	15.8	45.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	9.6	26.1	19.9	8.4	7.1	14.6	2.6	24.6
Green Ext Time (p_c), s	0.0	6.8	0.7	0.5	0.0	9.8	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	38.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1133	151	167	797
Future Volume (veh/h)	0	0	1133	151	167	797
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				1.00	1.00	
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No			No
Adj Sat Flow, veh/h/ln			1856	1856	1856	1856
Adj Flow Rate, veh/h			1232	164	182	866
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			3	3	3	3
Cap, veh/h			2868	1279	204	3387
Arrive On Green			0.81	0.81	0.23	1.00
Sat Flow, veh/h			3618	1572	1767	3618
Grp Volume(v), veh/h			1232	164	182	866
Grp Sat Flow(s),veh/h/ln			1763	1572	1767	1763
Q Serve(g_s), s			14.0	3.0	14.0	0.0
Cycle Q Clear(g_c), s			14.0	3.0	14.0	0.0
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			2868	1279	204	3387
V/C Ratio(X)			0.43	0.13	0.89	0.26
Avail Cap(c_a), veh/h			2868	1279	322	3387
HCM Platoon Ratio			1.00	1.00	2.00	2.00
Upstream Filter(I)			0.90	0.90	1.00	1.00
Uniform Delay (d), s/veh			3.7	2.7	53.1	0.0
Incr Delay (d2), s/veh			0.4	0.2	12.0	0.2
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			3.9	0.8	6.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			4.2	2.9	65.0	0.2
LnGrp LOS			A	A	E	A
Approach Vol, veh/h			1396			1048
Approach Delay, s/veh			4.0			11.4
Approach LOS			A			B
Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	20.6	119.4				140.0
Change Period (Y+Rc), s	4.5	5.5				5.5
Max Green Setting (Gmax), s	25.5	104.5				60.0
Max Q Clear Time (g_c+I1), s	16.0	16.0				2.0
Green Ext Time (p_c), s	0.2	7.3				4.2
Intersection Summary						
HCM 6th Ctrl Delay			7.2			
HCM 6th LOS			A			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	279	131	246	246	0	299	0	662	148	88	732	0
Future Volume (veh/h)	279	131	246	246	0	299	0	662	148	88	732	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	297	139	262	262	0	318	0	704	157	94	779	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	703	381	319	0	0	0	0	3138	974	114	2526	0
Arrive On Green	0.21	0.21	0.21	0.00	0.00	0.00	0.00	0.62	0.62	0.13	1.00	0.00
Sat Flow, veh/h	3428	1856	1554		0		0	5233	1572	1767	3618	0
Grp Volume(v), veh/h	297	139	262		0.0		0	704	157	94	779	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1554				0	1689	1572	1767	1763	0
Q Serve(g_s), s	10.6	9.0	22.6				0.0	8.6	5.9	7.3	0.0	0.0
Cycle Q Clear(g_c), s	10.6	9.0	22.6				0.0	8.6	5.9	7.3	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	703	381	319				0	3138	974	114	2526	0
V/C Ratio(X)	0.42	0.37	0.82				0.00	0.22	0.16	0.82	0.31	0.00
Avail Cap(c_a), veh/h	1077	583	488				0	3138	974	215	2526	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.97	0.97	0.98	0.98	0.00
Uniform Delay (d), s/veh	48.4	47.8	53.2				0.0	11.8	11.3	60.1	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.2	3.7				0.0	0.2	0.3	5.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	4.2	9.2				0.0	3.2	2.1	3.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.6	48.0	56.9				0.0	11.9	11.6	65.5	0.3	0.0
LnGrp LOS	D	D	E				A	B	B	E	A	A
Approach Vol, veh/h		698						861			873	
Approach Delay, s/veh		51.6						11.9			7.3	
Approach LOS		D						B			A	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	13.6	92.2		34.2		105.8						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	17.0	31.0		44.0		60.0						
Max Q Clear Time (g_c+I1), s	9.3	10.6		24.6		2.0						
Green Ext Time (p_c), s	0.1	3.2		1.5		6.0						
Intersection Summary												
HCM 6th Ctrl Delay			21.6									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	166	65	63	682	773	263
Future Volume (veh/h)	166	65	63	682	773	263
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	187	73	71	766	869	296
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	439	201	179	3159	1701	960
Arrive On Green	0.13	0.13	0.05	0.62	0.48	0.48
Sat Flow, veh/h	3428	1572	3428	5233	3618	1572
Grp Volume(v), veh/h	187	73	71	766	869	296
Grp Sat Flow(s),veh/h/ln	1714	1572	1714	1689	1763	1572
Q Serve(g_s), s	2.3	1.9	0.9	3.0	7.6	4.1
Cycle Q Clear(g_c), s	2.3	1.9	0.9	3.0	7.6	4.1
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	439	201	179	3159	1701	960
V/C Ratio(X)	0.43	0.36	0.40	0.24	0.51	0.31
Avail Cap(c_a), veh/h	2282	1047	2282	5057	3520	1771
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	18.0	20.7	3.8	8.0	4.2
Incr Delay (d2), s/veh	0.9	1.6	0.5	0.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.8	0.3	0.4	1.9	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.1	19.5	21.2	3.8	8.3	4.5
LnGrp LOS	B	B	C	A	A	A
Approach Vol, veh/h	260			837	1165	
Approach Delay, s/veh	19.2			5.3	7.4	
Approach LOS	B			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		33.9		11.2	6.4	27.6
Change Period (Y+Rc), s		5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		5.0		4.3	2.9	9.6
Green Ext Time (p_c), s		8.4		1.4	0.1	12.1

Intersection Summary			
HCM 6th Ctrl Delay			8.0
HCM 6th LOS			A

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	167	64	121	573	592	166
Future Volume (veh/h)	167	64	121	573	592	166
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	194	74	141	666	688	193
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	454	208	184	2118	1426	840
Arrive On Green	0.13	0.13	0.10	0.60	0.40	0.40
Sat Flow, veh/h	3428	1572	1767	3618	3618	1561
Grp Volume(v), veh/h	194	74	141	666	688	193
Grp Sat Flow(s),veh/h/ln	1714	1572	1767	1763	1763	1561
Q Serve(g_s), s	2.3	1.9	3.4	4.0	6.3	2.8
Cycle Q Clear(g_c), s	2.3	1.9	3.4	4.0	6.3	2.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	454	208	184	2118	1426	840
V/C Ratio(X)	0.43	0.36	0.77	0.31	0.48	0.23
Avail Cap(c_a), veh/h	2365	1085	1219	3648	3648	1823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.3	17.2	19.0	4.3	9.6	5.3
Incr Delay (d2), s/veh	0.9	1.5	2.5	0.1	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.8	1.3	0.6	1.7	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.2	18.6	21.5	4.4	9.9	5.5
LnGrp LOS	B	B	C	A	A	A
Approach Vol, veh/h	268			807	881	
Approach Delay, s/veh	18.4			7.4	9.0	
Approach LOS	B			A	A	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		31.9		11.6	8.5	23.4
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		6.0		4.3	5.4	8.3
Green Ext Time (p_c), s		7.1		1.4	0.2	8.7
Intersection Summary						
HCM 6th Ctrl Delay			9.6			
HCM 6th LOS			A			

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	158	54	85	312	130	92	515	101	106	501	74
Future Volume (veh/h)	85	158	54	85	312	130	92	515	101	106	501	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	89	165	56	89	325	135	96	536	105	110	522	77
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	115	623	204	115	583	237	125	969	430	143	1006	446
Arrive On Green	0.07	0.24	0.24	0.07	0.24	0.24	0.07	0.27	0.27	0.08	0.29	0.29
Sat Flow, veh/h	1767	2604	853	1767	2438	992	1767	3526	1564	1767	3526	1564
Grp Volume(v), veh/h	89	110	111	89	233	227	96	536	105	110	522	77
Grp Sat Flow(s),veh/h/ln	1767	1763	1694	1767	1763	1668	1767	1763	1564	1767	1763	1564
Q Serve(g_s), s	2.9	2.9	3.1	2.9	6.7	6.9	3.1	7.5	3.0	3.5	7.2	2.1
Cycle Q Clear(g_c), s	2.9	2.9	3.1	2.9	6.7	6.9	3.1	7.5	3.0	3.5	7.2	2.1
Prop In Lane	1.00		0.50	1.00		0.59	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	115	421	405	115	421	399	125	969	430	143	1006	446
V/C Ratio(X)	0.77	0.26	0.27	0.77	0.55	0.57	0.77	0.55	0.24	0.77	0.52	0.17
Avail Cap(c_a), veh/h	919	917	881	919	917	868	919	2750	1220	919	2750	1220
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	17.8	17.9	26.5	19.2	19.3	26.3	17.9	16.3	26.0	17.3	15.5
Incr Delay (d2), s/veh	4.1	0.5	0.5	4.1	1.6	1.8	3.7	0.7	0.4	3.2	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.1	1.1	1.2	2.6	2.5	1.3	2.7	1.0	1.5	2.6	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	18.3	18.4	30.6	20.9	21.1	30.1	18.6	16.7	29.2	17.9	15.8
LnGrp LOS	C	B	B	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		310			549			737			709	
Approach Delay, s/veh		21.9			22.6			19.8			19.4	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	21.7	7.8	19.6	8.1	22.3	7.8	19.6				
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8				
Max Green Setting (Gmax), s	30.0	45.0	30.0	30.0	30.0	45.0	30.0	30.0				
Max Q Clear Time (g_c+I1), s	5.5	9.5	4.9	5.1	5.1	9.2	4.9	8.9				
Green Ext Time (p_c), s	0.1	6.0	0.1	1.6	0.1	5.7	0.1	3.6				
Intersection Summary												
HCM 6th Ctrl Delay			20.6									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	237	0	1	445	7	232	2	21	0	0	3
Future Volume (vph)	10	237	0	1	445	7	232	2	21	0	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Lane Util. Factor		0.95			0.95		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.95	1.00			1.00
Satd. Flow (prot)		3497			3495		1665	1670	1568			1596
Flt Permitted		0.94			0.95		0.95	0.95	1.00			1.00
Satd. Flow (perm)		3280			3337		1665	1670	1568			1596
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	258	0	1	484	8	252	2	23	0	0	3
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	20	0	0	3
Lane Group Flow (vph)	0	269	0	0	492	0	126	128	3	0	0	0
Confl. Peds. (#/hr)	2		4	4		2						
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Split	NA	Perm			Prot
Protected Phases		6			2		4	4				3
Permitted Phases	6			2					4			
Actuated Green, G (s)		45.2			45.2		9.8	9.8	9.8			1.0
Effective Green, g (s)		45.2			45.2		9.8	9.8	9.8			1.0
Actuated g/C Ratio		0.65			0.65		0.14	0.14	0.14			0.01
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		2117			2154		233	233	219			22
v/s Ratio Prot							0.08	c0.08				c0.00
v/s Ratio Perm		0.08			c0.15				0.00			
v/c Ratio		0.13			0.23		0.54	0.55	0.01			0.00
Uniform Delay, d1		4.8			5.2		28.0	28.0	25.9			34.0
Progression Factor		1.67			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.1			0.2		1.4	1.4	0.0			0.0
Delay (s)		8.1			5.4		29.4	29.5	25.9			34.0
Level of Service		A			A		C	C	C			C
Approach Delay (s)		8.1			5.4			29.1			34.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	38.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	83	429	97	458	484	257	117	0	351	433	0	146
Future Volume (veh/h)	83	429	97	458	484	257	117	0	351	433	0	146
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1565	1565	1565	1565	1565	1565	1565	0	1565	1565	0	1565
Adj Flow Rate, veh/h	90	466	0	498	526	0	127	0	382	471	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	0	3	3	0	3
Cap, veh/h	111	1319		560	1674		537	0	0	537	0	
Arrive On Green	0.07	0.44	0.00	0.19	0.56	0.00	0.19	0.00	0.00	0.19	0.00	0.00
Sat Flow, veh/h	1491	2974	1327	2892	2974	1327	2892	127		2892	471	
Grp Volume(v), veh/h	90	466	0	498	526	0	127	38.4		471	53.8	
Grp Sat Flow(s),veh/h/ln	1491	1487	1327	1446	1487	1327	1446	D		1446	D	
Q Serve(g_s), s	6.5	11.4	0.0	18.5	10.3	0.0	4.1			17.4		
Cycle Q Clear(g_c), s	6.5	11.4	0.0	18.5	10.3	0.0	4.1			17.4		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	111	1319		560	1674		537			537		
V/C Ratio(X)	0.81	0.35		0.89	0.31		0.24			0.88		
Avail Cap(c_a), veh/h	339	1319		657	1674		684			684		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.81	0.81	0.00	1.00			1.00		
Uniform Delay (d), s/veh	50.2	20.2	0.0	43.2	12.8	0.0	38.1			43.6		
Incr Delay (d2), s/veh	13.3	0.7	0.0	10.7	0.4	0.0	0.2			10.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	2.8	4.0	0.0	7.3	3.4	0.0	1.5			7.0		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.5	20.9	0.0	54.0	13.2	0.0	38.4			53.8		
LnGrp LOS	E	C		D	B		D			D		
Approach Vol, veh/h		556	A		1024	A						
Approach Delay, s/veh		27.8			33.0							
Approach LOS		C			C							

Timer - Assigned Phs	1	2	3		5	6	7
Phs Duration (G+Y+Rc), s	27.8	56.8	25.4		14.7	69.9	25.4
Change Period (Y+Rc), s	6.5	8.0	5.0		6.5	8.0	5.0
Max Green Setting (Gmax), s	25.0	39.5	26.0		25.0	39.5	26.0
Max Q Clear Time (g_c+I1), s	20.5	13.4	6.1		8.5	12.3	19.4
Green Ext Time (p_c), s	0.8	3.1	0.4		0.2	3.6	1.0

Intersection Summary	
HCM 6th Ctrl Delay	36.5
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	362	681	162	37	430	94	90	312	97	69	264	694
Future Volume (veh/h)	362	681	162	37	430	94	90	312	97	69	264	694
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	385	724	172	39	457	100	96	332	103	73	281	738
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	494	1200	533	65	734	326	124	837	256	118	590	878
Arrive On Green	0.14	0.32	0.32	0.04	0.21	0.21	0.07	0.31	0.31	0.07	0.32	0.32
Sat Flow, veh/h	3645	3749	1664	1767	3526	1566	1767	2659	812	1767	1856	2762
Grp Volume(v), veh/h	385	724	172	39	457	100	96	218	217	73	281	738
Grp Sat Flow(s),veh/h/ln	1823	1874	1664	1767	1763	1566	1767	1763	1708	1767	1856	1381
Q Serve(g_s), s	7.9	12.5	6.0	1.7	9.1	4.2	4.1	7.4	7.7	3.1	9.4	19.1
Cycle Q Clear(g_c), s	7.9	12.5	6.0	1.7	9.1	4.2	4.1	7.4	7.7	3.1	9.4	19.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	494	1200	533	65	734	326	124	555	538	118	590	878
V/C Ratio(X)	0.78	0.60	0.32	0.60	0.62	0.31	0.77	0.39	0.40	0.62	0.48	0.84
Avail Cap(c_a), veh/h	948	1949	865	459	1696	753	689	687	666	459	724	1077
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	22.0	19.8	36.5	27.7	25.8	35.2	20.6	20.7	34.9	21.1	24.4
Incr Delay (d2), s/veh	1.0	0.5	0.3	3.3	0.9	0.5	3.8	0.5	0.5	1.9	0.6	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	5.3	2.1	0.8	3.8	1.4	1.8	2.8	2.8	1.3	3.9	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.2	22.5	20.2	39.8	28.6	26.3	39.0	21.1	21.2	36.9	21.7	29.5
LnGrp LOS	C	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1281			596			531			1092	
Approach Delay, s/veh		25.4			28.9			24.3			28.0	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	30.0	9.4	30.7	15.4	21.4	9.7	30.4
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	3.7	14.5	6.1	21.1	9.9	11.1	5.1	9.7
Green Ext Time (p_c), s	0.0	6.1	0.1	3.3	0.6	3.5	0.1	2.2

Intersection Summary	
HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	521	181	1138	333	61	774
Future Volume (veh/h)	521	181	1138	333	61	774
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	543	189	1185	347	64	806
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	657	380	2143	1239	83	2503
Arrive On Green	0.18	0.18	0.41	0.41	0.05	0.71
Sat Flow, veh/h	3645	1672	3618	1572	1767	3618
Grp Volume(v), veh/h	543	189	1185	347	64	806
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1572	1767	1763
Q Serve(g_s), s	14.4	9.8	25.7	8.3	3.6	8.6
Cycle Q Clear(g_c), s	14.4	9.8	25.7	8.3	3.6	8.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	657	380	2143	1239	83	2503
V/C Ratio(X)	0.83	0.50	0.55	0.28	0.77	0.32
Avail Cap(c_a), veh/h	838	463	2143	1239	300	2503
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	33.7	19.2	4.7	47.1	5.5
Incr Delay (d2), s/veh	5.5	1.0	1.0	0.6	13.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	4.1	11.2	6.0	1.9	2.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.0	34.7	20.3	5.3	60.9	5.8
LnGrp LOS	D	C	C	A	E	A
Approach Vol, veh/h	732		1532			870
Approach Delay, s/veh	42.3		16.9			9.9
Approach LOS	D		B			A

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.2	66.3				76.5		23.5
Change Period (Y+Rc), s	5.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	17.0	43.5				66.0		23.0
Max Q Clear Time (g_c+I1), s	5.6	27.7				10.6		16.4
Green Ext Time (p_c), s	0.1	8.4				6.3		1.7

Intersection Summary	
HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	689	391	1151	636	112	1251
Future Volume (veh/h)	689	391	1151	636	112	1251
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	703	399	1174	649	114	1277
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	838	521	1899	1207	144	3394
Arrive On Green	0.23	0.23	0.54	0.54	0.05	0.45
Sat Flow, veh/h	3645	1672	3618	1570	1767	5233
Grp Volume(v), veh/h	703	399	1174	649	114	1277
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1570	1767	1689
Q Serve(g_s), s	18.4	21.6	23.0	16.3	6.4	16.7
Cycle Q Clear(g_c), s	18.4	21.6	23.0	16.3	6.4	16.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	838	521	1899	1207	144	3394
V/C Ratio(X)	0.84	0.77	0.62	0.54	0.79	0.38
Avail Cap(c_a), veh/h	838	521	1899	1207	265	3394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67
Upstream Filter(I)	1.00	1.00	0.59	0.59	1.00	1.00
Uniform Delay (d), s/veh	36.7	31.1	16.0	4.6	46.4	13.7
Incr Delay (d2), s/veh	7.5	6.7	0.9	1.0	9.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	19.7	8.6	10.8	3.2	6.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.3	37.9	16.9	5.6	55.8	14.0
LnGrp LOS	D	D	B	A	E	B
Approach Vol, veh/h	1102		1823			1391
Approach Delay, s/veh	42.0		12.8			17.4
Approach LOS	D		B			B
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.1	58.9		28.0		72.0
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	47.0		23.0		67.0
Max Q Clear Time (g_c+I1), s	8.4	25.0		23.6		18.7
Green Ext Time (p_c), s	0.1	11.6		0.0		11.7
Intersection Summary						
HCM 6th Ctrl Delay			21.8			
HCM 6th LOS			C			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	575	152	234	33	77	244	173	972	80	194	891	570
Future Volume (veh/h)	575	152	234	33	77	244	173	972	80	194	891	570
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	599	158	244	34	80	254	180	1012	83	202	928	594
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	683	676	572	57	357	302	213	1349	110	238	1502	821
Arrive On Green	0.20	0.36	0.36	0.03	0.18	0.18	0.12	0.28	0.28	0.13	0.30	0.30
Sat Flow, veh/h	3428	1856	1570	1879	1973	1666	1767	4772	391	1767	5066	2768
Grp Volume(v), veh/h	599	158	244	34	80	254	180	716	379	202	928	594
Grp Sat Flow(s),veh/h/ln	1714	1856	1570	1879	1973	1666	1767	1689	1785	1767	1689	1384
Q Serve(g_s), s	17.1	6.0	11.8	1.8	3.5	14.9	10.1	19.5	19.6	11.3	16.0	19.4
Cycle Q Clear(g_c), s	17.1	6.0	11.8	1.8	3.5	14.9	10.1	19.5	19.6	11.3	16.0	19.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	683	676	572	57	357	302	213	955	505	238	1502	821
V/C Ratio(X)	0.88	0.23	0.43	0.59	0.22	0.84	0.84	0.75	0.75	0.85	0.62	0.72
Avail Cap(c_a), veh/h	1017	676	572	557	585	494	437	1336	706	524	2004	1095
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.3	22.3	24.2	48.4	35.3	40.0	43.5	33.0	33.0	42.8	30.6	31.9
Incr Delay (d2), s/veh	4.3	0.2	0.5	3.6	0.3	6.9	3.5	1.5	2.9	6.3	0.4	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	2.6	4.4	0.9	1.7	6.6	4.5	7.8	8.5	5.2	6.3	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.6	22.5	24.7	52.0	35.7	46.9	47.1	34.5	35.9	49.1	31.0	33.5
LnGrp LOS	D	C	C	D	D	D	D	C	D	D	C	C
Approach Vol, veh/h		1001			368			1275			1724	
Approach Delay, s/veh		35.6			44.9			36.7			34.0	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.1	34.0	7.1	42.0	16.7	35.4	25.6	23.4
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	30.0	40.0	30.0	30.0	25.0	40.0	30.0	* 30
Max Q Clear Time (g_c+I1), s	13.3	21.6	3.8	13.8	12.1	21.4	19.1	16.9
Green Ext Time (p_c), s	0.3	6.7	0.0	1.5	0.2	8.6	1.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	36.1
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	141	179	81	268	280	254	773	108	310	766	50
Future Volume (veh/h)	193	141	179	81	268	280	254	773	108	310	766	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	203	148	188	85	282	295	267	814	114	326	806	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	297	206	261	113	893	395	366	1251	174	427	1536	612
Arrive On Green	0.09	0.28	0.28	0.06	0.24	0.24	0.11	0.28	0.28	0.12	0.30	0.30
Sat Flow, veh/h	3428	739	939	1879	3749	1657	3428	4492	625	3428	5066	1568
Grp Volume(v), veh/h	203	0	336	85	282	295	267	611	317	326	806	53
Grp Sat Flow(s),veh/h/ln	1714	0	1678	1879	1874	1657	1714	1689	1741	1714	1689	1568
Q Serve(g_s), s	4.3	0.0	13.6	3.4	4.7	12.4	5.7	12.0	12.1	6.9	9.9	1.6
Cycle Q Clear(g_c), s	4.3	0.0	13.6	3.4	4.7	12.4	5.7	12.0	12.1	6.9	9.9	1.6
Prop In Lane	1.00		0.56	1.00		1.00	1.00		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	297	0	467	113	893	395	366	941	485	427	1536	612
V/C Ratio(X)	0.68	0.00	0.72	0.75	0.32	0.75	0.73	0.65	0.65	0.76	0.52	0.09
Avail Cap(c_a), veh/h	910	0	668	498	1492	659	910	1792	924	910	2688	968
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	0.0	24.6	34.9	23.7	26.6	32.6	23.9	24.0	31.9	21.8	14.5
Incr Delay (d2), s/veh	1.0	0.0	2.1	3.8	0.2	2.8	1.1	0.8	1.5	1.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	5.4	1.6	2.0	5.0	2.3	4.5	4.8	2.8	3.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.5	0.0	26.7	38.7	23.9	29.5	33.7	24.7	25.5	33.0	22.0	14.6
LnGrp LOS	C	A	C	D	C	C	C	C	C	C	C	B
Approach Vol, veh/h		539			662			1195			1185	
Approach Delay, s/veh		29.6			28.3			26.9			24.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	26.4	9.0	25.6	12.5	28.3	12.0	22.6				
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6				
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	20.0	30.0				
Max Q Clear Time (g_c+I1), s	8.9	14.1	5.4	15.6	7.7	11.9	6.3	14.4				
Green Ext Time (p_c), s	0.5	6.3	0.1	1.8	0.4	6.0	0.3	2.6				

Intersection Summary			
HCM 6th Ctrl Delay			26.8
HCM 6th LOS			C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	245	488	103	96	332	150	42	507	54	147	453	174
Future Volume (veh/h)	245	488	103	96	332	150	42	507	54	147	453	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	255	508	107	100	346	156	44	528	56	153	472	181
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	307	829	174	129	655	287	73	799	85	193	1117	767
Arrive On Green	0.17	0.29	0.29	0.07	0.19	0.19	0.04	0.25	0.25	0.11	0.32	0.32
Sat Flow, veh/h	1767	2894	606	1767	3526	1545	1767	3213	340	1767	3526	1558
Grp Volume(v), veh/h	255	308	307	100	346	156	44	289	295	153	472	181
Grp Sat Flow(s),veh/h/ln	1767	1763	1738	1767	1763	1545	1767	1763	1790	1767	1763	1558
Q Serve(g_s), s	9.8	10.6	10.7	3.9	6.2	6.4	1.7	10.3	10.4	5.9	7.4	4.7
Cycle Q Clear(g_c), s	9.8	10.6	10.7	3.9	6.2	6.4	1.7	10.3	10.4	5.9	7.4	4.7
Prop In Lane	1.00		0.35	1.00		1.00	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	307	505	498	129	655	287	73	439	445	193	1117	767
V/C Ratio(X)	0.83	0.61	0.62	0.77	0.53	0.54	0.61	0.66	0.66	0.79	0.42	0.24
Avail Cap(c_a), veh/h	756	755	744	504	1509	661	504	1006	1021	504	2012	1162
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	21.6	21.7	31.9	25.8	25.8	33.0	23.6	23.7	30.4	18.9	10.3
Incr Delay (d2), s/veh	4.4	1.2	1.2	3.7	0.7	1.6	3.0	1.7	1.7	2.8	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	4.2	4.2	1.7	2.5	2.3	0.8	4.2	4.3	2.5	2.8	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	22.8	22.9	35.6	26.4	27.4	36.1	25.3	25.4	33.2	19.1	10.4
LnGrp LOS	C	C	C	D	C	C	D	C	C	C	B	B
Approach Vol, veh/h		870			602			628			806	
Approach Delay, s/veh		25.7			28.2			26.1			19.9	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.2	22.8	9.6	25.5	7.4	27.6	16.7	18.4				
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4				
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	30.0	30.0				
Max Q Clear Time (g_c+I1), s	7.9	12.4	5.9	12.7	3.7	9.4	11.8	8.4				
Green Ext Time (p_c), s	0.1	3.6	0.1	3.4	0.0	3.8	0.5	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			24.7									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	150	316	342	71	51	176
Future Vol, veh/h	150	316	342	71	51	176
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	155	326	353	73	53	181
Number of Lanes	2	1	1	2	2	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	3	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	3
HCM Control Delay	10.3	12.9	12
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	SBLn1	SBLn2
Vol Left, %	100%	88%	0%	100%	24%	0%	0%	0%
Vol Thru, %	0%	12%	100%	0%	0%	0%	100%	9%
Vol Right, %	0%	0%	0%	0%	76%	100%	0%	91%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	171	195	47	100	208	158	34	193
LT Vol	171	171	0	100	50	0	0	0
Through Vol	0	24	47	0	0	0	34	17
RT Vol	0	0	0	0	158	158	0	176
Lane Flow Rate	176	201	49	103	214	163	35	199
Geometry Grp	8	8	8	7	7	7	8	8
Degree of Util (X)	0.34	0.384	0.063	0.196	0.354	0.176	0.067	0.345
Departure Headway (Hd)	6.949	6.887	4.672	6.858	5.942	3.89	6.894	6.246
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	517	522	763	523	605	917	518	573
Service Time	4.701	4.639	2.423	4.607	3.69	1.638	4.655	4.006
HCM Lane V/C Ratio	0.34	0.385	0.064	0.197	0.354	0.178	0.068	0.347
HCM Control Delay	13.3	13.9	7.7	11.3	11.9	7.5	10.2	12.3
HCM Lane LOS	B	B	A	B	B	A	B	B
HCM 95th-tile Q	1.5	1.8	0.2	0.7	1.6	0.6	0.2	1.5

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	236	227	143	238	247	179
Future Vol, veh/h	236	227	143	238	247	179
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	251	241	152	253	263	190
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	15.8	11.5	11
HCM LOS	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	100%	0%	0%	0%	100%	20%	0%
Vol Thru, %	0%	0%	0%	100%	26%	0%	80%	100%
Vol Right, %	0%	0%	100%	0%	74%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	124	124	179	157	306	123	99	159
LT Vol	124	124	0	0	0	123	20	0
Through Vol	0	0	0	157	79	0	79	159
RT Vol	0	0	179	0	227	0	0	0
Lane Flow Rate	131	131	190	167	325	131	106	169
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.267	0.267	0.23	0.318	0.571	0.276	0.211	0.248
Departure Headway (Hd)	7.326	7.326	4.345	6.849	6.322	7.587	7.181	5.297
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	489	489	819	522	566	471	497	672
Service Time	5.098	5.098	2.115	4.629	4.101	5.374	4.968	3.083
HCM Lane V/C Ratio	0.268	0.268	0.232	0.32	0.574	0.278	0.213	0.251
HCM Control Delay	12.8	12.8	8.4	12.8	17.3	13.3	11.9	9.8
HCM Lane LOS	B	B	A	B	C	B	B	A
HCM 95th-tile Q	1.1	1.1	0.9	1.4	3.6	1.1	0.8	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	280	226	30	232	95	170	442	31	82	495	70
Future Volume (veh/h)	97	280	226	30	232	95	170	442	31	82	495	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	100	289	233	31	239	98	175	456	32	85	510	72
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	130	857	381	48	692	307	223	1124	79	111	863	121
Arrive On Green	0.07	0.24	0.24	0.03	0.20	0.20	0.13	0.34	0.34	0.06	0.27	0.27
Sat Flow, veh/h	1767	3526	1567	1767	3526	1565	1767	3342	234	1810	3177	447
Grp Volume(v), veh/h	100	289	233	31	239	98	175	240	248	85	289	293
Grp Sat Flow(s),veh/h/ln	1767	1763	1567	1767	1763	1565	1767	1763	1813	1810	1805	1819
Q Serve(g_s), s	3.3	4.0	7.8	1.0	3.4	3.2	5.7	6.2	6.2	2.7	8.2	8.3
Cycle Q Clear(g_c), s	3.3	4.0	7.8	1.0	3.4	3.2	5.7	6.2	6.2	2.7	8.2	8.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.25
Lane Grp Cap(c), veh/h	130	857	381	48	692	307	223	593	610	111	490	494
V/C Ratio(X)	0.77	0.34	0.61	0.65	0.35	0.32	0.79	0.40	0.41	0.76	0.59	0.59
Avail Cap(c_a), veh/h	899	2391	1062	899	2391	1062	899	1195	1230	920	1224	1234
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	18.4	19.9	28.4	20.4	20.3	25.0	15.0	15.1	27.3	18.6	18.6
Incr Delay (d2), s/veh	3.6	0.3	2.3	5.4	0.4	0.8	2.3	0.6	0.6	4.0	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.5	2.7	0.5	1.3	1.1	2.3	2.2	2.3	1.2	3.3	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.4	18.7	22.1	33.8	20.9	21.2	27.3	15.7	15.7	31.3	20.2	20.3
LnGrp LOS	C	B	C	C	C	C	C	B	B	C	C	C
Approach Vol, veh/h		622			368			663			667	
Approach Delay, s/veh		21.9			22.0			18.8			21.7	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	25.6	5.6	20.1	11.4	21.8	8.3	17.4
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	30.0	40.0	30.0	40.0	30.0	40.0	30.0	40.0
Max Q Clear Time (g_c+I1), s	4.7	8.2	3.0	9.8	7.7	10.3	5.3	5.4
Green Ext Time (p_c), s	0.1	4.2	0.0	4.1	0.2	5.6	0.1	2.7

Intersection Summary			
HCM 6th Ctrl Delay			20.9
HCM 6th LOS			C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	222	252	51	250	243	62
Future Volume (veh/h)	222	252	51	250	243	62
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	239	271	55	269	261	67
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	887	610	833	776	444	880
Arrive On Green	0.26	0.26	0.24	0.24	0.13	0.47
Sat Flow, veh/h	3428	1572	3618	1563	3428	1856
Grp Volume(v), veh/h	239	271	55	269	261	67
Grp Sat Flow(s),veh/h/ln	1714	1572	1763	1563	1714	1856
Q Serve(g_s), s	2.0	4.7	0.4	3.9	2.6	0.7
Cycle Q Clear(g_c), s	2.0	4.7	0.4	3.9	2.6	0.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	887	610	833	776	444	880
V/C Ratio(X)	0.27	0.44	0.07	0.35	0.59	0.08
Avail Cap(c_a), veh/h	2799	1487	2879	1683	2799	1515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.8	8.3	10.9	5.7	15.1	5.3
Incr Delay (d2), s/veh	0.2	0.7	0.0	0.4	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.2	0.1	1.7	0.9	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.1	9.0	10.9	6.0	15.5	5.3
LnGrp LOS	B	A	B	A	B	A
Approach Vol, veh/h	510		324			328
Approach Delay, s/veh	10.0		6.9			13.4
Approach LOS	A		A			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	8.8	13.8				22.5		14.2
Change Period (Y+Rc), s	4.0	5.1				5.1		4.7
Max Green Setting (Gmax), s	30.0	30.0				30.0		30.0
Max Q Clear Time (g_c+I1), s	4.6	5.9				2.7		6.7
Green Ext Time (p_c), s	0.5	2.0				0.4		2.9

Intersection Summary	
HCM 6th Ctrl Delay	10.1
HCM 6th LOS	B

Notes
User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	251	165	70	192	107	62
Future Vol, veh/h	251	165	70	192	107	62
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	270	177	75	206	115	67
Number of Lanes	2	0	1	2	2	1

Approach	EB		WB		NB	
Opposing Approach	WB		EB			
Opposing Lanes	3		2		0	
Conflicting Approach Left			NB		EB	
Conflicting Lanes Left	0		3		2	
Conflicting Approach Right	NB				WB	
Conflicting Lanes Right	3		0		3	
HCM Control Delay	11.1		8.9		9.2	
HCM LOS	B		A		A	

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	78%	0%	0%	0%	100%	10%	0%
Vol Thru, %	0%	0%	0%	100%	34%	0%	90%	100%
Vol Right, %	0%	22%	100%	0%	66%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	71	46	52	167	249	63	71	128
LT Vol	71	36	0	0	0	63	7	0
Through Vol	0	0	0	167	84	0	64	128
RT Vol	0	10	52	0	165	0	0	0
Lane Flow Rate	77	49	56	180	267	68	76	138
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.143	0.088	0.059	0.286	0.39	0.123	0.13	0.164
Departure Headway (Hd)	6.733	6.471	3.768	5.722	5.255	6.562	6.107	4.292
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	534	554	949	632	690	547	588	835
Service Time	4.462	4.2	1.496	3.422	2.955	4.29	3.835	2.019
HCM Lane V/C Ratio	0.144	0.088	0.059	0.285	0.387	0.124	0.129	0.165
HCM Control Delay	10.6	9.8	6.7	10.7	11.3	10.2	9.7	7.9
HCM Lane LOS	B	A	A	B	B	B	A	A
HCM 95th-tile Q	0.5	0.3	0.2	1.2	1.9	0.4	0.4	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	288	12	22	268	74	13	20	18	120	7	33
Future Volume (veh/h)	52	288	12	22	268	74	13	20	18	120	7	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	55	303	13	23	282	78	14	21	19	126	7	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	83	921	407	40	836	371	22	34	30	205	215	182
Arrive On Green	0.05	0.26	0.26	0.02	0.24	0.24	0.05	0.05	0.05	0.11	0.11	0.11
Sat Flow, veh/h	1767	3526	1557	1767	3526	1563	446	670	606	1810	1900	1606
Grp Volume(v), veh/h	55	303	13	23	282	78	54	0	0	126	7	35
Grp Sat Flow(s),veh/h/ln	1767	1763	1557	1767	1763	1563	1722	0	0	1810	1900	1606
Q Serve(g_s), s	1.1	2.6	0.2	0.5	2.4	1.5	1.1	0.0	0.0	2.4	0.1	0.7
Cycle Q Clear(g_c), s	1.1	2.6	0.2	0.5	2.4	1.5	1.1	0.0	0.0	2.4	0.1	0.7
Prop In Lane	1.00		1.00	1.00		1.00	0.26		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	83	921	407	40	836	371	86	0	0	205	215	182
V/C Ratio(X)	0.67	0.33	0.03	0.57	0.34	0.21	0.63	0.00	0.00	0.61	0.03	0.19
Avail Cap(c_a), veh/h	1443	4319	1908	1443	4319	1914	1407	0	0	1478	1552	1312
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.2	11.0	10.1	17.8	11.6	11.2	17.1	0.0	0.0	15.5	14.5	14.8
Incr Delay (d2), s/veh	3.4	0.3	0.0	4.7	0.3	0.4	7.2	0.0	0.0	3.0	0.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.7	0.1	0.2	0.7	0.4	0.6	0.0	0.0	1.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.6	11.3	10.2	22.4	12.0	11.6	24.3	0.0	0.0	18.5	14.6	15.3
LnGrp LOS	C	B	B	C	B	B	C	A	A	B	B	B
Approach Vol, veh/h		371			383			54			168	
Approach Delay, s/veh		12.6			12.5			24.3			17.7	
Approach LOS		B			B			C			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.9	4.8	15.4		9.6	5.7	14.5				
Change Period (Y+Rc), s		5.1	4.0	5.8		5.4	4.0	5.8				
Max Green Setting (Gmax), s		30.0	30.0	45.0		30.0	30.0	45.0				
Max Q Clear Time (g_c+I1), s		3.1	2.5	4.6		4.4	3.1	4.4				
Green Ext Time (p_c), s		0.2	0.0	2.9		0.5	0.1	3.1				

Intersection Summary			
HCM 6th Ctrl Delay			14.1
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	32	151	460	58	201	86	1031	392	84	763	13
Future Volume (veh/h)	27	32	151	460	58	201	86	1031	392	84	763	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	27	32	153	465	59	203	87	1041	396	85	771	13
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	34	37	179	522	98	337	108	1822	812	106	2644	45
Arrive On Green	0.02	0.13	0.13	0.15	0.27	0.27	0.04	0.35	0.35	0.06	0.52	0.52
Sat Flow, veh/h	1767	279	1336	3428	367	1262	1767	3526	1571	1767	5130	86
Grp Volume(v), veh/h	27	0	185	465	0	262	87	1041	396	85	507	277
Grp Sat Flow(s),veh/h/ln	1767	0	1615	1714	0	1628	1767	1763	1571	1767	1689	1840
Q Serve(g_s), s	2.1	0.0	15.7	18.6	0.0	19.7	6.8	33.7	27.8	6.7	12.0	12.0
Cycle Q Clear(g_c), s	2.1	0.0	15.7	18.6	0.0	19.7	6.8	33.7	27.8	6.7	12.0	12.0
Prop In Lane	1.00		0.83	1.00		0.77	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	34	0	217	522	0	435	108	1822	812	106	1740	948
V/C Ratio(X)	0.79	0.00	0.85	0.89	0.00	0.60	0.80	0.57	0.49	0.80	0.29	0.29
Avail Cap(c_a), veh/h	379	0	346	735	0	435	199	1822	812	199	1740	948
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.96	0.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.4	0.0	59.3	58.2	0.0	44.8	66.3	33.1	31.2	65.0	19.4	19.4
Incr Delay (d2), s/veh	14.1	0.0	14.2	7.6	0.0	2.7	5.2	1.3	2.1	5.3	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	7.3	8.6	0.0	8.3	3.3	15.4	11.6	3.1	4.7	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.5	0.0	73.5	65.8	0.0	47.5	71.4	34.4	33.3	70.3	19.8	20.1
LnGrp LOS	F	A	E	E	A	D	E	C	C	E	B	C
Approach Vol, veh/h		212			727			1524			869	
Approach Delay, s/veh		74.7			59.2			36.3			24.8	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	78.1	25.3	24.2	12.6	77.9	6.7	42.8
Change Period (Y+Rc), s	4.0	5.8	4.0	* 5.4	4.0	5.8	4.0	5.4
Max Green Setting (Gmax), s	15.8	45.0	30.0	* 30	15.8	45.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	8.7	35.7	20.6	17.7	8.8	14.0	4.1	21.7
Green Ext Time (p_c), s	0.0	6.6	0.7	1.1	0.0	7.6	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1642	363	120	894
Future Volume (veh/h)	0	0	1642	363	120	894
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				0.99	1.00	
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No			No
Adj Sat Flow, veh/h/ln			1856	1856	1856	1856
Adj Flow Rate, veh/h			1728	382	126	941
Peak Hour Factor			0.95	0.95	0.95	0.95
Percent Heavy Veh, %			3	3	3	3
Cap, veh/h			2979	1320	148	3387
Arrive On Green			1.00	1.00	0.17	1.00
Sat Flow, veh/h			3618	1562	1767	3618
Grp Volume(v), veh/h			1728	382	126	941
Grp Sat Flow(s),veh/h/ln			1763	1562	1767	1763
Q Serve(g_s), s			0.0	0.0	9.7	0.0
Cycle Q Clear(g_c), s			0.0	0.0	9.7	0.0
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			2979	1320	148	3387
V/C Ratio(X)			0.58	0.29	0.85	0.28
Avail Cap(c_a), veh/h			2979	1320	322	3387
HCM Platoon Ratio			1.33	1.33	2.00	2.00
Upstream Filter(I)			0.69	0.69	1.00	1.00
Uniform Delay (d), s/veh			0.0	0.0	57.4	0.0
Incr Delay (d2), s/veh			0.6	0.4	5.2	0.2
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.2	0.1	4.2	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			0.6	0.4	62.6	0.2
LnGrp LOS			A	A	E	A
Approach Vol, veh/h			2110			1067
Approach Delay, s/veh			0.5			7.6
Approach LOS			A			A

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	16.2	123.8				140.0
Change Period (Y+Rc), s	4.5	5.5				5.5
Max Green Setting (Gmax), s	25.5	104.5				60.0
Max Q Clear Time (g_c+I1), s	11.7	2.0				2.0
Green Ext Time (p_c), s	0.1	14.6				4.6

Intersection Summary	
HCM 6th Ctrl Delay	2.9
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	512	419	373	282	0	311	0	1217	343	104	774	0
Future Volume (veh/h)	512	419	373	282	0	311	0	1217	343	104	774	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	528	432	385	291	0	321	0	1255	354	107	798	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	937	507	428	0	0	0	0	2753	851	128	2285	0
Arrive On Green	0.27	0.27	0.27	0.00	0.00	0.00	0.00	0.54	0.54	0.14	1.00	0.00
Sat Flow, veh/h	3428	1856	1567		0		0	5233	1566	1767	3618	0
Grp Volume(v), veh/h	528	432	385		0.0		0	1255	354	107	798	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1567				0	1689	1566	1767	1763	0
Q Serve(g_s), s	18.5	30.9	33.1				0.0	21.0	18.7	8.2	0.0	0.0
Cycle Q Clear(g_c), s	18.5	30.9	33.1				0.0	21.0	18.7	8.2	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	937	507	428				0	2753	851	128	2285	0
V/C Ratio(X)	0.56	0.85	0.90				0.00	0.46	0.42	0.84	0.35	0.00
Avail Cap(c_a), veh/h	1077	583	493				0	2753	851	215	2285	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.90	0.90	0.97	0.97	0.00
Uniform Delay (d), s/veh	43.7	48.2	49.0				0.0	19.4	18.8	59.0	0.0	0.0
Incr Delay (d2), s/veh	0.2	9.4	16.4				0.0	0.5	1.3	5.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	15.6	14.9				0.0	8.2	6.9	3.6	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.9	57.6	65.4				0.0	19.9	20.2	64.2	0.4	0.0
LnGrp LOS	D	E	E				A	B	C	E	A	A
Approach Vol, veh/h		1345						1609			905	
Approach Delay, s/veh		54.5						19.9			8.0	
Approach LOS		D						B			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.6	81.6		43.8		96.2
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	17.0	31.0		44.0		60.0
Max Q Clear Time (g_c+I1), s	10.2	23.0		35.1		2.0
Green Ext Time (p_c), s	0.1	4.1		2.8		6.2

Intersection Summary	
HCM 6th Ctrl Delay	29.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	539	182	118	1037	849	492
Future Volume (veh/h)	539	182	118	1037	849	492
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	550	186	120	1058	866	502
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	843	387	209	2880	1556	1081
Arrive On Green	0.25	0.25	0.06	0.57	0.44	0.44
Sat Flow, veh/h	3428	1572	3428	5233	3618	1572
Grp Volume(v), veh/h	550	186	120	1058	866	502
Grp Sat Flow(s),veh/h/ln	1714	1572	1714	1689	1763	1572
Q Serve(g_s), s	8.7	6.1	2.1	6.9	11.0	8.9
Cycle Q Clear(g_c), s	8.7	6.1	2.1	6.9	11.0	8.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	843	387	209	2880	1556	1081
V/C Ratio(X)	0.65	0.48	0.58	0.37	0.56	0.46
Avail Cap(c_a), veh/h	1703	781	1703	3775	2627	1559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.4	19.5	27.6	7.1	12.5	4.3
Incr Delay (d2), s/veh	1.2	1.3	0.9	0.1	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	5.6	0.8	1.8	3.6	4.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.7	20.8	28.5	7.2	12.9	4.8
LnGrp LOS	C	C	C	A	B	A
Approach Vol, veh/h	736			1178	1368	
Approach Delay, s/veh	21.4			9.4	9.9	
Approach LOS	C			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		40.1		20.3	7.7	32.5
Change Period (Y+Rc), s		5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		8.9		10.7	4.1	13.0
Green Ext Time (p_c), s		12.3		4.2	0.2	13.7

Intersection Summary			
HCM 6th Ctrl Delay			12.3
HCM 6th LOS			B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	257	210	260	813	838	171
Future Volume (veh/h)	257	210	260	813	838	171
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	268	219	271	847	873	178
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	676	310	321	2219	1368	912
Arrive On Green	0.20	0.20	0.18	0.63	0.39	0.39
Sat Flow, veh/h	3428	1572	1767	3618	3618	1552
Grp Volume(v), veh/h	268	219	271	847	873	178
Grp Sat Flow(s),veh/h/ln	1714	1572	1767	1763	1763	1552
Q Serve(g_s), s	4.6	8.7	9.9	7.8	13.5	3.6
Cycle Q Clear(g_c), s	4.6	8.7	9.9	7.8	13.5	3.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	676	310	321	2219	1368	912
V/C Ratio(X)	0.40	0.71	0.84	0.38	0.64	0.20
Avail Cap(c_a), veh/h	1536	704	792	2369	2369	1353
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.4	25.1	26.5	6.0	16.7	6.5
Incr Delay (d2), s/veh	0.5	4.2	2.3	0.2	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	7.7	4.0	2.0	4.8	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.9	29.2	28.8	6.2	17.4	6.7
LnGrp LOS	C	C	C	A	B	A
Approach Vol, veh/h	487			1118	1051	
Approach Delay, s/veh	26.3			11.7	15.6	
Approach LOS	C			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		48.0		19.0	16.2	31.8
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		9.8		10.7	11.9	15.5
Green Ext Time (p_c), s		9.4		2.5	0.3	10.5

Intersection Summary			
HCM 6th Ctrl Delay			15.9
HCM 6th LOS			B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	362	116	48	379	209	131	778	48	184	800	77
Future Volume (veh/h)	68	362	116	48	379	209	131	778	48	184	800	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	69	366	117	48	383	211	132	786	48	186	808	78
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	89	686	216	61	538	292	168	1147	510	227	1266	563
Arrive On Green	0.05	0.26	0.26	0.03	0.24	0.24	0.09	0.33	0.33	0.13	0.36	0.36
Sat Flow, veh/h	1767	2636	831	1767	2204	1197	1767	3526	1567	1767	3526	1567
Grp Volume(v), veh/h	69	243	240	48	305	289	132	786	48	186	808	78
Grp Sat Flow(s),veh/h/ln	1767	1763	1705	1767	1763	1638	1767	1763	1567	1767	1763	1567
Q Serve(g_s), s	3.0	9.2	9.4	2.1	12.3	12.6	5.7	15.1	1.7	8.0	14.8	2.6
Cycle Q Clear(g_c), s	3.0	9.2	9.4	2.1	12.3	12.6	5.7	15.1	1.7	8.0	14.8	2.6
Prop In Lane	1.00		0.49	1.00		0.73	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	89	458	443	61	430	400	168	1147	510	227	1266	563
V/C Ratio(X)	0.77	0.53	0.54	0.79	0.71	0.72	0.79	0.69	0.09	0.82	0.64	0.14
Avail Cap(c_a), veh/h	681	679	657	681	679	631	681	2037	905	681	2037	905
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.5	24.7	24.8	37.3	26.9	27.0	34.5	22.8	18.3	33.0	20.8	16.8
Incr Delay (d2), s/veh	5.2	1.4	1.5	8.2	3.1	3.5	3.1	1.0	0.1	2.8	0.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	3.8	3.7	1.0	5.2	5.0	2.5	5.9	0.6	3.4	5.7	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.8	26.1	26.3	45.6	30.0	30.5	37.6	23.9	18.4	35.8	21.5	17.0
LnGrp LOS	D	C	C	D	C	C	D	C	B	D	C	B
Approach Vol, veh/h		552			642			966			1072	
Approach Delay, s/veh		28.1			31.4			25.5			23.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	31.1	6.7	26.1	11.4	33.8	7.9	24.8
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	30.0	45.0	30.0	30.0	30.0	45.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	10.0	17.1	4.1	11.4	7.7	16.8	5.0	14.6
Green Ext Time (p_c), s	0.2	8.3	0.0	3.6	0.2	8.7	0.1	4.2

Intersection Summary			
HCM 6th Ctrl Delay			26.5
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	493	0	0	353	1	381	2	29	0	0	10
Future Volume (vph)	26	493	0	0	353	1	381	2	29	0	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Lane Util. Factor		0.95			0.95		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.99			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.95	1.00			1.00
Satd. Flow (prot)		3495			3503		1665	1670	1546			1596
Flt Permitted		0.92			1.00		0.95	0.95	1.00			1.00
Satd. Flow (perm)		3241			3503		1665	1670	1546			1596
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	28	524	0	0	376	1	405	2	31	0	0	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	25	0	0	11
Lane Group Flow (vph)	0	552	0	0	377	0	202	205	6	0	0	0
Confl. Peds. (#/hr)	3		10	10		3			3	3		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA			NA		Split	NA	Perm			Prot
Protected Phases		6			2		4	4				3
Permitted Phases	6								4			
Actuated Green, G (s)		40.5			40.5		14.5	14.5	14.5			1.0
Effective Green, g (s)		40.5			40.5		14.5	14.5	14.5			1.0
Actuated g/C Ratio		0.58			0.58		0.21	0.21	0.21			0.01
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		1875			2026		344	345	320			22
v/s Ratio Prot					0.11		0.12	c0.12				c0.00
v/s Ratio Perm		c0.17							0.00			
v/c Ratio		0.29			0.19		0.59	0.59	0.02			0.01
Uniform Delay, d1		7.5			7.0		25.0	25.1	22.1			34.0
Progression Factor		1.27			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.4			0.2		1.7	1.8	0.0			0.0
Delay (s)		9.9			7.2		26.7	26.9	22.1			34.1
Level of Service		A			A		C	C	C			C
Approach Delay (s)		9.9			7.2			26.5			34.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	258	50	742	381	272	195	0	647	419	0	72
Future Volume (veh/h)	36	258	50	742	381	272	195	0	647	419	0	72
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1565	1565	1565	1565	1565	1565	1565	0	1565	1565	0	1565
Adj Flow Rate, veh/h	37	266	0	765	393	0	201	0	667	432	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	0	3	3	0	3
Cap, veh/h	58	436		931	1279		310	0	0	574	0	
Arrive On Green	0.04	0.15	0.00	0.32	0.43	0.00	0.11	0.00	0.00	0.20	0.00	0.00
Sat Flow, veh/h	1491	2974	1327	2892	2974	1327	2892	201		2892	432	
Grp Volume(v), veh/h	37	266	0	765	393	0	201	27.4		432	24.1	
Grp Sat Flow(s),veh/h/ln	1491	1487	1327	1446	1487	1327	1446	C		1446	C	
Q Serve(g_s), s	1.4	4.9	0.0	14.3	5.1	0.0	3.9			8.2		
Cycle Q Clear(g_c), s	1.4	4.9	0.0	14.3	5.1	0.0	3.9			8.2		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	58	436		931	1279		310			574		
V/C Ratio(X)	0.64	0.61		0.82	0.31		0.65			0.75		
Avail Cap(c_a), veh/h	764	1778		1482	1778		1235			1235		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00			1.00		
Uniform Delay (d), s/veh	27.7	23.4	0.0	18.3	11.0	0.0	25.1			22.1		
Incr Delay (d2), s/veh	11.4	1.4	0.0	2.1	0.1	0.0	2.3			2.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	0.7	1.7	0.0	4.4	1.4	0.0	1.4			2.7		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.1	24.8	0.0	20.4	11.1	0.0	27.4			24.1		
LnGrp LOS	D	C		C	B		C			C		
Approach Vol, veh/h		303	A		1158	A						
Approach Delay, s/veh		26.5			17.2							
Approach LOS		C			B							

Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	25.3	16.6	11.3		8.8	33.2	16.6					
Change Period (Y+Rc), s	6.5	8.0	5.0		6.5	8.0	5.0					
Max Green Setting (Gmax), s	30.0	35.0	25.0		30.0	35.0	25.0					
Max Q Clear Time (g_c+I1), s	16.3	6.9	5.9		3.4	7.1	10.2					
Green Ext Time (p_c), s	2.6	1.7	0.6		0.1	2.6	1.4					

Intersection Summary			
HCM 6th Ctrl Delay			21.0
HCM 6th LOS			C

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	622	645	55	31	546	125	58	389	102	97	211	792
Future Volume (veh/h)	622	645	55	31	546	125	58	389	102	97	211	792
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	641	665	57	32	563	129	60	401	105	100	218	816
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	720	1482	661	54	766	342	78	786	204	128	589	878
Arrive On Green	0.20	0.40	0.40	0.03	0.22	0.22	0.04	0.28	0.28	0.07	0.32	0.32
Sat Flow, veh/h	3645	3749	1672	1767	3526	1572	1767	2771	718	1767	1856	2768
Grp Volume(v), veh/h	641	665	57	32	563	129	60	254	252	100	218	816
Grp Sat Flow(s),veh/h/ln	1823	1874	1672	1767	1763	1572	1767	1763	1726	1767	1856	1384
Q Serve(g_s), s	15.7	12.0	2.0	1.6	13.7	6.4	3.1	11.1	11.3	5.1	8.4	26.2
Cycle Q Clear(g_c), s	15.7	12.0	2.0	1.6	13.7	6.4	3.1	11.1	11.3	5.1	8.4	26.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	720	1482	661	54	766	342	78	500	489	128	589	878
V/C Ratio(X)	0.89	0.45	0.09	0.60	0.74	0.38	0.77	0.51	0.52	0.78	0.37	0.93
Avail Cap(c_a), veh/h	793	1631	728	384	1419	633	577	575	563	384	606	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.9	20.4	17.4	44.0	33.5	30.7	43.5	27.6	27.6	41.9	24.3	30.4
Incr Delay (d2), s/veh	10.8	0.2	0.1	3.9	1.4	0.7	6.0	0.8	0.8	3.9	0.4	15.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	5.1	0.7	0.8	5.9	2.3	1.4	4.4	4.4	2.3	3.6	9.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.7	20.6	17.5	47.9	34.9	31.4	49.5	28.4	28.5	45.9	24.7	45.8
LnGrp LOS	D	C	B	D	C	C	D	C	C	D	C	D
Approach Vol, veh/h		1363			724			566			1134	
Approach Delay, s/veh		32.8			34.9			30.7			41.7	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.8	41.7	8.0	35.4	23.2	25.4	11.1	32.3
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	3.6	14.0	5.1	28.2	17.7	15.7	7.1	13.3
Green Ext Time (p_c), s	0.0	5.1	0.1	0.9	0.4	4.3	0.1	2.4

Intersection Summary			
HCM 6th Ctrl Delay			35.5
HCM 6th LOS			D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	780	233	826	508	62	819
Future Volume (veh/h)	780	233	826	508	62	819
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	804	240	852	524	64	844
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	838	463	1967	1236	83	2327
Arrive On Green	0.23	0.23	0.18	0.18	0.05	0.66
Sat Flow, veh/h	3645	1672	3618	1567	1767	3618
Grp Volume(v), veh/h	804	240	852	524	64	844
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1567	1767	1763
Q Serve(g_s), s	21.8	12.1	21.4	14.7	3.6	10.7
Cycle Q Clear(g_c), s	21.8	12.1	21.4	14.7	3.6	10.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	838	463	1967	1236	83	2327
V/C Ratio(X)	0.96	0.52	0.43	0.42	0.77	0.36
Avail Cap(c_a), veh/h	838	463	1967	1236	300	2327
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	30.5	26.8	7.0	47.1	7.6
Incr Delay (d2), s/veh	21.6	1.0	0.7	1.1	13.8	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	4.9	10.2	13.1	1.9	3.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	59.7	31.5	27.5	8.1	60.9	8.0
LnGrp LOS	E	C	C	A	E	A
Approach Vol, veh/h	1044		1376			908
Approach Delay, s/veh	53.2		20.1			11.8
Approach LOS	D		C			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.2	61.3				71.5		28.5
Change Period (Y+Rc), s	5.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	17.0	43.5				66.0		23.0
Max Q Clear Time (g_c+I1), s	5.6	23.4				12.7		23.8
Green Ext Time (p_c), s	0.1	7.8				6.7		0.0

Intersection Summary			
HCM 6th Ctrl Delay			28.2
HCM 6th LOS			C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	707	141	1241	759	101	1510
Future Volume (veh/h)	707	141	1241	759	101	1510
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	729	145	1279	782	104	1557
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	806	495	1952	1215	133	3439
Arrive On Green	0.22	0.22	0.55	0.55	0.02	0.22
Sat Flow, veh/h	3645	1672	3618	1567	1767	5233
Grp Volume(v), veh/h	729	145	1279	782	104	1557
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1567	1767	1689
Q Serve(g_s), s	19.5	6.7	25.4	22.4	5.9	26.5
Cycle Q Clear(g_c), s	19.5	6.7	25.4	22.4	5.9	26.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	806	495	1952	1215	133	3439
V/C Ratio(X)	0.90	0.29	0.66	0.64	0.78	0.45
Avail Cap(c_a), veh/h	838	510	1952	1215	265	3439
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.46	0.46	1.00	1.00
Uniform Delay (d), s/veh	37.9	27.1	15.6	5.1	47.9	22.8
Incr Delay (d2), s/veh	13.0	0.3	0.8	1.2	9.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	6.9	9.3	14.6	3.0	12.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	50.9	27.4	16.4	6.3	57.5	23.2
LnGrp LOS	D	C	B	A	E	C
Approach Vol, veh/h	874		2061			1661
Approach Delay, s/veh	47.0		12.6			25.3
Approach LOS	D		B			C

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.5	60.4		27.1		72.9
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	47.0		23.0		67.0
Max Q Clear Time (g_c+I1), s	7.9	27.4		21.5		28.5
Green Ext Time (p_c), s	0.1	12.4		0.6		15.0

Intersection Summary				
HCM 6th Ctrl Delay			23.7	
HCM 6th LOS			C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	632	201	292	73	120	293	253	1133	109	253	995	754
Future Volume (veh/h)	632	201	292	73	120	293	253	1133	109	253	995	754
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	652	207	301	75	124	302	261	1168	112	261	1026	777
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	700	675	568	97	395	331	284	1346	129	286	1457	795
Arrive On Green	0.20	0.36	0.36	0.05	0.20	0.20	0.16	0.29	0.29	0.16	0.29	0.29
Sat Flow, veh/h	3428	1856	1562	1879	1973	1652	1767	4699	450	1767	5066	2762
Grp Volume(v), veh/h	652	207	301	75	124	302	261	839	441	261	1026	777
Grp Sat Flow(s),veh/h/ln	1714	1856	1562	1879	1973	1652	1767	1689	1773	1767	1689	1381
Q Serve(g_s), s	26.0	11.1	21.1	5.5	7.5	24.9	20.2	32.8	32.8	20.2	25.2	38.8
Cycle Q Clear(g_c), s	26.0	11.1	21.1	5.5	7.5	24.9	20.2	32.8	32.8	20.2	25.2	38.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	700	675	568	97	395	331	284	967	508	286	1457	795
V/C Ratio(X)	0.93	0.31	0.53	0.78	0.31	0.91	0.92	0.87	0.87	0.91	0.70	0.98
Avail Cap(c_a), veh/h	740	675	568	405	426	356	318	972	510	381	1457	795
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	31.7	34.9	65.2	47.5	54.4	57.5	47.1	47.1	57.3	44.2	49.1
Incr Delay (d2), s/veh	17.5	0.3	0.9	5.0	0.5	26.1	27.6	8.4	14.8	20.2	1.6	26.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.8	5.1	8.2	2.8	3.8	12.7	11.1	14.7	16.3	10.5	10.6	16.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.9	31.9	35.8	70.1	47.9	80.6	85.0	55.5	61.9	77.5	45.8	75.5
LnGrp LOS	E	C	D	E	D	F	F	E	E	E	D	E
Approach Vol, veh/h		1160			501			1541			2064	
Approach Delay, s/veh		55.4			70.9			62.3			61.0	
Approach LOS		E			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.0	45.2	11.1	55.6	26.8	45.4	33.9	32.9
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	30.0	40.0	30.0	30.0	25.0	40.0	30.0	* 30
Max Q Clear Time (g_c+I1), s	22.2	34.8	7.5	23.1	22.2	40.8	28.0	26.9
Green Ext Time (p_c), s	0.3	3.3	0.1	1.3	0.1	0.0	0.4	0.6

Intersection Summary	
HCM 6th Ctrl Delay	61.1
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	214	185	113	346	341	343	918	193	453	855	78
Future Volume (veh/h)	197	214	185	113	346	341	343	918	193	453	855	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	214	233	201	123	376	371	373	998	210	492	929	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	282	248	214	154	982	433	442	1272	267	556	1730	664
Arrive On Green	0.08	0.27	0.27	0.08	0.26	0.26	0.13	0.30	0.30	0.16	0.34	0.34
Sat Flow, veh/h	3428	915	789	1879	3749	1655	3428	4189	880	3428	5066	1566
Grp Volume(v), veh/h	214	0	434	123	376	371	373	804	404	492	929	85
Grp Sat Flow(s),veh/h/ln	1714	0	1704	1879	1874	1655	1714	1689	1692	1714	1689	1566
Q Serve(g_s), s	6.6	0.0	26.8	6.9	8.9	23.0	11.5	23.5	23.5	15.1	15.9	3.6
Cycle Q Clear(g_c), s	6.6	0.0	26.8	6.9	8.9	23.0	11.5	23.5	23.5	15.1	15.9	3.6
Prop In Lane	1.00		0.46	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	282	0	463	154	982	433	442	1025	514	556	1730	664
V/C Ratio(X)	0.76	0.00	0.94	0.80	0.38	0.86	0.84	0.78	0.79	0.89	0.54	0.13
Avail Cap(c_a), veh/h	636	0	474	349	1043	461	636	1253	628	636	1880	710
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	0.0	38.4	48.6	32.6	37.9	45.9	34.3	34.3	44.2	28.6	18.9
Incr Delay (d2), s/veh	1.6	0.0	26.2	3.6	0.2	14.1	4.9	2.7	5.4	11.8	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	14.4	3.4	4.0	10.9	5.1	9.6	10.1	7.2	6.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	0.0	64.6	52.3	32.9	52.0	50.8	37.0	39.7	56.0	28.9	19.0
LnGrp LOS	D	A	E	D	C	D	D	D	D	E	C	B
Approach Vol, veh/h		648			870			1581			1506	
Approach Delay, s/veh		59.8			43.8			41.0			37.2	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.5	38.1	13.3	33.9	18.4	42.2	14.4	32.8
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	17.1	25.5	8.9	28.8	13.5	17.9	8.6	25.0
Green Ext Time (p_c), s	0.3	6.7	0.1	0.3	0.4	6.7	0.3	1.8

Intersection Summary	
HCM 6th Ctrl Delay	42.9
HCM 6th LOS	D

Notes
User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	341	431	64	92	433	212	63	538	63	129	358	208
Future Volume (veh/h)	341	431	64	92	433	212	63	538	63	129	358	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	359	454	67	97	456	223	66	566	66	136	377	219
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	404	1098	161	125	699	312	85	754	88	171	1006	808
Arrive On Green	0.23	0.36	0.36	0.07	0.20	0.20	0.05	0.24	0.24	0.10	0.29	0.29
Sat Flow, veh/h	1767	3084	453	1767	3526	1572	1767	3182	370	1767	3526	1572
Grp Volume(v), veh/h	359	258	263	97	456	223	66	313	319	136	377	219
Grp Sat Flow(s),veh/h/ln	1767	1763	1774	1767	1763	1572	1767	1763	1789	1767	1763	1572
Q Serve(g_s), s	16.2	9.1	9.2	4.5	9.8	10.9	3.0	13.6	13.7	6.2	7.1	6.5
Cycle Q Clear(g_c), s	16.2	9.1	9.2	4.5	9.8	10.9	3.0	13.6	13.7	6.2	7.1	6.5
Prop In Lane	1.00		0.26	1.00		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	404	628	632	125	699	312	85	418	424	171	1006	808
V/C Ratio(X)	0.89	0.41	0.42	0.78	0.65	0.72	0.78	0.75	0.75	0.80	0.37	0.27
Avail Cap(c_a), veh/h	642	640	645	428	1281	571	428	854	867	428	1708	1121
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.8	20.1	20.1	37.7	30.5	30.9	38.9	29.2	29.3	36.5	23.6	11.3
Incr Delay (d2), s/veh	8.0	0.4	0.4	3.9	1.0	3.1	5.5	2.7	2.7	3.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	3.6	3.7	2.0	4.1	4.2	1.4	5.8	5.9	2.7	2.8	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	20.5	20.5	41.6	31.5	34.0	44.4	32.0	32.0	39.7	23.8	11.5
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	B
Approach Vol, veh/h		880			776			698			732	
Approach Delay, s/veh		28.0			33.5			33.1			23.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	25.0	10.3	34.8	8.5	29.0	23.4	21.8
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	8.2	15.7	6.5	11.2	5.0	9.1	18.2	12.9
Green Ext Time (p_c), s	0.1	3.9	0.1	2.9	0.1	3.2	0.6	3.4

Intersection Summary	
HCM 6th Ctrl Delay	29.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	18
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	266	402	490	133	80	216
Future Vol, veh/h	266	402	490	133	80	216
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	277	419	510	139	83	225
Number of Lanes	2	1	1	2	2	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	3	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	3
HCM Control Delay	14.7	21.4	18.1
HCM LOS	B	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	SBLn1	SBLn2
Vol Left, %	100%	85%	0%	100%	32%	0%	0%	0%
Vol Thru, %	0%	15%	100%	0%	0%	0%	100%	11%
Vol Right, %	0%	0%	0%	0%	68%	100%	0%	89%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	245	289	89	177	278	213	53	243
LT Vol	245	245	0	177	89	0	0	0
Through Vol	0	44	89	0	0	0	53	27
RT Vol	0	0	0	0	189	213	0	216
Lane Flow Rate	255	301	92	185	289	222	56	253
Geometry Grp	8	8	8	7	7	7	8	8
Degree of Util (X)	0.571	0.668	0.148	0.4	0.559	0.296	0.129	0.542
Departure Headway (Hd)	8.056	7.978	5.759	7.79	6.961	4.797	8.362	7.723
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	449	452	622	464	518	748	428	468
Service Time	5.8	5.722	3.503	5.523	4.694	2.529	6.116	5.477
HCM Lane V/C Ratio	0.568	0.666	0.148	0.399	0.558	0.297	0.131	0.541
HCM Control Delay	21	25.4	9.5	15.6	18.2	9.5	12.4	19.3
HCM Lane LOS	C	D	A	C	C	A	B	C
HCM 95th-tile Q	3.5	4.8	0.5	1.9	3.4	1.2	0.4	3.2

Intersection	
Intersection Delay, s/veh	23.8
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	350	257	202	407	378	333
Future Vol, veh/h	350	257	202	407	378	333
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	365	268	210	424	394	347
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	37.8	18.4	16.4
HCM LOS	E	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	100%	0%	0%	0%	100%	13%	0%
Vol Thru, %	0%	0%	0%	100%	31%	0%	87%	100%
Vol Right, %	0%	0%	100%	0%	69%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	189	189	333	233	374	182	156	271
LT Vol	189	189	0	0	0	182	20	0
Through Vol	0	0	0	233	117	0	136	271
RT Vol	0	0	333	0	257	0	0	0
Lane Flow Rate	197	197	347	243	389	189	162	283
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.464	0.464	0.527	0.583	0.88	0.485	0.396	0.542
Departure Headway (Hd)	8.488	8.488	5.471	8.63	8.135	9.225	8.777	6.908
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	423	423	656	416	444	388	408	517
Service Time	6.255	6.255	3.236	6.427	5.932	7.02	6.572	4.702
HCM Lane V/C Ratio	0.466	0.466	0.529	0.584	0.876	0.487	0.397	0.547
HCM Control Delay	18.4	18.4	14.2	22.9	47.1	20.5	17.3	17.7
HCM Lane LOS	C	C	B	C	E	C	C	C
HCM 95th-tile Q	2.4	2.4	3.1	3.6	9.2	2.6	1.9	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	269	155	27	300	154	177	569	41	88	433	114
Future Volume (veh/h)	153	269	155	27	300	154	177	569	41	88	433	114
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	161	283	163	28	316	162	186	599	43	93	456	120
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	204	971	433	43	650	289	232	1128	81	122	776	203
Arrive On Green	0.12	0.28	0.28	0.02	0.18	0.18	0.13	0.34	0.34	0.07	0.27	0.27
Sat Flow, veh/h	1767	3526	1571	1767	3526	1570	1767	3334	239	1810	2827	738
Grp Volume(v), veh/h	161	283	163	28	316	162	186	316	326	93	290	286
Grp Sat Flow(s),veh/h/ln	1767	1763	1571	1767	1763	1570	1767	1763	1811	1810	1805	1760
Q Serve(g_s), s	5.9	4.2	5.6	1.0	5.3	6.2	6.8	9.6	9.7	3.4	9.2	9.4
Cycle Q Clear(g_c), s	5.9	4.2	5.6	1.0	5.3	6.2	6.8	9.6	9.7	3.4	9.2	9.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.42
Lane Grp Cap(c), veh/h	204	971	433	43	650	289	232	596	612	122	495	483
V/C Ratio(X)	0.79	0.29	0.38	0.65	0.49	0.56	0.80	0.53	0.53	0.76	0.59	0.59
Avail Cap(c_a), veh/h	797	2119	944	797	2119	944	797	1060	1089	816	1085	1058
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.6	19.0	19.5	32.2	24.3	24.7	28.1	17.8	17.8	30.5	20.9	20.9
Incr Delay (d2), s/veh	2.6	0.2	0.8	6.1	0.8	2.4	2.5	1.0	1.0	3.7	1.6	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	1.6	1.9	0.5	2.1	2.3	2.8	3.6	3.7	1.5	3.8	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.2	19.2	20.3	38.3	25.1	27.1	30.5	18.8	18.8	34.2	22.4	22.6
LnGrp LOS	C	B	C	D	C	C	C	B	B	C	C	C
Approach Vol, veh/h		607			506			828			669	
Approach Delay, s/veh		22.7			26.5			21.4			24.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	28.3	5.6	24.1	12.7	24.1	11.7	18.1
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	30.0	40.0	30.0	40.0	30.0	40.0	30.0	40.0
Max Q Clear Time (g_c+I1), s	5.4	11.7	3.0	7.6	8.8	11.4	7.9	8.2
Green Ext Time (p_c), s	0.1	5.7	0.0	3.6	0.2	5.5	0.2	3.8

Intersection Summary	
HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	439	341	62	308	287	79
Future Volume (veh/h)	439	341	62	308	287	79
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	462	359	65	324	302	83
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1095	720	779	850	476	840
Arrive On Green	0.32	0.32	0.22	0.22	0.14	0.45
Sat Flow, veh/h	3428	1572	3618	1572	3428	1856
Grp Volume(v), veh/h	462	359	65	324	302	83
Grp Sat Flow(s),veh/h/ln	1714	1572	1763	1572	1714	1856
Q Serve(g_s), s	4.6	6.9	0.6	5.1	3.6	1.1
Cycle Q Clear(g_c), s	4.6	6.9	0.6	5.1	3.6	1.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	1095	720	779	850	476	840
V/C Ratio(X)	0.42	0.50	0.08	0.38	0.63	0.10
Avail Cap(c_a), veh/h	2392	1315	2460	1599	2392	1295
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.5	8.2	13.3	5.7	17.5	6.7
Incr Delay (d2), s/veh	0.4	0.8	0.1	0.4	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	1.8	0.2	2.7	1.3	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.9	8.9	13.4	6.1	18.0	6.8
LnGrp LOS	B	A	B	A	B	A
Approach Vol, veh/h	821		389			385
Approach Delay, s/veh	10.6		7.3			15.6
Approach LOS	B		A			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.0	14.6				24.6		18.4
Change Period (Y+Rc), s	4.0	5.1				5.1		4.7
Max Green Setting (Gmax), s	30.0	30.0				30.0		30.0
Max Q Clear Time (g_c+I1), s	5.6	7.1				3.1		8.9
Green Ext Time (p_c), s	0.6	2.4				0.5		4.8

Intersection Summary		
HCM 6th Ctrl Delay		11.0
HCM 6th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	13.1
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	311	196	106	415	197	71
Future Vol, veh/h	311	196	106	415	197	71
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	327	206	112	437	207	75
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	15.4	11.7	11.6
HCM LOS	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	90%	0%	0%	0%	100%	7%	0%
Vol Thru, %	0%	0%	0%	100%	35%	0%	93%	100%
Vol Right, %	0%	10%	100%	0%	65%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	131	73	64	207	300	95	149	277
LT Vol	131	66	0	0	0	95	11	0
Through Vol	0	0	0	207	104	0	138	277
RT Vol	0	7	64	0	196	0	0	0
Lane Flow Rate	138	77	67	218	315	100	157	291
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.29	0.158	0.085	0.406	0.546	0.204	0.298	0.406
Departure Headway (Hd)	7.562	7.444	4.574	6.699	6.236	7.304	6.833	5.02
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	474	480	776	535	574	489	524	711
Service Time	5.335	5.216	2.345	4.471	4.007	5.078	4.607	2.793
HCM Lane V/C Ratio	0.291	0.16	0.086	0.407	0.549	0.204	0.3	0.409
HCM Control Delay	13.4	11.6	7.8	14	16.3	12	12.5	11.2
HCM Lane LOS	B	B	A	B	C	B	B	B
HCM 95th-tile Q	1.2	0.6	0.3	2	3.3	0.8	1.2	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	279	3	18	370	119	10	17	22	122	6	52
Future Volume (veh/h)	58	279	3	18	370	119	10	17	22	122	6	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	63	303	3	20	402	129	11	18	24	133	7	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	88	1086	478	35	981	434	20	32	43	232	243	205
Arrive On Green	0.05	0.31	0.31	0.02	0.28	0.28	0.06	0.06	0.06	0.13	0.13	0.13
Sat Flow, veh/h	1767	3526	1552	1767	3526	1559	351	574	766	1810	1900	1599
Grp Volume(v), veh/h	63	303	3	20	402	129	53	0	0	133	7	57
Grp Sat Flow(s),veh/h/ln	1767	1763	1552	1767	1763	1559	1692	0	0	1810	1900	1599
Q Serve(g_s), s	1.5	2.7	0.1	0.5	3.9	2.7	1.3	0.0	0.0	2.9	0.1	1.3
Cycle Q Clear(g_c), s	1.5	2.7	0.1	0.5	3.9	2.7	1.3	0.0	0.0	2.9	0.1	1.3
Prop In Lane	1.00		1.00	1.00		1.00	0.21		0.45	1.00		1.00
Lane Grp Cap(c), veh/h	88	1086	478	35	981	434	95	0	0	232	243	205
V/C Ratio(X)	0.72	0.28	0.01	0.57	0.41	0.30	0.56	0.00	0.00	0.57	0.03	0.28
Avail Cap(c_a), veh/h	1275	3815	1679	1275	3815	1687	1220	0	0	1305	1371	1153
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	10.9	10.0	20.2	12.2	11.8	19.1	0.0	0.0	17.1	15.9	16.4
Incr Delay (d2), s/veh	4.0	0.2	0.0	5.3	0.4	0.5	5.1	0.0	0.0	2.2	0.0	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.8	0.0	0.2	1.2	0.8	0.6	0.0	0.0	1.2	0.1	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.5	11.1	10.0	25.5	12.6	12.4	24.2	0.0	0.0	19.3	15.9	17.1
LnGrp LOS	C	B	A	C	B	B	C	A	A	B	B	B
Approach Vol, veh/h		369			551			53			197	
Approach Delay, s/veh		13.2			13.0			24.2			18.5	
Approach LOS		B			B			C			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		7.4	4.8	18.6		10.7	6.1	17.4				
Change Period (Y+Rc), s		5.1	4.0	5.8		5.4	4.0	5.8				
Max Green Setting (Gmax), s		30.0	30.0	45.0		30.0	30.0	45.0				
Max Q Clear Time (g_c+I1), s		3.3	2.5	4.7		4.9	3.5	5.9				
Green Ext Time (p_c), s		0.2	0.0	2.9		0.6	0.1	4.7				

Intersection Summary		
HCM 6th Ctrl Delay		14.5
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	37	202	557	112	203	121	810	303	93	910	9
Future Volume (veh/h)	60	37	202	557	112	203	121	810	303	93	910	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	62	38	208	574	115	209	125	835	312	96	938	9
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	80	43	233	621	181	330	149	1563	695	118	2202	21
Arrive On Green	0.05	0.17	0.17	0.30	0.51	0.51	0.03	0.15	0.15	0.07	0.43	0.43
Sat Flow, veh/h	1767	248	1358	3428	589	1071	1767	3526	1568	1767	5174	50
Grp Volume(v), veh/h	62	0	246	574	0	324	125	835	312	96	612	335
Grp Sat Flow(s),veh/h/ln	1767	0	1606	1714	0	1660	1767	1763	1568	1767	1689	1846
Q Serve(g_s), s	4.9	0.0	21.0	22.7	0.0	19.7	9.9	30.7	25.4	7.5	17.8	17.8
Cycle Q Clear(g_c), s	4.9	0.0	21.0	22.7	0.0	19.7	9.9	30.7	25.4	7.5	17.8	17.8
Prop In Lane	1.00		0.85	1.00		0.65	1.00		1.00	1.00		0.03
Lane Grp Cap(c), veh/h	80	0	276	621	0	511	149	1563	695	118	1437	786
V/C Ratio(X)	0.78	0.00	0.89	0.92	0.00	0.63	0.84	0.53	0.45	0.82	0.43	0.43
Avail Cap(c_a), veh/h	379	0	344	735	0	511	199	1563	695	199	1437	786
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.94	0.00	0.94	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.2	0.0	56.7	47.9	0.0	28.3	67.1	46.4	44.1	64.5	28.2	28.2
Incr Delay (d2), s/veh	6.0	0.0	22.4	14.1	0.0	2.8	16.1	1.3	2.1	5.1	0.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	10.2	9.9	0.0	7.0	5.3	14.8	11.1	3.5	7.3	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.2	0.0	79.1	62.0	0.0	31.1	83.2	47.7	46.2	69.6	29.1	29.9
LnGrp LOS	E	A	E	E	A	C	F	D	D	E	C	C
Approach Vol, veh/h		308			898			1272			1043	
Approach Delay, s/veh		77.7			50.8			50.8			33.1	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.3	67.9	29.4	29.4	15.8	65.4	10.3	48.5
Change Period (Y+Rc), s	4.0	5.8	4.0	* 5.4	4.0	5.8	4.0	5.4
Max Green Setting (Gmax), s	15.8	45.0	30.0	* 30	15.8	45.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	9.5	32.7	24.7	23.0	11.9	19.8	6.9	21.7
Green Ext Time (p_c), s	0.0	6.8	0.7	1.1	0.0	8.9	0.1	1.6

Intersection Summary	
HCM 6th Ctrl Delay	47.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1724	327	131	1137
Future Volume (veh/h)	0	0	1724	327	131	1137
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				0.99	1.00	
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No			No
Adj Sat Flow, veh/h/ln			1856	1856	1856	1856
Adj Flow Rate, veh/h			1815	344	138	1197
Peak Hour Factor			0.95	0.95	0.95	0.95
Percent Heavy Veh, %			3	3	3	3
Cap, veh/h			2954	1309	160	3387
Arrive On Green			1.00	1.00	0.18	1.00
Sat Flow, veh/h			3618	1562	1767	3618
Grp Volume(v), veh/h			1815	344	138	1197
Grp Sat Flow(s),veh/h/ln			1763	1562	1767	1763
Q Serve(g_s), s			0.0	0.0	10.6	0.0
Cycle Q Clear(g_c), s			0.0	0.0	10.6	0.0
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			2954	1309	160	3387
V/C Ratio(X)			0.61	0.26	0.86	0.35
Avail Cap(c_a), veh/h			2954	1309	322	3387
HCM Platoon Ratio			1.33	1.33	2.00	2.00
Upstream Filter(I)			0.58	0.58	1.00	1.00
Uniform Delay (d), s/veh			0.0	0.0	56.5	0.0
Incr Delay (d2), s/veh			0.6	0.3	5.2	0.3
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.2	0.1	4.5	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			0.6	0.3	61.7	0.3
LnGrp LOS			A	A	E	A
Approach Vol, veh/h			2159			1335
Approach Delay, s/veh			0.5			6.6
Approach LOS			A			A

Timer - Assigned Phs	1	2	6
Phs Duration (G+Y+Rc), s	17.2	122.8	140.0
Change Period (Y+Rc), s	4.5	5.5	5.5
Max Green Setting (Gmax), s	25.5	104.5	60.0
Max Q Clear Time (g_c+I1), s	12.6	2.0	2.0
Green Ext Time (p_c), s	0.1	16.1	6.6

Intersection Summary	
HCM 6th Ctrl Delay	2.9
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	469	205	476	429	0	448	0	1134	410	148	989	0
Future Volume (veh/h)	469	205	476	429	0	448	0	1134	410	148	989	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	479	209	486	438	0	457	0	1157	418	151	1009	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	1077	583	493	0	0	0	0	2419	749	172	2140	0
Arrive On Green	0.31	0.31	0.31	0.00	0.00	0.00	0.00	0.48	0.48	0.19	1.00	0.00
Sat Flow, veh/h	3428	1856	1568		0		0	5233	1568	1767	3618	0
Grp Volume(v), veh/h	479	209	486		0.0		0	1157	418	151	1009	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1568				0	1689	1568	1767	1763	0
Q Serve(g_s), s	15.6	12.2	43.1				0.0	21.6	26.6	11.6	0.0	0.0
Cycle Q Clear(g_c), s	15.6	12.2	43.1				0.0	21.6	26.6	11.6	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1077	583	493				0	2419	749	172	2140	0
V/C Ratio(X)	0.44	0.36	0.99				0.00	0.48	0.56	0.88	0.47	0.00
Avail Cap(c_a), veh/h	1077	583	493				0	2419	749	215	2140	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.89	0.89	0.95	0.95	0.00
Uniform Delay (d), s/veh	38.3	37.1	47.7				0.0	24.8	26.0	55.6	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.1	36.8				0.0	0.6	2.7	22.8	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	5.6	21.8				0.0	8.6	10.2	5.7	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.4	37.2	84.5				0.0	25.4	28.7	78.4	0.7	0.0
LnGrp LOS	D	D	F				A	C	C	E	A	A
Approach Vol, veh/h		1174						1575			1160	
Approach Delay, s/veh		57.2						26.3			10.8	
Approach LOS		E						C			B	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	18.1	72.4		49.5		90.5						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	17.0	31.0		44.0		60.0						
Max Q Clear Time (g_c+I1), s	13.6	28.6		45.1		2.0						
Green Ext Time (p_c), s	0.1	1.5		0.0		8.7						

Intersection Summary			
HCM 6th Ctrl Delay			31.0
HCM 6th LOS			C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	653	177	126	883	834	767
Future Volume (veh/h)	653	177	126	883	834	767
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	687	186	133	929	878	807
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	911	418	214	2990	1680	1165
Arrive On Green	0.27	0.27	0.06	0.59	0.48	0.48
Sat Flow, veh/h	3428	1572	3428	5233	3618	1568
Grp Volume(v), veh/h	687	186	133	929	878	807
Grp Sat Flow(s),veh/h/ln	1714	1572	1714	1689	1763	1568
Q Serve(g_s), s	14.3	7.7	2.9	7.2	13.5	21.3
Cycle Q Clear(g_c), s	14.3	7.7	2.9	7.2	13.5	21.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	911	418	214	2990	1680	1165
V/C Ratio(X)	0.75	0.44	0.62	0.31	0.52	0.69
Avail Cap(c_a), veh/h	1321	606	1321	2990	2038	1324
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.2	23.8	35.6	8.0	14.2	5.3
Incr Delay (d2), s/veh	2.0	1.1	1.1	0.1	0.4	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	7.1	1.2	2.1	4.7	13.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	28.2	24.9	36.7	8.1	14.6	6.9
LnGrp LOS	C	C	D	A	B	A
Approach Vol, veh/h	873			1062	1685	
Approach Delay, s/veh	27.5			11.7	10.9	
Approach LOS	C			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		51.8		26.1	8.9	42.9
Change Period (Y+Rc), s		5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		9.2		16.3	4.9	23.3
Green Ext Time (p_c), s		10.4		4.4	0.2	13.8

Intersection Summary			
HCM 6th Ctrl Delay			15.1
HCM 6th LOS			B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	281	223	348	675	694	239
Future Volume (veh/h)	281	223	348	675	694	239
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	302	240	374	726	746	257
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	714	328	421	2225	1190	857
Arrive On Green	0.21	0.21	0.24	0.63	0.34	0.34
Sat Flow, veh/h	3428	1572	1767	3618	3618	1568
Grp Volume(v), veh/h	302	240	374	726	746	257
Grp Sat Flow(s),veh/h/ln	1714	1572	1767	1763	1763	1568
Q Serve(g_s), s	5.5	10.3	14.8	6.9	12.9	6.4
Cycle Q Clear(g_c), s	5.5	10.3	14.8	6.9	12.9	6.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	714	328	421	2225	1190	857
V/C Ratio(X)	0.42	0.73	0.89	0.33	0.63	0.30
Avail Cap(c_a), veh/h	1423	653	733	2225	2195	1304
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.8	26.7	26.6	6.2	20.1	8.9
Incr Delay (d2), s/veh	0.6	4.5	3.1	0.1	0.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	9.0	6.0	1.9	4.8	3.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.4	31.2	29.7	6.3	20.9	9.2
LnGrp LOS	C	C	C	A	C	A
Approach Vol, veh/h	542			1100	1003	
Approach Delay, s/veh	28.0			14.3	17.9	
Approach LOS	C			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		51.4		20.9	21.2	30.2
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		8.9		12.3	16.8	14.9
Green Ext Time (p_c), s		7.7		2.8	0.5	9.5

Intersection Summary		
HCM 6th Ctrl Delay		18.5
HCM 6th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	305	116	31	334	220	150	701	18	155	689	68
Future Volume (veh/h)	64	305	116	31	334	220	150	701	18	155	689	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	67	318	121	32	348	229	156	730	19	161	718	71
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	86	683	255	46	512	331	197	1104	490	202	1115	495
Arrive On Green	0.05	0.27	0.27	0.03	0.25	0.25	0.11	0.31	0.31	0.11	0.32	0.32
Sat Flow, veh/h	1767	2511	937	1767	2051	1325	1767	3526	1566	1767	3526	1567
Grp Volume(v), veh/h	67	221	218	32	298	279	156	730	19	161	718	71
Grp Sat Flow(s),veh/h/ln	1767	1763	1684	1767	1763	1613	1767	1763	1566	1767	1763	1567
Q Serve(g_s), s	2.7	7.5	7.7	1.3	10.9	11.2	6.2	12.8	0.6	6.4	12.5	2.3
Cycle Q Clear(g_c), s	2.7	7.5	7.7	1.3	10.9	11.2	6.2	12.8	0.6	6.4	12.5	2.3
Prop In Lane	1.00		0.56	1.00		0.82	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	86	480	458	46	440	403	197	1104	490	202	1115	495
V/C Ratio(X)	0.78	0.46	0.47	0.69	0.68	0.69	0.79	0.66	0.04	0.80	0.64	0.14
Avail Cap(c_a), veh/h	741	739	706	741	739	676	741	2217	985	741	2217	985
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	21.7	21.8	34.5	24.2	24.4	31.0	21.3	17.1	30.9	21.0	17.5
Incr Delay (d2), s/veh	5.5	1.0	1.1	6.6	2.6	3.0	2.7	1.0	0.0	2.7	0.9	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	2.9	2.9	0.6	4.5	4.2	2.6	4.9	0.2	2.7	4.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.1	22.7	22.9	41.1	26.8	27.4	33.7	22.3	17.1	33.6	21.9	17.7
LnGrp LOS	D	C	C	D	C	C	C	C	B	C	C	B
Approach Vol, veh/h		506			609			905			950	
Approach Delay, s/veh		24.9			27.8			24.1			23.6	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	28.2	5.9	25.3	12.0	28.4	7.5	23.7
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	30.0	45.0	30.0	30.0	30.0	45.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	8.4	14.8	3.3	9.7	8.2	14.5	4.7	13.2
Green Ext Time (p_c), s	0.2	7.6	0.0	3.4	0.2	7.8	0.1	4.3

Intersection Summary	
HCM 6th Ctrl Delay	24.8
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	435	0	0	399	2	437	4	34	0	0	20
Future Volume (vph)	59	435	0	0	399	2	437	4	34	0	0	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Lane Util. Factor		0.95			0.95		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.98			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		0.99			1.00		0.95	0.95	1.00			1.00
Satd. Flow (prot)		3480			3502		1665	1671	1543			1596
Flt Permitted		0.85			1.00		0.95	0.95	1.00			1.00
Satd. Flow (perm)		2970			3502		1665	1671	1543			1596
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	67	494	0	0	453	2	497	5	39	0	0	23
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	30	0	0	22
Lane Group Flow (vph)	0	561	0	0	455	0	248	254	9	0	0	1
Confl. Peds. (#/hr)	10		8	8		10			6	6		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA			NA		Split	NA	Perm			Prot
Protected Phases		6			2		4	4				3
Permitted Phases	6								4			
Actuated Green, G (s)		37.8			37.8		16.2	16.2	16.2			2.0
Effective Green, g (s)		37.8			37.8		16.2	16.2	16.2			2.0
Actuated g/C Ratio		0.54			0.54		0.23	0.23	0.23			0.03
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		1603			1891		385	386	357			45
v/s Ratio Prot					0.13		0.15	c0.15				c0.00
v/s Ratio Perm		c0.19							0.01			
v/c Ratio		0.35			0.24		0.64	0.66	0.03			0.01
Uniform Delay, d1		9.1			8.5		24.3	24.4	20.8			33.0
Progression Factor		1.23			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.6			0.3		2.8	3.1	0.0			0.0
Delay (s)		11.8			8.8		27.1	27.5	20.8			33.1
Level of Service		B			A		C	C	C			C
Approach Delay (s)		11.8			8.8			26.8			33.1	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Appendix F
Existing Conditions Intersection Queueing Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	48	154	43	346	521	209	335	146	174	56
v/c Ratio	0.40	0.10	0.06	0.71	0.29	0.24	0.71	0.17	0.37	0.18
Control Delay	56.5	17.1	0.8	51.2	12.8	2.6	51.8	3.4	42.4	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.5	17.1	0.8	51.2	12.8	2.6	51.8	3.4	42.4	1.3
Queue Length 50th (ft)	33	29	0	120	93	0	116	0	57	0
Queue Length 95th (ft)	70	58	5	159	151	38	157	18	86	0
Internal Link Dist (ft)		1391			914					
Turn Bay Length (ft)	250		50	275			250	230	500	500
Base Capacity (vph)	340	1476	702	660	1799	888	687	971	687	404
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.10	0.06	0.52	0.29	0.24	0.49	0.15	0.25	0.14

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	266	271	44	32	533	68	189	323	16	45	276
v/c Ratio	0.50	0.19	0.06	0.20	0.59	0.14	0.58	0.30	0.11	0.23	0.51
Control Delay	33.0	16.3	0.2	38.1	26.5	1.3	35.5	19.5	38.4	36.1	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	16.3	0.2	38.1	26.5	1.3	35.5	19.5	38.4	36.1	8.6
Queue Length 50th (ft)	53	41	0	13	102	0	72	45	6	18	0
Queue Length 95th (ft)	112	84	0	47	190	6	166	115	29	58	39
Internal Link Dist (ft)		914			2001			1265		3471	
Turn Bay Length (ft)	300		360	100		30	150		160		
Base Capacity (vph)	1022	2108	993	519	2025	958	778	1935	519	820	1380
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.13	0.04	0.06	0.26	0.07	0.24	0.17	0.03	0.05	0.20

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	303	222	491	193	63	552
v/c Ratio	0.62	0.36	0.23	0.15	0.40	0.21
Control Delay	45.6	5.0	4.5	0.3	49.8	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.6	5.0	4.5	0.3	49.8	4.3
Queue Length 50th (ft)	94	0	22	0	39	45
Queue Length 95th (ft)	131	47	39	0	78	76
Internal Link Dist (ft)	741		655			394
Turn Bay Length (ft)	350	500		180	200	
Base Capacity (vph)	793	724	2114	1414	297	2621
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.31	0.23	0.14	0.21	0.21

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	398	75	533	325	85	823
v/c Ratio	0.66	0.13	0.26	0.24	0.48	0.23
Control Delay	43.7	5.1	11.7	0.8	50.3	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.7	5.1	11.7	0.8	50.3	3.2
Queue Length 50th (ft)	123	0	84	0	46	34
Queue Length 95th (ft)	162	26	142	18	75	45
Internal Link Dist (ft)	678		452			142
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	793	642	2090	1400	262	3656
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.12	0.26	0.23	0.32	0.23

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	238	33	47	33	53	111	82	555	164	611	366
v/c Ratio	0.48	0.08	0.11	0.20	0.18	0.32	0.39	0.52	0.53	0.39	0.33
Control Delay	37.1	22.5	0.5	44.0	29.8	8.8	42.9	29.2	39.3	24.0	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.1	22.5	0.5	44.0	29.8	8.8	42.9	29.2	39.3	24.0	4.2
Queue Length 50th (ft)	43	8	0	12	19	0	29	66	57	69	0
Queue Length 95th (ft)	144	40	0	63	64	42	122	191	207	197	40
Internal Link Dist (ft)		2884			460			643		452	
Turn Bay Length (ft)	170			140			180		145		
Base Capacity (vph)	1540	921	827	805	884	801	661	2988	793	3422	1967
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.04	0.06	0.04	0.06	0.14	0.12	0.19	0.21	0.18	0.19

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	43	70	27	86	82	125	537	94	515	59
v/c Ratio	0.11	0.14	0.13	0.11	0.20	0.26	0.29	0.21	0.27	0.07
Control Delay	31.4	8.0	32.6	18.8	4.8	29.5	20.7	30.0	21.2	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.4	8.0	32.6	18.8	4.8	29.5	20.7	30.0	21.2	5.9
Queue Length 50th (ft)	6	5	7	12	0	17	48	13	47	0
Queue Length 95th (ft)	30	35	43	31	22	67	147	54	145	28
Internal Link Dist (ft)		786		1093			2183		643	
Turn Bay Length (ft)	190		190			140		180		
Base Capacity (vph)	1511	1108	790	2301	1049	1511	3794	1511	3869	1109
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.06	0.03	0.04	0.08	0.08	0.14	0.06	0.13	0.05

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	152	280	71	478	116	237	480	76	159	143
v/c Ratio	0.55	0.26	0.40	0.61	0.26	0.59	0.48	0.41	0.34	0.23
Control Delay	41.1	21.1	44.1	32.6	6.8	37.5	28.2	44.1	35.9	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.1	21.1	44.1	32.6	6.8	37.5	28.2	44.1	35.9	10.0
Queue Length 50th (ft)	69	50	33	111	0	101	104	35	38	20
Queue Length 95th (ft)	155	98	89	198	39	#250	198	93	79	64
Internal Link Dist (ft)		2001		2146			961		2183	
Turn Bay Length (ft)	100		170		200	150		180		
Base Capacity (vph)	680	1756	453	1360	684	453	1793	453	1813	958
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.16	0.16	0.35	0.17	0.52	0.27	0.17	0.09	0.15

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	32	170	99	22	200	42	251	297	30	152
v/c Ratio	0.17	0.23	0.25	0.13	0.28	0.11	0.58	0.18	0.16	0.22
Control Delay	35.7	24.3	8.6	36.4	24.8	3.2	29.4	12.7	35.7	22.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.7	24.3	8.6	36.4	24.8	3.2	29.4	12.7	35.7	22.1
Queue Length 50th (ft)	9	21	0	6	25	0	60	18	8	17
Queue Length 95th (ft)	51	77	42	39	91	11	233	91	49	63
Internal Link Dist (ft)		2146			1997			3484		1272
Turn Bay Length (ft)	160		70	150		70	200		190	
Base Capacity (vph)	987	2620	1180	987	2620	1174	987	2616	1016	2629
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.06	0.08	0.02	0.08	0.04	0.25	0.11	0.03	0.06

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	152	119	23	84	36	14
v/c Ratio	0.16	0.18	0.02	0.07	0.08	0.01
Control Delay	10.3	1.7	13.9	0.9	16.5	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.3	1.7	13.9	0.9	16.5	7.6
Queue Length 50th (ft)	11	0	1	0	3	1
Queue Length 95th (ft)	20	8	8	5	12	9
Internal Link Dist (ft)	1668		764			205
Turn Bay Length (ft)				65	50	
Base Capacity (vph)	2879	1442	2968	1463	2879	1845
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.08	0.01	0.06	0.01	0.01

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	25	178	4	18	330	25	50	32	6	29
v/c Ratio	0.10	0.09	0.00	0.08	0.17	0.03	0.26	0.11	0.02	0.09
Control Delay	22.4	12.8	0.0	22.5	12.6	0.0	14.3	20.9	20.7	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.4	12.8	0.0	22.5	12.6	0.0	14.3	20.9	20.7	0.5
Queue Length 50th (ft)	5	16	0	4	31	0	3	6	1	0
Queue Length 95th (ft)	29	50	0	24	88	0	32	33	11	1
Internal Link Dist (ft)		1997			1309		113		677	
Turn Bay Length (ft)	320		100	140		100		200		
Base Capacity (vph)	1359	3300	1481	1359	3300	1481	696	1400	1474	1271
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.05	0.00	0.01	0.10	0.02	0.07	0.02	0.00	0.02

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	7	75	447	271	64	704	154	97	973
v/c Ratio	0.11	0.48	0.81	0.52	0.54	0.36	0.17	0.64	0.33
Control Delay	68.3	30.5	64.6	14.9	78.9	19.4	9.4	80.2	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.3	30.5	64.6	14.9	78.9	19.4	9.4	80.2	16.6
Queue Length 50th (ft)	6	13	204	0	57	177	29	87	161
Queue Length 95th (ft)	23	63	233	103	106	281	83	144	242
Internal Link Dist (ft)		117		450		252			761
Turn Bay Length (ft)			260		240		90	200	
Base Capacity (vph)	375	402	728	530	197	1952	897	200	2963
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.19	0.61	0.51	0.32	0.36	0.17	0.48	0.33

Intersection Summary

Lane Group	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1232	164	182	866
v/c Ratio	0.44	0.13	0.77	0.25
Control Delay	5.0	0.6	79.5	0.2
Queue Delay	0.3	0.9	0.0	0.1
Total Delay	5.4	1.5	79.5	0.2
Queue Length 50th (ft)	257	0	162	0
Queue Length 95th (ft)	69	0	236	0
Internal Link Dist (ft)	119			398
Turn Bay Length (ft)			340	
Base Capacity (vph)	2784	1279	319	3505
Starvation Cap Reductn	846	877	0	0
Spillback Cap Reductn	0	0	0	877
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.64	0.41	0.57	0.33

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	297	139	262	262	318	704	157	94	779
v/c Ratio	0.50	0.43	0.76	0.71	0.70	0.29	0.15	0.64	0.37
Control Delay	53.6	53.3	46.5	71.2	14.7	25.0	5.5	79.9	17.1
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0	0.0	3.3	0.9
Total Delay	53.6	53.3	46.5	71.2	14.8	25.1	5.5	83.2	18.0
Queue Length 50th (ft)	130	117	151	120	0	131	13	84	170
Queue Length 95th (ft)	144	151	206	163	93	240	64	141	330
Internal Link Dist (ft)		1417				541			119
Turn Bay Length (ft)	1000		600	140			75	60	
Base Capacity (vph)	1068	579	549	485	496	2453	1087	212	2117
Starvation Cap Reductn	0	0	0	0	0	0	0	58	978
Spillback Cap Reductn	0	0	0	0	10	168	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.24	0.48	0.54	0.65	0.31	0.14	0.61	0.68

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	187	73	71	766	869	296
v/c Ratio	0.23	0.17	0.19	0.28	0.60	0.23
Control Delay	20.5	6.8	31.6	7.7	16.8	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.5	6.8	31.6	7.7	16.8	0.7
Queue Length 50th (ft)	26	0	11	36	110	0
Queue Length 95th (ft)	63	28	42	113	277	11
Internal Link Dist (ft)	1668			931	541	
Turn Bay Length (ft)			130			
Base Capacity (vph)	1999	939	1971	4854	2779	1502
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.08	0.04	0.16	0.31	0.20

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	194	74	141	666	688	193
v/c Ratio	0.27	0.19	0.48	0.33	0.58	0.20
Control Delay	22.0	7.4	32.4	7.8	19.9	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.0	7.4	32.4	7.8	19.9	1.2
Queue Length 50th (ft)	27	0	41	46	91	0
Queue Length 95th (ft)	67	28	133	141	228	14
Internal Link Dist (ft)	1309			1278	931	
Turn Bay Length (ft)		100	330			100
Base Capacity (vph)	1827	864	934	3371	2768	1330
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.09	0.15	0.20	0.25	0.15

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	89	221	89	460	96	536	105	110	522	77
v/c Ratio	0.42	0.27	0.42	0.56	0.44	0.55	0.21	0.47	0.45	0.14
Control Delay	44.1	25.0	44.1	29.3	44.0	28.8	7.1	43.6	26.3	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.1	25.0	44.1	29.3	44.0	28.8	7.1	43.6	26.3	7.3
Queue Length 50th (ft)	42	41	42	97	45	120	0	51	114	0
Queue Length 95th (ft)	109	90	109	187	115	221	40	127	211	34
Internal Link Dist (ft)		3484		721		1028			1278	
Turn Bay Length (ft)	200		150		190		190	130		190
Base Capacity (vph)	721	1397	721	1391	721	2164	985	721	2164	975
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.16	0.12	0.33	0.13	0.25	0.11	0.15	0.24	0.08

Intersection Summary

Lane Group	EBT	WBT	NBL	NBT	NBR	SBR
Lane Group Flow (vph)	269	493	126	128	23	3
v/c Ratio	0.12	0.21	0.54	0.55	0.08	0.01
Control Delay	7.7	5.2	36.0	36.3	0.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.7	5.2	36.0	36.3	0.5	0.0
Queue Length 50th (ft)	25	28	53	54	0	0
Queue Length 95th (ft)	124	84	97	100	0	0
Internal Link Dist (ft)	450	555		317		
Turn Bay Length (ft)					120	
Base Capacity (vph)	2268	2310	547	548	578	438
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.21	0.23	0.23	0.04	0.01

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	90	466	105	498	526	279	127	382	471	159
v/c Ratio	0.56	0.38	0.18	0.82	0.33	0.33	0.21	0.30	0.79	0.40
Control Delay	58.6	25.1	8.3	53.4	17.4	3.4	36.3	2.8	51.6	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.6	25.1	8.3	53.4	17.4	3.4	36.3	2.8	51.6	8.5
Queue Length 50th (ft)	61	123	9	170	112	0	38	6	162	0
Queue Length 95th (ft)	109	177	47	230	177	48	63	31	214	53
Internal Link Dist (ft)		1391			914					
Turn Bay Length (ft)	250		50	275			250	230	500	500
Base Capacity (vph)	340	1227	598	660	1600	846	687	1310	687	438
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.38	0.18	0.75	0.33	0.33	0.18	0.29	0.69	0.36

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	385	724	172	39	457	100	96	435	73	281	738
v/c Ratio	0.64	0.51	0.23	0.27	0.56	0.22	0.47	0.48	0.41	0.57	0.58
Control Delay	43.2	25.3	5.0	51.9	34.7	4.8	51.4	29.1	51.8	35.7	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.2	25.3	5.0	51.9	34.7	4.8	51.4	29.1	51.8	35.7	4.4
Queue Length 50th (ft)	101	173	0	20	118	0	50	97	38	132	0
Queue Length 95th (ft)	217	316	48	70	220	27	135	196	109	291	50
Internal Link Dist (ft)		914			2001			1265		3471	
Turn Bay Length (ft)	300		360	100		30	150		160		
Base Capacity (vph)	865	1825	900	439	1713	818	659	1635	439	714	1521
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.40	0.19	0.09	0.27	0.12	0.15	0.27	0.17	0.39	0.49

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	543	189	1185	347	64	806
v/c Ratio	0.76	0.33	0.63	0.26	0.41	0.34
Control Delay	44.9	20.8	10.3	0.4	49.7	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.9	20.8	10.3	0.4	49.7	7.2
Queue Length 50th (ft)	167	73	123	0	39	101
Queue Length 95th (ft)	221	119	145	0	79	138
Internal Link Dist (ft)	741		655			394
Turn Bay Length (ft)	350	500		180	200	
Base Capacity (vph)	793	701	1888	1352	297	2397
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.27	0.63	0.26	0.22	0.34

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	703	399	1174	649	114	1277
v/c Ratio	0.90	0.62	0.66	0.52	0.57	0.38
Control Delay	53.5	26.2	21.1	3.0	49.7	4.6
Queue Delay	0.0	0.0	0.7	0.1	0.0	0.0
Total Delay	53.5	26.2	21.7	3.1	49.7	4.6
Queue Length 50th (ft)	224	180	282	31	54	53
Queue Length 95th (ft)	#324	264	382	75	m97	61
Internal Link Dist (ft)	678		452			142
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	793	700	1780	1253	262	3390
Starvation Cap Reductn	0	0	274	62	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.57	0.78	0.54	0.44	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	599	158	244	34	80	254	180	1096	202	928	594
v/c Ratio	0.79	0.25	0.35	0.30	0.33	0.60	0.70	0.75	0.69	0.59	0.47
Control Delay	52.0	31.1	5.3	66.7	50.9	11.9	65.5	41.8	60.9	36.5	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	31.1	5.3	66.7	50.9	11.9	65.5	41.8	60.9	36.5	4.2
Queue Length 50th (ft)	197	85	0	23	53	0	118	242	132	192	0
Queue Length 95th (ft)	#451	171	59	75	114	72	275	475	295	376	50
Internal Link Dist (ft)		2884			460			643		452	
Turn Bay Length (ft)	170			140			180		145		
Base Capacity (vph)	965	643	698	505	561	648	414	1892	497	2145	1516
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.25	0.35	0.07	0.14	0.39	0.43	0.58	0.41	0.43	0.39

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	203	336	85	282	295	267	928	326	806	53
v/c Ratio	0.52	0.66	0.47	0.35	0.51	0.59	0.67	0.65	0.54	0.08
Control Delay	49.3	35.5	56.0	32.7	7.2	48.1	34.2	48.2	31.2	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.3	35.5	56.0	32.7	7.2	48.1	34.2	48.2	31.2	5.6
Queue Length 50th (ft)	58	156	47	72	0	76	169	92	140	0
Queue Length 95th (ft)	132	326	130	140	67	165	318	198	273	26
Internal Link Dist (ft)		786		1093			2183		643	
Turn Bay Length (ft)	190		190			140		180		
Base Capacity (vph)	769	649	402	1274	749	769	2245	769	2308	839
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.52	0.21	0.22	0.39	0.35	0.41	0.42	0.35	0.06

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	255	615	100	346	156	44	584	153	472	181
v/c Ratio	0.70	0.65	0.51	0.55	0.39	0.32	0.68	0.62	0.37	0.18
Control Delay	49.4	34.2	55.6	41.6	9.7	56.4	38.3	55.0	26.4	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	34.2	55.6	41.6	9.7	56.4	38.3	55.0	26.4	2.1
Queue Length 50th (ft)	135	158	54	96	0	24	155	82	110	0
Queue Length 95th (ft)	306	291	145	188	58	78	305	205	223	32
Internal Link Dist (ft)		2001		2146			961		2183	
Turn Bay Length (ft)	100		170		200	150		180		
Base Capacity (vph)	591	1565	394	1188	620	394	1557	394	1599	1158
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.39	0.25	0.29	0.25	0.11	0.38	0.39	0.30	0.16

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	100	289	233	31	239	98	175	488	85	582
v/c Ratio	0.46	0.30	0.42	0.22	0.40	0.29	0.58	0.38	0.42	0.59
Control Delay	44.3	27.6	11.8	45.4	34.1	12.3	41.9	21.7	44.5	29.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.3	27.6	11.8	45.4	34.1	12.3	41.9	21.7	44.5	29.0
Queue Length 50th (ft)	45	63	23	14	55	4	78	92	39	124
Queue Length 95th (ft)	122	128	103	53	117	51	187	183	109	245
Internal Link Dist (ft)		2146			1997			3484		1272
Turn Bay Length (ft)	160		70	150		70	200		190	
Base Capacity (vph)	685	1828	890	685	1828	845	685	1815	706	1848
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.16	0.26	0.05	0.13	0.12	0.26	0.27	0.12	0.31

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	239	271	55	269	261	67
v/c Ratio	0.29	0.32	0.06	0.30	0.42	0.07
Control Delay	16.7	2.6	13.9	1.5	21.3	5.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	2.6	13.9	1.5	21.3	5.8
Queue Length 50th (ft)	21	0	4	0	25	6
Queue Length 95th (ft)	77	36	19	17	96	27
Internal Link Dist (ft)	1668		764			205
Turn Bay Length (ft)				65	50	
Base Capacity (vph)	2415	1364	2498	1377	2415	1775
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.20	0.02	0.20	0.11	0.04

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	55	303	13	23	282	78	54	126	7	35
v/c Ratio	0.22	0.20	0.02	0.11	0.20	0.12	0.34	0.33	0.02	0.09
Control Delay	29.8	17.7	0.1	31.5	20.6	7.1	25.4	26.2	24.6	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.8	17.7	0.1	31.5	20.6	7.1	25.4	26.2	24.6	0.7
Queue Length 50th (ft)	18	36	0	8	45	0	12	40	2	0
Queue Length 95th (ft)	59	101	0	33	99	32	50	105	13	2
Internal Link Dist (ft)		1997			1309		113		677	
Turn Bay Length (ft)	320		100	140		100				200
Base Capacity (vph)	1170	2815	1220	1170	2815	1249	495	1206	1269	1092
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.11	0.01	0.02	0.10	0.06	0.11	0.10	0.01	0.03

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	27	185	465	262	87	1041	396	85	784
v/c Ratio	0.32	0.70	0.82	0.59	0.62	0.55	0.44	0.61	0.29
Control Delay	73.8	28.8	64.9	29.1	80.0	24.1	16.4	79.9	19.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.8	28.8	64.9	29.1	80.0	24.1	16.4	79.9	19.3
Queue Length 50th (ft)	24	28	218	77	78	306	136	76	133
Queue Length 95th (ft)	57	104	228	151	133	488	288	131	214
Internal Link Dist (ft)		117		450		252			761
Turn Bay Length (ft)			260		240		90	200	
Base Capacity (vph)	375	473	728	455	198	1909	898	197	2733
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.39	0.64	0.58	0.44	0.55	0.44	0.43	0.29

Intersection Summary

Lane Group	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1728	382	126	941
v/c Ratio	0.60	0.29	0.70	0.27
Control Delay	4.6	0.6	80.2	0.2
Queue Delay	1.8	1.1	0.0	0.1
Total Delay	6.4	1.7	80.2	0.3
Queue Length 50th (ft)	98	0	113	0
Queue Length 95th (ft)	130	7	176	0
Internal Link Dist (ft)	119			398
Turn Bay Length (ft)			340	
Base Capacity (vph)	2893	1314	319	3505
Starvation Cap Reductn	946	681	0	0
Spillback Cap Reductn	0	0	0	1247
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.89	0.60	0.39	0.42

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	528	432	385	291	321	1255	354	107	798
v/c Ratio	0.56	0.84	0.77	0.73	0.81	0.68	0.43	0.68	0.46
Control Delay	44.9	62.4	45.2	70.8	33.1	41.6	15.2	81.6	26.1
Queue Delay	0.1	0.0	0.0	0.0	1.1	0.2	0.0	6.3	2.5
Total Delay	45.0	62.4	45.2	70.8	34.1	41.8	15.2	87.9	28.6
Queue Length 50th (ft)	208	365	245	134	72	359	115	96	253
Queue Length 95th (ft)	258	484	362	179	186	#474	214	157	343
Internal Link Dist (ft)		1417				541			119
Turn Bay Length (ft)	1000		600	140			75	60	
Base Capacity (vph)	1072	581	552	485	428	1851	856	212	1718
Starvation Cap Reductn	0	0	0	0	0	0	0	64	765
Spillback Cap Reductn	66	0	0	0	21	96	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.74	0.70	0.60	0.79	0.72	0.41	0.72	0.84

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	550	186	120	1058	866	502
v/c Ratio	0.52	0.30	0.35	0.40	0.66	0.38
Control Delay	23.9	5.1	38.7	11.3	23.0	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	23.9	5.1	38.7	11.3	23.0	1.1
Queue Length 50th (ft)	106	0	27	97	168	0
Queue Length 95th (ft)	188	45	64	164	290	16
Internal Link Dist (ft)	1668			931	541	
Turn Bay Length (ft)			130			
Base Capacity (vph)	1438	760	1411	4764	2182	1436
Starvation Cap Reductn	0	0	0	0	0	183
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.24	0.09	0.22	0.40	0.40

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	268	219	271	847	873	178
v/c Ratio	0.43	0.47	0.68	0.37	0.66	0.19
Control Delay	33.0	8.8	39.3	6.4	23.8	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	8.8	39.3	6.4	23.8	2.2
Queue Length 50th (ft)	57	0	116	80	173	4
Queue Length 95th (ft)	125	63	254	140	319	29
Internal Link Dist (ft)	1309			1278	931	
Turn Bay Length (ft)		100	330			100
Base Capacity (vph)	1390	770	716	3238	2149	1245
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.28	0.38	0.26	0.41	0.14

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	69	483	48	594	132	786	48	186	808	78
v/c Ratio	0.44	0.53	0.36	0.68	0.59	0.69	0.09	0.66	0.65	0.13
Control Delay	60.3	35.8	60.3	38.3	58.3	35.6	2.6	56.1	31.8	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.3	35.8	60.3	38.3	58.3	35.6	2.6	56.1	31.8	7.0
Queue Length 50th (ft)	46	140	32	173	87	250	0	122	245	1
Queue Length 95th (ft)	107	243	82	298	175	375	12	230	364	35
Internal Link Dist (ft)		3484		721		1028			1278	
Turn Bay Length (ft)	200		150		190		190	130		190
Base Capacity (vph)	550	1098	550	1077	550	1650	764	550	1676	773
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.44	0.09	0.55	0.24	0.48	0.06	0.34	0.48	0.10

Intersection Summary

Lane Group	EBT	WBT	NBL	NBT	NBR	SBR
Lane Group Flow (vph)	552	377	202	205	31	11
v/c Ratio	0.27	0.17	0.59	0.59	0.08	0.03
Control Delay	10.3	8.1	30.6	30.8	0.4	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.3	8.1	30.6	30.8	0.4	0.2
Queue Length 50th (ft)	98	26	85	87	0	0
Queue Length 95th (ft)	250	92	115	117	0	0
Internal Link Dist (ft)	450	555		317		
Turn Bay Length (ft)					120	
Base Capacity (vph)	2023	2188	561	562	583	400
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.17	0.36	0.36	0.05	0.03

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	37	266	52	765	393	280	201	667	432	74
v/c Ratio	0.26	0.55	0.18	0.72	0.26	0.34	0.32	0.38	0.68	0.19
Control Delay	39.6	35.7	4.3	27.0	14.2	3.6	27.5	1.2	34.3	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	35.7	4.3	27.0	14.2	3.6	27.5	1.2	34.3	3.1
Queue Length 50th (ft)	17	64	0	159	62	0	43	1	102	0
Queue Length 95th (ft)	49	111	14	272	114	47	75	20	157	14
Internal Link Dist (ft)		1391			914					
Turn Bay Length (ft)	250		50	275			250	230	500	500
Base Capacity (vph)	585	1366	657	1136	1507	813	946	1806	946	514
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.19	0.08	0.67	0.26	0.34	0.21	0.37	0.46	0.14

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	641	665	57	32	563	129	60	506	100	218	816
v/c Ratio	0.86	0.42	0.07	0.26	0.67	0.28	0.41	0.70	0.53	0.43	0.60
Control Delay	51.4	21.8	0.2	52.5	37.8	8.1	53.5	39.5	53.4	33.8	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.4	21.8	0.2	52.5	37.8	8.1	53.5	39.5	53.4	33.8	4.3
Queue Length 50th (ft)	189	148	0	18	158	2	34	140	57	110	0
Queue Length 95th (ft)	#404	260	0	56	254	50	87	231	128	209	50
Internal Link Dist (ft)		914			2001			1265		3471	
Turn Bay Length (ft)	300		360	100		30	150		160		
Base Capacity (vph)	744	1598	783	377	1474	731	566	1420	377	609	1458
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.42	0.07	0.08	0.38	0.18	0.11	0.36	0.27	0.36	0.56

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	804	240	852	524	64	844
v/c Ratio	1.01	0.37	0.47	0.41	0.41	0.36
Control Delay	74.6	16.3	6.0	0.7	49.7	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.6	16.3	6.0	0.7	49.7	8.2
Queue Length 50th (ft)	~271	71	43	0	39	113
Queue Length 95th (ft)	#398	127	58	0	79	146
Internal Link Dist (ft)	741		655			394
Turn Bay Length (ft)	350	500		180	200	
Base Capacity (vph)	793	766	1804	1281	297	2313
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.31	0.47	0.41	0.22	0.36

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	729	145	1279	782	104	1557
v/c Ratio	0.92	0.23	0.72	0.62	0.54	0.46
Control Delay	55.8	16.7	22.4	4.2	51.5	4.4
Queue Delay	0.0	0.0	1.1	0.1	0.0	0.0
Total Delay	55.8	16.7	23.5	4.3	51.5	4.4
Queue Length 50th (ft)	235	48	317	45	54	54
Queue Length 95th (ft)	#343	87	434	123	m68	m58
Internal Link Dist (ft)	678		452			142
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	793	699	1784	1263	262	3374
Starvation Cap Reductn	0	0	269	54	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.21	0.84	0.65	0.40	0.46

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	652	207	301	75	124	302	261	1280	261	1026	777
v/c Ratio	0.87	0.37	0.44	0.54	0.49	0.65	0.85	0.84	0.83	0.66	0.57
Control Delay	62.8	39.4	5.9	76.5	58.7	12.5	77.6	49.3	75.1	43.1	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	62.8	39.4	5.9	76.5	58.7	12.5	77.6	49.3	75.1	43.1	4.4
Queue Length 50th (ft)	268	142	0	61	101	5	209	355	211	271	0
Queue Length 95th (ft)	#513	234	68	135	166	85	#470	#636	#410	423	53
Internal Link Dist (ft)		2884			460			643		452	
Turn Bay Length (ft)	170			140			180		145		
Base Capacity (vph)	804	567	680	421	472	615	345	1580	414	1788	1466
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	78	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.37	0.44	0.18	0.26	0.49	0.76	0.81	0.63	0.60	0.53

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	214	434	123	376	371	373	1208	492	929	85
v/c Ratio	0.63	0.90	0.65	0.39	0.57	0.79	0.82	0.89	0.57	0.12
Control Delay	61.9	63.5	69.3	38.2	10.4	63.6	44.1	69.1	36.5	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.9	63.5	69.3	38.2	10.4	63.6	44.1	69.1	36.5	4.9
Queue Length 50th (ft)	82	313	93	128	29	144	301	192	212	0
Queue Length 95th (ft)	140	#519	175	187	124	230	438	#362	326	32
Internal Link Dist (ft)		786		1093			2183		643	
Turn Bay Length (ft)	190		190			140		180		
Base Capacity (vph)	573	494	300	971	660	573	1673	573	1721	805
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.88	0.41	0.39	0.56	0.65	0.72	0.86	0.54	0.11

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	359	521	97	456	223	66	632	136	377	219
v/c Ratio	0.80	0.43	0.56	0.68	0.46	0.47	0.75	0.64	0.35	0.21
Control Delay	55.1	29.9	64.2	48.2	8.9	64.7	45.1	64.0	32.6	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.1	29.9	64.2	48.2	8.9	64.7	45.1	64.0	32.6	2.1
Queue Length 50th (ft)	233	140	67	160	0	46	216	93	113	0
Queue Length 95th (ft)	#511	250	142	253	69	106	330	186	180	35
Internal Link Dist (ft)		2001		2146			961		2183	
Turn Bay Length (ft)	100		170		200	150		180		
Base Capacity (vph)	494	1327	329	989	602	329	1304	329	1340	1083
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.39	0.29	0.46	0.37	0.20	0.48	0.41	0.28	0.20

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	161	283	163	28	316	162	186	642	93	576
v/c Ratio	0.59	0.25	0.28	0.23	0.49	0.43	0.62	0.57	0.47	0.62
Control Delay	48.7	27.0	10.7	52.4	38.9	18.0	47.9	28.7	51.3	33.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.7	27.0	10.7	52.4	38.9	18.0	47.9	28.7	51.3	33.3
Queue Length 50th (ft)	85	66	16	15	84	24	98	154	50	143
Queue Length 95th (ft)	194	132	78	54	170	102	217	279	128	268
Internal Link Dist (ft)		2146			1997			3484		1272
Turn Bay Length (ft)	160		70	150		70	200		190	
Base Capacity (vph)	610	1628	785	610	1628	788	610	1635	628	1627
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.17	0.21	0.05	0.19	0.21	0.30	0.39	0.15	0.35

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	462	359	65	324	302	83
v/c Ratio	0.44	0.37	0.10	0.30	0.45	0.10
Control Delay	13.9	1.6	18.3	1.9	19.2	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.9	1.6	18.3	1.9	19.2	8.1
Queue Length 50th (ft)	47	0	7	4	35	11
Queue Length 95th (ft)	86	18	24	27	74	35
Internal Link Dist (ft)	1668		764			205
Turn Bay Length (ft)				65	50	
Base Capacity (vph)	2283	1451	2354	1480	2283	1845
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.25	0.03	0.22	0.13	0.04

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	63	303	3	20	402	129	53	133	7	57
v/c Ratio	0.29	0.21	0.00	0.12	0.36	0.23	0.41	0.40	0.02	0.16
Control Delay	33.3	16.2	0.0	34.7	21.1	9.6	28.9	29.9	26.5	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.3	16.2	0.0	34.7	21.1	9.6	28.9	29.9	26.5	4.6
Queue Length 50th (ft)	22	35	0	7	67	9	10	45	2	0
Queue Length 95th (ft)	69	98	0	32	137	54	49	118	15	18
Internal Link Dist (ft)		1997			1309		113		677	
Turn Bay Length (ft)	320		100	140		100				200
Base Capacity (vph)	949	2722	1205	949	2722	1205	398	977	1029	898
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.11	0.00	0.02	0.15	0.11	0.13	0.14	0.01	0.06

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	62	246	574	324	125	835	312	96	947
v/c Ratio	0.53	0.77	0.88	0.76	0.70	0.48	0.38	0.64	0.40
Control Delay	78.7	33.7	62.9	45.3	80.4	27.3	16.8	80.2	26.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.7	33.7	62.9	45.3	80.4	27.3	16.8	80.2	26.5
Queue Length 50th (ft)	56	58	265	195	112	261	100	86	200
Queue Length 95th (ft)	103	146	291	195	175	403	219	143	300
Internal Link Dist (ft)		117		450		252			761
Turn Bay Length (ft)			260		240		90	200	
Base Capacity (vph)	375	493	728	435	210	1724	819	200	2393
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.50	0.79	0.74	0.60	0.48	0.38	0.48	0.40

Intersection Summary

Lane Group	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1815	344	138	1197
v/c Ratio	0.63	0.26	0.72	0.34
Control Delay	5.0	0.4	79.9	0.3
Queue Delay	19.4	1.6	0.0	0.3
Total Delay	24.3	2.0	79.9	0.6
Queue Length 50th (ft)	130	0	123	0
Queue Length 95th (ft)	m126	m1	189	0
Internal Link Dist (ft)	119			398
Turn Bay Length (ft)			340	
Base Capacity (vph)	2869	1300	319	3505
Starvation Cap Reductn	1103	761	0	0
Spillback Cap Reductn	0	0	0	1534
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.03	0.64	0.43	0.61

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	479	209	486	438	457	1157	418	151	1009
v/c Ratio	0.48	0.39	0.93	0.90	1.04	0.74	0.52	0.80	0.64
Control Delay	41.9	41.0	64.5	81.7	78.9	48.0	16.8	89.3	32.7
Queue Delay	0.1	0.0	0.0	0.0	20.6	0.7	0.0	67.9	11.2
Total Delay	42.0	41.0	64.5	81.7	99.5	48.7	16.8	157.2	43.9
Queue Length 50th (ft)	179	147	352	205	~238	363	150	135	383
Queue Length 95th (ft)	232	221	#559	#301	#459	424	250	#232	461
Internal Link Dist (ft)		1417				541			119
Turn Bay Length (ft)	1000		600	140			75	60	
Base Capacity (vph)	1068	579	550	485	440	1557	798	212	1573
Starvation Cap Reductn	0	0	0	0	0	0	0	87	546
Spillback Cap Reductn	48	0	0	0	23	150	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.36	0.88	0.90	1.10	0.82	0.52	1.21	0.98

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	687	186	133	929	878	807
v/c Ratio	0.58	0.28	0.40	0.36	0.69	0.64
Control Delay	25.1	4.9	41.2	12.4	25.6	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.1	4.9	41.2	12.4	25.6	3.5
Queue Length 50th (ft)	142	0	34	102	201	24
Queue Length 95th (ft)	250	47	71	141	297	58
Internal Link Dist (ft)	1668			931	541	
Turn Bay Length (ft)			130			
Base Capacity (vph)	1311	710	1285	4678	1987	1308
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.26	0.10	0.20	0.44	0.62

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	302	240	374	726	746	257
v/c Ratio	0.46	0.48	0.75	0.31	0.66	0.29
Control Delay	33.8	8.4	39.2	6.5	27.8	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	8.4	39.2	6.5	27.8	4.7
Queue Length 50th (ft)	72	0	175	72	173	23
Queue Length 95th (ft)	132	63	#352	124	280	60
Internal Link Dist (ft)	1309			1278	931	
Turn Bay Length (ft)		100	330			100
Base Capacity (vph)	1301	748	670	3186	2013	1145
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.32	0.56	0.23	0.37	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	67	439	32	577	156	730	19	161	718	71
v/c Ratio	0.41	0.44	0.26	0.66	0.60	0.66	0.03	0.60	0.64	0.13
Control Delay	55.4	29.6	55.4	33.6	52.4	33.1	0.1	52.2	32.5	6.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.4	29.6	55.4	33.6	52.4	33.1	0.1	52.2	32.5	6.5
Queue Length 50th (ft)	40	110	19	143	91	204	0	94	199	0
Queue Length 95th (ft)	101	201	60	261	192	332	0	196	324	31
Internal Link Dist (ft)		3484		721		1028			1278	
Turn Bay Length (ft)	200		150		190		190	130		190
Base Capacity (vph)	604	1219	604	1186	604	1812	847	604	1812	830
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.36	0.05	0.49	0.26	0.40	0.02	0.27	0.40	0.09

Intersection Summary

Lane Group	EBT	WBT	NBL	NBT	NBR	SBR
Lane Group Flow (vph)	561	455	248	254	39	23
v/c Ratio	0.33	0.23	0.65	0.66	0.09	0.08
Control Delay	12.7	10.1	31.1	31.7	0.6	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.7	10.1	31.1	31.7	0.6	0.6
Queue Length 50th (ft)	137	36	104	107	0	0
Queue Length 95th (ft)	229	107	137	141	1	0
Internal Link Dist (ft)	450	555		317		
Turn Bay Length (ft)					120	
Base Capacity (vph)	1706	2013	561	562	582	333
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.23	0.44	0.45	0.07	0.07

Intersection Summary

Appendix G

Existing Conditions Freeway Mainline Analysis HCS Output Sheets

HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	AM
Project Description	SR-60 EB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3994	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1186
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.49
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	PM
Project Description	SR-60 EB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5929	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1671
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	70.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	23.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 EB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5621	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1601
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	AM
Project Description	SR-60 WB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3717	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1488
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.62
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	20.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

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Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	PM
Project Description	SR-60 WB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3734	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1433
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	73.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.6
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 WB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3962	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1569
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.65
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	AM
Project Description	SR-60 EB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3459	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.91	Flow Rate (V_p), pc/h/ln	1400
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	73.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.0
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	PM
Project Description	SR-60 EB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4137	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1587
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 EB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4200	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1611
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.7
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	AM
Project Description	SR-60 WB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2882	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1106
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.7
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	PM
Project Description	SR-60 WB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3517	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1322
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.55
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	74.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 WB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3754	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	1.00	Flow Rate (V_p), pc/h/ln	1383
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	73.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	AM
Project Description	1. I-215 NB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2368	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.91	Flow Rate (V_p), pc/h/ln	994
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	PM
Project Description	1. I-215 NB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2838	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1165
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.49
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	Sat Mid
Project Description	1. I-215 NB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3207	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1276
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	74.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.1
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	AM
Project Description	1. I-215 SB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3696	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	910
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.1
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	PM
Project Description	1. I-215 SB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3616	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	881
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.7
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	Sat
Project Description	1. I-215 SB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4089	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	966
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	AM
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2737	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1124
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
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Jurisdiction		Time Analyzed	PM
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2846	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1144
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.48
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	Sat Mid
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3095	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1231
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	74.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	AM
Project Description	I-215 SB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3430	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1424
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	73.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.4
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	PM
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3380	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1358
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.57
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	73.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.4
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Existing
Jurisdiction		Time Analyzed	Sat Mid
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3939	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1600
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Appendix H

Year 2026 Background Conditions Intersection Operations Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	233	46	442	578	304	357	0	371	383	0	59
Future Volume (veh/h)	52	233	46	442	578	304	357	0	371	383	0	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1565	1565	1565	1565	1565	1565	1565	0	1565	1565	0	1565
Adj Flow Rate, veh/h	53	235	0	446	584	0	361	0	375	387	0	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	0	3	3	0	3
Cap, veh/h	65	1453		511	1849		455	0	0	455	0	
Arrive On Green	0.04	0.49	0.00	0.18	0.62	0.00	0.16	0.00	0.00	0.16	0.00	0.00
Sat Flow, veh/h	1491	2974	1327	2892	2974	1327	2892	361		2892	387	
Grp Volume(v), veh/h	53	235	0	446	584	0	361	48.4		387	51.6	
Grp Sat Flow(s),veh/h/ln	1491	1487	1327	1446	1487	1327	1446	D		1446	D	
Q Serve(g_s), s	3.9	4.8	0.0	16.5	10.2	0.0	13.2			14.3		
Cycle Q Clear(g_c), s	3.9	4.8	0.0	16.5	10.2	0.0	13.2			14.3		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	65	1453		511	1849		455			455		
V/C Ratio(X)	0.82	0.16		0.87	0.32		0.79			0.85		
Avail Cap(c_a), veh/h	339	1453		657	1849		684			684		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.70	0.70	0.00	1.00			1.00		
Uniform Delay (d), s/veh	52.2	15.6	0.0	44.1	9.8	0.0	44.6			45.1		
Incr Delay (d2), s/veh	21.3	0.2	0.0	7.4	0.3	0.0	3.8			6.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	1.8	1.6	0.0	6.3	3.2	0.0	5.0			5.5		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.5	15.9	0.0	51.5	10.1	0.0	48.4			51.6		
LnGrp LOS	E	B		D	B		D			D		
Approach Vol, veh/h		288	A		1030	A						
Approach Delay, s/veh		26.5			28.0							
Approach LOS		C			C							
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	25.9	61.7	22.3		11.3	76.4	22.3					
Change Period (Y+Rc), s	6.5	8.0	5.0		6.5	8.0	5.0					
Max Green Setting (Gmax), s	25.0	39.5	26.0		25.0	39.5	26.0					
Max Q Clear Time (g_c+I1), s	18.5	6.8	15.2		5.9	12.2	16.3					
Green Ext Time (p_c), s	0.9	1.5	1.0		0.1	4.1	1.0					
Intersection Summary												
HCM 6th Ctrl Delay			35.8									
HCM 6th LOS			D									

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	659	332	74	37	567	135	203	292	83	47	65	406
Future Volume (veh/h)	659	332	74	37	567	135	203	292	83	47	65	406
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	709	357	80	40	610	145	218	314	89	51	70	437
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	773	1574	702	61	816	364	254	795	222	69	357	533
Arrive On Green	0.21	0.42	0.42	0.03	0.23	0.23	0.14	0.29	0.29	0.04	0.19	0.19
Sat Flow, veh/h	3645	3749	1672	1767	3526	1572	1767	2723	759	1767	1856	2768
Grp Volume(v), veh/h	709	357	80	40	610	145	218	201	202	51	70	437
Grp Sat Flow(s),veh/h/ln	1823	1874	1672	1767	1763	1572	1767	1763	1719	1767	1856	1384
Q Serve(g_s), s	17.8	5.7	2.7	2.1	15.1	7.3	11.3	8.6	8.8	2.7	3.0	14.2
Cycle Q Clear(g_c), s	17.8	5.7	2.7	2.1	15.1	7.3	11.3	8.6	8.8	2.7	3.0	14.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	773	1574	702	61	816	364	254	514	502	69	357	533
V/C Ratio(X)	0.92	0.23	0.11	0.66	0.75	0.40	0.86	0.39	0.40	0.74	0.20	0.82
Avail Cap(c_a), veh/h	779	1601	714	377	1393	621	566	565	551	377	594	887
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.1	17.4	16.6	44.7	33.4	30.5	39.1	26.5	26.6	44.5	31.7	36.3
Incr Delay (d2), s/veh	15.3	0.1	0.1	4.4	1.4	0.7	3.2	0.5	0.5	5.5	0.3	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.4	2.4	1.0	1.0	6.5	2.7	4.8	3.4	3.4	1.3	1.3	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	17.5	16.6	49.0	34.8	31.2	42.4	27.0	27.1	50.0	32.0	39.5
LnGrp LOS	D	B	B	D	C	C	D	C	C	D	C	D
Approach Vol, veh/h		1146			795			621			558	
Approach Delay, s/veh		38.4			34.9			32.4			39.5	
Approach LOS		D			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	44.7	17.5	24.2	24.9	27.1	8.2	33.5
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	4.1	7.7	13.3	16.2	19.8	17.1	4.7	10.8
Green Ext Time (p_c), s	0.0	2.8	0.2	1.8	0.0	4.6	0.0	1.9

Intersection Summary		
HCM 6th Ctrl Delay		36.5
HCM 6th LOS		D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	488	234	525	236	67	603
Future Volume (veh/h)	488	234	525	236	67	603
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	498	239	536	241	68	615
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	619	367	2169	1234	88	2539
Arrive On Green	0.17	0.17	0.20	0.20	0.05	0.72
Sat Flow, veh/h	3645	1672	3618	1572	1767	3618
Grp Volume(v), veh/h	498	239	536	241	68	615
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1572	1767	1763
Q Serve(g_s), s	13.1	13.0	12.8	7.2	3.8	5.9
Cycle Q Clear(g_c), s	13.1	13.0	12.8	7.2	3.8	5.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	619	367	2169	1234	88	2539
V/C Ratio(X)	0.80	0.65	0.25	0.20	0.77	0.24
Avail Cap(c_a), veh/h	838	468	2169	1234	300	2539
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	35.5	20.4	6.4	46.9	4.7
Incr Delay (d2), s/veh	4.2	2.1	0.3	0.4	13.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	5.4	6.0	5.5	2.0	1.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.1	37.6	20.7	6.7	60.0	5.0
LnGrp LOS	D	D	C	A	E	A
Approach Vol, veh/h	737		777			683
Approach Delay, s/veh	42.0		16.4			10.4
Approach LOS	D		B			B

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	10.5	67.0	77.5	22.5
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	17.0	43.5	66.0	23.0
Max Q Clear Time (g_c+I1), s	5.8	14.8	7.9	15.1
Green Ext Time (p_c), s	0.1	4.5	4.5	1.8

Intersection Summary	
HCM 6th Ctrl Delay	23.1
HCM 6th LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	508	77	591	393	88	1040
Future Volume (veh/h)	508	77	591	393	88	1040
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	529	80	616	409	92	1083
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	635	403	2147	1232	118	3676
Arrive On Green	0.17	0.17	0.61	0.61	0.07	0.73
Sat Flow, veh/h	3645	1672	3618	1572	1767	5233
Grp Volume(v), veh/h	529	80	616	409	92	1083
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1572	1767	1689
Q Serve(g_s), s	14.0	3.8	8.3	7.6	5.1	7.5
Cycle Q Clear(g_c), s	14.0	3.8	8.3	7.6	5.1	7.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	635	403	2147	1232	118	3676
V/C Ratio(X)	0.83	0.20	0.29	0.33	0.78	0.29
Avail Cap(c_a), veh/h	838	496	2147	1232	265	3676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.85	0.85	1.00	1.00
Uniform Delay (d), s/veh	39.9	30.3	9.3	3.2	45.9	4.8
Incr Delay (d2), s/veh	5.5	0.2	0.3	0.6	10.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	3.9	2.9	4.4	2.5	2.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.4	30.5	9.5	3.8	56.6	5.0
LnGrp LOS	D	C	A	A	E	A
Approach Vol, veh/h	609		1025			1175
Approach Delay, s/veh	43.5		7.2			9.0
Approach LOS	D		A			A

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.7	65.9		22.4		77.6
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	47.0		23.0		67.0
Max Q Clear Time (g_c+I1), s	7.1	10.3		16.0		9.5
Green Ext Time (p_c), s	0.1	6.2		1.4		9.4

Intersection Summary		
HCM 6th Ctrl Delay		15.8
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	244	33	48	33	54	112	83	593	62	166	902	372
Future Volume (veh/h)	244	33	48	33	54	112	83	593	62	166	902	372
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	260	35	51	35	57	119	88	631	66	177	960	396
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	389	407	343	70	231	195	115	1337	138	228	1775	969
Arrive On Green	0.11	0.22	0.22	0.04	0.12	0.12	0.07	0.29	0.29	0.13	0.35	0.35
Sat Flow, veh/h	3428	1856	1566	1879	1973	1659	1767	4662	483	1767	5066	2765
Grp Volume(v), veh/h	260	35	51	35	57	119	88	455	242	177	960	396
Grp Sat Flow(s),veh/h/ln	1714	1856	1566	1879	1973	1659	1767	1689	1768	1767	1689	1383
Q Serve(g_s), s	4.2	0.9	1.5	1.1	1.5	4.0	2.8	6.4	6.5	5.6	8.8	6.3
Cycle Q Clear(g_c), s	4.2	0.9	1.5	1.1	1.5	4.0	2.8	6.4	6.5	5.6	8.8	6.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	389	407	343	70	231	195	115	968	507	228	1775	969
V/C Ratio(X)	0.67	0.09	0.15	0.50	0.25	0.61	0.76	0.47	0.48	0.78	0.54	0.41
Avail Cap(c_a), veh/h	1774	960	810	972	1021	859	762	2330	1220	915	3496	1908
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.7	18.0	18.3	27.4	23.3	24.3	26.6	17.0	17.1	24.4	15.1	14.3
Incr Delay (d2), s/veh	0.7	0.1	0.2	2.1	0.5	3.1	3.9	0.4	0.7	4.2	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.3	0.5	0.5	0.7	1.6	1.2	2.2	2.4	2.4	2.9	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.4	18.1	18.5	29.4	23.8	27.4	30.5	17.4	17.8	28.6	15.3	14.6
LnGrp LOS	C	B	B	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		346			211			785			1533	
Approach Delay, s/veh		23.6			26.8			19.0			16.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	22.0	6.2	17.8	8.3	25.7	12.1	11.9
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	30.0	40.0	30.0	30.0	25.0	40.0	30.0	* 30
Max Q Clear Time (g_c+I1), s	7.6	8.5	3.1	3.5	4.8	10.8	6.2	6.0
Green Ext Time (p_c), s	0.3	4.6	0.0	0.3	0.1	9.4	0.5	0.7

Intersection Summary	
HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	31	49	29	98	84	132	592	42	96	803	68
Future Volume (veh/h)	52	31	49	29	98	84	132	592	42	96	803	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	55	33	52	31	103	88	139	623	44	101	845	72
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	187	97	153	67	409	182	306	1545	108	268	1617	588
Arrive On Green	0.05	0.15	0.15	0.04	0.11	0.11	0.09	0.32	0.32	0.08	0.32	0.32
Sat Flow, veh/h	3428	647	1020	1879	3749	1663	3428	4833	339	3428	5066	1572
Grp Volume(v), veh/h	55	0	85	31	103	88	139	434	233	101	845	72
Grp Sat Flow(s),veh/h/ln	1714	0	1667	1879	1874	1663	1714	1689	1795	1714	1689	1572
Q Serve(g_s), s	0.7	0.0	2.1	0.8	1.2	2.3	1.8	4.7	4.7	1.3	6.4	1.4
Cycle Q Clear(g_c), s	0.7	0.0	2.1	0.8	1.2	2.3	1.8	4.7	4.7	1.3	6.4	1.4
Prop In Lane	1.00		0.61	1.00		1.00	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	187	0	250	67	409	182	306	1080	574	268	1617	588
V/C Ratio(X)	0.29	0.00	0.34	0.47	0.25	0.48	0.45	0.40	0.41	0.38	0.52	0.12
Avail Cap(c_a), veh/h	1466	0	1070	804	2405	1067	1466	2889	1535	1466	4333	1431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.2	0.0	17.8	22.1	19.1	19.6	20.2	12.4	12.4	20.5	13.0	9.6
Incr Delay (d2), s/veh	0.3	0.0	0.8	1.9	0.3	2.0	0.4	0.2	0.5	0.3	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.8	0.3	0.5	0.9	0.6	1.4	1.5	0.5	1.9	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	0.0	18.6	24.0	19.4	21.6	20.6	12.7	12.9	20.8	13.3	9.7
LnGrp LOS	C	A	B	C	B	C	C	B	B	C	B	A
Approach Vol, veh/h		140			222			806			1018	
Approach Delay, s/veh		19.8			20.9			14.1			13.8	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	20.3	6.2	11.6	8.7	20.3	8.1	9.7
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	3.3	6.7	2.8	4.1	3.8	8.4	2.7	4.3
Green Ext Time (p_c), s	0.1	4.4	0.0	0.4	0.2	6.5	0.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	15.0
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	234	73	69	525	139	251	480	42	81	176	162
Future Volume (veh/h)	207	234	73	69	525	139	251	480	42	81	176	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	230	260	81	77	583	154	279	533	47	90	196	180
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	279	918	280	100	860	381	324	852	75	116	502	472
Arrive On Green	0.16	0.35	0.35	0.06	0.24	0.24	0.18	0.26	0.26	0.07	0.14	0.14
Sat Flow, veh/h	1767	2658	809	1767	3526	1561	1767	3278	288	1767	3526	1572
Grp Volume(v), veh/h	230	170	171	77	583	154	279	286	294	90	196	180
Grp Sat Flow(s),veh/h/ln	1767	1763	1705	1767	1763	1561	1767	1763	1804	1767	1763	1572
Q Serve(g_s), s	9.2	5.1	5.3	3.1	10.9	6.0	11.1	10.4	10.5	3.6	3.7	6.6
Cycle Q Clear(g_c), s	9.2	5.1	5.3	3.1	10.9	6.0	11.1	10.4	10.5	3.6	3.7	6.6
Prop In Lane	1.00		0.47	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	279	609	589	100	860	381	324	458	469	116	502	472
V/C Ratio(X)	0.82	0.28	0.29	0.77	0.68	0.40	0.86	0.62	0.63	0.77	0.39	0.38
Avail Cap(c_a), veh/h	729	728	704	486	1455	644	486	970	993	486	1940	1114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.6	17.2	17.3	33.8	24.9	23.1	28.8	23.8	23.8	33.4	28.3	20.1
Incr Delay (d2), s/veh	4.6	0.2	0.3	4.7	0.9	0.7	6.7	1.4	1.4	4.1	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	1.9	2.0	1.4	4.4	2.1	5.0	4.2	4.3	1.6	1.5	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.2	17.5	17.6	38.6	25.8	23.7	35.5	25.2	25.2	37.5	28.8	20.6
LnGrp LOS	C	B	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		571			814			859			466	
Approach Delay, s/veh		24.2			26.7			28.5			27.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	24.3	8.6	30.5	17.8	15.8	16.0	23.1
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	5.6	12.5	5.1	7.3	13.1	8.6	11.2	12.9
Green Ext Time (p_c), s	0.1	3.6	0.1	1.9	0.2	1.8	0.4	4.0

Intersection Summary	
HCM 6th Ctrl Delay	26.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	20	68	147	15	10	44
Future Vol, veh/h	20	68	147	15	10	44
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	23	77	167	17	11	50
Number of Lanes	2	1	1	2	2	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	3	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	3
HCM Control Delay	6.9	8.7	7.5
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	SBLn1	SBLn2
Vol Left, %	100%	94%	0%	100%	16%	0%	0%	0%
Vol Thru, %	0%	6%	100%	0%	0%	0%	100%	7%
Vol Right, %	0%	0%	0%	0%	84%	100%	0%	93%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	74	79	10	13	41	34	7	47
LT Vol	74	74	0	13	7	0	0	0
Through Vol	0	5	10	0	0	0	7	3
RT Vol	0	0	0	0	34	34	0	44
Lane Flow Rate	84	89	11	15	46	39	8	54
Geometry Grp	8	8	8	7	7	7	8	8
Degree of Util (X)	0.123	0.131	0.01	0.024	0.06	0.029	0.011	0.067
Departure Headway (Hd)	5.318	5.286	3.064	5.647	4.643	2.695	5.156	4.504
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	667	672	1143	637	775	1334	697	798
Service Time	3.104	3.072	0.849	3.352	2.348	0.4	2.868	2.216
HCM Lane V/C Ratio	0.126	0.132	0.01	0.024	0.059	0.029	0.011	0.068
HCM Control Delay	8.9	8.9	5.9	8.5	7.6	5.5	7.9	7.5
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.4	0.4	0	0.1	0.2	0.1	0	0.2

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	40	48	59	71	109	61
Future Vol, veh/h	40	48	59	71	109	61
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	46	55	68	82	125	70
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	8.1	7.9	7.7
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	100%	0%	0%	0%	100%	41%	0%
Vol Thru, %	0%	0%	0%	100%	22%	0%	59%	100%
Vol Right, %	0%	0%	100%	0%	78%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	55	61	27	61	42	40	47
LT Vol	55	55	0	0	0	42	16	0
Through Vol	0	0	0	27	13	0	24	47
RT Vol	0	0	61	0	48	0	0	0
Lane Flow Rate	63	63	70	31	70	49	46	54
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.098	0.098	0.052	0.045	0.093	0.078	0.07	0.053
Departure Headway (Hd)	5.617	5.617	2.665	5.315	4.765	5.733	5.437	3.474
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	639	639	1338	674	752	626	660	1029
Service Time	3.345	3.345	0.393	3.048	2.497	3.459	3.163	1.2
HCM Lane V/C Ratio	0.099	0.099	0.052	0.046	0.093	0.078	0.07	0.052
HCM Control Delay	9	9	5.5	8.3	8	8.9	8.6	6.4
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.2	0.1	0.3	0.3	0.2	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	180	124	22	231	42	309	271	26	30	127	25
Future Volume (veh/h)	32	180	124	22	231	42	309	271	26	30	127	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	34	194	133	24	248	45	332	291	28	32	137	27
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	54	634	282	41	606	270	404	1096	105	53	416	80
Arrive On Green	0.03	0.18	0.18	0.02	0.17	0.17	0.23	0.34	0.34	0.03	0.14	0.14
Sat Flow, veh/h	1767	3526	1570	1767	3526	1570	1767	3252	311	1810	3018	581
Grp Volume(v), veh/h	34	194	133	24	248	45	332	157	162	32	81	83
Grp Sat Flow(s),veh/h/ln	1767	1763	1570	1767	1763	1570	1767	1763	1799	1810	1805	1794
Q Serve(g_s), s	0.9	2.2	3.5	0.6	2.8	1.1	8.1	2.9	3.0	0.8	1.8	1.9
Cycle Q Clear(g_c), s	0.9	2.2	3.5	0.6	2.8	1.1	8.1	2.9	3.0	0.8	1.8	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.32
Lane Grp Cap(c), veh/h	54	634	282	41	606	270	404	594	607	53	249	247
V/C Ratio(X)	0.63	0.31	0.47	0.59	0.41	0.17	0.82	0.26	0.27	0.60	0.32	0.34
Avail Cap(c_a), veh/h	1165	3100	1380	1165	3100	1380	1165	1550	1582	1193	1587	1577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	16.2	16.7	22.0	16.8	16.1	16.7	11.0	11.0	21.8	17.7	17.7
Incr Delay (d2), s/veh	4.4	0.4	1.7	5.0	0.6	0.4	1.6	0.3	0.3	4.1	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.8	1.2	0.3	1.0	0.4	2.8	0.9	1.0	0.4	0.7	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.1	16.6	18.5	27.0	17.4	16.5	18.3	11.3	11.3	25.9	18.8	18.9
LnGrp LOS	C	B	B	C	B	B	B	B	B	C	B	B
Approach Vol, veh/h		361			317			651			196	
Approach Delay, s/veh		18.2			18.0			14.9			20.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	21.1	5.0	14.0	14.4	12.1	5.4	13.6
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	30.0	40.0	30.0	40.0	30.0	40.0	30.0	40.0
Max Q Clear Time (g_c+I1), s	2.8	5.0	2.6	5.5	10.1	3.9	2.9	4.8
Green Ext Time (p_c), s	0.0	2.7	0.0	2.5	0.4	1.4	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Volume (veh/h)	126	99	19	70	30	12	
Future Volume (veh/h)	126	99	19	70	30	12	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No		No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	
Adj Flow Rate, veh/h	164	129	25	91	39	16	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	
Percent Heavy Veh, %	3	3	3	3	3	3	
Cap, veh/h	611	339	1015	733	128	871	
Arrive On Green	0.18	0.18	0.29	0.29	0.04	0.47	
Sat Flow, veh/h	3428	1572	3618	1572	3428	1856	
Grp Volume(v), veh/h	164	129	25	91	39	16	
Grp Sat Flow(s),veh/h/ln	1714	1572	1763	1572	1714	1856	
Q Serve(g_s), s	1.1	1.9	0.1	0.9	0.3	0.1	
Cycle Q Clear(g_c), s	1.1	1.9	0.1	0.9	0.3	0.1	
Prop In Lane	1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	611	339	1015	733	128	871	
V/C Ratio(X)	0.27	0.38	0.02	0.12	0.30	0.02	
Avail Cap(c_a), veh/h	3700	1756	3805	1978	3700	2003	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	9.9	9.3	7.1	4.2	13.0	4.0	
Incr Delay (d2), s/veh	0.3	1.0	0.0	0.1	0.5	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.3	0.5	0.0	0.3	0.1	0.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	10.2	10.3	7.1	4.3	13.5	4.0	
LnGrp LOS	B	B	A	A	B	A	
Approach Vol, veh/h	293		116			55	
Approach Delay, s/veh	10.2		4.9			10.7	
Approach LOS	B		A			B	
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	5.0	13.1				18.1	9.7
Change Period (Y+Rc), s	4.0	5.1				5.1	4.7
Max Green Setting (Gmax), s	30.0	30.0				30.0	30.0
Max Q Clear Time (g_c+I1), s	2.3	2.9				2.1	3.9
Green Ext Time (p_c), s	0.0	0.6				0.1	1.6

Intersection Summary		
HCM 6th Ctrl Delay		9.0
HCM 6th LOS		A

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	70	18	25	103	35	30
Future Vol, veh/h	70	18	25	103	35	30
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	86	22	31	127	43	37
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	8	7.1	7.4
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	55%	0%	0%	0%	100%	7%	0%
Vol Thru, %	0%	0%	0%	100%	56%	0%	93%	100%
Vol Right, %	0%	45%	100%	0%	44%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	21	20	47	41	23	37	69
LT Vol	23	12	0	0	0	23	3	0
Through Vol	0	0	0	47	23	0	34	69
RT Vol	0	9	20	0	18	0	0	0
Lane Flow Rate	29	26	25	58	51	28	45	85
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.045	0.037	0.019	0.08	0.067	0.042	0.063	0.076
Departure Headway (Hd)	5.612	5.07	2.66	5.012	4.707	5.47	5.003	3.214
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	640	708	1346	717	763	657	718	1117
Service Time	3.327	2.785	0.375	2.725	2.42	3.182	2.715	0.926
HCM Lane V/C Ratio	0.045	0.037	0.019	0.081	0.067	0.043	0.063	0.076
HCM Control Delay	8.6	8	5.4	8.2	7.8	8.4	8.1	6.2
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0.1	0.3	0.2	0.1	0.2	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	196	4	18	375	26	12	5	35	33	6	30
Future Volume (veh/h)	26	196	4	18	375	26	12	5	35	33	6	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	27	202	4	19	387	27	12	5	36	34	6	31
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	47	962	429	34	937	418	17	7	52	102	107	91
Arrive On Green	0.03	0.27	0.27	0.02	0.27	0.27	0.05	0.05	0.05	0.06	0.06	0.06
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	371	154	1112	1767	1856	1572
Grp Volume(v), veh/h	27	202	4	19	387	27	53	0	0	34	6	31
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1637	0	0	1767	1856	1572
Q Serve(g_s), s	0.5	1.5	0.1	0.4	3.0	0.4	1.1	0.0	0.0	0.6	0.1	0.6
Cycle Q Clear(g_c), s	0.5	1.5	0.1	0.4	3.0	0.4	1.1	0.0	0.0	0.6	0.1	0.6
Prop In Lane	1.00		1.00	1.00		1.00	0.23		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	47	962	429	34	937	418	76	0	0	102	107	91
V/C Ratio(X)	0.58	0.21	0.01	0.56	0.41	0.06	0.70	0.00	0.00	0.33	0.06	0.34
Avail Cap(c_a), veh/h	1577	4718	2104	1577	4718	2104	1460	0	0	1577	1655	1403
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.2	9.4	8.9	16.3	10.2	9.2	15.8	0.0	0.0	15.2	15.0	15.2
Incr Delay (d2), s/veh	4.1	0.2	0.0	5.2	0.4	0.1	10.9	0.0	0.0	1.9	0.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.4	0.0	0.2	0.8	0.1	0.6	0.0	0.0	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.3	9.6	8.9	21.5	10.6	9.3	26.7	0.0	0.0	17.1	15.2	17.4
LnGrp LOS	C	A	A	C	B	A	C	A	A	B	B	B
Approach Vol, veh/h		233			433			53			71	
Approach Delay, s/veh		10.8			11.0			26.7			17.1	
Approach LOS		B			B			C			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.7	4.7	15.0		7.3	4.9	14.7				
Change Period (Y+Rc), s		5.1	4.0	5.8		5.4	4.0	5.8				
Max Green Setting (Gmax), s		30.0	30.0	45.0		30.0	30.0	45.0				
Max Q Clear Time (g_c+I1), s		3.1	2.4	3.5		2.6	2.5	5.0				
Green Ext Time (p_c), s		0.2	0.0	1.9		0.2	0.0	3.9				
Intersection Summary												
HCM 6th Ctrl Delay			12.5									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	15	61	468	40	237	66	731	157	99	1019	6
Future Volume (veh/h)	8	15	61	468	40	237	66	731	157	99	1019	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	8	16	64	493	42	249	69	769	165	104	1073	6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	13	22	86	550	51	301	88	1991	888	126	3049	17
Arrive On Green	0.01	0.07	0.07	0.16	0.22	0.22	0.02	0.19	0.19	0.07	0.59	0.59
Sat Flow, veh/h	1767	324	1298	3428	232	1376	1767	3526	1572	1767	5198	29
Grp Volume(v), veh/h	8	0	80	493	0	291	69	769	165	104	697	382
Grp Sat Flow(s),veh/h/ln	1767	0	1622	1714	0	1608	1767	1763	1572	1767	1689	1850
Q Serve(g_s), s	0.6	0.0	6.8	19.7	0.0	24.2	5.4	26.8	12.4	8.1	15.1	15.1
Cycle Q Clear(g_c), s	0.6	0.0	6.8	19.7	0.0	24.2	5.4	26.8	12.4	8.1	15.1	15.1
Prop In Lane	1.00		0.80	1.00		0.86	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	13	0	108	550	0	352	88	1991	888	126	1981	1085
V/C Ratio(X)	0.59	0.00	0.74	0.90	0.00	0.83	0.78	0.39	0.19	0.82	0.35	0.35
Avail Cap(c_a), veh/h	379	0	348	735	0	352	199	1991	888	199	1981	1085
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.96	0.00	0.96	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.2	0.0	64.2	57.6	0.0	52.1	68.1	35.7	29.8	64.1	15.1	15.1
Incr Delay (d2), s/veh	14.4	0.0	13.4	9.0	0.0	14.9	5.6	0.6	0.5	7.3	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	3.2	9.2	0.0	11.2	2.6	12.8	5.3	3.9	5.7	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.7	0.0	77.6	66.7	0.0	67.1	73.7	36.2	30.3	71.4	15.6	16.0
LnGrp LOS	F	A	E	E	A	E	E	D	C	E	B	B
Approach Vol, veh/h		88			784			1003			1183	
Approach Delay, s/veh		78.2			66.8			37.8			20.6	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	84.9	26.4	14.7	11.0	87.9	5.1	36.1
Change Period (Y+Rc), s	4.0	5.8	4.0	* 5.4	4.0	5.8	4.0	5.4
Max Green Setting (Gmax), s	15.8	45.0	30.0	* 30	15.8	45.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	10.1	28.8	21.7	8.8	7.4	17.1	2.6	26.2
Green Ext Time (p_c), s	0.0	6.9	0.7	0.5	0.0	10.8	0.0	0.8

Intersection Summary		
HCM 6th Ctrl Delay		39.8
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1230	179	180	899
Future Volume (veh/h)	0	0	1230	179	180	899
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				1.00	1.00	
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No			No
Adj Sat Flow, veh/h/ln			1856	1856	1856	1856
Adj Flow Rate, veh/h			1337	195	196	977
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			3	3	3	3
Cap, veh/h			2840	1267	217	3387
Arrive On Green			0.81	0.81	0.25	1.00
Sat Flow, veh/h			3618	1572	1767	3618
Grp Volume(v), veh/h			1337	195	196	977
Grp Sat Flow(s),veh/h/ln			1763	1572	1767	1763
Q Serve(g_s), s			16.6	3.9	15.0	0.0
Cycle Q Clear(g_c), s			16.6	3.9	15.0	0.0
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			2840	1267	217	3387
V/C Ratio(X)			0.47	0.15	0.90	0.29
Avail Cap(c_a), veh/h			2840	1267	322	3387
HCM Platoon Ratio			1.00	1.00	2.00	2.00
Upstream Filter(I)			0.88	0.88	1.00	1.00
Uniform Delay (d), s/veh			4.3	3.0	52.0	0.0
Incr Delay (d2), s/veh			0.5	0.2	15.8	0.2
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			4.8	1.0	6.7	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			4.8	3.2	67.8	0.2
LnGrp LOS			A	A	E	A
Approach Vol, veh/h			1532			1173
Approach Delay, s/veh			4.6			11.5
Approach LOS			A			B
Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	21.7	118.3				140.0
Change Period (Y+Rc), s	4.5	5.5				5.5
Max Green Setting (Gmax), s	25.5	104.5				60.0
Max Q Clear Time (g_c+I1), s	17.0	18.6				2.0
Green Ext Time (p_c), s	0.2	8.4				4.9
Intersection Summary						
HCM 6th Ctrl Delay			7.6			
HCM 6th LOS			A			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	300	141	264	264	0	321	0	740	159	95	830	0
Future Volume (veh/h)	300	141	264	264	0	321	0	740	159	95	830	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	319	150	281	281	0	341	0	787	169	101	883	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	740	400	336	0	0	0	0	3063	951	122	2488	0
Arrive On Green	0.22	0.22	0.22	0.00	0.00	0.00	0.00	0.60	0.60	0.14	1.00	0.00
Sat Flow, veh/h	3428	1856	1555		0		0	5233	1572	1767	3618	0
Grp Volume(v), veh/h	319	150	281		0.0		0	787	169	101	883	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1555				0	1689	1572	1767	1763	0
Q Serve(g_s), s	11.3	9.7	24.2				0.0	10.2	6.7	7.8	0.0	0.0
Cycle Q Clear(g_c), s	11.3	9.7	24.2				0.0	10.2	6.7	7.8	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	740	400	336				0	3063	951	122	2488	0
V/C Ratio(X)	0.43	0.37	0.84				0.00	0.26	0.18	0.83	0.35	0.00
Avail Cap(c_a), veh/h	1077	583	489				0	3063	951	215	2488	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.97	0.97	0.97	0.97	0.00
Uniform Delay (d), s/veh	47.5	46.8	52.5				0.0	13.0	12.3	59.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.2	5.6				0.0	0.2	0.4	5.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	4.5	10.0				0.0	3.8	2.4	3.4	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.6	47.1	58.1				0.0	13.2	12.7	64.8	0.4	0.0
LnGrp LOS	D	D	E				A	B	B	E	A	A
Approach Vol, veh/h		750						956			984	
Approach Delay, s/veh		51.4						13.1			7.0	
Approach LOS		D						B			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.2	90.1		35.7		104.3
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	17.0	31.0		44.0		60.0
Max Q Clear Time (g_c+I1), s	9.8	12.2		26.2		2.0
Green Ext Time (p_c), s	0.1	3.6		1.6		7.1

Intersection Summary	
HCM 6th Ctrl Delay	21.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	178	70	68	761	874	283
Future Volume (veh/h)	178	70	68	761	874	283
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	200	79	76	855	982	318
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	422	193	181	3281	1809	1000
Arrive On Green	0.12	0.12	0.05	0.65	0.51	0.51
Sat Flow, veh/h	3428	1572	3428	5233	3618	1572
Grp Volume(v), veh/h	200	79	76	855	982	318
Grp Sat Flow(s),veh/h/ln	1714	1572	1714	1689	1763	1572
Q Serve(g_s), s	2.7	2.3	1.0	3.5	9.2	4.5
Cycle Q Clear(g_c), s	2.7	2.3	1.0	3.5	9.2	4.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	422	193	181	3281	1809	1000
V/C Ratio(X)	0.47	0.41	0.42	0.26	0.54	0.32
Avail Cap(c_a), veh/h	2106	966	2106	4667	3248	1642
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	19.8	22.4	3.6	8.0	4.1
Incr Delay (d2), s/veh	1.2	2.0	0.6	0.1	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.1	0.4	0.5	2.3	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.1	21.7	23.0	3.7	8.4	4.3
LnGrp LOS	C	C	C	A	A	A
Approach Vol, veh/h	279			931	1300	
Approach Delay, s/veh	21.3			5.3	7.4	
Approach LOS	C			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		37.4		11.4	6.6	30.9
Change Period (Y+Rc), s		5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		5.5		4.7	3.0	11.2
Green Ext Time (p_c), s		9.6		1.5	0.1	13.9

Intersection Summary	
HCM 6th Ctrl Delay	8.2
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	190	69	130	634	648	209
Future Volume (veh/h)	190	69	130	634	648	209
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	221	80	151	737	753	243
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	457	210	197	2183	1489	869
Arrive On Green	0.13	0.13	0.11	0.62	0.42	0.42
Sat Flow, veh/h	3428	1572	1767	3618	3618	1561
Grp Volume(v), veh/h	221	80	151	737	753	243
Grp Sat Flow(s),veh/h/ln	1714	1572	1767	1763	1763	1561
Q Serve(g_s), s	2.8	2.2	3.9	4.7	7.4	3.8
Cycle Q Clear(g_c), s	2.8	2.2	3.9	4.7	7.4	3.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	457	210	197	2183	1489	869
V/C Ratio(X)	0.48	0.38	0.77	0.34	0.51	0.28
Avail Cap(c_a), veh/h	2194	1006	1131	3384	3384	1708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.8	18.5	20.2	4.3	9.9	5.5
Incr Delay (d2), s/veh	1.1	1.6	2.4	0.1	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.0	1.5	0.8	2.1	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.9	20.2	22.6	4.4	10.3	5.7
LnGrp LOS	B	C	C	A	B	A
Approach Vol, veh/h	301			888	996	
Approach Delay, s/veh	20.0			7.5	9.2	
Approach LOS	C			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		34.8		12.1	9.2	25.6
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		6.7		4.8	5.9	9.4
Green Ext Time (p_c), s		8.0		1.6	0.2	9.9

Intersection Summary	
HCM 6th Ctrl Delay	10.0
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
118: Frederick St & Eucalyptus Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	180	68	91	356	140	119	572	109	114	550	80
Future Volume (veh/h)	91	180	68	91	356	140	119	572	109	114	550	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	95	188	71	95	371	146	124	596	114	119	573	83
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	123	626	228	123	614	238	161	1007	447	154	995	441
Arrive On Green	0.07	0.25	0.25	0.07	0.25	0.25	0.09	0.29	0.29	0.09	0.28	0.28
Sat Flow, veh/h	1767	2525	920	1767	2477	960	1767	3526	1564	1767	3526	1564
Grp Volume(v), veh/h	95	129	130	95	262	255	124	596	114	119	573	83
Grp Sat Flow(s),veh/h/ln	1767	1763	1682	1767	1763	1674	1767	1763	1564	1767	1763	1564
Q Serve(g_s), s	3.4	3.8	4.0	3.4	8.3	8.6	4.4	9.2	3.6	4.2	8.8	2.6
Cycle Q Clear(g_c), s	3.4	3.8	4.0	3.4	8.3	8.6	4.4	9.2	3.6	4.2	8.8	2.6
Prop In Lane	1.00		0.55	1.00		0.57	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	123	437	417	123	437	415	161	1007	447	154	995	441
V/C Ratio(X)	0.77	0.30	0.31	0.77	0.60	0.61	0.77	0.59	0.26	0.77	0.58	0.19
Avail Cap(c_a), veh/h	836	834	796	836	834	792	836	2501	1110	836	2501	1110
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	19.4	19.4	29.0	21.1	21.2	28.2	19.5	17.5	28.3	19.5	17.3
Incr Delay (d2), s/veh	3.8	0.5	0.6	3.8	1.9	2.1	3.0	0.8	0.4	3.1	0.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.4	1.5	1.4	3.3	3.2	1.8	3.4	1.2	1.8	3.3	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	19.9	20.0	32.8	23.0	23.2	31.2	20.3	17.9	31.4	20.3	17.5
LnGrp LOS	C	B	C	C	C	C	C	C	B	C	C	B
Approach Vol, veh/h		354			612			834			775	
Approach Delay, s/veh		23.4			24.6			21.6			21.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	23.9	8.4	21.5	9.8	23.7	8.4	21.5
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	30.0	45.0	30.0	30.0	30.0	45.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	6.2	11.2	5.4	6.0	6.4	10.8	5.4	10.6
Green Ext Time (p_c), s	0.1	6.7	0.1	2.0	0.1	6.3	0.1	4.0

Intersection Summary	
HCM 6th Ctrl Delay	22.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	255	0	1	478	8	261	2	23	0	0	3
Future Volume (vph)	11	255	0	1	478	8	261	2	23	0	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Lane Util. Factor		0.95			0.95		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.95	1.00			1.00
Satd. Flow (prot)		3497			3494		1665	1670	1568			1596
Flt Permitted		0.93			0.95		0.95	0.95	1.00			1.00
Satd. Flow (perm)		3272			3336		1665	1670	1568			1596
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	277	0	1	520	9	284	2	25	0	0	3
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	21	0	0	3
Lane Group Flow (vph)	0	289	0	0	529	0	142	144	4	0	0	0
Confl. Peds. (#/hr)	2		4	4		2						
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Split	NA	Perm			Prot
Protected Phases		6			2		4	4				3
Permitted Phases	6			2					4			
Actuated Green, G (s)		44.6			44.6		10.4	10.4	10.4			1.0
Effective Green, g (s)		44.6			44.6		10.4	10.4	10.4			1.0
Actuated g/C Ratio		0.64			0.64		0.15	0.15	0.15			0.01
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		2084			2125		247	248	232			22
v/s Ratio Prot							0.09	c0.09				c0.00
v/s Ratio Perm		0.09			c0.16				0.00			
v/c Ratio		0.14			0.25		0.57	0.58	0.02			0.00
Uniform Delay, d1		5.1			5.5		27.7	27.8	25.4			34.0
Progression Factor		1.67			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.1			0.3		2.0	2.2	0.0			0.0
Delay (s)		8.6			5.8		29.8	30.0	25.4			34.0
Level of Service		A			A		C	C	C			C
Approach Delay (s)		8.6			5.8			29.5			34.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	38.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	500	104	763	609	519	126	0	499	583	0	157
Future Volume (veh/h)	89	500	104	763	609	519	126	0	499	583	0	157
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1565	1565	1565	1565	1565	1565	1565	0	1565	1565	0	1565
Adj Flow Rate, veh/h	97	543	0	829	662	0	137	0	542	634	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	0	3	3	0	3
Cap, veh/h	119	1074		657	1514		677	0	0	677	0	
Arrive On Green	0.08	0.36	0.00	0.23	0.51	0.00	0.23	0.00	0.00	0.23	0.00	0.00
Sat Flow, veh/h	1491	2974	1327	2892	2974	1327	2892	137		2892	634	
Grp Volume(v), veh/h	97	543	0	829	662	0	137	34.0		634	61.5	
Grp Sat Flow(s),veh/h/ln	1491	1487	1327	1446	1487	1327	1446	C		1446	E	
Q Serve(g_s), s	7.0	15.7	0.0	25.0	15.5	0.0	4.2			23.7		
Cycle Q Clear(g_c), s	7.0	15.7	0.0	25.0	15.5	0.0	4.2			23.7		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	119	1074		657	1514		677			677		
V/C Ratio(X)	0.82	0.51		1.26	0.44		0.20			0.94		
Avail Cap(c_a), veh/h	339	1074		657	1514		684			684		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.35	0.35	0.00	1.00			1.00		
Uniform Delay (d), s/veh	49.8	27.5	0.0	42.5	17.1	0.0	33.9			41.3		
Incr Delay (d2), s/veh	12.7	1.7	0.0	122.0	0.3	0.0	0.1			20.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	3.0	5.7	0.0	19.9	5.1	0.0	1.5			10.2		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.6	29.2	0.0	164.5	17.4	0.0	34.0			61.5		
LnGrp LOS	E	C		F	B		C			E		
Approach Vol, veh/h		640	A		1491	A						
Approach Delay, s/veh		34.2			99.2							
Approach LOS		C			F							
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	31.5	47.7	30.8		15.3	64.0	30.8					
Change Period (Y+Rc), s	6.5	8.0	5.0		6.5	8.0	5.0					
Max Green Setting (Gmax), s	25.0	39.5	26.0		25.0	39.5	26.0					
Max Q Clear Time (g_c+I1), s	27.0	17.7	6.2		9.0	17.5	25.7					
Green Ext Time (p_c), s	0.0	3.5	0.4		0.2	4.5	0.1					

Intersection Summary			
HCM 6th Ctrl Delay			73.6
HCM 6th LOS			E

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	605	781	188	46	544	144	122	362	107	156	343	1241
Future Volume (veh/h)	605	781	188	46	544	144	122	362	107	156	343	1241
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	644	831	200	49	579	153	130	385	114	166	365	1320
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	703	1469	653	65	797	354	160	710	208	199	540	803
Arrive On Green	0.19	0.39	0.39	0.04	0.23	0.23	0.09	0.26	0.26	0.11	0.29	0.29
Sat Flow, veh/h	3645	3749	1666	1767	3526	1566	1767	2688	786	1767	1856	2762
Grp Volume(v), veh/h	644	831	200	49	579	153	130	251	248	166	365	1320
Grp Sat Flow(s),veh/h/ln	1823	1874	1666	1767	1763	1566	1767	1763	1712	1767	1856	1381
Q Serve(g_s), s	17.9	17.9	8.6	2.8	15.7	8.6	7.4	12.6	12.9	9.5	17.9	30.0
Cycle Q Clear(g_c), s	17.9	17.9	8.6	2.8	15.7	8.6	7.4	12.6	12.9	9.5	17.9	30.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	703	1469	653	65	797	354	160	465	452	199	540	803
V/C Ratio(X)	0.92	0.57	0.31	0.76	0.73	0.43	0.81	0.54	0.55	0.83	0.68	1.64
Avail Cap(c_a), veh/h	707	1469	653	343	1264	562	514	513	498	343	540	803
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	24.5	21.7	49.2	37.0	34.2	46.0	32.6	32.7	44.8	32.3	36.6
Incr Delay (d2), s/veh	16.3	0.5	0.3	6.6	1.3	0.8	3.7	1.0	1.0	3.5	3.4	295.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	7.9	3.1	1.4	6.8	3.2	3.3	5.2	5.1	4.3	8.3	42.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.1	25.0	21.9	55.9	38.3	35.1	49.7	33.6	33.7	48.3	35.7	331.8
LnGrp LOS	E	C	C	E	D	D	D	C	C	D	D	F
Approach Vol, veh/h		1675			781			629			1851	
Approach Delay, s/veh		37.0			38.7			37.0			248.0	
Approach LOS		D			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	45.8	13.4	36.2	24.9	28.7	16.1	33.4
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	4.8	19.9	9.4	32.0	19.9	17.7	11.5	14.9
Green Ext Time (p_c), s	0.0	6.7	0.1	0.0	0.0	4.4	0.1	2.3

Intersection Summary	
HCM 6th Ctrl Delay	116.4
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	657	195	1256	481	66	851
Future Volume (veh/h)	657	195	1256	481	66	851
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	684	203	1308	501	69	886
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	775	440	2015	1233	90	2388
Arrive On Green	0.21	0.21	0.38	0.38	0.05	0.68
Sat Flow, veh/h	3645	1672	3618	1572	1767	3618
Grp Volume(v), veh/h	684	203	1308	501	69	886
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1572	1767	1763
Q Serve(g_s), s	18.2	10.2	30.5	12.6	3.9	10.8
Cycle Q Clear(g_c), s	18.2	10.2	30.5	12.6	3.9	10.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	775	440	2015	1233	90	2388
V/C Ratio(X)	0.88	0.46	0.65	0.41	0.77	0.37
Avail Cap(c_a), veh/h	838	469	2015	1233	300	2388
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.2	30.9	22.6	5.3	46.9	7.0
Incr Delay (d2), s/veh	10.4	0.8	1.6	1.0	12.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	4.2	13.4	9.8	2.0	3.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.5	31.6	24.2	6.3	59.8	7.4
LnGrp LOS	D	C	C	A	E	A
Approach Vol, veh/h	887		1809			955
Approach Delay, s/veh	44.6		19.3			11.2
Approach LOS	D		B			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.6	62.7				73.2		26.8
Change Period (Y+Rc), s	5.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	17.0	43.5				66.0		23.0
Max Q Clear Time (g_c+I1), s	5.9	32.5				12.8		20.2
Green Ext Time (p_c), s	0.1	7.5				7.1		1.1

Intersection Summary	
HCM 6th Ctrl Delay	23.3
HCM 6th LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	797	420	1393	894	120	1460
Future Volume (veh/h)	797	420	1393	894	120	1460
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	813	429	1421	912	122	1490
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	838	530	1880	1198	154	3394
Arrive On Green	0.23	0.23	0.53	0.53	0.03	0.22
Sat Flow, veh/h	3645	1672	3618	1570	1767	5233
Grp Volume(v), veh/h	813	429	1421	912	122	1490
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1570	1767	1689
Q Serve(g_s), s	22.1	23.0	31.5	32.9	6.9	25.4
Cycle Q Clear(g_c), s	22.1	23.0	31.5	32.9	6.9	25.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	838	530	1880	1198	154	3394
V/C Ratio(X)	0.97	0.81	0.76	0.76	0.79	0.44
Avail Cap(c_a), veh/h	838	530	1880	1198	265	3394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.34	0.34	1.00	1.00
Uniform Delay (d), s/veh	38.2	31.4	18.3	6.7	47.7	22.7
Incr Delay (d2), s/veh	23.8	9.2	1.0	1.6	8.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	21.4	11.7	21.5	3.5	11.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	62.0	40.5	19.3	8.3	56.6	23.1
LnGrp LOS	E	D	B	A	E	C
Approach Vol, veh/h	1242		2333			1612
Approach Delay, s/veh	54.6		15.0			25.7
Approach LOS	D		B			C
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.7	58.3		28.0		72.0
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	47.0		23.0		67.0
Max Q Clear Time (g_c+I1), s	8.9	34.9		25.0		27.4
Green Ext Time (p_c), s	0.1	9.6		0.0		14.2
Intersection Summary						
HCM 6th Ctrl Delay			27.8			
HCM 6th LOS			C			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	628	163	252	35	83	262	187	1402	86	209	1120	622
Future Volume (veh/h)	628	163	252	35	83	262	187	1402	86	209	1120	622
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	654	170	262	36	86	273	195	1460	90	218	1167	648
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	711	695	588	53	363	306	221	1514	93	246	1643	898
Arrive On Green	0.21	0.37	0.37	0.03	0.18	0.18	0.13	0.31	0.31	0.14	0.32	0.32
Sat Flow, veh/h	3428	1856	1570	1879	1973	1667	1767	4878	301	1767	5066	2768
Grp Volume(v), veh/h	654	170	262	36	86	273	195	1011	539	218	1167	648
Grp Sat Flow(s),veh/h/ln	1714	1856	1570	1879	1973	1667	1767	1689	1801	1767	1689	1384
Q Serve(g_s), s	24.1	8.1	16.1	2.4	4.8	20.6	14.0	37.9	38.0	15.6	26.1	26.6
Cycle Q Clear(g_c), s	24.1	8.1	16.1	2.4	4.8	20.6	14.0	37.9	38.0	15.6	26.1	26.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	711	695	588	53	363	306	221	1048	559	246	1643	898
V/C Ratio(X)	0.92	0.24	0.45	0.68	0.24	0.89	0.88	0.96	0.96	0.89	0.71	0.72
Avail Cap(c_a), veh/h	798	695	588	438	459	388	343	1049	559	412	1643	898
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	27.7	30.2	62.0	44.9	51.3	55.4	43.7	43.7	54.4	38.2	38.4
Incr Delay (d2), s/veh	14.0	0.2	0.5	5.6	0.3	18.6	10.4	19.7	29.2	10.0	1.4	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	3.6	6.2	1.3	2.4	10.2	6.8	18.2	20.9	7.5	10.7	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.0	27.9	30.8	67.7	45.2	69.9	65.8	63.4	72.9	64.5	39.6	41.3
LnGrp LOS	E	C	C	E	D	E	E	E	E	E	D	D
Approach Vol, veh/h		1086			395			1745			2033	
Approach Delay, s/veh		50.3			64.3			66.6			42.8	
Approach LOS		D			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.4	45.4	7.6	53.4	20.6	47.2	32.2	28.8
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	30.0	40.0	30.0	30.0	25.0	40.0	30.0	* 30
Max Q Clear Time (g_c+I1), s	17.6	40.0	4.4	18.1	16.0	28.6	26.1	22.6
Green Ext Time (p_c), s	0.3	0.0	0.0	1.4	0.2	7.5	0.6	0.9

Intersection Summary		
HCM 6th Ctrl Delay		53.9
HCM 6th LOS		D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	165	198	87	295	301	280	1178	117	333	974	67
Future Volume (veh/h)	219	165	198	87	295	301	280	1178	117	333	974	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	231	174	208	92	311	317	295	1240	123	351	1025	71
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	307	207	247	120	877	388	372	1592	158	429	1832	708
Arrive On Green	0.09	0.27	0.27	0.06	0.23	0.23	0.11	0.34	0.34	0.13	0.36	0.36
Sat Flow, veh/h	3428	766	916	1879	3749	1657	3428	4683	464	3428	5066	1569
Grp Volume(v), veh/h	231	0	382	92	311	317	295	894	469	351	1025	71
Grp Sat Flow(s),veh/h/ln	1714	0	1682	1879	1874	1657	1714	1689	1770	1714	1689	1569
Q Serve(g_s), s	6.4	0.0	20.8	4.7	6.7	17.6	8.1	23.0	23.1	9.7	15.7	2.5
Cycle Q Clear(g_c), s	6.4	0.0	20.8	4.7	6.7	17.6	8.1	23.0	23.1	9.7	15.7	2.5
Prop In Lane	1.00		0.54	1.00		1.00	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	307	0	454	120	877	388	372	1148	602	429	1832	708
V/C Ratio(X)	0.75	0.00	0.84	0.77	0.35	0.82	0.79	0.78	0.78	0.82	0.56	0.10
Avail Cap(c_a), veh/h	707	0	520	388	1160	513	707	1393	730	707	2090	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	0.0	33.4	44.7	31.0	35.2	42.2	28.7	28.7	41.3	24.8	15.3
Incr Delay (d2), s/veh	1.4	0.0	10.6	3.8	0.2	7.6	1.5	2.4	4.4	1.5	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	9.6	2.3	3.0	7.8	3.4	9.2	10.0	4.0	6.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	0.0	44.0	48.5	31.3	42.8	43.6	31.1	33.2	42.8	25.0	15.4
LnGrp LOS	D	A	D	D	C	D	D	C	C	D	C	B
Approach Vol, veh/h		613			720			1658			1447	
Approach Delay, s/veh		44.2			38.6			33.9			28.9	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.1	38.4	10.7	30.8	15.0	40.5	14.2	27.3
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	11.7	25.1	6.7	22.8	10.1	17.7	8.4	19.6
Green Ext Time (p_c), s	0.4	7.7	0.1	1.4	0.4	7.4	0.3	2.4

Intersection Summary	
HCM 6th Ctrl Delay	34.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	303	593	137	103	396	177	58	581	58	192	560	266
Future Volume (veh/h)	303	593	137	103	396	177	58	581	58	192	560	266
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	316	618	143	107	412	184	60	605	60	200	583	277
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	358	891	206	136	665	292	77	818	81	237	1209	853
Arrive On Green	0.20	0.31	0.31	0.08	0.19	0.19	0.04	0.25	0.25	0.13	0.34	0.34
Sat Flow, veh/h	1767	2837	655	1767	3526	1545	1767	3236	320	1767	3526	1559
Grp Volume(v), veh/h	316	384	377	107	412	184	60	329	336	200	583	277
Grp Sat Flow(s),veh/h/ln	1767	1763	1729	1767	1763	1545	1767	1763	1793	1767	1763	1559
Q Serve(g_s), s	15.5	17.0	17.1	5.3	9.6	9.8	3.0	15.3	15.3	9.8	11.6	8.8
Cycle Q Clear(g_c), s	15.5	17.0	17.1	5.3	9.6	9.8	3.0	15.3	15.3	9.8	11.6	8.8
Prop In Lane	1.00		0.38	1.00		1.00	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	358	553	543	136	665	292	77	446	454	237	1209	853
V/C Ratio(X)	0.88	0.69	0.70	0.79	0.62	0.63	0.78	0.74	0.74	0.85	0.48	0.32
Avail Cap(c_a), veh/h	595	593	582	397	1187	520	397	791	805	397	1583	1018
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	26.8	26.8	40.4	33.2	33.3	42.2	30.6	30.6	37.7	23.0	11.2
Incr Delay (d2), s/veh	7.2	3.2	3.3	3.7	0.9	2.3	6.1	2.4	2.4	3.5	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	7.3	7.2	2.4	4.0	3.7	1.4	6.5	6.7	4.3	4.6	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.7	30.0	30.1	44.1	34.2	35.5	48.3	33.0	33.0	41.2	23.3	11.4
LnGrp LOS	D	C	C	D	C	D	D	C	C	D	C	B
Approach Vol, veh/h		1077			703			725			1060	
Approach Delay, s/veh		33.5			36.0			34.3			23.6	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.4	27.9	11.4	33.4	8.4	36.0	22.5	22.2
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	11.8	17.3	7.3	19.1	5.0	13.6	17.5	11.8
Green Ext Time (p_c), s	0.2	4.1	0.1	3.5	0.0	4.9	0.6	3.1

Intersection Summary	
HCM 6th Ctrl Delay	31.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	161	340	368	76	55	189
Future Vol, veh/h	161	340	368	76	55	189
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	166	351	379	78	57	195
Number of Lanes	2	1	1	2	2	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	3	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	3
HCM Control Delay	10.8	13.8	12.8
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	SBLn1	SBLn2
Vol Left, %	100%	88%	0%	100%	24%	0%	0%	0%
Vol Thru, %	0%	12%	100%	0%	0%	0%	100%	9%
Vol Right, %	0%	0%	0%	0%	76%	100%	0%	91%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	184	209	51	107	224	170	37	207
LT Vol	184	184	0	107	54	0	0	0
Through Vol	0	25	51	0	0	0	37	18
RT Vol	0	0	0	0	170	170	0	189
Lane Flow Rate	190	216	52	111	231	175	38	214
Geometry Grp	8	8	8	7	7	7	8	8
Degree of Util (X)	0.375	0.423	0.07	0.215	0.39	0.196	0.075	0.383
Departure Headway (Hd)	7.121	7.06	4.841	7.006	6.088	4.035	7.097	6.449
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	505	509	735	511	590	883	503	556
Service Time	4.884	4.822	2.603	4.764	3.845	1.791	4.869	4.22
HCM Lane V/C Ratio	0.376	0.424	0.071	0.217	0.392	0.198	0.076	0.385
HCM Control Delay	14.1	14.9	8	11.7	12.7	7.8	10.4	13.2
HCM Lane LOS	B	B	A	B	B	A	B	B
HCM 95th-tile Q	1.7	2.1	0.2	0.8	1.8	0.7	0.2	1.8

Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	254	244	154	256	266	192
Future Vol, veh/h	254	244	154	256	266	192
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	270	260	164	272	283	204
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	18.3	12.3	11.6
HCM LOS	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	100%	0%	0%	0%	100%	20%	0%
Vol Thru, %	0%	0%	0%	100%	26%	0%	80%	100%
Vol Right, %	0%	0%	100%	0%	74%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	133	133	192	169	329	132	107	171
LT Vol	133	133	0	0	0	132	22	0
Through Vol	0	0	0	169	85	0	85	171
RT Vol	0	0	192	0	244	0	0	0
Lane Flow Rate	141	141	204	180	350	141	114	182
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.295	0.295	0.256	0.359	0.645	0.31	0.237	0.284
Departure Headway (Hd)	7.622	7.622	4.632	7.169	6.64	7.919	7.512	5.624
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	474	474	780	504	549	455	480	641
Service Time	5.322	5.322	2.332	4.869	4.34	5.64	5.233	3.344
HCM Lane V/C Ratio	0.297	0.297	0.262	0.357	0.638	0.31	0.237	0.284
HCM Control Delay	13.5	13.5	8.9	13.8	20.6	14.2	12.6	10.6
HCM Lane LOS	B	B	A	B	C	B	B	B
HCM 95th-tile Q	1.2	1.2	1	1.6	4.6	1.3	0.9	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	340	307	32	267	102	219	475	33	88	532	75
Future Volume (veh/h)	104	340	307	32	267	102	219	475	33	88	532	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	107	351	316	33	275	105	226	490	34	91	548	77
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	139	995	442	47	813	361	272	1183	82	119	844	118
Arrive On Green	0.08	0.28	0.28	0.03	0.23	0.23	0.15	0.35	0.35	0.07	0.27	0.27
Sat Flow, veh/h	1767	3526	1567	1767	3526	1566	1767	3345	232	1810	3179	445
Grp Volume(v), veh/h	107	351	316	33	275	105	226	258	266	91	310	315
Grp Sat Flow(s),veh/h/ln	1767	1763	1567	1767	1763	1566	1767	1763	1814	1810	1805	1819
Q Serve(g_s), s	4.3	5.7	13.1	1.3	4.7	4.0	9.0	8.0	8.0	3.6	11.0	11.1
Cycle Q Clear(g_c), s	4.3	5.7	13.1	1.3	4.7	4.0	9.0	8.0	8.0	3.6	11.0	11.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.24
Lane Grp Cap(c), veh/h	139	995	442	47	813	361	272	623	641	119	479	483
V/C Ratio(X)	0.77	0.35	0.71	0.70	0.34	0.29	0.83	0.41	0.42	0.76	0.65	0.65
Avail Cap(c_a), veh/h	735	1954	869	735	1954	868	735	977	1005	752	1000	1008
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.6	20.7	23.3	34.8	23.2	22.9	29.6	17.7	17.7	33.1	23.5	23.5
Incr Delay (d2), s/veh	3.4	0.3	3.1	6.7	0.3	0.6	2.5	0.6	0.6	3.8	2.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.2	4.8	0.6	1.8	1.4	3.7	3.0	3.1	1.6	4.7	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.0	21.0	26.4	41.5	23.5	23.5	32.1	18.3	18.3	36.9	25.6	25.6
LnGrp LOS	D	C	C	D	C	C	C	B	B	D	C	C
Approach Vol, veh/h		774			413			750			716	
Approach Delay, s/veh		25.2			25.0			22.5			27.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	31.3	5.9	26.2	15.1	25.0	9.7	22.4
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	30.0	40.0	30.0	40.0	30.0	40.0	30.0	40.0
Max Q Clear Time (g_c+I1), s	5.6	10.0	3.3	15.1	11.0	13.1	6.3	6.7
Green Ext Time (p_c), s	0.1	4.5	0.0	5.1	0.3	5.9	0.1	3.1

Intersection Summary	
HCM 6th Ctrl Delay	24.9
HCM 6th LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	239	271	55	269	261	67
Future Volume (veh/h)	239	271	55	269	261	67
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	257	291	59	289	281	72
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	918	634	837	792	465	885
Arrive On Green	0.27	0.27	0.24	0.24	0.14	0.48
Sat Flow, veh/h	3428	1572	3618	1563	3428	1856
Grp Volume(v), veh/h	257	291	59	289	281	72
Grp Sat Flow(s),veh/h/ln	1714	1572	1763	1563	1714	1856
Q Serve(g_s), s	2.3	5.2	0.5	4.3	3.0	0.8
Cycle Q Clear(g_c), s	2.3	5.2	0.5	4.3	3.0	0.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	918	634	837	792	465	885
V/C Ratio(X)	0.28	0.46	0.07	0.36	0.60	0.08
Avail Cap(c_a), veh/h	2677	1441	2753	1641	2677	1449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.1	8.4	11.4	5.8	15.6	5.5
Incr Delay (d2), s/veh	0.2	0.7	0.1	0.4	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.4	0.2	1.9	1.0	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.4	9.1	11.4	6.2	16.1	5.5
LnGrp LOS	B	A	B	A	B	A
Approach Vol, veh/h	548		348			353
Approach Delay, s/veh	10.2		7.1			13.9
Approach LOS	B		A			B

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	9.2	14.2	23.4	15.0
Change Period (Y+Rc), s	4.0	5.1	5.1	4.7
Max Green Setting (Gmax), s	30.0	30.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	5.0	6.3	2.8	7.2
Green Ext Time (p_c), s	0.5	2.1	0.5	3.1

Intersection Summary	
HCM 6th Ctrl Delay	10.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	270	177	75	206	115	67
Future Vol, veh/h	270	177	75	206	115	67
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	290	190	81	222	124	72
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	11.7	9.2	9.4
HCM LOS	B	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	79%	0%	0%	0%	100%	10%	0%
Vol Thru, %	0%	0%	0%	100%	34%	0%	90%	100%
Vol Right, %	0%	21%	100%	0%	66%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	77	48	57	180	267	68	76	137
LT Vol	77	38	0	0	0	68	7	0
Through Vol	0	0	0	180	90	0	69	137
RT Vol	0	10	57	0	177	0	0	0
Lane Flow Rate	82	52	61	194	287	73	82	148
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.157	0.096	0.066	0.312	0.426	0.135	0.142	0.181
Departure Headway (Hd)	6.859	6.609	3.891	5.803	5.336	6.69	6.235	4.418
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	523	543	918	621	675	536	576	811
Service Time	4.594	4.343	1.625	3.53	3.063	4.424	3.969	2.151
HCM Lane V/C Ratio	0.157	0.096	0.066	0.312	0.425	0.136	0.142	0.182
HCM Control Delay	10.9	10	6.9	11.2	12	10.5	10	8.1
HCM Lane LOS	B	A	A	B	B	B	A	A
HCM 95th-tile Q	0.6	0.3	0.2	1.3	2.1	0.5	0.5	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	349	13	24	306	80	14	22	19	129	8	35
Future Volume (veh/h)	56	349	13	24	306	80	14	22	19	129	8	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	59	367	14	25	322	84	15	23	20	136	8	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	87	867	387	43	779	348	22	33	29	212	222	188
Arrive On Green	0.05	0.25	0.25	0.02	0.22	0.22	0.05	0.05	0.05	0.12	0.12	0.12
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	446	684	595	1767	1856	1572
Grp Volume(v), veh/h	59	367	14	25	322	84	58	0	0	136	8	37
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1726	0	0	1767	1856	1572
Q Serve(g_s), s	1.2	3.2	0.2	0.5	2.8	1.6	1.2	0.0	0.0	2.7	0.1	0.8
Cycle Q Clear(g_c), s	1.2	3.2	0.2	0.5	2.8	1.6	1.2	0.0	0.0	2.7	0.1	0.8
Prop In Lane	1.00		1.00	1.00		1.00	0.26		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	87	867	387	43	779	348	84	0	0	212	222	188
V/C Ratio(X)	0.68	0.42	0.04	0.58	0.41	0.24	0.69	0.00	0.00	0.64	0.04	0.20
Avail Cap(c_a), veh/h	269	1753	782	269	2143	956	1431	0	0	1465	1538	1303
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	11.5	10.4	17.5	12.1	11.6	16.9	0.0	0.0	15.2	14.1	14.4
Incr Delay (d2), s/veh	3.4	0.5	0.1	4.4	0.5	0.5	9.5	0.0	0.0	3.2	0.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.9	0.1	0.2	0.8	0.4	0.6	0.0	0.0	1.1	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.3	12.0	10.4	21.9	12.6	12.1	26.5	0.0	0.0	18.4	14.1	14.9
LnGrp LOS	C	B	B	C	B	B	C	A	A	B	B	B
Approach Vol, veh/h		440			431			58			181	
Approach Delay, s/veh		13.0			13.0			26.5			17.5	
Approach LOS		B			B			C			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		6.9	4.9	14.7		9.7	5.8	13.8				
Change Period (Y+Rc), s		5.1	4.0	5.8		5.4	4.0	5.8				
Max Green Setting (Gmax), s		30.0	5.5	18.0		30.0	5.5	22.0				
Max Q Clear Time (g_c+I1), s		3.2	2.5	5.2		4.7	3.2	4.8				
Green Ext Time (p_c), s		0.3	0.0	2.4		0.5	0.0	2.8				

Intersection Summary		
HCM 6th Ctrl Delay		14.5
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	34	162	512	62	216	92	1148	421	90	840	14
Future Volume (veh/h)	29	34	162	512	62	216	92	1148	421	90	840	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	29	34	164	517	63	218	93	1160	425	91	848	14
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	37	39	190	573	105	364	114	1727	770	112	2509	41
Arrive On Green	0.02	0.14	0.14	0.17	0.29	0.29	0.06	0.49	0.49	0.06	0.49	0.49
Sat Flow, veh/h	1767	277	1338	3428	365	1263	1767	3526	1571	1767	5133	85
Grp Volume(v), veh/h	29	0	198	517	0	281	93	1160	425	91	558	304
Grp Sat Flow(s),veh/h/ln	1767	0	1615	1714	0	1628	1767	1763	1571	1767	1689	1840
Q Serve(g_s), s	2.3	0.0	16.8	20.7	0.0	20.8	7.3	35.0	26.5	7.1	14.2	14.2
Cycle Q Clear(g_c), s	2.3	0.0	16.8	20.7	0.0	20.8	7.3	35.0	26.5	7.1	14.2	14.2
Prop In Lane	1.00		0.83	1.00		0.78	1.00		1.00	1.00		0.05
Lane Grp Cap(c), veh/h	37	0	230	573	0	470	114	1727	770	112	1651	899
V/C Ratio(X)	0.79	0.00	0.86	0.90	0.00	0.60	0.81	0.67	0.55	0.81	0.34	0.34
Avail Cap(c_a), veh/h	379	0	346	735	0	470	199	1727	770	199	1651	899
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.95	0.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.2	0.0	58.7	57.2	0.0	42.8	64.6	27.1	25.0	64.7	21.9	21.9
Incr Delay (d2), s/veh	12.9	0.0	16.0	10.2	0.0	2.4	5.1	2.1	2.8	5.2	0.6	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	7.9	9.7	0.0	8.7	3.4	14.8	10.3	3.3	5.6	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.1	0.0	74.7	67.3	0.0	45.2	69.8	29.2	27.8	69.9	22.5	22.9
LnGrp LOS	F	A	E	E	A	D	E	C	C	E	C	C
Approach Vol, veh/h		227			798			1678			953	
Approach Delay, s/veh		75.5			59.5			31.1			27.1	
Approach LOS		E			E			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.9	74.4	27.4	25.3	13.1	74.2	6.9	45.8				
Change Period (Y+Rc), s	4.0	5.8	4.0	* 5.4	4.0	5.8	4.0	5.4				
Max Green Setting (Gmax), s	15.8	45.0	30.0	* 30	15.8	45.0	30.0	30.0				
Max Q Clear Time (g_c+I1), s	9.1	37.0	22.7	18.8	9.3	16.2	4.3	22.8				
Green Ext Time (p_c), s	0.0	6.2	0.7	1.1	0.0	8.4	0.0	1.2				
Intersection Summary												
HCM 6th Ctrl Delay			39.0									
HCM 6th LOS			D									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1805	408	129	998
Future Volume (veh/h)	0	0	1805	408	129	998
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				0.99	1.00	
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No			No
Adj Sat Flow, veh/h/ln			1856	1856	1856	1856
Adj Flow Rate, veh/h			1900	429	136	1051
Peak Hour Factor			0.95	0.95	0.95	0.95
Percent Heavy Veh, %			3	3	3	3
Cap, veh/h			2958	1311	158	3387
Arrive On Green			1.00	1.00	0.18	1.00
Sat Flow, veh/h			3618	1562	1767	3618
Grp Volume(v), veh/h			1900	429	136	1051
Grp Sat Flow(s),veh/h/ln			1763	1562	1767	1763
Q Serve(g_s), s			0.0	0.0	10.5	0.0
Cycle Q Clear(g_c), s			0.0	0.0	10.5	0.0
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			2958	1311	158	3387
V/C Ratio(X)			0.64	0.33	0.86	0.31
Avail Cap(c_a), veh/h			2958	1311	322	3387
HCM Platoon Ratio			1.33	1.33	2.00	2.00
Upstream Filter(I)			0.57	0.57	1.00	1.00
Uniform Delay (d), s/veh			0.0	0.0	56.6	0.0
Incr Delay (d2), s/veh			0.6	0.4	5.2	0.2
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.3	0.1	4.5	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			0.6	0.4	61.8	0.2
LnGrp LOS			A	A	E	A
Approach Vol, veh/h			2329			1187
Approach Delay, s/veh			0.6			7.3
Approach LOS			A			A
Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	17.0	123.0				140.0
Change Period (Y+Rc), s	4.5	5.5				5.5
Max Green Setting (Gmax), s	25.5	104.5				60.0
Max Q Clear Time (g_c+I1), s	12.5	2.0				2.0
Green Ext Time (p_c), s	0.1	18.5				5.4

Intersection Summary		
HCM 6th Ctrl Delay		2.8
HCM 6th LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	550	450	401	303	0	334	0	1366	369	112	869	0
Future Volume (veh/h)	550	450	401	303	0	334	0	1366	369	112	869	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	567	464	413	312	0	344	0	1408	380	115	896	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	988	535	452	0	0	0	0	2654	821	136	2232	0
Arrive On Green	0.29	0.29	0.29	0.00	0.00	0.00	0.00	0.52	0.52	0.15	1.00	0.00
Sat Flow, veh/h	3428	1856	1568		0		0	5233	1566	1767	3618	0
Grp Volume(v), veh/h	567	464	413		0.0		0	1408	380	115	896	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1568				0	1689	1566	1767	1763	0
Q Serve(g_s), s	19.7	33.2	35.6				0.0	25.7	21.4	8.9	0.0	0.0
Cycle Q Clear(g_c), s	19.7	33.2	35.6				0.0	25.7	21.4	8.9	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	988	535	452				0	2654	821	136	2232	0
V/C Ratio(X)	0.57	0.87	0.91				0.00	0.53	0.46	0.84	0.40	0.00
Avail Cap(c_a), veh/h	1077	583	493				0	2654	821	215	2232	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.88	0.88	0.96	0.96	0.00
Uniform Delay (d), s/veh	42.5	47.3	48.1				0.0	22.0	20.9	58.4	0.0	0.0
Incr Delay (d2), s/veh	0.3	11.5	19.7				0.0	0.7	1.7	8.9	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	17.1	16.4				0.0	10.0	8.0	4.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.8	58.8	67.9				0.0	22.6	22.6	67.3	0.5	0.0
LnGrp LOS	D	E	E				A	C	C	E	A	A
Approach Vol, veh/h		1444						1788			1011	
Approach Delay, s/veh		55.1						22.6			8.1	
Approach LOS		E						C			A	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	15.3	78.8	45.9	94.1
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	17.0	31.0	44.0	60.0
Max Q Clear Time (g_c+I1), s	10.9	27.7	37.6	2.0
Green Ext Time (p_c), s	0.1	2.3	2.5	7.3

Intersection Summary	
HCM 6th Ctrl Delay	30.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	579	196	127	1172	950	529
Future Volume (veh/h)	579	196	127	1172	950	529
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	591	200	130	1196	969	540
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	861	395	218	2946	1615	1115
Arrive On Green	0.25	0.25	0.06	0.58	0.46	0.46
Sat Flow, veh/h	3428	1572	3428	5233	3618	1572
Grp Volume(v), veh/h	591	200	130	1196	969	540
Grp Sat Flow(s),veh/h/ln	1714	1572	1714	1689	1763	1572
Q Serve(g_s), s	10.4	7.3	2.5	8.7	13.7	10.2
Cycle Q Clear(g_c), s	10.4	7.3	2.5	8.7	13.7	10.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	861	395	218	2946	1615	1115
V/C Ratio(X)	0.69	0.51	0.60	0.41	0.60	0.48
Avail Cap(c_a), veh/h	1538	705	1538	3408	2372	1453
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	21.5	30.5	7.7	13.5	4.3
Incr Delay (d2), s/veh	1.4	1.4	1.0	0.1	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	6.7	1.0	2.3	4.6	5.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.1	22.9	31.4	7.8	14.1	4.8
LnGrp LOS	C	C	C	A	B	A
Approach Vol, veh/h	791			1326	1509	
Approach Delay, s/veh	23.8			10.1	10.7	
Approach LOS	C			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		44.7		22.2	8.3	36.4
Change Period (Y+Rc), s		5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		10.7		12.4	4.5	15.7
Green Ext Time (p_c), s		14.1		4.4	0.2	14.9

Intersection Summary	
HCM 6th Ctrl Delay	13.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	315	226	280	893	920	202
Future Volume (veh/h)	315	226	280	893	920	202
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	328	235	292	930	958	210
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	699	321	337	2266	1407	940
Arrive On Green	0.20	0.20	0.19	0.64	0.40	0.40
Sat Flow, veh/h	3428	1572	1767	3618	3618	1553
Grp Volume(v), veh/h	328	235	292	930	958	210
Grp Sat Flow(s),veh/h/ln	1714	1572	1767	1763	1763	1553
Q Serve(g_s), s	6.4	10.6	12.1	9.7	17.0	4.7
Cycle Q Clear(g_c), s	6.4	10.6	12.1	9.7	17.0	4.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	699	321	337	2266	1407	940
V/C Ratio(X)	0.47	0.73	0.87	0.41	0.68	0.22
Avail Cap(c_a), veh/h	1358	623	700	2266	2095	1244
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	28.2	29.7	6.6	18.8	6.9
Incr Delay (d2), s/veh	0.7	4.6	2.6	0.2	0.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.4	5.0	2.7	6.3	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.2	32.8	32.3	6.7	19.6	7.1
LnGrp LOS	C	C	C	A	B	A
Approach Vol, veh/h	563			1222	1168	
Approach Delay, s/veh	29.5			12.8	17.4	
Approach LOS	C			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		54.5		21.2	18.5	36.0
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		11.7		12.6	14.1	19.0
Green Ext Time (p_c), s		10.4		2.9	0.4	11.2

Intersection Summary			
HCM 6th Ctrl Delay			17.8
HCM 6th LOS			B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	413	149	52	421	225	154	855	52	198	879	83
Future Volume (veh/h)	73	413	149	52	421	225	154	855	52	198	879	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	74	417	151	53	425	227	156	864	53	200	888	84
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	96	676	242	68	557	295	192	1189	529	238	1282	570
Arrive On Green	0.05	0.27	0.27	0.04	0.25	0.25	0.11	0.34	0.34	0.13	0.36	0.36
Sat Flow, veh/h	1767	2542	911	1767	2227	1178	1767	3526	1567	1767	3526	1567
Grp Volume(v), veh/h	74	288	280	53	336	316	156	864	53	200	888	84
Grp Sat Flow(s),veh/h/ln	1767	1763	1690	1767	1763	1642	1767	1763	1567	1767	1763	1567
Q Serve(g_s), s	3.6	12.6	12.8	2.6	15.5	15.7	7.6	18.9	2.0	9.7	18.8	3.2
Cycle Q Clear(g_c), s	3.6	12.6	12.8	2.6	15.5	15.7	7.6	18.9	2.0	9.7	18.8	3.2
Prop In Lane	1.00		0.54	1.00		0.72	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	469	450	68	441	411	192	1189	529	238	1282	570
V/C Ratio(X)	0.77	0.61	0.62	0.78	0.76	0.77	0.81	0.73	0.10	0.84	0.69	0.15
Avail Cap(c_a), veh/h	604	602	578	604	602	561	604	1807	803	604	1807	803
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.0	28.3	28.3	41.8	30.5	30.6	38.2	25.5	19.9	37.0	23.8	18.8
Incr Delay (d2), s/veh	4.9	1.9	2.0	7.0	4.8	5.5	3.1	1.2	0.1	3.0	1.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	5.3	5.1	1.2	6.8	6.5	3.3	7.5	0.7	4.2	7.4	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	30.1	30.4	48.8	35.3	36.1	41.4	26.8	20.1	40.1	24.7	19.0
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	C	B
Approach Vol, veh/h		642			705			1073			1172	
Approach Delay, s/veh		32.0			36.7			28.5			26.9	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.8	35.4	7.4	29.1	13.5	37.7	8.8	27.8
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	30.0	45.0	30.0	30.0	30.0	45.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	11.7	20.9	4.6	14.8	9.6	20.8	5.6	17.7
Green Ext Time (p_c), s	0.2	8.7	0.0	4.0	0.2	9.2	0.1	4.1

Intersection Summary		
HCM 6th Ctrl Delay		30.2
HCM 6th LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	530	0	0	379	1	427	2	31	0	0	11
Future Volume (vph)	28	530	0	0	379	1	427	2	31	0	0	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Lane Util. Factor		0.95			0.95		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.99			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.95	1.00			1.00
Satd. Flow (prot)		3495			3503		1665	1670	1546			1596
Flt Permitted		0.92			1.00		0.95	0.95	1.00			1.00
Satd. Flow (perm)		3231			3503		1665	1670	1546			1596
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	30	564	0	0	403	1	454	2	33	0	0	12
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	26	0	0	12
Lane Group Flow (vph)	0	594	0	0	404	0	227	229	7	0	0	0
Confl. Peds. (#/hr)	3		10	10		3			3	3		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA			NA		Split	NA	Perm			Prot
Protected Phases		6			2		4	4				3
Permitted Phases	6								4			
Actuated Green, G (s)		39.6			39.6		15.4	15.4	15.4			1.0
Effective Green, g (s)		39.6			39.6		15.4	15.4	15.4			1.0
Actuated g/C Ratio		0.57			0.57		0.22	0.22	0.22			0.01
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		1827			1981		366	367	340			22
v/s Ratio Prot					0.12		0.14	c0.14				c0.00
v/s Ratio Perm		c0.18							0.00			
v/c Ratio		0.33			0.20		0.62	0.62	0.02			0.01
Uniform Delay, d1		8.1			7.5		24.7	24.7	21.4			34.0
Progression Factor		1.27			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.4			0.2		2.3	2.4	0.0			0.1
Delay (s)		10.7			7.7		27.0	27.1	21.4			34.1
Level of Service		B			A		C	C	C			C
Approach Delay (s)		10.7			7.7			26.7			34.1	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	57.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Signalized Intersection Summary
101: I-215 Ramp & Eucalyptus Ave

02/22/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	343	54	976	468	469	209	0	899	627	0	77
Future Volume (veh/h)	39	343	54	976	468	469	209	0	899	627	0	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1565	1565	1565	1565	1565	1565	1565	0	1565	1565	0	1565
Adj Flow Rate, veh/h	40	354	0	1006	482	0	215	0	927	646	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	0	3	3	0	3
Cap, veh/h	54	484		1024	1431		296	0	0	731	0	
Arrive On Green	0.04	0.16	0.00	0.35	0.48	0.00	0.10	0.00	0.00	0.25	0.00	0.00
Sat Flow, veh/h	1491	2974	1327	2892	2974	1327	2892	215		2892	646	
Grp Volume(v), veh/h	40	354	0	1006	482	0	215	40.2		646	40.2	
Grp Sat Flow(s),veh/h/ln	1491	1487	1327	1446	1487	1327	1446	D		1446	D	
Q Serve(g_s), s	2.3	9.6	0.0	29.2	8.5	0.0	6.1			18.2		
Cycle Q Clear(g_c), s	2.3	9.6	0.0	29.2	8.5	0.0	6.1			18.2		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	54	484		1024	1431		296			731		
V/C Ratio(X)	0.75	0.73		0.98	0.34		0.73			0.88		
Avail Cap(c_a), veh/h	528	1229		1024	1431		854			854		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00			1.00		
Uniform Delay (d), s/veh	40.4	33.7	0.0	27.1	13.6	0.0	36.8			30.5		
Incr Delay (d2), s/veh	18.3	2.1	0.0	23.7	0.1	0.0	3.4			9.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	1.1	3.5	0.0	12.7	2.6	0.0	2.3			7.1		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.7	35.8	0.0	50.8	13.7	0.0	40.2			40.2		
LnGrp LOS	E	D		D	B		D			D		
Approach Vol, veh/h		394	A		1488	A						
Approach Delay, s/veh		38.1			38.8							
Approach LOS		D			D							

Timer - Assigned Phs	1	2	3		5	6	7
Phs Duration (G+Y+Rc), s	36.5	21.8	13.7		9.5	48.7	26.4
Change Period (Y+Rc), s	6.5	8.0	5.0		6.5	8.0	5.0
Max Green Setting (Gmax), s	30.0	35.0	25.0		30.0	35.0	25.0
Max Q Clear Time (g_c+I1), s	31.2	11.6	8.1		4.3	10.5	20.2
Green Ext Time (p_c), s	0.0	2.2	0.6		0.1	3.2	1.2

Intersection Summary	
HCM 6th Ctrl Delay	39.1
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
102: Old 215 Frontage Rd/Valley Springs Pkwy & Eucalyptus Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1033	765	69	38	646	213	92	464	113	178	269	1177
Future Volume (veh/h)	1033	765	69	38	646	213	92	464	113	178	269	1177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	1065	789	71	39	666	220	95	478	116	184	277	1213
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	710	1560	696	58	861	384	121	657	159	216	542	808
Arrive On Green	0.19	0.42	0.42	0.03	0.24	0.24	0.07	0.23	0.23	0.12	0.29	0.29
Sat Flow, veh/h	3645	3749	1672	1767	3526	1572	1767	2817	679	1767	1856	2768
Grp Volume(v), veh/h	1065	789	71	39	666	220	95	298	296	184	277	1213
Grp Sat Flow(s),veh/h/ln	1823	1874	1672	1767	1763	1572	1767	1763	1733	1767	1856	1384
Q Serve(g_s), s	20.0	16.0	2.7	2.2	18.1	12.6	5.4	16.0	16.2	10.5	12.8	30.0
Cycle Q Clear(g_c), s	20.0	16.0	2.7	2.2	18.1	12.6	5.4	16.0	16.2	10.5	12.8	30.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	710	1560	696	58	861	384	121	411	404	216	542	808
V/C Ratio(X)	1.50	0.51	0.10	0.68	0.77	0.57	0.79	0.72	0.73	0.85	0.51	1.50
Avail Cap(c_a), veh/h	710	1560	696	344	1270	566	516	515	506	344	542	808
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	22.2	18.3	49.1	36.2	34.1	47.1	36.3	36.4	44.2	30.3	36.4
Incr Delay (d2), s/veh	232.7	0.3	0.1	5.0	1.8	1.3	4.2	3.8	4.1	6.3	0.8	231.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	31.8	6.9	1.0	1.1	7.9	4.7	2.4	6.9	6.9	4.9	5.7	35.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	274.1	22.4	18.4	54.2	37.9	35.4	51.3	40.1	40.5	50.5	31.1	268.3
LnGrp LOS	F	C	B	D	D	D	D	D	D	D	C	F
Approach Vol, veh/h		1925			925			689			1674	
Approach Delay, s/veh		161.5			38.0			41.8			205.1	
Approach LOS		F			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	48.1	11.0	36.2	25.0	30.5	17.1	30.2
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	4.2	18.0	7.4	32.0	22.0	20.1	12.5	18.2
Green Ext Time (p_c), s	0.0	6.0	0.1	0.0	0.0	5.0	0.1	2.5

Intersection Summary	
HCM 6th Ctrl Delay	137.8
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	998	251	920	627	67	914
Future Volume (veh/h)	998	251	920	627	67	914
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	1029	259	948	646	69	942
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	838	469	1954	1230	90	2327
Arrive On Green	0.23	0.23	0.18	0.18	0.05	0.66
Sat Flow, veh/h	3645	1672	3618	1567	1767	3618
Grp Volume(v), veh/h	1029	259	948	646	69	942
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1567	1767	1763
Q Serve(g_s), s	23.0	13.2	24.1	18.9	3.9	12.4
Cycle Q Clear(g_c), s	23.0	13.2	24.1	18.9	3.9	12.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	838	469	1954	1230	90	2327
V/C Ratio(X)	1.23	0.55	0.49	0.53	0.77	0.40
Avail Cap(c_a), veh/h	838	469	1954	1230	300	2327
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	30.6	28.1	8.0	46.9	7.9
Incr Delay (d2), s/veh	112.8	1.4	0.9	1.6	12.9	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	23.2	5.4	11.5	16.7	2.0	4.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	151.3	32.0	28.9	9.6	59.8	8.4
LnGrp LOS	F	C	C	A	E	A
Approach Vol, veh/h	1288		1594			1011
Approach Delay, s/veh	127.3		21.1			11.9
Approach LOS	F		C			B

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	10.6	60.9	71.5	28.5
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	17.0	43.5	66.0	23.0
Max Q Clear Time (g_c+I1), s	15.9	26.1	14.4	25.0
Green Ext Time (p_c), s	0.1	8.6	7.8	0.0

Intersection Summary	
HCM 6th Ctrl Delay	53.9
HCM 6th LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	855	152	1447	954	108	1815
Future Volume (veh/h)	855	152	1447	954	108	1815
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	881	157	1492	984	111	1871
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	838	518	1904	1208	141	3394
Arrive On Green	0.23	0.23	0.54	0.54	0.03	0.22
Sat Flow, veh/h	3645	1672	3618	1567	1767	5233
Grp Volume(v), veh/h	881	157	1492	984	111	1871
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1567	1767	1689
Q Serve(g_s), s	23.0	7.2	33.7	38.8	6.2	32.8
Cycle Q Clear(g_c), s	23.0	7.2	33.7	38.8	6.2	32.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	838	518	1904	1208	141	3394
V/C Ratio(X)	1.05	0.30	0.78	0.81	0.79	0.55
Avail Cap(c_a), veh/h	838	518	1904	1208	265	3394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.13	0.13	1.00	1.00
Uniform Delay (d), s/veh	38.5	26.3	18.3	7.1	47.8	25.6
Incr Delay (d2), s/veh	45.3	0.3	0.4	0.8	9.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.3	7.4	12.3	24.3	3.2	14.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	83.8	26.6	18.8	7.9	57.1	26.3
LnGrp LOS	F	C	B	A	E	C
Approach Vol, veh/h	1038		2476			1982
Approach Delay, s/veh	75.1		14.5			28.0
Approach LOS	E		B			C

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.0	59.0		28.0		72.0
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	47.0		23.0		67.0
Max Q Clear Time (g_c+I1), s	8.2	40.8		25.0		34.8
Green Ext Time (p_c), s	0.1	5.5		0.0		17.9

Intersection Summary		
HCM 6th Ctrl Delay		30.8
HCM 6th LOS		C

HCM 6th Signalized Intersection Summary
105: Day St & Canyon Springs Pkwy

02/22/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	696	216	314	78	129	315	273	1454	117	271	1337	830
Future Volume (veh/h)	696	216	314	78	129	315	273	1454	117	271	1337	830
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	718	223	324	80	133	325	281	1499	121	279	1378	856
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	707	684	576	102	407	341	302	1314	106	302	1396	761
Arrive On Green	0.21	0.37	0.37	0.05	0.21	0.21	0.17	0.28	0.28	0.17	0.28	0.28
Sat Flow, veh/h	3428	1856	1562	1879	1973	1653	1767	4776	385	1767	5066	2762
Grp Volume(v), veh/h	718	223	324	80	133	325	281	1060	560	279	1378	856
Grp Sat Flow(s),veh/h/ln	1714	1856	1562	1879	1973	1653	1767	1689	1785	1767	1689	1381
Q Serve(g_s), s	30.0	12.5	24.0	6.1	8.3	28.2	22.8	40.0	40.0	22.6	39.4	40.1
Cycle Q Clear(g_c), s	30.0	12.5	24.0	6.1	8.3	28.2	22.8	40.0	40.0	22.6	39.4	40.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	707	684	576	102	407	341	302	929	491	302	1396	761
V/C Ratio(X)	1.01	0.33	0.56	0.79	0.33	0.95	0.93	1.14	1.14	0.92	0.99	1.12
Avail Cap(c_a), veh/h	707	684	576	388	407	341	304	929	491	365	1396	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.7	32.9	36.5	67.9	49.1	57.0	59.5	52.7	52.7	59.3	52.4	52.7
Incr Delay (d2), s/veh	37.6	0.3	1.3	5.0	0.5	36.4	33.6	76.3	85.5	25.0	20.9	72.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.6	5.7	9.4	3.1	4.2	15.2	12.9	26.5	29.2	12.1	19.1	21.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.3	33.2	37.8	72.9	49.6	93.4	93.0	129.0	138.2	84.3	73.3	125.2
LnGrp LOS	F	C	D	E	D	F	F	F	F	F	E	F
Approach Vol, veh/h		1265			538			1901			2513	
Approach Delay, s/veh		69.6			79.5			126.4			92.2	
Approach LOS		E			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.4	45.4	11.9	58.7	29.3	45.5	35.5	35.1
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	30.0	40.0	30.0	30.0	25.0	40.0	30.0	* 30
Max Q Clear Time (g_c+I1), s	24.6	42.0	8.1	26.0	24.8	42.1	32.0	30.2
Green Ext Time (p_c), s	0.3	0.0	0.1	1.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	97.0
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	239	203	122	383	367	381	1217	208	487	1165	106
Future Volume (veh/h)	220	239	203	122	383	367	381	1217	208	487	1165	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	239	260	221	133	416	399	414	1323	226	529	1266	115
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	300	238	203	162	933	412	472	1424	243	569	1822	701
Arrive On Green	0.09	0.26	0.26	0.09	0.25	0.25	0.14	0.33	0.33	0.17	0.36	0.36
Sat Flow, veh/h	3428	922	783	1879	3749	1654	3428	4352	743	3428	5066	1566
Grp Volume(v), veh/h	239	0	481	133	416	399	414	1027	522	529	1266	115
Grp Sat Flow(s),veh/h/ln	1714	0	1705	1879	1874	1654	1714	1689	1718	1714	1689	1566
Q Serve(g_s), s	8.2	0.0	31.2	8.4	11.3	28.8	14.3	35.4	35.4	18.3	25.7	5.3
Cycle Q Clear(g_c), s	8.2	0.0	31.2	8.4	11.3	28.8	14.3	35.4	35.4	18.3	25.7	5.3
Prop In Lane	1.00		0.46	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	300	0	441	162	933	412	472	1105	562	569	1822	701
V/C Ratio(X)	0.80	0.00	1.09	0.82	0.45	0.97	0.88	0.93	0.93	0.93	0.69	0.16
Avail Cap(c_a), veh/h	569	0	441	312	933	412	569	1121	570	569	1822	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.9	0.0	44.7	54.1	38.2	44.8	50.9	39.2	39.2	49.6	32.9	19.9
Incr Delay (d2), s/veh	1.8	0.0	69.5	3.9	0.3	36.2	11.2	13.1	21.7	21.6	1.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	21.6	4.1	5.2	15.8	6.7	16.2	17.8	9.4	10.4	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.8	0.0	114.2	58.1	38.6	81.0	62.1	52.2	60.8	71.2	34.1	20.0
LnGrp LOS	E	A	F	E	D	F	E	D	E	E	C	B
Approach Vol, veh/h		720			948			1963			1910	
Approach Delay, s/veh		94.8			59.1			56.6			43.5	
Approach LOS		F			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.0	44.8	14.9	35.8	21.1	48.7	16.0	34.6				
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6				
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	20.0	30.0				
Max Q Clear Time (g_c+I1), s	10.3	37.4	10.4	33.2	16.3	27.7	10.2	30.8				
Green Ext Time (p_c), s	0.0	2.0	0.1	0.0	0.3	6.8	0.3	0.0				
Intersection Summary												
HCM 6th Ctrl Delay			57.5									
HCM 6th LOS			E									
Notes												

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	432	524	93	99	531	254	92	635	68	162	433	276
Future Volume (veh/h)	432	524	93	99	531	254	92	635	68	162	433	276
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	455	552	98	104	559	267	97	668	72	171	456	291
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	459	1177	208	129	729	325	122	800	86	200	1034	870
Arrive On Green	0.26	0.39	0.39	0.07	0.21	0.21	0.07	0.25	0.25	0.11	0.29	0.29
Sat Flow, veh/h	1767	2993	530	1767	3526	1572	1767	3210	346	1767	3526	1572
Grp Volume(v), veh/h	455	324	326	104	559	267	97	366	374	171	456	291
Grp Sat Flow(s),veh/h/ln	1767	1763	1760	1767	1763	1572	1767	1763	1793	1767	1763	1572
Q Serve(g_s), s	29.7	15.8	15.9	6.7	17.3	18.7	6.2	22.8	22.8	11.0	12.1	11.7
Cycle Q Clear(g_c), s	29.7	15.8	15.9	6.7	17.3	18.7	6.2	22.8	22.8	11.0	12.1	11.7
Prop In Lane	1.00		0.30	1.00		1.00	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	459	693	692	129	729	325	122	439	447	200	1034	870
V/C Ratio(X)	0.99	0.47	0.47	0.80	0.77	0.82	0.80	0.83	0.84	0.86	0.44	0.33
Avail Cap(c_a), veh/h	459	693	692	306	915	408	306	610	621	306	1220	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.7	26.1	26.1	52.7	43.2	43.8	53.0	41.1	41.1	50.3	33.1	14.2
Incr Delay (d2), s/veh	39.7	0.5	0.5	4.3	3.1	10.3	4.4	7.0	7.0	9.0	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.7	6.6	6.6	3.1	7.7	8.1	2.9	10.6	10.8	5.3	5.1	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	82.4	26.6	26.6	57.1	46.3	54.1	57.5	48.1	48.1	59.3	33.4	14.4
LnGrp LOS	F	C	C	E	D	D	E	D	D	E	C	B
Approach Vol, veh/h		1105			930			837			918	
Approach Delay, s/veh		49.6			49.7			49.2			32.2	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	34.2	13.0	50.8	12.5	39.3	34.5	29.3
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	13.0	24.8	8.7	17.9	8.2	14.1	31.7	20.7
Green Ext Time (p_c), s	0.1	4.0	0.1	3.1	0.1	4.0	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	45.3
HCM 6th LOS	D

Notes
User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	20.9
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	286	432	527	143	86	232
Future Vol, veh/h	286	432	527	143	86	232
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	298	450	549	149	90	242
Number of Lanes	2	1	1	2	2	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	3	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	3
HCM Control Delay	16.4	25.7	21
HCM LOS	C	D	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	SBLn1	SBLn2
Vol Left, %	100%	85%	0%	100%	32%	0%	0%	0%
Vol Thru, %	0%	15%	100%	0%	0%	0%	100%	11%
Vol Right, %	0%	0%	0%	0%	68%	100%	0%	89%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	264	311	95	191	298	229	57	261
LT Vol	264	263	0	191	95	0	0	0
Through Vol	0	48	95	0	0	0	57	29
RT Vol	0	0	0	0	203	229	0	232
Lane Flow Rate	274	324	99	199	311	239	60	272
Geometry Grp	8	8	8	7	7	7	8	8
Degree of Util (X)	0.635	0.743	0.166	0.441	0.619	0.331	0.145	0.609
Departure Headway (Hd)	8.331	8.253	6.029	7.999	7.169	4.999	8.721	8.08
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	434	438	594	451	504	718	411	445
Service Time	6.084	6.005	3.781	5.739	4.909	2.738	6.487	5.846
HCM Lane V/C Ratio	0.631	0.74	0.167	0.441	0.617	0.333	0.146	0.611
HCM Control Delay	24.6	31.4	10	16.9	20.9	10.2	13	22.7
HCM Lane LOS	C	D	A	C	C	B	B	C
HCM 95th-tile Q	4.3	6	0.6	2.2	4.1	1.4	0.5	4

Intersection	
Intersection Delay, s/veh	32.1
Intersection LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	376	276	217	437	406	358
Future Vol, veh/h	376	276	217	437	406	358
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	392	288	226	455	423	373
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	58.1	21.8	18.8
HCM LOS	F	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	100%	0%	0%	0%	100%	13%	0%
Vol Thru, %	0%	0%	0%	100%	31%	0%	87%	100%
Vol Right, %	0%	0%	100%	0%	69%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	203	203	358	251	401	195	167	291
LT Vol	203	203	0	0	0	195	22	0
Through Vol	0	0	0	251	125	0	145	291
RT Vol	0	0	358	0	276	0	0	0
Lane Flow Rate	211	211	373	261	418	203	174	303
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.515	0.515	0.595	0.667	1.01	0.544	0.445	0.629
Departure Headway (Hd)	8.876	8.876	5.849	9.196	8.7	9.811	9.362	7.458
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	408	408	623	394	418	370	387	486
Service Time	6.576	6.576	3.549	6.908	6.412	7.511	7.062	5.187
HCM Lane V/C Ratio	0.517	0.517	0.599	0.662	1	0.549	0.45	0.623
HCM Control Delay	20.6	20.6	16.8	28.5	76.6	23.6	19.4	22
HCM Lane LOS	C	C	C	D	F	C	C	C
HCM 95th-tile Q	2.9	2.9	3.9	4.7	12.8	3.1	2.2	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	314	224	29	353	166	251	612	44	94	466	123
Future Volume (veh/h)	164	314	224	29	353	166	251	612	44	94	466	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	173	331	236	31	372	175	264	644	46	99	491	129
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	213	995	443	44	657	293	308	1241	89	129	761	199
Arrive On Green	0.12	0.28	0.28	0.03	0.19	0.19	0.17	0.37	0.37	0.07	0.27	0.27
Sat Flow, veh/h	1767	3526	1571	1767	3526	1570	1767	3336	238	1810	2827	738
Grp Volume(v), veh/h	173	331	236	31	372	175	264	340	350	99	312	308
Grp Sat Flow(s),veh/h/ln	1767	1763	1571	1767	1763	1570	1767	1763	1811	1810	1805	1760
Q Serve(g_s), s	7.5	5.8	10.0	1.4	7.5	8.0	11.4	11.8	11.8	4.2	12.0	12.2
Cycle Q Clear(g_c), s	7.5	5.8	10.0	1.4	7.5	8.0	11.4	11.8	11.8	4.2	12.0	12.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.42
Lane Grp Cap(c), veh/h	213	995	443	44	657	293	308	656	674	129	486	474
V/C Ratio(X)	0.81	0.33	0.53	0.70	0.57	0.60	0.86	0.52	0.52	0.77	0.64	0.65
Avail Cap(c_a), veh/h	675	1796	800	675	1796	800	675	898	922	691	919	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.7	22.3	23.8	38.0	29.1	29.3	31.5	19.2	19.2	35.8	25.4	25.4
Incr Delay (d2), s/veh	2.8	0.3	1.4	7.3	1.1	2.8	2.7	0.9	0.9	3.6	2.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	2.3	3.6	0.7	3.1	3.1	4.8	4.5	4.7	1.9	5.2	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	22.6	25.2	45.2	30.1	32.0	34.2	20.1	20.1	39.4	27.4	27.5
LnGrp LOS	D	C	C	D	C	C	C	C	C	D	C	C
Approach Vol, veh/h		740			578			954			719	
Approach Delay, s/veh		26.7			31.5			24.0			29.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	35.0	6.0	28.0	17.7	26.9	13.5	20.4
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	30.0	40.0	30.0	40.0	30.0	40.0	30.0	40.0
Max Q Clear Time (g_c+I1), s	6.2	13.8	3.4	12.0	13.4	14.2	9.5	10.0
Green Ext Time (p_c), s	0.1	6.1	0.0	4.5	0.3	5.8	0.2	4.4

Intersection Summary	
HCM 6th Ctrl Delay	27.3
HCM 6th LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	472	367	67	331	308	85
Future Volume (veh/h)	472	367	67	331	308	85
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	497	386	71	348	324	89
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1127	743	798	873	493	849
Arrive On Green	0.33	0.33	0.23	0.23	0.14	0.46
Sat Flow, veh/h	3428	1572	3618	1572	3428	1856
Grp Volume(v), veh/h	497	386	71	348	324	89
Grp Sat Flow(s),veh/h/ln	1714	1572	1763	1572	1714	1856
Q Serve(g_s), s	5.2	7.9	0.7	5.8	4.1	1.3
Cycle Q Clear(g_c), s	5.2	7.9	0.7	5.8	4.1	1.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	1127	743	798	873	493	849
V/C Ratio(X)	0.44	0.52	0.09	0.40	0.66	0.10
Avail Cap(c_a), veh/h	2246	1256	2310	1547	2246	1216
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.1	8.4	14.0	5.8	18.5	7.1
Incr Delay (d2), s/veh	0.4	0.8	0.1	0.4	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	2.1	0.3	3.2	1.5	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.5	9.3	14.1	6.2	19.1	7.2
LnGrp LOS	B	A	B	A	B	A
Approach Vol, veh/h	883		419			413
Approach Delay, s/veh	11.1		7.6			16.5
Approach LOS	B		A			B

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	10.6	15.5	26.0	19.7
Change Period (Y+Rc), s	4.0	5.1	5.1	4.7
Max Green Setting (Gmax), s	30.0	30.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	6.1	7.8	3.3	9.9
Green Ext Time (p_c), s	0.6	2.6	0.6	5.2

Intersection Summary	
HCM 6th Ctrl Delay	11.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	335	210	114	446	212	76
Future Vol, veh/h	335	210	114	446	212	76
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	353	221	120	469	223	80
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	17.3	12.6	12.1
HCM LOS	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	90%	0%	0%	0%	100%	7%	0%
Vol Thru, %	0%	0%	0%	100%	35%	0%	93%	100%
Vol Right, %	0%	10%	100%	0%	65%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	141	78	68	223	322	103	160	297
LT Vol	141	70	0	0	0	103	11	0
Through Vol	0	0	0	223	112	0	149	297
RT Vol	0	8	68	0	210	0	0	0
Lane Flow Rate	149	82	72	235	339	108	168	313
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.32	0.175	0.095	0.45	0.605	0.225	0.329	0.454
Departure Headway (Hd)	7.749	7.631	4.755	6.895	6.432	7.505	7.033	5.218
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	461	468	745	520	559	475	507	682
Service Time	5.535	5.417	2.538	4.683	4.219	5.296	4.824	3.008
HCM Lane V/C Ratio	0.323	0.175	0.097	0.452	0.606	0.227	0.331	0.459
HCM Control Delay	14.2	12	8	15.3	18.7	12.5	13.3	12.3
HCM Lane LOS	B	B	A	C	C	B	B	B
HCM 95th-tile Q	1.4	0.6	0.3	2.3	4	0.9	1.4	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	326	3	20	428	128	10	18	24	131	7	56
Future Volume (veh/h)	62	326	3	20	428	128	10	18	24	131	7	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	67	354	3	22	465	139	11	20	26	142	8	61
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	92	1119	499	38	1012	452	15	28	36	225	236	200
Arrive On Green	0.05	0.32	0.32	0.02	0.29	0.29	0.05	0.05	0.05	0.13	0.13	0.13
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	328	596	775	1767	1856	1572
Grp Volume(v), veh/h	67	354	3	22	465	139	57	0	0	142	8	61
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1700	0	0	1767	1856	1572
Q Serve(g_s), s	1.6	3.2	0.1	0.5	4.5	2.9	1.4	0.0	0.0	3.2	0.2	1.5
Cycle Q Clear(g_c), s	1.6	3.2	0.1	0.5	4.5	2.9	1.4	0.0	0.0	3.2	0.2	1.5
Prop In Lane	1.00		1.00	1.00		1.00	0.19		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	92	1119	499	38	1012	452	79	0	0	225	236	200
V/C Ratio(X)	0.73	0.32	0.01	0.58	0.46	0.31	0.72	0.00	0.00	0.63	0.03	0.31
Avail Cap(c_a), veh/h	1273	3811	1700	1273	3811	1700	1225	0	0	1273	1337	1133
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	10.8	9.7	20.2	12.2	11.6	19.6	0.0	0.0	17.2	15.9	16.5
Incr Delay (d2), s/veh	4.2	0.2	0.0	5.0	0.5	0.5	11.8	0.0	0.0	2.9	0.1	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.9	0.0	0.2	1.4	0.8	0.7	0.0	0.0	1.3	0.1	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.6	11.0	9.7	25.2	12.6	12.1	31.4	0.0	0.0	20.2	16.0	17.4
LnGrp LOS	C	B	A	C	B	B	C	A	A	C	B	B
Approach Vol, veh/h		424			626			57			211	
Approach Delay, s/veh		13.0			13.0			31.4			19.2	
Approach LOS		B			B			C			B	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		7.0	4.9	19.0		10.7	6.2	17.8				
Change Period (Y+Rc), s		5.1	4.0	5.8		5.4	4.0	5.8				
Max Green Setting (Gmax), s		30.0	30.0	45.0		30.0	30.0	45.0				
Max Q Clear Time (g_c+I1), s		3.4	2.5	5.2		5.2	3.6	6.5				
Green Ext Time (p_c), s		0.2	0.0	3.4		0.6	0.1	5.4				
Intersection Summary												
HCM 6th Ctrl Delay			14.8									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	40	217	614	121	219	130	898	326	100	1009	9
Future Volume (veh/h)	64	40	217	614	121	219	130	898	326	100	1009	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	66	41	224	633	125	226	134	926	336	103	1040	9
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	84	45	248	675	196	355	158	1454	647	125	2041	18
Arrive On Green	0.05	0.18	0.18	0.33	0.55	0.55	0.06	0.28	0.28	0.07	0.39	0.39
Sat Flow, veh/h	1767	248	1357	3428	591	1069	1767	3526	1568	1767	5179	45
Grp Volume(v), veh/h	66	0	265	633	0	351	134	926	336	103	678	371
Grp Sat Flow(s),veh/h/ln	1767	0	1606	1714	0	1661	1767	1763	1568	1767	1689	1847
Q Serve(g_s), s	5.2	0.0	22.6	25.1	0.0	20.4	10.5	32.3	25.4	8.1	21.3	21.3
Cycle Q Clear(g_c), s	5.2	0.0	22.6	25.1	0.0	20.4	10.5	32.3	25.4	8.1	21.3	21.3
Prop In Lane	1.00		0.85	1.00		0.64	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	84	0	293	675	0	551	158	1454	647	125	1331	728
V/C Ratio(X)	0.78	0.00	0.90	0.94	0.00	0.64	0.85	0.64	0.52	0.82	0.51	0.51
Avail Cap(c_a), veh/h	379	0	344	735	0	551	199	1454	647	199	1331	728
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.92	0.00	0.92	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.9	0.0	56.0	46.1	0.0	25.4	64.9	41.4	38.9	64.2	32.2	32.2
Incr Delay (d2), s/veh	5.8	0.0	24.9	17.1	0.0	2.6	19.8	2.1	3.0	6.8	1.4	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	11.2	11.2	0.0	7.0	5.7	15.0	10.8	3.8	8.8	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.7	0.0	81.0	63.2	0.0	28.0	84.7	43.6	41.9	71.0	33.6	34.7
LnGrp LOS	E	A	F	E	A	C	F	D	D	E	C	C
Approach Vol, veh/h		331			984			1396			1152	
Approach Delay, s/veh		79.1			50.6			47.1			37.3	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	63.5	31.6	31.0	16.5	61.0	10.7	51.9
Change Period (Y+Rc), s	4.0	5.8	4.0	* 5.4	4.0	5.8	4.0	5.4
Max Green Setting (Gmax), s	15.8	45.0	30.0	* 30	15.8	45.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	10.1	34.3	27.1	24.6	12.5	23.3	7.2	22.4
Green Ext Time (p_c), s	0.0	6.7	0.5	0.9	0.0	9.3	0.1	1.7

Intersection Summary	
HCM 6th Ctrl Delay	47.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1880	366	140	1269
Future Volume (veh/h)	0	0	1880	366	140	1269
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				0.99	1.00	
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No			No
Adj Sat Flow, veh/h/ln			1856	1856	1856	1856
Adj Flow Rate, veh/h			1979	385	147	1336
Peak Hour Factor			0.95	0.95	0.95	0.95
Percent Heavy Veh, %			3	3	3	3
Cap, veh/h			2937	1301	169	3387
Arrive On Green			1.00	1.00	0.19	1.00
Sat Flow, veh/h			3618	1562	1767	3618
Grp Volume(v), veh/h			1979	385	147	1336
Grp Sat Flow(s),veh/h/ln			1763	1562	1767	1763
Q Serve(g_s), s			0.0	0.0	11.3	0.0
Cycle Q Clear(g_c), s			0.0	0.0	11.3	0.0
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			2937	1301	169	3387
V/C Ratio(X)			0.67	0.30	0.87	0.39
Avail Cap(c_a), veh/h			2937	1301	322	3387
HCM Platoon Ratio			1.33	1.33	2.00	2.00
Upstream Filter(I)			0.42	0.42	1.00	1.00
Uniform Delay (d), s/veh			0.0	0.0	55.8	0.0
Incr Delay (d2), s/veh			0.5	0.2	5.2	0.3
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.2	0.1	4.8	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			0.5	0.2	61.0	0.3
LnGrp LOS			A	A	E	A
Approach Vol, veh/h			2364			1483
Approach Delay, s/veh			0.5			6.4
Approach LOS			A			A

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	17.9	122.1				140.0
Change Period (Y+Rc), s	4.5	5.5				5.5
Max Green Setting (Gmax), s	25.5	104.5				60.0
Max Q Clear Time (g_c+I1), s	13.3	2.0				2.0
Green Ext Time (p_c), s	0.1	20.1				7.8

Intersection Summary	
HCM 6th Ctrl Delay	2.7
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	504	221	512	461	0	482	0	1260	441	159	1109	0
Future Volume (veh/h)	504	221	512	461	0	482	0	1260	441	159	1109	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	514	226	522	470	0	492	0	1286	450	162	1132	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	1077	583	493	0	0	0	0	2389	739	183	2140	0
Arrive On Green	0.31	0.31	0.31	0.00	0.00	0.00	0.00	0.47	0.47	0.21	1.00	0.00
Sat Flow, veh/h	3428	1856	1568		0		0	5233	1567	1767	3618	0
Grp Volume(v), veh/h	514	226	522		0.0		0	1286	450	162	1132	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1568				0	1689	1567	1767	1763	0
Q Serve(g_s), s	16.9	13.3	44.0				0.0	25.2	29.8	12.5	0.0	0.0
Cycle Q Clear(g_c), s	16.9	13.3	44.0				0.0	25.2	29.8	12.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1077	583	493				0	2389	739	183	2140	0
V/C Ratio(X)	0.48	0.39	1.06				0.00	0.54	0.61	0.89	0.53	0.00
Avail Cap(c_a), veh/h	1077	583	493				0	2389	739	215	2140	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.86	0.86	0.93	0.93	0.00
Uniform Delay (d), s/veh	38.7	37.5	48.0				0.0	26.2	27.4	54.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.2	57.1				0.0	0.8	3.2	25.9	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	6.1	24.9				0.0	10.0	11.5	6.2	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	37.6	105.1				0.0	27.0	30.6	80.6	0.9	0.0
LnGrp LOS	D	D	F				A	C	C	F	A	A
Approach Vol, veh/h		1262						1736			1294	
Approach Delay, s/veh		66.0						27.9			10.9	
Approach LOS		E						C			B	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	19.0	71.5	49.5	90.5
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	17.0	31.0	44.0	60.0
Max Q Clear Time (g_c+I1), s	14.5	31.8	46.0	2.0
Green Ext Time (p_c), s	0.1	0.0	0.0	10.3

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	702	190	136	990	943	825
Future Volume (veh/h)	702	190	136	990	943	825
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	739	200	143	1042	993	868
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	938	430	222	3005	1696	1184
Arrive On Green	0.27	0.27	0.06	0.59	0.48	0.48
Sat Flow, veh/h	3428	1572	3428	5233	3618	1568
Grp Volume(v), veh/h	739	200	143	1042	993	868
Grp Sat Flow(s),veh/h/ln	1714	1572	1714	1689	1763	1568
Q Serve(g_s), s	16.8	8.9	3.4	8.9	17.1	25.6
Cycle Q Clear(g_c), s	16.8	8.9	3.4	8.9	17.1	25.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	938	430	222	3005	1696	1184
V/C Ratio(X)	0.79	0.46	0.64	0.35	0.59	0.73
Avail Cap(c_a), veh/h	1222	560	1222	3005	1884	1268
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.3	25.4	38.4	8.8	15.8	5.7
Incr Delay (d2), s/veh	3.1	1.1	1.2	0.1	0.5	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	8.2	1.4	2.7	6.2	17.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.4	26.6	39.6	8.9	16.3	8.0
LnGrp LOS	C	C	D	A	B	A
Approach Vol, veh/h	939			1185	1861	
Approach Delay, s/veh	30.4			12.6	12.4	
Approach LOS	C			B	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		55.8		28.4	9.5	46.3
Change Period (Y+Rc), s		5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		10.9		18.8	5.4	27.6
Green Ext Time (p_c), s		11.8		4.2	0.2	12.9
Intersection Summary						
HCM 6th Ctrl Delay			16.7			
HCM 6th LOS			B			

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	328	239	374	741	763	287
Future Volume (veh/h)	328	239	374	741	763	287
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	353	257	402	797	820	309
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	733	336	442	2278	1224	881
Arrive On Green	0.21	0.21	0.25	0.65	0.35	0.35
Sat Flow, veh/h	3428	1572	1767	3618	3618	1568
Grp Volume(v), veh/h	353	257	402	797	820	309
Grp Sat Flow(s),veh/h/ln	1714	1572	1767	1763	1763	1568
Q Serve(g_s), s	7.5	12.7	18.3	8.6	16.4	8.9
Cycle Q Clear(g_c), s	7.5	12.7	18.3	8.6	16.4	8.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	733	336	442	2278	1224	881
V/C Ratio(X)	0.48	0.76	0.91	0.35	0.67	0.35
Avail Cap(c_a), veh/h	1243	570	641	2278	1917	1189
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	30.6	30.1	6.7	23.0	9.9
Incr Delay (d2), s/veh	0.7	5.1	10.2	0.1	0.9	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.5	8.5	2.5	6.4	4.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.2	35.7	40.3	6.8	23.9	10.3
LnGrp LOS	C	D	D	A	C	B
Approach Vol, veh/h	610			1199	1129	
Approach Delay, s/veh	31.9			18.0	20.2	
Approach LOS	C			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		59.3		23.5	24.7	34.5
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		10.6		14.7	20.3	18.4
Green Ext Time (p_c), s		8.6		3.0	0.5	10.4

Intersection Summary			
HCM 6th Ctrl Delay			21.7
HCM 6th LOS			C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	350	147	33	383	237	185	769	20	167	757	74
Future Volume (veh/h)	69	350	147	33	383	237	185	769	20	167	757	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	72	365	153	34	399	247	193	801	21	174	789	77
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	93	689	284	46	539	329	233	1173	521	213	1133	503
Arrive On Green	0.05	0.28	0.28	0.03	0.26	0.26	0.13	0.33	0.33	0.12	0.32	0.32
Sat Flow, veh/h	1767	2432	1003	1767	2100	1284	1767	3526	1567	1767	3526	1567
Grp Volume(v), veh/h	72	263	255	34	334	312	193	801	21	174	789	77
Grp Sat Flow(s),veh/h/ln	1767	1763	1672	1767	1763	1621	1767	1763	1567	1767	1763	1567
Q Serve(g_s), s	3.3	10.4	10.6	1.6	14.4	14.6	8.8	16.2	0.7	7.9	16.1	2.9
Cycle Q Clear(g_c), s	3.3	10.4	10.6	1.6	14.4	14.6	8.8	16.2	0.7	7.9	16.1	2.9
Prop In Lane	1.00		0.60	1.00		0.79	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	93	499	474	46	452	416	233	1173	521	213	1133	503
V/C Ratio(X)	0.77	0.53	0.54	0.73	0.74	0.75	0.83	0.68	0.04	0.82	0.70	0.15
Avail Cap(c_a), veh/h	642	641	608	642	641	589	642	1922	854	642	1922	854
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.6	24.9	25.0	39.9	28.1	28.2	34.9	23.8	18.6	35.4	24.5	20.0
Incr Delay (d2), s/veh	5.0	1.2	1.4	8.0	3.7	4.3	2.9	1.0	0.0	2.9	1.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	4.2	4.1	0.8	6.1	5.8	3.8	6.4	0.3	3.4	6.4	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.6	26.2	26.4	47.9	31.8	32.6	37.8	24.8	18.7	38.3	25.6	20.2
LnGrp LOS	D	C	C	D	C	C	D	C	B	D	C	C
Approach Vol, veh/h		590			680			1015			1040	
Approach Delay, s/veh		28.4			33.0			27.1			27.3	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	33.2	6.2	29.2	14.9	32.3	8.4	27.0
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	30.0	45.0	30.0	30.0	30.0	45.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	9.9	18.2	3.6	12.6	10.8	18.1	5.3	16.6
Green Ext Time (p_c), s	0.2	8.2	0.0	3.8	0.2	8.4	0.1	4.3

Intersection Summary	
HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	468	0	0	429	2	484	5	37	0	0	22
Future Volume (vph)	63	468	0	0	429	2	484	5	37	0	0	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Lane Util. Factor		0.95			0.95		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.98			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		0.99			1.00		0.95	0.95	1.00			1.00
Satd. Flow (prot)		3480			3502		1665	1671	1543			1596
Flt Permitted		0.84			1.00		0.95	0.95	1.00			1.00
Satd. Flow (perm)		2936			3502		1665	1671	1543			1596
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	72	532	0	0	488	2	550	6	42	0	0	25
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	32	0	0	24
Lane Group Flow (vph)	0	604	0	0	490	0	280	276	10	0	0	1
Confl. Peds. (#/hr)	10		8	8		10			6	6		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA			NA		Split	NA	Perm			Prot
Protected Phases		6			2		4	4				3
Permitted Phases	6								4			
Actuated Green, G (s)		36.9			36.9		17.1	17.1	17.1			2.0
Effective Green, g (s)		36.9			36.9		17.1	17.1	17.1			2.0
Actuated g/C Ratio		0.53			0.53		0.24	0.24	0.24			0.03
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		1547			1846		406	408	376			45
v/s Ratio Prot					0.14		c0.17	0.17				c0.00
v/s Ratio Perm		c0.21							0.01			
v/c Ratio		0.39			0.27		0.69	0.68	0.03			0.02
Uniform Delay, d1		9.9			9.1		24.0	23.9	20.1			33.0
Progression Factor		1.26			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.7			0.4		3.9	3.5	0.0			0.1
Delay (s)		13.1			9.4		27.9	27.4	20.1			33.1
Level of Service		B			A		C	C	C			C
Approach Delay (s)		13.1			9.4			27.1			33.1	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Appendix I

Year 2026 Background Conditions Intersection Queueing Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	53	235	46	446	584	307	361	375	387	60
v/c Ratio	0.42	0.18	0.07	0.77	0.34	0.34	0.69	0.34	0.74	0.18
Control Delay	56.9	20.7	1.4	50.7	14.5	2.9	49.0	2.5	51.3	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	20.7	1.4	50.7	14.5	2.9	49.0	2.5	51.3	1.5
Queue Length 50th (ft)	36	52	0	153	113	0	124	0	134	0
Queue Length 95th (ft)	75	90	7	202	182	46	164	25	176	3
Internal Link Dist (ft)		1391			914					
Turn Bay Length (ft)	250		50	275			250	230	500	500
Base Capacity (vph)	340	1328	641	665	1739	906	687	1151	687	404
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.18	0.07	0.67	0.34	0.34	0.53	0.33	0.56	0.15

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	709	357	80	40	610	145	218	403	51	70	437
v/c Ratio	0.90	0.21	0.10	0.30	0.67	0.29	0.69	0.53	0.35	0.34	0.63
Control Delay	52.9	17.3	1.4	49.9	34.6	9.2	47.9	33.6	50.1	45.2	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.9	17.3	1.4	49.9	34.6	9.2	47.9	33.6	50.1	45.2	8.7
Queue Length 50th (ft)	200	65	0	22	161	9	115	101	27	37	0
Queue Length 95th (ft)	#437	127	10	64	260	58	225	174	75	91	50
Internal Link Dist (ft)		914			2001			1265		3471	
Turn Bay Length (ft)	300		360	100		30	150		160		
Base Capacity (vph)	784	1697	824	398	1554	764	597	1494	398	629	1229
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.21	0.10	0.10	0.39	0.19	0.37	0.27	0.13	0.11	0.36

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	498	239	536	241	68	615
v/c Ratio	0.74	0.35	0.28	0.19	0.42	0.25
Control Delay	44.5	5.2	5.2	0.3	50.0	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.5	5.2	5.2	0.3	50.0	6.3
Queue Length 50th (ft)	153	9	26	0	42	69
Queue Length 95th (ft)	202	54	43	0	82	101
Internal Link Dist (ft)	741		655			394
Turn Bay Length (ft)	350	500		180	200	
Base Capacity (vph)	793	796	1916	1344	297	2432
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.30	0.28	0.18	0.23	0.25

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	529	80	616	409	92	1083
v/c Ratio	0.75	0.13	0.33	0.31	0.50	0.31
Control Delay	44.5	4.7	14.4	1.0	49.5	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.5	4.7	14.4	1.0	49.5	3.5
Queue Length 50th (ft)	162	0	111	0	46	42
Queue Length 95th (ft)	215	27	170	20	m74	50
Internal Link Dist (ft)	678		452			142
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	793	689	1894	1360	262	3506
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.12	0.33	0.30	0.35	0.31

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	260	35	51	35	57	119	88	697	177	960	396
v/c Ratio	0.52	0.08	0.11	0.24	0.20	0.35	0.43	0.54	0.57	0.53	0.32
Control Delay	41.1	26.4	0.5	49.0	34.3	9.7	47.8	30.1	43.4	25.7	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.1	26.4	0.5	49.0	34.3	9.7	47.8	30.1	43.4	25.7	3.9
Queue Length 50th (ft)	57	13	0	15	25	0	38	95	75	127	0
Queue Length 95th (ft)	160	44	0	68	71	46	132	252	227	328	42
Internal Link Dist (ft)		2884			460			643		452	
Turn Bay Length (ft)	170			140			180		145		
Base Capacity (vph)	1355	819	747	709	781	725	582	2639	698	3012	1787
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.04	0.07	0.05	0.07	0.16	0.15	0.26	0.25	0.32	0.22

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	55	85	31	103	88	139	667	101	845	72
v/c Ratio	0.16	0.18	0.17	0.16	0.24	0.33	0.38	0.26	0.57	0.09
Control Delay	36.2	11.9	38.2	23.6	6.7	34.5	20.1	35.1	23.1	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.2	11.9	38.2	23.6	6.7	34.5	20.1	35.1	23.1	4.9
Queue Length 50th (ft)	9	8	10	16	0	22	65	16	87	0
Queue Length 95th (ft)	41	49	53	44	29	82	185	64	244	29
Internal Link Dist (ft)		786		1093			2183		643	
Turn Bay Length (ft)	190		190			140		180		
Base Capacity (vph)	1204	970	630	1970	912	1204	3439	1204	3501	1185
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.09	0.05	0.05	0.10	0.12	0.19	0.08	0.24	0.06

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	230	341	77	583	154	279	580	90	196	180
v/c Ratio	0.69	0.28	0.47	0.71	0.32	0.75	0.57	0.51	0.37	0.27
Control Delay	50.4	22.9	56.4	41.2	8.7	53.9	35.2	56.1	40.1	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	22.9	56.4	41.2	8.7	53.9	35.2	56.1	40.1	14.2
Queue Length 50th (ft)	130	70	45	167	3	160	166	52	57	50
Queue Length 95th (ft)	259	137	113	302	60	#424	285	126	105	102
Internal Link Dist (ft)		2001		2146			961		2183	
Turn Bay Length (ft)	100		170		200	150		180		
Base Capacity (vph)	558	1471	372	1118	601	372	1477	372	1491	855
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.23	0.21	0.52	0.26	0.75	0.39	0.24	0.13	0.21

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	34	194	133	24	248	45	332	319	32	164
v/c Ratio	0.23	0.26	0.31	0.17	0.39	0.13	0.54	0.19	0.21	0.28
Control Delay	41.8	27.4	8.4	42.0	30.7	3.9	27.3	13.6	41.8	27.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	27.4	8.4	42.0	30.7	3.9	27.3	13.6	41.8	27.1
Queue Length 50th (ft)	14	32	0	10	52	0	117	46	13	31
Queue Length 95th (ft)	55	92	50	43	116	13	312	97	53	71
Internal Link Dist (ft)		2146			1997			3484		1272
Turn Bay Length (ft)	160		70	150		70	200		190	
Base Capacity (vph)	762	2032	952	762	2032	927	762	2067	784	2042
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.10	0.14	0.03	0.12	0.05	0.44	0.15	0.04	0.08

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	164	129	25	91	39	16
v/c Ratio	0.17	0.19	0.02	0.08	0.08	0.02
Control Delay	10.3	1.7	14.1	0.9	16.5	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.3	1.7	14.1	0.9	16.5	7.7
Queue Length 50th (ft)	12	0	2	0	3	1
Queue Length 95th (ft)	22	8	9	5	13	10
Internal Link Dist (ft)	1668		764			205
Turn Bay Length (ft)				65	50	
Base Capacity (vph)	2959	1477	2955	1501	2947	1845
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.09	0.01	0.06	0.01	0.01

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	27	202	4	19	387	27	53	34	6	31
v/c Ratio	0.12	0.10	0.00	0.09	0.20	0.03	0.35	0.10	0.02	0.09
Control Delay	35.3	17.8	0.0	35.9	19.5	0.1	20.5	25.2	25.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	17.8	0.0	35.9	19.5	0.1	20.5	25.2	25.5	0.5
Queue Length 50th (ft)	6	18	0	4	38	0	4	7	1	0
Queue Length 95th (ft)	48	98	0	38	182	0	45	43	14	0
Internal Link Dist (ft)		1997			1309		113		677	
Turn Bay Length (ft)	320		100	140		100		200		
Base Capacity (vph)	1219	2931	1324	1219	2931	1324	449	1219	1283	1116
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.07	0.00	0.02	0.13	0.02	0.12	0.03	0.00	0.03

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	8	80	493	291	69	769	165	104	1079
v/c Ratio	0.12	0.50	0.83	0.54	0.56	0.41	0.19	0.66	0.37
Control Delay	68.6	30.5	62.7	16.0	79.2	21.4	10.7	80.4	18.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.6	30.5	62.7	16.0	79.2	21.4	10.7	80.4	18.4
Queue Length 50th (ft)	7	14	218	0	62	207	36	93	191
Queue Length 95th (ft)	26	67	252	114	111	323	95	152	284
Internal Link Dist (ft)		117		450		252			761
Turn Bay Length (ft)			260		240		90	200	
Base Capacity (vph)	375	405	728	545	197	1892	872	202	2883
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.20	0.68	0.53	0.35	0.41	0.19	0.51	0.37

Intersection Summary

Lane Group	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1337	195	196	977
v/c Ratio	0.48	0.15	0.80	0.28
Control Delay	5.2	0.6	80.7	0.2
Queue Delay	0.3	0.9	0.0	0.1
Total Delay	5.5	1.5	80.7	0.3
Queue Length 50th (ft)	300	0	175	0
Queue Length 95th (ft)	73	0	253	0
Internal Link Dist (ft)	119			398
Turn Bay Length (ft)			340	
Base Capacity (vph)	2762	1277	319	3505
Starvation Cap Reductn	746	837	0	0
Spillback Cap Reductn	0	0	0	1033
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.66	0.44	0.61	0.40

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	319	150	281	281	341	787	169	101	883
v/c Ratio	0.51	0.44	0.78	0.73	0.73	0.33	0.17	0.66	0.43
Control Delay	52.7	52.4	49.7	71.3	17.3	27.1	6.5	80.5	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.2	0.0	0.0	4.6	1.0
Total Delay	52.7	52.4	49.7	71.3	17.4	27.1	6.5	85.1	20.0
Queue Length 50th (ft)	139	125	171	129	14	157	19	91	214
Queue Length 95th (ft)	154	162	231	174	116	273	74	150	387
Internal Link Dist (ft)		1417				541			119
Turn Bay Length (ft)	1000		600	140			75	60	
Base Capacity (vph)	1068	579	547	485	501	2360	1059	212	2064
Starvation Cap Reductn	0	0	0	0	0	0	0	61	846
Spillback Cap Reductn	0	0	0	0	9	160	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.26	0.51	0.58	0.69	0.36	0.16	0.67	0.72

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	200	79	76	855	982	318
v/c Ratio	0.26	0.19	0.21	0.30	0.63	0.24
Control Delay	22.8	7.3	34.1	7.5	17.0	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.8	7.3	34.1	7.5	17.0	0.7
Queue Length 50th (ft)	31	0	12	43	134	0
Queue Length 95th (ft)	74	32	46	126	321	11
Internal Link Dist (ft)	1668			931	541	
Turn Bay Length (ft)			130			
Base Capacity (vph)	1862	882	1835	4803	2633	1490
Starvation Cap Reductn	0	0	0	0	14	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.09	0.04	0.18	0.37	0.21

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	221	80	151	737	753	243
v/c Ratio	0.31	0.20	0.51	0.35	0.60	0.25
Control Delay	24.0	7.7	34.7	7.9	20.6	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.0	7.7	34.7	7.9	20.6	1.3
Queue Length 50th (ft)	35	0	48	55	107	0
Queue Length 95th (ft)	80	30	146	156	257	16
Internal Link Dist (ft)	1309			1278	931	
Turn Bay Length (ft)		100	330			100
Base Capacity (vph)	1717	820	878	3341	2626	1330
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.10	0.17	0.22	0.29	0.18

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	95	259	95	517	124	596	114	119	573	83
v/c Ratio	0.47	0.31	0.47	0.62	0.53	0.61	0.23	0.52	0.59	0.17
Control Delay	49.3	26.8	49.3	33.0	48.3	31.6	8.6	48.5	31.6	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.3	26.8	49.3	33.0	48.3	31.6	8.6	48.5	31.6	8.7
Queue Length 50th (ft)	49	52	49	122	64	146	4	61	140	2
Queue Length 95th (ft)	123	111	123	230	150	261	49	145	251	40
Internal Link Dist (ft)		3484		721		1028			1278	
Turn Bay Length (ft)	200		150		190		190	130		190
Base Capacity (vph)	626	1216	626	1214	626	1880	869	626	1880	857
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.21	0.15	0.43	0.20	0.32	0.13	0.19	0.30	0.10

Intersection Summary

Lane Group	EBT	WBT	NBL	NBT	NBR	SBR
Lane Group Flow (vph)	289	530	142	144	25	3
v/c Ratio	0.13	0.23	0.57	0.58	0.08	0.01
Control Delay	8.2	5.6	36.2	36.4	0.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.2	5.6	36.2	36.4	0.5	0.0
Queue Length 50th (ft)	29	33	61	62	0	0
Queue Length 95th (ft)	136	94	107	108	0	0
Internal Link Dist (ft)	450	555		317		
Turn Bay Length (ft)					120	
Base Capacity (vph)	2234	2278	547	548	578	406
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.23	0.26	0.26	0.04	0.01

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	97	543	113	829	662	564	137	542	634	171
v/c Ratio	0.57	0.50	0.21	1.24	0.46	0.60	0.20	0.41	0.94	0.39
Control Delay	58.9	29.6	9.3	155.9	21.4	4.8	34.7	9.1	64.2	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.9	29.6	9.3	155.9	21.4	4.8	34.7	9.1	64.2	8.0
Queue Length 50th (ft)	66	156	13	~378	161	0	40	60	226	0
Queue Length 95th (ft)	116	210	53	#500	233	72	67	104	#334	55
Internal Link Dist (ft)		1391			914					
Turn Bay Length (ft)	250		50	275			250	230	500	500
Base Capacity (vph)	340	1076	535	671	1430	934	687	1330	687	447
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.50	0.21	1.24	0.46	0.60	0.20	0.41	0.92	0.38

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	644	831	200	49	579	153	130	499	166	365	1320
v/c Ratio	1.01	0.63	0.28	0.40	0.72	0.34	0.64	0.55	0.73	0.68	0.98
Control Delay	85.0	32.6	5.0	62.5	44.9	12.0	62.8	37.0	66.6	44.1	36.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.0	32.6	5.0	62.5	44.9	12.0	62.8	37.0	66.6	44.1	36.5
Queue Length 50th (ft)	227	247	0	32	192	16	86	148	109	222	253
Queue Length 95th (ft)	#491	407	54	84	300	76	175	243	221	402	#527
Internal Link Dist (ft)		914			2001			1265		3471	
Turn Bay Length (ft)	300		360	100		30	150		160		
Base Capacity (vph)	635	1364	733	322	1257	633	483	1210	322	534	1351
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.61	0.27	0.15	0.46	0.24	0.27	0.41	0.52	0.68	0.98

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	684	203	1308	501	69	886
v/c Ratio	0.88	0.34	0.72	0.37	0.43	0.38
Control Delay	51.6	21.4	11.7	0.5	50.1	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.6	21.4	11.7	0.5	50.1	8.2
Queue Length 50th (ft)	217	82	130	0	42	121
Queue Length 95th (ft)	#310	132	218	m0	83	155
Internal Link Dist (ft)	741		655			394
Turn Bay Length (ft)	350	500		180	200	
Base Capacity (vph)	793	725	1812	1357	297	2330
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.28	0.72	0.37	0.23	0.38

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	813	429	1421	912	122	1490
v/c Ratio	1.03	0.67	0.81	0.74	0.59	0.44
Control Delay	77.4	29.0	26.1	7.5	52.3	4.7
Queue Delay	0.0	0.0	3.1	0.2	0.0	0.0
Total Delay	77.4	29.0	29.2	7.7	52.3	4.7
Queue Length 50th (ft)	~286	210	386	106	61	58
Queue Length 95th (ft)	#404	304	514	256	m94	67
Internal Link Dist (ft)	678		452			142
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	793	693	1758	1238	262	3374
Starvation Cap Reductn	0	0	237	41	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.62	0.93	0.76	0.47	0.44

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	654	170	263	36	86	273	195	1550	218	1167	648
v/c Ratio	0.85	0.28	0.38	0.35	0.38	0.63	0.79	0.95	0.78	0.67	0.49
Control Delay	58.6	33.6	5.3	71.8	55.2	12.4	76.9	54.2	71.7	39.6	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	58.6	33.6	5.3	71.8	55.2	12.4	76.9	54.2	71.7	39.7	6.7
Queue Length 50th (ft)	245	104	0	28	65	0	148	425	164	280	22
Queue Length 95th (ft)	#517	184	60	78	122	76	#306	#855	318	493	96
Internal Link Dist (ft)		2884			460			643		452	
Turn Bay Length (ft)	170			140			180		145		
Base Capacity (vph)	835	615	691	437	490	612	358	1640	430	1857	1378
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	120	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.28	0.38	0.08	0.18	0.45	0.54	0.95	0.51	0.67	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	231	382	92	311	317	295	1363	351	1025	71
v/c Ratio	0.62	0.81	0.56	0.37	0.52	0.69	0.83	0.74	0.58	0.10
Control Delay	58.7	50.4	66.5	38.4	7.6	58.6	41.3	59.5	33.8	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.7	50.4	66.5	38.4	7.6	58.6	41.3	59.5	33.8	4.9
Queue Length 50th (ft)	87	242	67	103	3	110	332	131	221	0
Queue Length 95th (ft)	148	394	140	157	76	184	#555	217	365	29
Internal Link Dist (ft)		786		1093			2183		643	
Turn Bay Length (ft)	190		190			140		180		
Base Capacity (vph)	615	535	322	1031	674	615	1804	615	1880	853
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.71	0.29	0.30	0.47	0.48	0.76	0.57	0.55	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	316	761	107	413	184	60	665	200	583	277
v/c Ratio	0.81	0.73	0.58	0.65	0.43	0.44	0.75	0.75	0.47	0.27
Control Delay	60.3	40.3	65.1	49.2	9.6	65.9	44.7	67.4	31.7	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.3	40.3	65.1	49.2	9.6	65.9	44.7	67.4	31.7	2.1
Queue Length 50th (ft)	218	253	77	151	0	43	238	141	178	0
Queue Length 95th (ft)	#440	396	156	234	63	101	352	#307	284	38
Internal Link Dist (ft)		2001		2146			961		2183	
Turn Bay Length (ft)	100		170		200	150		180		
Base Capacity (vph)	493	1306	329	992	564	329	1301	329	1375	1096
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.58	0.33	0.42	0.33	0.18	0.51	0.61	0.42	0.25

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	107	351	316	33	275	105	226	524	91	625
v/c Ratio	0.50	0.37	0.56	0.26	0.46	0.32	0.66	0.38	0.46	0.62
Control Delay	50.6	31.7	18.0	52.1	39.1	16.2	46.2	21.9	51.0	32.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.6	31.7	18.0	52.1	39.1	16.2	46.2	21.9	51.0	32.3
Queue Length 50th (ft)	55	87	56	17	72	10	114	108	47	153
Queue Length 95th (ft)	142	173	185	60	150	66	252	203	126	288
Internal Link Dist (ft)		2146			1997			3484		1272
Turn Bay Length (ft)	160		70	150		70	200		190	
Base Capacity (vph)	614	1638	826	614	1638	764	614	1681	633	1659
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.21	0.38	0.05	0.17	0.14	0.37	0.31	0.14	0.38

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	257	291	59	289	281	72
v/c Ratio	0.31	0.34	0.07	0.31	0.44	0.07
Control Delay	17.0	2.5	14.3	1.5	21.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	2.5	14.3	1.5	21.5	5.9
Queue Length 50th (ft)	23	0	5	0	27	7
Queue Length 95th (ft)	82	37	21	18	102	28
Internal Link Dist (ft)	1668		764			205
Turn Bay Length (ft)				65	50	
Base Capacity (vph)	2384	1367	2466	1379	2384	1773
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.21	0.02	0.21	0.12	0.04

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	59	367	14	25	322	84	58	136	8	37
v/c Ratio	0.31	0.23	0.02	0.14	0.24	0.13	0.43	0.36	0.02	0.08
Control Delay	40.5	21.0	0.1	39.0	23.7	3.8	29.5	27.1	24.8	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.5	21.0	0.1	39.0	23.7	3.8	29.5	27.1	24.8	0.4
Queue Length 50th (ft)	19	43	0	8	50	0	12	41	2	0
Queue Length 95th (ft)	#107	167	0	46	148	22	59	127	16	0
Internal Link Dist (ft)		1997			1309		113		677	
Turn Bay Length (ft)	320		100	140		100				200
Base Capacity (vph)	198	1752	842	198	1752	842	388	1067	1123	1001
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.21	0.02	0.13	0.18	0.10	0.15	0.13	0.01	0.04

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	29	198	517	281	93	1160	425	91	862
v/c Ratio	0.34	0.72	0.84	0.61	0.63	0.63	0.49	0.63	0.33
Control Delay	74.4	30.0	63.1	28.9	80.3	27.9	19.2	80.1	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.4	30.0	63.1	28.9	80.3	27.9	19.2	80.1	21.3
Queue Length 50th (ft)	26	34	244	87	83	379	167	82	158
Queue Length 95th (ft)	60	113	247	154	139	586	337	138	245
Internal Link Dist (ft)		117		450		252			761
Turn Bay Length (ft)			260		240		90	200	
Base Capacity (vph)	375	478	728	469	199	1840	867	199	2634
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.41	0.71	0.60	0.47	0.63	0.49	0.46	0.33

Intersection Summary

Lane Group	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1900	429	136	1051
v/c Ratio	0.66	0.33	0.72	0.30
Control Delay	6.0	0.6	80.0	0.2
Queue Delay	16.6	1.6	0.0	0.2
Total Delay	22.7	2.2	80.0	0.4
Queue Length 50th (ft)	128	0	122	0
Queue Length 95th (ft)	174	m10	187	0
Internal Link Dist (ft)	119			398
Turn Bay Length (ft)			340	
Base Capacity (vph)	2873	1314	319	3505
Starvation Cap Reductn	1011	685	0	0
Spillback Cap Reductn	0	0	0	1408
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.02	0.68	0.43	0.50

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	567	464	413	312	344	1408	380	115	896
v/c Ratio	0.57	0.86	0.80	0.76	0.88	0.81	0.48	0.71	0.54
Control Delay	44.2	63.5	47.1	71.4	42.5	47.0	17.4	82.8	28.8
Queue Delay	0.2	0.0	0.0	0.0	2.8	1.4	0.0	10.5	3.7
Total Delay	44.5	63.5	47.1	71.4	45.3	48.5	17.4	93.3	32.4
Queue Length 50th (ft)	219	387	267	143	105	444	145	103	314
Queue Length 95th (ft)	278	#529	402	191	#258	#593	245	167	395
Internal Link Dist (ft)		1417				541			119
Turn Bay Length (ft)	1000		600	140			75	60	
Base Capacity (vph)	1069	579	550	485	422	1748	824	212	1657
Starvation Cap Reductn	0	0	0	0	0	0	0	69	651
Spillback Cap Reductn	98	0	0	0	27	170	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.80	0.75	0.64	0.87	0.89	0.46	0.80	0.89

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	591	200	130	1196	969	540
v/c Ratio	0.56	0.32	0.39	0.43	0.69	0.40
Control Delay	26.8	5.3	42.1	11.8	24.0	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	26.8	5.3	42.1	11.8	24.0	1.3
Queue Length 50th (ft)	128	0	32	126	214	0
Queue Length 95th (ft)	221	49	72	189	334	16
Internal Link Dist (ft)	1668			931	541	
Turn Bay Length (ft)			130			
Base Capacity (vph)	1324	723	1299	4608	2008	1426
Starvation Cap Reductn	0	0	0	0	0	240
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.28	0.10	0.26	0.48	0.46

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	328	235	292	930	958	210
v/c Ratio	0.50	0.48	0.73	0.40	0.71	0.22
Control Delay	36.2	8.6	44.2	7.1	26.6	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.2	8.6	44.2	7.1	26.6	2.6
Queue Length 50th (ft)	81	0	144	101	219	8
Queue Length 95th (ft)	155	65	287	170	381	38
Internal Link Dist (ft)	1309			1278	931	
Turn Bay Length (ft)		100	330			100
Base Capacity (vph)	1248	724	643	3090	1930	1209
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.32	0.45	0.30	0.50	0.17

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	568	53	652	156	864	53	200	888	84
v/c Ratio	0.49	0.61	0.41	0.72	0.66	0.74	0.09	0.71	0.70	0.14
Control Delay	65.4	39.5	65.0	42.2	62.7	38.6	3.3	61.1	35.3	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.4	39.5	65.0	42.2	62.7	38.6	3.3	61.1	35.3	8.1
Queue Length 50th (ft)	54	184	38	213	112	300	0	143	297	4
Queue Length 95th (ft)	114	295	90	#345	202	432	17	246	426	41
Internal Link Dist (ft)		3484		721		1028			1278	
Turn Bay Length (ft)	200		150		190		190	130		190
Base Capacity (vph)	491	996	491	969	491	1475	691	491	1513	706
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.57	0.11	0.67	0.32	0.59	0.08	0.41	0.59	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBR
Lane Group Flow (vph)	594	404	227	229	33	12
v/c Ratio	0.30	0.19	0.62	0.62	0.08	0.04
Control Delay	10.9	8.5	30.9	31.0	0.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.9	8.5	30.9	31.0	0.4	0.3
Queue Length 50th (ft)	124	30	95	96	0	0
Queue Length 95th (ft)	253	98	129	130	0	0
Internal Link Dist (ft)	450	555		317		
Turn Bay Length (ft)					120	
Base Capacity (vph)	1975	2143	561	562	583	371
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.19	0.40	0.41	0.06	0.03

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	40	354	56	1006	482	484	215	927	646	79
v/c Ratio	0.31	0.67	0.18	1.04	0.33	0.54	0.27	0.54	0.82	0.18
Control Delay	45.4	41.2	4.4	70.6	16.9	4.3	27.5	5.3	41.0	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.4	41.2	4.4	70.6	16.9	4.3	27.5	5.3	41.0	3.2
Queue Length 50th (ft)	22	100	0	~323	97	0	49	57	176	0
Queue Length 95th (ft)	55	146	16	#487	144	60	86	127	#286	17
Internal Link Dist (ft)		1391			914					
Turn Bay Length (ft)	250		50	275			250	230	500	500
Base Capacity (vph)	499	1166	573	970	1443	896	808	1715	808	455
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.30	0.10	1.04	0.33	0.54	0.27	0.54	0.80	0.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	1065	789	71	39	666	220	95	594	184	277	1213
v/c Ratio	1.71	0.53	0.10	0.35	0.74	0.44	0.57	0.74	0.74	0.52	0.88
Control Delay	357.6	28.0	0.6	63.1	44.3	18.8	64.6	46.4	66.1	38.8	20.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	357.6	28.0	0.6	63.1	44.3	18.8	64.6	46.4	66.1	38.8	20.5
Queue Length 50th (ft)	~603	238	0	28	235	56	68	208	130	169	171
Queue Length 95th (ft)	#840	342	3	69	323	134	132	301	228	287	#331
Internal Link Dist (ft)		914			2001			1265		3471	
Turn Bay Length (ft)	300		360	100		30	150		160		
Base Capacity (vph)	622	1497	741	315	1232	631	473	1191	315	551	1401
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.71	0.53	0.10	0.12	0.54	0.35	0.20	0.50	0.58	0.50	0.87

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1029	259	948	646	69	942
v/c Ratio	1.30	0.41	0.53	0.49	0.43	0.41
Control Delay	176.6	19.1	6.9	1.3	50.1	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	176.6	19.1	6.9	1.3	50.1	8.5
Queue Length 50th (ft)	~434	91	48	0	42	131
Queue Length 95th (ft)	#559	149	83	m0	83	168
Internal Link Dist (ft)	741		655			394
Turn Bay Length (ft)	350	500		180	200	
Base Capacity (vph)	793	755	1795	1310	297	2313
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.30	0.34	0.53	0.49	0.23	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	881	157	1492	984	111	1871
v/c Ratio	1.11	0.25	0.84	0.79	0.56	0.55
Control Delay	103.8	18.9	27.5	9.0	48.7	5.2
Queue Delay	0.0	0.0	5.9	0.3	0.0	0.0
Total Delay	103.8	18.9	33.4	9.3	48.7	5.2
Queue Length 50th (ft)	~332	59	414	119	56	61
Queue Length 95th (ft)	#454	100	#605	317	m62	m57
Internal Link Dist (ft)	678		452			142
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	793	692	1774	1253	262	3374
Starvation Cap Reductn	0	0	237	37	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.11	0.23	0.97	0.81	0.42	0.55

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	718	223	324	80	133	325	281	1620	279	1378	856
v/c Ratio	0.95	0.42	0.48	0.58	0.52	0.70	0.89	1.05	0.87	0.88	0.66
Control Delay	74.6	42.4	6.2	79.4	61.2	16.4	84.5	83.3	80.0	52.3	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0
Total Delay	74.6	42.4	6.2	79.4	61.2	16.4	84.5	83.3	80.0	53.0	13.0
Queue Length 50th (ft)	308	158	0	67	109	24	232	~552	228	404	82
Queue Length 95th (ft)	#592	252	70	141	177	117	#521	#912	#455	#650	207
Internal Link Dist (ft)		2884			460			643		452	
Turn Bay Length (ft)	170			140			180		145		
Base Capacity (vph)	757	532	673	396	446	596	325	1538	390	1683	1334
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	91	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.42	0.48	0.20	0.30	0.55	0.86	1.05	0.72	0.87	0.64

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	239	481	133	416	399	414	1549	529	1266	115
v/c Ratio	0.67	1.04	0.70	0.46	0.64	0.84	0.98	0.97	0.74	0.16
Control Delay	64.4	96.1	73.7	41.8	14.9	69.3	59.5	85.7	41.2	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.4	96.1	73.7	41.8	14.9	69.3	59.5	85.7	41.2	10.0
Queue Length 50th (ft)	95	~414	103	150	58	164	435	217	326	21
Queue Length 95th (ft)	153	#615	187	211	172	#281	#690	#403	473	65
Internal Link Dist (ft)		786		1093			2183		643	
Turn Bay Length (ft)	190		190			140		180		
Base Capacity (vph)	543	472	284	918	632	543	1587	543	1707	805
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	1.02	0.47	0.45	0.63	0.76	0.98	0.97	0.74	0.14

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	455	650	104	559	267	97	740	171	456	291
v/c Ratio	1.06	0.53	0.62	0.78	0.50	0.61	0.82	0.77	0.44	0.29
Control Delay	107.1	35.4	72.6	55.8	8.6	72.8	51.5	76.7	37.4	5.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	107.1	35.4	72.6	55.8	8.6	72.8	51.5	76.7	37.4	5.3
Queue Length 50th (ft)	~433	221	85	231	0	79	301	139	158	31
Queue Length 95th (ft)	#721	330	152	320	76	144	395	#234	226	86
Internal Link Dist (ft)		2001		2146			961		2183	
Turn Bay Length (ft)	100		170		200	150		180		
Base Capacity (vph)	428	1223	285	857	585	285	1131	285	1180	1000
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.06	0.53	0.36	0.65	0.46	0.34	0.65	0.60	0.39	0.29

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	173	331	236	31	372	175	264	690	99	620
v/c Ratio	0.66	0.30	0.39	0.28	0.57	0.46	0.73	0.55	0.53	0.67
Control Delay	59.1	31.5	14.6	62.9	45.8	23.9	55.6	29.9	62.0	39.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.1	31.5	14.6	62.9	45.8	23.9	55.6	29.9	62.0	39.9
Queue Length 50th (ft)	112	94	42	20	122	43	167	189	65	192
Queue Length 95th (ft)	231	168	133	64	219	134	335	327	149	326
Internal Link Dist (ft)		2146			1997			3484		1272
Turn Bay Length (ft)	160		70	150		70	200		190	
Base Capacity (vph)	518	1399	710	518	1381	679	518	1472	533	1384
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.24	0.33	0.06	0.27	0.26	0.51	0.47	0.19	0.45

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	497	386	71	348	324	89
v/c Ratio	0.46	0.38	0.11	0.33	0.47	0.10
Control Delay	14.5	1.6	19.2	2.5	19.4	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.5	1.6	19.2	2.5	19.4	8.2
Queue Length 50th (ft)	52	0	8	9	39	12
Queue Length 95th (ft)	98	18	26	39	79	37
Internal Link Dist (ft)	1668		764			205
Turn Bay Length (ft)				65	50	
Base Capacity (vph)	2218	1447	2287	1454	2218	1845
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.27	0.03	0.24	0.15	0.05

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	67	354	3	22	465	139	57	142	8	61
v/c Ratio	0.33	0.26	0.00	0.14	0.43	0.26	0.63	0.42	0.02	0.16
Control Delay	42.2	21.0	0.0	44.0	27.0	13.3	53.1	34.3	30.3	5.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	21.0	0.0	44.0	27.0	13.3	53.1	34.3	30.3	5.1
Queue Length 50th (ft)	26	44	0	8	83	14	13	52	3	0
Queue Length 95th (ft)	98	163	0	45	226	85	70	153	18	21
Internal Link Dist (ft)		1997			1309		113		677	
Turn Bay Length (ft)	320		100	140		100		200		
Base Capacity (vph)	853	2398	1098	853	2398	1102	223	853	898	806
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.15	0.00	0.03	0.19	0.13	0.26	0.17	0.01	0.08

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	66	265	633	351	134	926	336	103	1049
v/c Ratio	0.55	0.79	0.91	0.76	0.71	0.57	0.43	0.66	0.47
Control Delay	79.0	36.3	65.9	45.1	79.3	31.3	19.9	80.1	30.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.0	36.3	65.9	45.1	79.3	31.3	19.9	80.1	30.1
Queue Length 50th (ft)	59	75	293	229	120	320	127	92	243
Queue Length 95th (ft)	108	166	#375	207	185	478	261	151	351
Internal Link Dist (ft)		117		450		252			761
Turn Bay Length (ft)			260		240		90	200	
Base Capacity (vph)	375	493	728	459	215	1631	779	202	2249
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.54	0.87	0.76	0.62	0.57	0.43	0.51	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1979	385	147	1336
v/c Ratio	0.69	0.30	0.73	0.38
Control Delay	6.1	0.4	80.0	0.3
Queue Delay	47.7	2.0	0.0	0.6
Total Delay	53.8	2.4	80.0	0.9
Queue Length 50th (ft)	148	0	131	0
Queue Length 95th (ft)	m141	m3	198	0
Internal Link Dist (ft)	119			398
Turn Bay Length (ft)			340	
Base Capacity (vph)	2852	1301	319	3505
Starvation Cap Reductn	1073	744	0	0
Spillback Cap Reductn	0	0	0	1606
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.11	0.69	0.46	0.70

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	514	226	522	470	492	1286	450	162	1132
v/c Ratio	0.49	0.40	0.97	0.97	1.14	0.87	0.58	0.84	0.74
Control Delay	41.3	40.5	70.4	93.1	113.5	55.0	19.5	92.2	36.7
Queue Delay	0.1	0.0	0.0	0.0	0.6	3.4	0.0	66.4	31.5
Total Delay	41.4	40.5	70.4	93.1	114.1	58.4	19.5	158.6	68.2
Queue Length 50th (ft)	194	161	398	222	~320	419	181	145	452
Queue Length 95th (ft)	250	238	#633	#334	#545	#508	288	#254	540
Internal Link Dist (ft)		1417				541			119
Turn Bay Length (ft)	1000		600	140			75	60	
Base Capacity (vph)	1068	579	550	485	432	1474	772	212	1527
Starvation Cap Reductn	0	0	0	0	0	0	0	88	455
Spillback Cap Reductn	75	0	0	0	27	117	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.39	0.95	0.97	1.21	0.95	0.58	1.31	1.06

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	739	200	143	1042	993	868
v/c Ratio	0.64	0.31	0.44	0.39	0.73	0.68
Control Delay	28.8	5.1	44.2	12.5	26.6	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	5.1	44.2	12.5	26.6	4.4
Queue Length 50th (ft)	173	0	39	117	241	36
Queue Length 95th (ft)	287	50	78	160	348	92
Internal Link Dist (ft)	1668			931	541	
Turn Bay Length (ft)			130			
Base Capacity (vph)	1212	679	1186	4489	1834	1297
Starvation Cap Reductn	0	0	0	0	13	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.29	0.12	0.23	0.55	0.67

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	353	257	402	797	820	309
v/c Ratio	0.53	0.50	0.79	0.34	0.70	0.35
Control Delay	37.3	8.2	45.0	7.1	30.6	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.3	8.2	45.0	7.1	30.6	6.3
Queue Length 50th (ft)	97	0	208	88	222	47
Queue Length 95th (ft)	162	66	#466	155	328	87
Internal Link Dist (ft)	1309			1278	931	
Turn Bay Length (ft)		100	330			100
Base Capacity (vph)	1157	703	596	2998	1790	1094
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.37	0.67	0.27	0.46	0.28

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	72	518	34	646	193	801	21	174	789	77
v/c Ratio	0.47	0.50	0.30	0.71	0.68	0.69	0.04	0.66	0.70	0.14
Control Delay	62.2	33.1	61.5	38.8	57.9	35.6	0.1	58.5	36.8	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.2	33.1	61.5	38.8	57.9	35.6	0.1	58.5	36.8	7.6
Queue Length 50th (ft)	50	148	24	191	132	262	0	119	262	1
Queue Length 95th (ft)	111	255	65	326	238	381	0	218	382	37
Internal Link Dist (ft)		3484		721		1028			1278	
Turn Bay Length (ft)	200		150		190		190	130		190
Base Capacity (vph)	520	1126	520	1030	520	1570	744	520	1562	726
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.46	0.07	0.63	0.37	0.51	0.03	0.33	0.51	0.11

Intersection Summary

Lane Group	EBT	WBT	NBL	NBT	NBR	SBR
Lane Group Flow (vph)	604	490	280	276	42	25
v/c Ratio	0.37	0.25	0.69	0.67	0.09	0.10
Control Delay	14.0	10.6	32.0	31.4	0.9	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.0	10.6	32.0	31.4	0.9	0.8
Queue Length 50th (ft)	161	43	115	113	0	0
Queue Length 95th (ft)	236	115	155	153	3	0
Internal Link Dist (ft)	450	555		317		
Turn Bay Length (ft)					120	
Base Capacity (vph)	1647	1964	561	562	582	310
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.25	0.50	0.49	0.07	0.08

Intersection Summary

Appendix J

Year 2026 Background Conditions
Freeway Mainline Analysis
HCS Output Sheets

HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	AM
Project Description	SR-60 EB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4294	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1276
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	74.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.1
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

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Jurisdiction		Time Analyzed	PM
Project Description	SR-60 EB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6374	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1797
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.75
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	26.4
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 EB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6043	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1721
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.72
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

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Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	AM
Project Description	SR-60 WB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3996	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1600
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Project Description	SR-60 WB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4014	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1540
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.64
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.4
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

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Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 WB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4259	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1687
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.1
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

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Jurisdiction		Time Analyzed	AM
Project Description	SR-60 EB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3734	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.91	Flow Rate (V_p), pc/h/ln	1511
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	20.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

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Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	PM
Project Description	SR-60 EB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4465	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1713
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.71
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.6
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 EB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4529	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1738
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.72
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	AM
Project Description	SR-60 WB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3109	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1193
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	74.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	PM
Project Description	SR-60 WB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3799	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1428
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	73.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 WB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4051	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	1.00	Flow Rate (V_p), pc/h/ln	1492
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.62
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	20.6
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	AM
Project Description	1. I-215 NB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2628	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.91	Flow Rate (V_p), pc/h/ln	1103
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.7
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	PM
Project Description	1. I-215 NB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3294	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1352
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	73.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.3
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	Sat Mid
Project Description	1. I-215 NB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3625	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1442
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	73.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.7
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	AM
Project Description	1. I-215 SB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4171	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1027
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.6
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	PM
Project Description	1. I-215 SB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4004	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	976
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	Sat
Project Description	1. I-215 SB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4572	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1080
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.3
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	AM
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3157	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1296
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	74.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.4
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	PM
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3180	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1278
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	74.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	Sat Mid
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3530	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1404
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	73.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.1
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	AM
Project Description	I-215 SB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3760	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1561
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.65
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	PM
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3905	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1570
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.65
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Background
Jurisdiction		Time Analyzed	Sat Mid
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4413	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1793
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.75
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	26.3
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Appendix K

Year 2026 Total Traffic Conditions Intersection Operations Worksheets

HCM 6th Signalized Intersection Summary
101: I-215 Ramp & Eucalyptus Ave

03/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	248	46	494	604	304	357	0	400	383	0	59
Future Volume (veh/h)	52	248	46	494	604	304	357	0	400	383	0	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1565	1565	1565	1565	1565	1565	1565	0	1565	1565	0	1565
Adj Flow Rate, veh/h	53	251	0	499	610	0	361	0	404	387	0	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	0	3	3	0	3
Cap, veh/h	65	1402		560	1849		455	0	0	455	0	
Arrive On Green	0.04	0.47	0.00	0.19	0.62	0.00	0.16	0.00	0.00	0.16	0.00	0.00
Sat Flow, veh/h	1491	2974	1327	2892	2974	1327	2892	361		2892	387	
Grp Volume(v), veh/h	53	251	0	499	610	0	361	48.4		387	51.6	
Grp Sat Flow(s),veh/h/ln	1491	1487	1327	1446	1487	1327	1446	D		1446	D	
Q Serve(g_s), s	3.9	5.4	0.0	18.5	10.7	0.0	13.2			14.3		
Cycle Q Clear(g_c), s	3.9	5.4	0.0	18.5	10.7	0.0	13.2			14.3		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	65	1402		560	1849		455			455		
V/C Ratio(X)	0.82	0.18		0.89	0.33		0.79			0.85		
Avail Cap(c_a), veh/h	339	1402		657	1849		684			684		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.67	0.67	0.00	1.00			1.00		
Uniform Delay (d), s/veh	52.2	16.8	0.0	43.2	9.9	0.0	44.6			45.1		
Incr Delay (d2), s/veh	21.3	0.3	0.0	9.2	0.3	0.0	3.8			6.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	1.8	1.8	0.0	7.2	3.3	0.0	5.0			5.5		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.5	17.1	0.0	52.4	10.2	0.0	48.4			51.6		
LnGrp LOS	E	B		D	B		D			D		
Approach Vol, veh/h		304	A		1109	A						
Approach Delay, s/veh		26.9			29.2							
Approach LOS		C			C							

Timer - Assigned Phs	1	2	3		5	6	7
Phs Duration (G+Y+Rc), s	27.8	59.9	22.3		11.3	76.4	22.3
Change Period (Y+Rc), s	6.5	8.0	5.0		6.5	8.0	5.0
Max Green Setting (Gmax), s	25.0	39.5	26.0		25.0	39.5	26.0
Max Q Clear Time (g_c+I1), s	20.5	7.4	15.2		5.9	12.7	16.3
Green Ext Time (p_c), s	0.8	1.6	1.0		0.1	4.3	1.0

Intersection Summary			
HCM 6th Ctrl Delay			36.1
HCM 6th LOS			D

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	659	376	74	37	646	135	203	292	83	47	65	406
Future Volume (veh/h)	659	376	74	37	646	135	203	292	83	47	65	406
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	709	404	80	40	695	145	218	314	89	51	70	437
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	741	1625	725	60	895	399	253	790	220	68	353	527
Arrive On Green	0.20	0.43	0.43	0.03	0.25	0.25	0.14	0.29	0.29	0.04	0.19	0.19
Sat Flow, veh/h	3645	3749	1672	1767	3526	1572	1767	2723	759	1767	1856	2768
Grp Volume(v), veh/h	709	404	80	40	695	145	218	201	202	51	70	437
Grp Sat Flow(s),veh/h/ln	1823	1874	1672	1767	1763	1572	1767	1763	1719	1767	1856	1384
Q Serve(g_s), s	18.9	6.7	2.8	2.2	18.0	7.5	11.9	9.0	9.3	2.8	3.1	14.9
Cycle Q Clear(g_c), s	18.9	6.7	2.8	2.2	18.0	7.5	11.9	9.0	9.3	2.8	3.1	14.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	741	1625	725	60	895	399	253	511	499	68	353	527
V/C Ratio(X)	0.96	0.25	0.11	0.67	0.78	0.36	0.86	0.39	0.40	0.76	0.20	0.83
Avail Cap(c_a), veh/h	741	1625	725	359	1326	591	539	537	524	359	566	844
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.8	17.7	16.6	47.0	34.1	30.2	41.2	28.0	28.1	46.9	33.5	38.3
Incr Delay (d2), s/veh	22.8	0.1	0.1	4.8	1.7	0.6	3.4	0.5	0.5	6.2	0.3	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	2.9	1.0	1.0	7.8	2.7	5.1	3.6	3.6	1.3	1.4	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.6	17.8	16.6	51.8	35.8	30.7	44.6	28.5	28.6	53.1	33.8	42.1
LnGrp LOS	E	B	B	D	D	C	D	C	C	D	C	D
Approach Vol, veh/h		1193			880			621			558	
Approach Delay, s/veh		43.7			35.7			34.2			42.1	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.3	48.1	18.1	24.9	25.0	30.4	8.3	34.8
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	4.2	8.7	13.9	16.9	20.9	20.0	4.8	11.3
Green Ext Time (p_c), s	0.0	3.1	0.2	1.8	0.0	5.0	0.0	1.9

Intersection Summary		
HCM 6th Ctrl Delay		39.5
HCM 6th LOS		D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	489	234	535	281	67	609
Future Volume (veh/h)	489	234	535	281	67	609
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	499	239	546	287	68	621
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	620	368	2168	1234	88	2538
Arrive On Green	0.17	0.17	0.20	0.20	0.05	0.72
Sat Flow, veh/h	3645	1672	3618	1572	1767	3618
Grp Volume(v), veh/h	499	239	546	287	68	621
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1572	1767	1763
Q Serve(g_s), s	13.2	13.0	13.0	8.6	3.8	6.0
Cycle Q Clear(g_c), s	13.2	13.0	13.0	8.6	3.8	6.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	620	368	2168	1234	88	2538
V/C Ratio(X)	0.81	0.65	0.25	0.23	0.77	0.24
Avail Cap(c_a), veh/h	838	468	2168	1234	300	2538
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	35.5	20.5	6.7	46.9	4.8
Incr Delay (d2), s/veh	4.2	2.1	0.3	0.4	13.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	5.4	6.2	6.6	2.0	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.1	37.6	20.8	7.1	60.0	5.0
LnGrp LOS	D	D	C	A	E	A
Approach Vol, veh/h	738		833			689
Approach Delay, s/veh	42.0		16.1			10.4
Approach LOS	D		B			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.5	67.0				77.5		22.5
Change Period (Y+Rc), s	5.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	17.0	43.5				66.0		23.0
Max Q Clear Time (g_c+I1), s	5.8	15.0				8.0		15.2
Green Ext Time (p_c), s	0.1	4.7				4.5		1.8

Intersection Summary			
HCM 6th Ctrl Delay			22.8
HCM 6th LOS			C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	531	77	646	396	88	1046
Future Volume (veh/h)	531	77	646	396	88	1046
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	553	80	673	412	92	1090
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	658	413	2126	1232	118	3645
Arrive On Green	0.18	0.18	0.60	0.60	0.07	0.72
Sat Flow, veh/h	3645	1672	3618	1572	1767	5233
Grp Volume(v), veh/h	553	80	673	412	92	1090
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1572	1767	1689
Q Serve(g_s), s	14.7	3.8	9.4	7.7	5.1	7.7
Cycle Q Clear(g_c), s	14.7	3.8	9.4	7.7	5.1	7.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	658	413	2126	1232	118	3645
V/C Ratio(X)	0.84	0.19	0.32	0.33	0.78	0.30
Avail Cap(c_a), veh/h	838	496	2126	1232	265	3645
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.83	0.83	1.00	1.00
Uniform Delay (d), s/veh	39.6	29.8	9.7	3.2	45.9	5.0
Incr Delay (d2), s/veh	6.2	0.2	0.3	0.6	10.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	3.9	3.3	4.5	2.5	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	45.8	30.0	10.1	3.8	56.6	5.2
LnGrp LOS	D	C	B	A	E	A
Approach Vol, veh/h	633		1085			1182
Approach Delay, s/veh	43.8		7.7			9.2
Approach LOS	D		A			A

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.7	65.3		23.0		77.0
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	47.0		23.0		67.0
Max Q Clear Time (g_c+I1), s	17.1	11.4		16.7		9.7
Green Ext Time (p_c), s	0.1	6.7		1.4		9.4

Intersection Summary		
HCM 6th Ctrl Delay		16.2
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	244	33	48	33	54	112	83	651	62	166	933	372
Future Volume (veh/h)	244	33	48	33	54	112	83	651	62	166	933	372
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	260	35	51	35	57	119	88	693	66	177	993	396
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	387	405	342	70	231	194	115	1379	130	228	1809	988
Arrive On Green	0.11	0.22	0.22	0.04	0.12	0.12	0.06	0.29	0.29	0.13	0.36	0.36
Sat Flow, veh/h	3428	1856	1566	1879	1973	1659	1767	4707	445	1767	5066	2765
Grp Volume(v), veh/h	260	35	51	35	57	119	88	496	263	177	993	396
Grp Sat Flow(s),veh/h/ln	1714	1856	1566	1879	1973	1659	1767	1689	1775	1767	1689	1383
Q Serve(g_s), s	4.3	0.9	1.5	1.1	1.5	4.0	2.9	7.2	7.2	5.7	9.2	6.3
Cycle Q Clear(g_c), s	4.3	0.9	1.5	1.1	1.5	4.0	2.9	7.2	7.2	5.7	9.2	6.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	387	405	342	70	231	194	115	990	520	228	1809	988
V/C Ratio(X)	0.67	0.09	0.15	0.50	0.25	0.61	0.77	0.50	0.51	0.78	0.55	0.40
Avail Cap(c_a), veh/h	1748	946	798	958	1006	846	751	2295	1206	901	3443	1880
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.1	18.3	18.6	27.8	23.6	24.7	27.1	17.2	17.3	24.8	15.1	14.2
Incr Delay (d2), s/veh	0.8	0.1	0.2	2.1	0.6	3.1	4.0	0.4	0.8	4.2	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.4	0.5	0.5	0.7	1.6	1.2	2.4	2.6	2.4	3.0	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.8	18.4	18.8	29.9	24.2	27.9	31.1	17.6	18.0	29.1	15.4	14.5
LnGrp LOS	C	B	B	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h		346			211			847			1566	
Approach Delay, s/veh		24.0			27.2			19.2			16.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	22.6	6.2	17.9	8.3	26.4	12.1	12.0
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	30.0	40.0	30.0	30.0	25.0	40.0	30.0	* 30
Max Q Clear Time (g_c+I1), s	7.7	9.2	3.1	3.5	4.9	11.2	6.3	6.0
Green Ext Time (p_c), s	0.3	5.1	0.0	0.3	0.1	9.7	0.5	0.7

Intersection Summary	
HCM 6th Ctrl Delay	19.0
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	31	49	46	98	142	132	592	49	126	803	68
Future Volume (veh/h)	52	31	49	46	98	142	132	592	49	126	803	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	55	33	52	48	103	149	139	623	52	133	845	72
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	184	112	176	92	555	246	294	1435	119	290	1570	572
Arrive On Green	0.05	0.17	0.17	0.05	0.15	0.15	0.09	0.30	0.30	0.08	0.31	0.31
Sat Flow, veh/h	3428	647	1020	1879	3749	1665	3428	4767	395	3428	5066	1572
Grp Volume(v), veh/h	55	0	85	48	103	149	139	440	235	133	845	72
Grp Sat Flow(s),veh/h/ln	1714	0	1668	1879	1874	1665	1714	1689	1784	1714	1689	1572
Q Serve(g_s), s	0.8	0.0	2.2	1.2	1.2	4.2	1.9	5.2	5.3	1.8	6.9	1.5
Cycle Q Clear(g_c), s	0.8	0.0	2.2	1.2	1.2	4.2	1.9	5.2	5.3	1.8	6.9	1.5
Prop In Lane	1.00		0.61	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	184	0	288	92	555	246	294	1017	537	290	1570	572
V/C Ratio(X)	0.30	0.00	0.29	0.52	0.19	0.60	0.47	0.43	0.44	0.46	0.54	0.13
Avail Cap(c_a), veh/h	1381	0	1007	757	2265	1006	1381	2720	1437	1381	4080	1351
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.6	0.0	17.9	23.1	18.5	19.8	21.6	13.9	14.0	21.6	14.2	10.5
Incr Delay (d2), s/veh	0.3	0.0	0.6	1.7	0.2	2.4	0.4	0.3	0.6	0.4	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.8	0.5	0.5	1.6	0.7	1.6	1.8	0.7	2.1	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	0.0	18.5	24.8	18.7	22.2	22.1	14.2	14.5	22.1	14.5	10.6
LnGrp LOS	C	A	B	C	B	C	C	B	B	C	B	B
Approach Vol, veh/h		140			300			814			1050	
Approach Delay, s/veh		20.2			21.4			15.7			15.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	20.4	6.9	13.2	8.8	20.8	8.2	11.9
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	3.8	7.3	3.2	4.2	3.9	8.9	2.8	6.2
Green Ext Time (p_c), s	0.2	4.5	0.0	0.4	0.2	6.5	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	213	272	73	91	591	139	251	482	55	81	180	174
Future Volume (veh/h)	213	272	73	91	591	139	251	482	55	81	180	174
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	237	302	81	101	657	154	279	536	61	90	200	193
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	283	952	251	130	912	404	321	836	95	116	516	482
Arrive On Green	0.16	0.35	0.35	0.07	0.26	0.26	0.18	0.26	0.26	0.07	0.15	0.15
Sat Flow, veh/h	1767	2756	727	1767	3526	1562	1767	3191	362	1767	3526	1572
Grp Volume(v), veh/h	237	191	192	101	657	154	279	295	302	90	200	193
Grp Sat Flow(s),veh/h/ln	1767	1763	1720	1767	1763	1562	1767	1763	1790	1767	1763	1572
Q Serve(g_s), s	10.2	6.2	6.4	4.4	13.3	6.3	12.0	11.6	11.7	3.9	4.0	7.6
Cycle Q Clear(g_c), s	10.2	6.2	6.4	4.4	13.3	6.3	12.0	11.6	11.7	3.9	4.0	7.6
Prop In Lane	1.00		0.42	1.00		1.00	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	283	609	594	130	912	404	321	462	469	116	516	482
V/C Ratio(X)	0.84	0.31	0.32	0.78	0.72	0.38	0.87	0.64	0.64	0.77	0.39	0.40
Avail Cap(c_a), veh/h	678	676	660	452	1353	599	452	902	916	452	1804	1057
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.8	18.8	18.9	35.6	26.4	23.8	31.1	25.6	25.6	35.9	30.2	21.4
Incr Delay (d2), s/veh	4.9	0.3	0.3	3.7	1.1	0.6	9.5	1.5	1.5	4.1	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	2.4	2.4	2.0	5.4	2.3	5.7	4.8	4.9	1.7	1.6	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	19.1	19.2	39.3	27.5	24.4	40.6	27.1	27.1	40.0	30.7	22.0
LnGrp LOS	D	B	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		620			912			876			483	
Approach Delay, s/veh		25.9			28.3			31.4			28.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	25.9	10.3	32.4	18.7	16.8	17.0	25.6
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	5.9	13.7	6.4	8.4	14.0	9.6	12.2	15.3
Green Ext Time (p_c), s	0.1	3.7	0.1	2.1	0.2	1.9	0.4	4.3

Intersection Summary	
HCM 6th Ctrl Delay	28.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	39	87	186	16	13	81
Future Vol, veh/h	39	87	186	16	13	81
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	44	99	211	18	15	92
Number of Lanes	2	1	1	2	2	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	3	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	3
HCM Control Delay	7.5	9.3	8.1
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	SBLn1	SBLn2
Vol Left, %	100%	95%	0%	100%	23%	0%	0%	0%
Vol Thru, %	0%	5%	100%	0%	0%	0%	100%	5%
Vol Right, %	0%	0%	0%	0%	77%	100%	0%	95%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	93	98	11	26	57	44	9	85
LT Vol	93	93	0	26	13	0	0	0
Through Vol	0	5	11	0	0	0	9	4
RT Vol	0	0	0	0	44	44	0	81
Lane Flow Rate	106	112	12	30	64	49	10	97
Geometry Grp	8	8	8	7	7	7	8	8
Degree of Util (X)	0.164	0.173	0.011	0.048	0.088	0.04	0.015	0.127
Departure Headway (Hd)	5.593	5.566	3.337	5.87	4.945	2.917	5.379	4.712
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	641	645	1068	611	725	1224	665	760
Service Time	3.327	3.3	1.07	3.596	2.671	0.643	3.112	2.445
HCM Lane V/C Ratio	0.165	0.174	0.011	0.049	0.088	0.04	0.015	0.128
HCM Control Delay	9.4	9.5	6.1	8.9	8.2	5.8	8.2	8.1
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.6	0.6	0	0.2	0.3	0.1	0	0.4

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	59	52	59	109	110	61
Future Vol, veh/h	59	52	59	109	110	61
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	68	60	68	125	126	70
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	8.3	7.9	7.9
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	100%	0%	0%	0%	100%	14%	0%
Vol Thru, %	0%	0%	0%	100%	27%	0%	86%	100%
Vol Right, %	0%	0%	100%	0%	73%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	55	61	39	72	53	42	73
LT Vol	55	55	0	0	0	53	6	0
Through Vol	0	0	0	39	20	0	36	73
RT Vol	0	0	61	0	52	0	0	0
Lane Flow Rate	63	63	70	45	82	61	49	84
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.101	0.101	0.055	0.068	0.112	0.098	0.072	0.082
Departure Headway (Hd)	5.764	5.764	2.812	5.401	4.891	5.806	5.374	3.546
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	622	622	1267	663	732	618	667	1007
Service Time	3.497	3.497	0.544	3.136	2.626	3.538	3.106	1.278
HCM Lane V/C Ratio	0.101	0.101	0.055	0.068	0.112	0.099	0.073	0.083
HCM Control Delay	9.1	9.1	5.7	8.5	8.2	9.2	8.5	6.6
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.2	0.2	0.4	0.3	0.2	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	231	124	22	320	42	309	272	26	30	130	25
Future Volume (veh/h)	32	231	124	22	320	42	309	272	26	30	130	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	34	248	133	24	344	45	332	292	28	32	140	27
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	54	743	331	40	717	319	401	1070	102	52	397	75
Arrive On Green	0.03	0.21	0.21	0.02	0.20	0.20	0.23	0.33	0.33	0.03	0.13	0.13
Sat Flow, veh/h	1767	3526	1570	1767	3526	1570	1767	3253	310	1810	3030	571
Grp Volume(v), veh/h	34	248	133	24	344	45	332	157	163	32	82	85
Grp Sat Flow(s),veh/h/ln	1767	1763	1570	1767	1763	1570	1767	1763	1799	1810	1805	1796
Q Serve(g_s), s	0.9	2.9	3.5	0.6	4.1	1.1	8.6	3.2	3.2	0.8	2.0	2.1
Cycle Q Clear(g_c), s	0.9	2.9	3.5	0.6	4.1	1.1	8.6	3.2	3.2	0.8	2.0	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.32
Lane Grp Cap(c), veh/h	54	743	331	40	717	319	401	580	592	52	237	235
V/C Ratio(X)	0.63	0.33	0.40	0.60	0.48	0.14	0.83	0.27	0.27	0.61	0.35	0.36
Avail Cap(c_a), veh/h	1105	2939	1309	1105	2939	1309	1105	1469	1500	1131	1504	1497
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.0	16.1	16.3	23.2	16.9	15.7	17.7	11.9	11.9	23.0	19.0	19.0
Incr Delay (d2), s/veh	4.5	0.4	1.1	5.1	0.7	0.3	1.7	0.4	0.4	4.2	1.2	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.0	1.1	0.3	1.5	0.4	3.0	1.0	1.1	0.4	0.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	16.4	17.4	28.3	17.6	16.0	19.4	12.2	12.2	27.3	20.2	20.3
LnGrp LOS	C	B	B	C	B	B	B	B	B	C	C	C
Approach Vol, veh/h		415			413			652			199	
Approach Delay, s/veh		17.7			18.0			15.9			21.4	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.4	21.6	5.1	15.9	14.9	12.1	5.5	15.6
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	30.0	40.0	30.0	40.0	30.0	40.0	30.0	40.0
Max Q Clear Time (g_c+I1), s	2.8	5.2	2.6	5.5	10.6	4.1	2.9	6.1
Green Ext Time (p_c), s	0.0	2.7	0.0	3.1	0.4	1.4	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	51	15	152	121	105	39	37	247	66	26	2
Future Volume (veh/h)	2	51	15	152	121	105	39	37	247	66	26	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	3	66	19	197	157	136	51	48	321	86	34	3
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	7	195	56	412	240	208	93	477	593	203	424	37
Arrive On Green	0.00	0.14	0.14	0.12	0.26	0.26	0.05	0.26	0.26	0.06	0.25	0.25
Sat Flow, veh/h	1767	1385	399	3428	917	794	1767	1856	1572	3428	1681	148
Grp Volume(v), veh/h	3	0	85	197	0	293	51	48	321	86	0	37
Grp Sat Flow(s),veh/h/ln	1767	0	1784	1714	0	1711	1767	1856	1572	1714	0	1829
Q Serve(g_s), s	0.1	0.0	1.9	2.3	0.0	6.7	1.2	0.9	7.0	1.1	0.0	0.7
Cycle Q Clear(g_c), s	0.1	0.0	1.9	2.3	0.0	6.7	1.2	0.9	7.0	1.1	0.0	0.7
Prop In Lane	1.00		0.22	1.00		0.46	1.00		1.00	1.00		0.08
Lane Grp Cap(c), veh/h	7	0	251	412	0	447	93	477	593	203	0	461
V/C Ratio(X)	0.41	0.00	0.34	0.48	0.00	0.66	0.55	0.10	0.54	0.42	0.00	0.08
Avail Cap(c_a), veh/h	222	0	754	1825	0	1420	343	1556	1508	548	0	1450
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.7	0.0	17.0	18.0	0.0	14.4	20.2	12.4	10.7	19.9	0.0	12.5
Incr Delay (d2), s/veh	33.8	0.0	0.8	1.2	0.0	2.3	4.9	0.1	1.1	0.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.7	0.9	0.0	2.4	0.6	0.3	2.1	0.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	0.0	17.8	19.2	0.0	16.7	25.1	12.5	11.8	20.4	0.0	12.6
LnGrp LOS	E	A	B	B	A	B	C	B	B	C	A	B
Approach Vol, veh/h		88			490			420			123	
Approach Delay, s/veh		19.0			17.7			13.5			18.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	16.4	10.0	10.9	6.8	16.1	4.7	16.1
Change Period (Y+Rc), s	4.0	5.1	* 4.7	* 4.7	4.5	5.1	4.5	* 4.7
Max Green Setting (Gmax), s	7.0	36.7	* 23	* 19	8.5	34.7	5.5	* 36
Max Q Clear Time (g_c+I1), s	3.1	9.0	4.3	3.9	3.2	2.7	2.1	8.7
Green Ext Time (p_c), s	0.0	2.3	0.9	0.3	0.0	0.2	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	16.3
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	94	20	108	124	33	24	53	89	105	100	20
Future Vol, veh/h	6	94	20	108	124	33	24	53	89	105	100	20
Peak Hour Factor	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.92	0.81	0.81	0.81	0.81
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	7	116	25	133	153	41	30	58	110	130	123	25
Number of Lanes	1	2	0	1	2	0	1	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	3	3
HCM Control Delay	10.8	11.2	9.8	16.3
HCM LOS	B	B	A	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	25%	0%	47%
Vol Thru, %	0%	100%	0%	0%	100%	61%	0%	75%	65%	44%
Vol Right, %	0%	0%	100%	0%	0%	39%	0%	0%	35%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	53	89	6	63	51	87	83	95	225
LT Vol	24	0	0	6	0	0	87	21	0	105
Through Vol	0	53	0	0	63	31	0	62	62	100
RT Vol	0	0	89	0	0	20	0	0	33	20
Lane Flow Rate	30	58	110	7	77	63	108	102	117	278
Geometry Grp	7	7	7	8	8	8	8	8	8	8
Degree of Util (X)	0.057	0.103	0.175	0.015	0.151	0.119	0.213	0.19	0.207	0.514
Departure Headway (Hd)	6.932	6.428	5.722	7.532	7.024	6.746	7.1	6.718	6.346	6.661
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	515	555	623	473	508	528	503	532	563	539
Service Time	4.701	4.197	3.491	5.319	4.809	4.531	4.873	4.491	4.118	4.425
HCM Lane V/C Ratio	0.058	0.105	0.177	0.015	0.152	0.119	0.215	0.192	0.208	0.516
HCM Control Delay	10.1	9.9	9.7	10.4	11.1	10.5	11.8	11.1	10.8	16.3
HCM Lane LOS	B	A	A	B	B	B	B	B	B	C
HCM 95th-tile Q	0.2	0.3	0.6	0	0.5	0.4	0.8	0.7	0.8	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	196	4	18	375	75	12	5	35	130	6	119
Future Volume (veh/h)	77	196	4	18	375	75	12	5	35	130	6	119
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	79	202	4	19	387	77	12	5	36	134	6	123
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	104	1015	453	34	876	391	17	7	50	240	252	214
Arrive On Green	0.06	0.29	0.29	0.02	0.25	0.25	0.04	0.04	0.04	0.14	0.14	0.14
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	371	154	1112	1767	1856	1572
Grp Volume(v), veh/h	79	202	4	19	387	77	53	0	0	134	6	123
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1637	0	0	1767	1856	1572
Q Serve(g_s), s	1.7	1.7	0.1	0.4	3.7	1.5	1.3	0.0	0.0	2.8	0.1	2.9
Cycle Q Clear(g_c), s	1.7	1.7	0.1	0.4	3.7	1.5	1.3	0.0	0.0	2.8	0.1	2.9
Prop In Lane	1.00		1.00	1.00		1.00	0.23		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	104	1015	453	34	876	391	73	0	0	240	252	214
V/C Ratio(X)	0.76	0.20	0.01	0.56	0.44	0.20	0.73	0.00	0.00	0.56	0.02	0.57
Avail Cap(c_a), veh/h	1338	4003	1786	1338	4003	1786	1239	0	0	1338	1405	1190
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.4	10.7	10.1	19.3	12.6	11.8	18.7	0.0	0.0	16.0	14.8	16.0
Incr Delay (d2), s/veh	4.3	0.1	0.0	5.4	0.5	0.3	12.8	0.0	0.0	2.0	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.5	0.0	0.2	1.1	0.4	0.7	0.0	0.0	1.1	0.0	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.7	10.8	10.1	24.7	13.1	12.1	31.5	0.0	0.0	18.0	14.9	18.5
LnGrp LOS	C	B	B	C	B	B	C	A	A	B	B	B
Approach Vol, veh/h		285			483			53			263	
Approach Delay, s/veh		14.1			13.4			31.5			18.2	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	6.9	4.8	17.2	10.8	6.3	15.6
Change Period (Y+Rc), s	5.1	4.0	5.8	5.4	4.0	5.8
Max Green Setting (Gmax), s	30.0	30.0	45.0	30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s	3.3	2.4	3.7	4.9	3.7	5.7
Green Ext Time (p_c), s	0.2	0.0	1.8	0.8	0.1	4.2

Intersection Summary	
HCM 6th Ctrl Delay	15.6
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	15	61	526	40	237	66	757	168	99	1034	6
Future Volume (veh/h)	8	15	61	526	40	237	66	757	168	99	1034	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	8	16	64	554	42	249	69	797	177	104	1088	6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	13	22	86	609	55	325	88	1930	861	126	2959	16
Arrive On Green	0.01	0.07	0.07	0.18	0.24	0.24	0.02	0.18	0.18	0.07	0.57	0.57
Sat Flow, veh/h	1767	324	1298	3428	232	1376	1767	3526	1572	1767	5199	29
Grp Volume(v), veh/h	8	0	80	554	0	291	69	797	177	104	707	387
Grp Sat Flow(s),veh/h/ln	1767	0	1622	1714	0	1608	1767	1763	1572	1767	1689	1850
Q Serve(g_s), s	0.6	0.0	6.8	22.2	0.0	23.6	5.4	28.0	13.4	8.1	16.0	16.0
Cycle Q Clear(g_c), s	0.6	0.0	6.8	22.2	0.0	23.6	5.4	28.0	13.4	8.1	16.0	16.0
Prop In Lane	1.00		0.80	1.00		0.86	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	13	0	108	609	0	380	88	1930	861	126	1922	1053
V/C Ratio(X)	0.59	0.00	0.74	0.91	0.00	0.77	0.78	0.41	0.21	0.82	0.37	0.37
Avail Cap(c_a), veh/h	379	0	348	735	0	380	199	1930	861	199	1922	1053
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.95	0.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.2	0.0	64.2	56.5	0.0	49.9	68.1	37.4	31.4	64.1	16.4	16.4
Incr Delay (d2), s/veh	14.4	0.0	13.4	12.0	0.0	9.2	5.6	0.7	0.5	7.3	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	3.2	10.6	0.0	10.4	2.6	13.4	5.8	3.9	6.1	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.7	0.0	77.6	68.5	0.0	59.0	73.7	38.1	32.0	71.4	17.0	17.4
LnGrp LOS	F	A	E	E	A	E	E	D	C	E	B	B
Approach Vol, veh/h		88			845			1043			1198	
Approach Delay, s/veh		78.2			65.2			39.4			21.8	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	82.5	28.9	14.7	11.0	85.5	5.1	38.5
Change Period (Y+Rc), s	4.0	5.8	4.0	* 5.4	4.0	5.8	4.0	5.4
Max Green Setting (Gmax), s	15.8	45.0	30.0	* 30	15.8	45.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	10.1	30.0	24.2	8.8	7.4	18.0	2.6	25.6
Green Ext Time (p_c), s	0.0	6.8	0.7	0.5	0.0	10.8	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1380	271	180	972
Future Volume (veh/h)	0	0	1380	271	180	972
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				1.00	1.00	
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No			No
Adj Sat Flow, veh/h/ln			1856	1856	1856	1856
Adj Flow Rate, veh/h			1500	295	196	1057
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			3	3	3	3
Cap, veh/h			2840	1267	217	3387
Arrive On Green			0.81	0.81	0.25	1.00
Sat Flow, veh/h			3618	1572	1767	3618
Grp Volume(v), veh/h			1500	295	196	1057
Grp Sat Flow(s),veh/h/ln			1763	1572	1767	1763
Q Serve(g_s), s			20.1	6.3	15.0	0.0
Cycle Q Clear(g_c), s			20.1	6.3	15.0	0.0
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			2840	1267	217	3387
V/C Ratio(X)			0.53	0.23	0.90	0.31
Avail Cap(c_a), veh/h			2840	1267	322	3387
HCM Platoon Ratio			1.00	1.00	2.00	2.00
Upstream Filter(I)			0.84	0.84	1.00	1.00
Uniform Delay (d), s/veh			4.6	3.3	52.0	0.0
Incr Delay (d2), s/veh			0.6	0.4	15.8	0.2
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			5.8	1.7	6.7	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			5.2	3.6	67.8	0.2
LnGrp LOS			A	A	E	A
Approach Vol, veh/h			1795			1253
Approach Delay, s/veh			4.9			10.8
Approach LOS			A			B

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	21.7	118.3				140.0
Change Period (Y+Rc), s	4.5	5.5				5.5
Max Green Setting (Gmax), s	25.5	104.5				60.0
Max Q Clear Time (g_c+I1), s	17.0	22.1				2.0
Green Ext Time (p_c), s	0.2	10.6				5.5

Intersection Summary		
HCM 6th Ctrl Delay		7.3
HCM 6th LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	300	141	329	273	0	321	0	982	175	95	902	0
Future Volume (veh/h)	300	141	329	273	0	321	0	982	175	95	902	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	319	150	350	290	0	341	0	1045	186	101	960	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	867	469	394	0	0	0	0	2875	892	122	2357	0
Arrive On Green	0.25	0.25	0.25	0.00	0.00	0.00	0.00	0.57	0.57	0.14	1.00	0.00
Sat Flow, veh/h	3428	1856	1558		0		0	5233	1572	1767	3618	0
Grp Volume(v), veh/h	319	150	350		0.0		0	1045	186	101	960	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1558				0	1689	1572	1767	1763	0
Q Serve(g_s), s	10.7	9.2	30.3				0.0	15.7	8.1	7.8	0.0	0.0
Cycle Q Clear(g_c), s	10.7	9.2	30.3				0.0	15.7	8.1	7.8	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	867	469	394				0	2875	892	122	2357	0
V/C Ratio(X)	0.37	0.32	0.89				0.00	0.36	0.21	0.83	0.41	0.00
Avail Cap(c_a), veh/h	1077	583	490				0	2875	892	215	2357	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.93	0.93	0.96	0.96	0.00
Uniform Delay (d), s/veh	43.1	42.5	50.4				0.0	16.5	14.9	59.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.1	13.6				0.0	0.3	0.5	5.2	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	4.3	13.3				0.0	6.0	3.0	3.4	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	42.7	64.0				0.0	16.8	15.3	64.7	0.5	0.0
LnGrp LOS	D	D	E				A	B	B	E	A	A
Approach Vol, veh/h		819						1231			1061	
Approach Delay, s/veh		52.0						16.6			6.6	
Approach LOS		D						B			A	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	14.2	84.9		40.9		99.1						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	17.0	31.0		44.0		60.0						
Max Q Clear Time (g_c+I1), s	9.8	17.7		32.3		2.0						
Green Ext Time (p_c), s	0.1	4.3		1.6		8.0						
Intersection Summary												
HCM 6th Ctrl Delay			22.5									
HCM 6th LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	437	75	76	761	874	428
Future Volume (veh/h)	437	75	76	761	874	428
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	491	84	85	855	982	481
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	745	342	173	3025	1694	1097
Arrive On Green	0.22	0.22	0.05	0.60	0.48	0.48
Sat Flow, veh/h	3428	1572	3428	5233	3618	1572
Grp Volume(v), veh/h	491	84	85	855	982	481
Grp Sat Flow(s),veh/h/ln	1714	1572	1714	1689	1763	1572
Q Serve(g_s), s	7.9	2.7	1.5	4.9	12.1	8.0
Cycle Q Clear(g_c), s	7.9	2.7	1.5	4.9	12.1	8.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	745	342	173	3025	1694	1097
V/C Ratio(X)	0.66	0.25	0.49	0.28	0.58	0.44
Avail Cap(c_a), veh/h	1704	782	1704	3777	2629	1514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	19.5	27.9	5.9	11.3	4.0
Incr Delay (d2), s/veh	1.4	0.5	0.8	0.1	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.1	0.6	1.2	3.7	3.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.0	20.1	28.7	6.0	11.7	4.4
LnGrp LOS	C	C	C	A	B	A
Approach Vol, veh/h	575			940	1463	
Approach Delay, s/veh	22.6			8.0	9.3	
Approach LOS	C			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		41.8		18.5	7.0	34.8
Change Period (Y+Rc), s		5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		6.9		9.9	3.5	14.1
Green Ext Time (p_c), s		9.5		3.2	0.1	14.9

Intersection Summary		
HCM 6th Ctrl Delay		11.5
HCM 6th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	190	166	179	642	653	209
Future Volume (veh/h)	190	166	179	642	653	209
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	221	193	208	747	759	243
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	643	295	261	2137	1364	899
Arrive On Green	0.19	0.19	0.15	0.61	0.39	0.39
Sat Flow, veh/h	3428	1572	1767	3618	3618	1560
Grp Volume(v), veh/h	221	193	208	747	759	243
Grp Sat Flow(s),veh/h/ln	1714	1572	1767	1763	1763	1560
Q Serve(g_s), s	3.1	6.4	6.4	5.9	9.4	4.4
Cycle Q Clear(g_c), s	3.1	6.4	6.4	5.9	9.4	4.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	643	295	261	2137	1364	899
V/C Ratio(X)	0.34	0.65	0.80	0.35	0.56	0.27
Avail Cap(c_a), veh/h	1831	840	944	2824	2824	1545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	21.1	23.1	5.5	13.5	6.0
Incr Delay (d2), s/veh	0.5	3.5	2.1	0.1	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.7	2.5	1.4	3.1	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.3	24.6	25.2	5.7	14.0	6.3
LnGrp LOS	C	C	C	A	B	A
Approach Vol, veh/h	414			955	1002	
Approach Delay, s/veh	22.3			9.9	12.1	
Approach LOS	C			A	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		39.8		16.3	12.3	27.5
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		7.9		8.4	8.4	11.4
Green Ext Time (p_c), s		8.1		2.2	0.3	9.9

Intersection Summary			
HCM 6th Ctrl Delay			13.0
HCM 6th LOS			B

Notes
User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	183	68	91	357	168	119	601	109	163	603	80
Future Volume (veh/h)	91	183	68	91	357	168	119	601	109	163	603	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	95	191	71	95	372	175	124	626	114	170	628	83
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	123	629	226	123	579	268	160	998	443	213	1104	490
Arrive On Green	0.07	0.25	0.25	0.07	0.25	0.25	0.09	0.28	0.28	0.12	0.31	0.31
Sat Flow, veh/h	1767	2536	910	1767	2334	1081	1767	3526	1564	1767	3526	1565
Grp Volume(v), veh/h	95	131	131	95	279	268	124	626	114	170	628	83
Grp Sat Flow(s),veh/h/ln	1767	1763	1684	1767	1763	1652	1767	1763	1564	1767	1763	1565
Q Serve(g_s), s	3.7	4.2	4.5	3.7	10.0	10.2	4.8	10.9	4.0	6.6	10.5	2.7
Cycle Q Clear(g_c), s	3.7	4.2	4.5	3.7	10.0	10.2	4.8	10.9	4.0	6.6	10.5	2.7
Prop In Lane	1.00		0.54	1.00		0.65	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	123	437	418	123	437	410	160	998	443	213	1104	490
V/C Ratio(X)	0.77	0.30	0.31	0.77	0.64	0.65	0.78	0.63	0.26	0.80	0.57	0.17
Avail Cap(c_a), veh/h	754	752	718	754	752	704	754	2255	1001	754	2255	1001
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	21.5	21.6	32.2	23.6	23.7	31.3	22.0	19.5	30.1	20.2	17.5
Incr Delay (d2), s/veh	3.8	0.5	0.6	3.8	2.2	2.5	3.1	0.9	0.4	2.6	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.7	1.7	1.6	4.0	3.9	2.1	4.2	1.4	2.8	3.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.9	22.0	22.2	35.9	25.9	26.2	34.4	22.9	19.9	32.7	20.8	17.7
LnGrp LOS	D	C	C	D	C	C	C	C	B	C	C	B
Approach Vol, veh/h		357			642			864			881	
Approach Delay, s/veh		25.8			27.5			24.2			22.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	25.7	8.9	23.2	10.4	27.8	8.9	23.2
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	30.0	45.0	30.0	30.0	30.0	45.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	8.6	12.9	5.7	6.5	6.8	12.5	5.7	12.2
Green Ext Time (p_c), s	0.2	7.0	0.1	2.0	0.1	6.9	0.1	4.1

Intersection Summary	
HCM 6th Ctrl Delay	24.7
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	265	0	1	484	8	312	2	23	0	0	3
Future Volume (vph)	11	265	0	1	484	8	312	2	23	0	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Lane Util. Factor		0.95			0.95		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.95	1.00			1.00
Satd. Flow (prot)		3498			3494		1665	1670	1568			1596
Flt Permitted		0.93			0.95		0.95	0.95	1.00			1.00
Satd. Flow (perm)		3273			3336		1665	1670	1568			1596
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	288	0	1	526	9	339	2	25	0	0	3
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	21	0	0	3
Lane Group Flow (vph)	0	300	0	0	535	0	169	172	4	0	0	0
Confl. Peds. (#/hr)	2		4	4		2						
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Split	NA	Perm			Prot
Protected Phases		6			2		4	4				3
Permitted Phases	6			2					4			
Actuated Green, G (s)		43.2			43.2		11.8	11.8	11.8			1.0
Effective Green, g (s)		43.2			43.2		11.8	11.8	11.8			1.0
Actuated g/C Ratio		0.62			0.62		0.17	0.17	0.17			0.01
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		2019			2058		280	281	264			22
v/s Ratio Prot							0.10	c0.10				c0.00
v/s Ratio Perm		0.09			c0.16				0.00			
v/c Ratio		0.15			0.26		0.60	0.61	0.02			0.00
Uniform Delay, d1		5.6			6.1		26.9	27.0	24.3			34.0
Progression Factor		1.73			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.2			0.3		2.5	2.8	0.0			0.0
Delay (s)		9.9			6.4		29.4	29.7	24.3			34.0
Level of Service		A			A		C	C	C			C
Approach Delay (s)		9.9			6.4			29.2			34.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	3.6					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	45	10	11	63	33	37
Future Vol, veh/h	45	10	11	63	33	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	47	11	12	66	35	39

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	58	0	110	29
Stage 1	-	-	-	-	53	-
Stage 2	-	-	-	-	57	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1537	-	872	1036
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	956	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1537	-	865	1036
Mov Cap-2 Maneuver	-	-	-	-	865	-
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	948	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	948	-	-	1537	-
HCM Lane V/C Ratio	0.078	-	-	0.008	-
HCM Control Delay (s)	9.1	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection						
Int Delay, s/veh	0.9					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	73	7	10	101	7	5
Future Vol, veh/h	73	7	10	101	7	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	77	7	11	106	7	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	84	0	156	42
Stage 1	-	-	-	-	81	-
Stage 2	-	-	-	-	75	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1503	-	817	1016
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	936	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1503	-	810	1016
Mov Cap-2 Maneuver	-	-	-	-	810	-
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	929	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	885	-	-	1503	-
HCM Lane V/C Ratio	0.014	-	-	0.007	-
HCM Control Delay (s)	9.1	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection						
Int Delay, s/veh	1.7					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	16	33	109	76	3
Future Vol, veh/h	1	16	33	109	76	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1	17	35	115	80	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	210	42	83	0	-	0
Stage 1	82	-	-	-	-	-
Stage 2	128	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	756	1016	1505	-	-	-
Stage 1	929	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	737	1016	1505	-	-	-
Mov Cap-2 Maneuver	737	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	881	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	1.8	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1505	-	994	-	-
HCM Lane V/C Ratio	0.023	-	0.018	-	-
HCM Control Delay (s)	7.4	0.1	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection						
Int Delay, s/veh	3.2					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	81	80	25	255	178	26
Future Vol, veh/h	81	80	25	255	178	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	85	84	26	268	187	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	387	107	214	0	-	0
Stage 1	201	-	-	-	-	-
Stage 2	186	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	586	923	1346	-	-	-
Stage 1	810	-	-	-	-	-
Stage 2	824	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	575	923	1346	-	-	-
Mov Cap-2 Maneuver	575	-	-	-	-	-
Stage 1	795	-	-	-	-	-
Stage 2	824	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.7	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1346	-	708	-	-
HCM Lane V/C Ratio	0.02	-	0.239	-	-
HCM Control Delay (s)	7.7	-	11.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.9	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	103	156	13	26	9
Future Vol, veh/h	5	103	156	13	26	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	5	108	164	14	27	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	178	0	-	0	235	89
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	64	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	1388	-	-	-	730	948
Stage 1	-	-	-	-	839	-
Stage 2	-	-	-	-	948	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1388	-	-	-	727	948
Mov Cap-2 Maneuver	-	-	-	-	730	-
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	948	-

Approach	EB		WB		SB	
HCM Control Delay, s	0.4		0		9.8	
HCM LOS					A	

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1388	-	-	-	730	948
HCM Lane V/C Ratio	0.004	-	-	-	0.037	0.01
HCM Control Delay (s)	7.6	-	-	-	10.1	8.8
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	524	104	802	629	519	126	0	546	583	0	157
Future Volume (veh/h)	89	524	104	802	629	519	126	0	546	583	0	157
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1565	1565	1565	1565	1565	1565	1565	0	1565	1565	0	1565
Adj Flow Rate, veh/h	97	570	0	872	684	0	137	0	593	634	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	0	3	3	0	3
Cap, veh/h	119	1074		657	1514		677	0	0	677	0	
Arrive On Green	0.08	0.36	0.00	0.23	0.51	0.00	0.23	0.00	0.00	0.23	0.00	0.00
Sat Flow, veh/h	1491	2974	1327	2892	2974	1327	2892	137		2892	634	
Grp Volume(v), veh/h	97	570	0	872	684	0	137	34.0		634	61.5	
Grp Sat Flow(s),veh/h/ln	1491	1487	1327	1446	1487	1327	1446	C		1446	E	
Q Serve(g_s), s	7.0	16.7	0.0	25.0	16.1	0.0	4.2			23.7		
Cycle Q Clear(g_c), s	7.0	16.7	0.0	25.0	16.1	0.0	4.2			23.7		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	119	1074		657	1514		677			677		
V/C Ratio(X)	0.82	0.53		1.33	0.45		0.20			0.94		
Avail Cap(c_a), veh/h	339	1074		657	1514		684			684		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.32	0.32	0.00	1.00			1.00		
Uniform Delay (d), s/veh	49.8	27.8	0.0	42.5	17.2	0.0	33.9			41.3		
Incr Delay (d2), s/veh	12.7	1.9	0.0	150.5	0.3	0.0	0.1			20.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	3.0	6.1	0.0	22.5	5.4	0.0	1.5			10.2		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.6	29.6	0.0	193.0	17.5	0.0	34.0			61.5		
LnGrp LOS	E	C		F	B		C			E		
Approach Vol, veh/h		667	A		1556	A						
Approach Delay, s/veh		34.4			115.8							
Approach LOS		C			F							
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	31.5	47.7	30.8		15.3	64.0	30.8					
Change Period (Y+Rc), s	6.5	8.0	5.0		6.5	8.0	5.0					
Max Green Setting (Gmax), s	25.0	39.5	26.0		25.0	39.5	26.0					
Max Q Clear Time (g_c+I1), s	27.0	18.7	6.2		9.0	18.1	25.7					
Green Ext Time (p_c), s	0.0	3.7	0.4		0.2	4.6	0.1					
Intersection Summary												
HCM 6th Ctrl Delay			82.5									
HCM 6th LOS			F									

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	605	851	188	46	603	144	122	362	107	156	343	1241
Future Volume (veh/h)	605	851	188	46	603	144	122	362	107	156	343	1241
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	644	905	200	49	641	153	130	385	114	166	365	1320
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	690	1515	673	64	851	378	160	692	202	198	527	784
Arrive On Green	0.19	0.40	0.40	0.04	0.24	0.24	0.09	0.26	0.26	0.11	0.28	0.28
Sat Flow, veh/h	3645	3749	1666	1767	3526	1567	1767	2688	786	1767	1856	2762
Grp Volume(v), veh/h	644	905	200	49	641	153	130	251	248	166	365	1320
Grp Sat Flow(s),veh/h/ln	1823	1874	1666	1767	1763	1567	1767	1763	1712	1767	1856	1381
Q Serve(g_s), s	18.4	20.0	8.6	2.9	17.8	8.7	7.6	13.0	13.3	9.7	18.5	30.0
Cycle Q Clear(g_c), s	18.4	20.0	8.6	2.9	17.8	8.7	7.6	13.0	13.3	9.7	18.5	30.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	690	1515	673	64	851	378	160	454	441	198	527	784
V/C Ratio(X)	0.93	0.60	0.30	0.77	0.75	0.40	0.81	0.55	0.56	0.84	0.69	1.68
Avail Cap(c_a), veh/h	690	1515	673	334	1234	549	502	500	486	334	527	784
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.2	24.7	21.3	50.5	37.2	33.7	47.2	34.0	34.1	46.0	33.7	37.8
Incr Delay (d2), s/veh	19.5	0.6	0.2	7.0	1.6	0.7	3.8	1.1	1.2	3.6	3.9	313.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	8.8	3.2	1.4	7.8	3.2	3.4	5.4	5.4	4.4	8.7	43.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.6	25.4	21.6	57.5	38.7	34.4	51.0	35.0	35.3	49.5	37.6	351.0
LnGrp LOS	E	C	C	E	D	C	D	D	D	D	D	F
Approach Vol, veh/h		1749			843			629			1851	
Approach Delay, s/veh		38.3			39.0			38.4			262.2	
Approach LOS		D			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	48.1	13.6	36.2	25.0	30.9	16.4	33.4
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	4.9	22.0	9.6	32.0	20.4	19.8	11.7	15.3
Green Ext Time (p_c), s	0.0	6.9	0.1	0.0	0.0	4.6	0.1	2.3

Intersection Summary	
HCM 6th Ctrl Delay	120.1
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	660	195	1264	513	66	861
Future Volume (veh/h)	660	195	1264	513	66	861
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	688	203	1317	534	69	897
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	778	442	2012	1233	90	2385
Arrive On Green	0.21	0.21	0.38	0.38	0.05	0.68
Sat Flow, veh/h	3645	1672	3618	1572	1767	3618
Grp Volume(v), veh/h	688	203	1317	534	69	897
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1572	1767	1763
Q Serve(g_s), s	18.3	10.2	30.8	13.6	3.9	11.0
Cycle Q Clear(g_c), s	18.3	10.2	30.8	13.6	3.9	11.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	778	442	2012	1233	90	2385
V/C Ratio(X)	0.88	0.46	0.65	0.43	0.77	0.38
Avail Cap(c_a), veh/h	838	469	2012	1233	300	2385
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.1	30.8	22.8	5.5	46.9	7.0
Incr Delay (d2), s/veh	10.5	0.7	1.7	1.1	12.9	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	4.1	13.6	10.7	2.0	3.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.7	31.6	24.4	6.6	59.8	7.5
LnGrp LOS	D	C	C	A	E	A
Approach Vol, veh/h	891		1851			966
Approach Delay, s/veh	44.8		19.3			11.2
Approach LOS	D		B			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.6	62.6				73.2		26.8
Change Period (Y+Rc), s	5.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	7.0	43.5				66.0		23.0
Max Q Clear Time (g_c+I1), s	5.9	32.8				13.0		20.3
Green Ext Time (p_c), s	0.1	7.5				7.3		1.1

Intersection Summary		
HCM 6th Ctrl Delay		23.3
HCM 6th LOS		C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	836	420	1433	896	120	1472
Future Volume (veh/h)	836	420	1433	896	120	1472
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	853	429	1462	914	122	1502
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	838	530	1880	1198	154	3394
Arrive On Green	0.23	0.23	0.53	0.53	0.03	0.22
Sat Flow, veh/h	3645	1672	3618	1570	1767	5233
Grp Volume(v), veh/h	853	429	1462	914	122	1502
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1570	1767	1689
Q Serve(g_s), s	23.0	23.0	33.1	33.0	6.9	25.6
Cycle Q Clear(g_c), s	23.0	23.0	33.1	33.0	6.9	25.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	838	530	1880	1198	154	3394
V/C Ratio(X)	1.02	0.81	0.78	0.76	0.79	0.44
Avail Cap(c_a), veh/h	838	530	1880	1198	265	3394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.31	0.31	1.00	1.00
Uniform Delay (d), s/veh	38.5	31.4	18.6	6.7	47.7	22.8
Incr Delay (d2), s/veh	35.5	9.2	1.0	1.5	8.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.2	21.4	12.3	21.5	3.5	11.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	74.0	40.5	19.7	8.2	56.6	23.2
LnGrp LOS	F	D	B	A	E	C
Approach Vol, veh/h	1282		2376			1624
Approach Delay, s/veh	62.8		15.2			25.7
Approach LOS	E		B			C
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.7	58.3		28.0		72.0
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	47.0		23.0		67.0
Max Q Clear Time (g_c+I1), s	8.9	35.1		25.0		27.6
Green Ext Time (p_c), s	0.1	9.6		0.0		14.3
Intersection Summary						
HCM 6th Ctrl Delay			30.0			
HCM 6th LOS			C			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	628	163	252	35	83	262	187	1443	86	209	1171	622
Future Volume (veh/h)	628	163	252	35	83	262	187	1443	86	209	1171	622
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	654	170	262	36	86	273	195	1503	90	218	1220	648
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	711	695	588	53	363	306	221	1517	91	246	1643	898
Arrive On Green	0.21	0.37	0.37	0.03	0.18	0.18	0.13	0.31	0.31	0.14	0.32	0.32
Sat Flow, veh/h	3428	1856	1570	1879	1973	1667	1767	4887	293	1767	5066	2768
Grp Volume(v), veh/h	654	170	262	36	86	273	195	1038	555	218	1220	648
Grp Sat Flow(s),veh/h/ln	1714	1856	1570	1879	1973	1667	1767	1689	1803	1767	1689	1384
Q Serve(g_s), s	24.1	8.1	16.1	2.4	4.8	20.6	14.0	39.5	39.5	15.6	27.6	26.6
Cycle Q Clear(g_c), s	24.1	8.1	16.1	2.4	4.8	20.6	14.0	39.5	39.5	15.6	27.6	26.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	711	695	588	53	363	306	221	1048	560	246	1643	898
V/C Ratio(X)	0.92	0.24	0.45	0.68	0.24	0.89	0.88	0.99	0.99	0.89	0.74	0.72
Avail Cap(c_a), veh/h	798	695	588	437	459	388	343	1048	560	411	1643	898
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.0	27.7	30.2	62.0	44.9	51.3	55.4	44.2	44.2	54.5	38.7	38.4
Incr Delay (d2), s/veh	14.0	0.2	0.5	5.6	0.3	18.6	10.4	25.4	35.6	10.0	1.9	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	3.6	6.2	1.3	2.4	10.2	6.8	19.7	22.6	7.5	11.4	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.0	27.9	30.8	67.7	45.2	69.9	65.8	69.6	79.8	64.5	40.6	41.3
LnGrp LOS	E	C	C	E	D	E	E	E	E	E	D	D
Approach Vol, veh/h		1086			395			1788			2086	
Approach Delay, s/veh		50.3			64.3			72.4			43.3	
Approach LOS		D			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.4	45.4	7.6	53.4	20.6	47.2	32.2	28.8
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	30.0	40.0	30.0	30.0	25.0	40.0	30.0	* 30
Max Q Clear Time (g_c+I1), s	17.6	41.5	4.4	18.1	16.0	29.6	26.1	22.6
Green Ext Time (p_c), s	0.3	0.0	0.0	1.4	0.2	7.2	0.6	0.9

Intersection Summary	
HCM 6th Ctrl Delay	56.0
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	165	198	97	295	343	280	1178	132	384	974	67
Future Volume (veh/h)	219	165	198	97	295	343	280	1178	132	384	974	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	231	174	208	102	311	361	295	1240	139	404	1025	71
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	301	212	253	131	933	413	366	1527	171	474	1859	714
Arrive On Green	0.09	0.28	0.28	0.07	0.25	0.25	0.11	0.33	0.33	0.14	0.37	0.37
Sat Flow, veh/h	3428	766	916	1879	3749	1658	3428	4620	518	3428	5066	1569
Grp Volume(v), veh/h	231	0	382	102	311	361	295	906	473	404	1025	71
Grp Sat Flow(s),veh/h/ln	1714	0	1682	1879	1874	1658	1714	1689	1761	1714	1689	1569
Q Serve(g_s), s	6.9	0.0	22.4	5.6	7.2	22.0	8.9	25.9	25.9	12.1	16.9	2.7
Cycle Q Clear(g_c), s	6.9	0.0	22.4	5.6	7.2	22.0	8.9	25.9	25.9	12.1	16.9	2.7
Prop In Lane	1.00		0.54	1.00		1.00	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	301	0	465	131	933	413	366	1116	582	474	1859	714
V/C Ratio(X)	0.77	0.00	0.82	0.78	0.33	0.87	0.81	0.81	0.81	0.85	0.55	0.10
Avail Cap(c_a), veh/h	650	0	479	356	1067	472	650	1281	668	650	1922	733
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	0.0	35.7	48.3	32.4	38.0	46.0	32.3	32.3	44.4	26.5	16.4
Incr Delay (d2), s/veh	1.6	0.0	10.7	3.8	0.2	15.2	1.6	3.6	6.7	6.1	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	10.4	2.8	3.3	10.6	3.8	10.6	11.6	5.4	6.6	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.6	0.0	46.4	52.0	32.6	53.2	47.6	35.9	39.0	50.5	26.8	16.5
LnGrp LOS	D	A	D	D	C	D	D	D	D	D	C	B
Approach Vol, veh/h		613			774			1674			1500	
Approach Delay, s/veh		47.2			44.8			38.8			32.7	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.6	40.3	11.8	33.8	15.7	44.1	14.8	30.8
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	14.1	27.9	7.6	24.4	10.9	18.9	8.9	24.0
Green Ext Time (p_c), s	0.4	6.8	0.1	1.2	0.4	7.3	0.3	1.8

Intersection Summary	
HCM 6th Ctrl Delay	38.9
HCM 6th LOS	D

Notes
User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	313	653	137	120	447	177	58	585	78	192	563	274
Future Volume (veh/h)	313	653	137	120	447	177	58	585	78	192	563	274
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	326	680	143	125	466	184	60	609	81	200	586	285
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	365	912	192	156	695	305	77	798	106	235	1215	861
Arrive On Green	0.21	0.32	0.32	0.09	0.20	0.20	0.04	0.26	0.26	0.13	0.34	0.34
Sat Flow, veh/h	1767	2893	608	1767	3526	1546	1767	3123	415	1767	3526	1559
Grp Volume(v), veh/h	326	414	409	125	466	184	60	343	347	200	586	285
Grp Sat Flow(s),veh/h/ln	1767	1763	1739	1767	1763	1546	1767	1763	1775	1767	1763	1559
Q Serve(g_s), s	17.1	20.0	20.0	6.6	11.6	10.3	3.2	17.1	17.2	10.5	12.4	9.6
Cycle Q Clear(g_c), s	17.1	20.0	20.0	6.6	11.6	10.3	3.2	17.1	17.2	10.5	12.4	9.6
Prop In Lane	1.00		0.35	1.00		1.00	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	365	556	548	156	695	305	77	451	454	235	1215	861
V/C Ratio(X)	0.89	0.75	0.75	0.80	0.67	0.60	0.77	0.76	0.76	0.85	0.48	0.33
Avail Cap(c_a), veh/h	558	556	549	372	1113	488	372	742	747	372	1483	980
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.7	29.1	29.1	42.5	35.3	34.8	45.0	32.7	32.7	40.3	24.5	11.7
Incr Delay (d2), s/veh	10.4	5.4	5.5	3.6	1.1	1.9	6.1	2.7	2.7	6.1	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	8.9	8.9	3.0	5.0	3.9	1.5	7.4	7.5	4.8	5.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.1	34.6	34.7	46.1	36.4	36.7	51.0	35.4	35.4	46.4	24.8	12.0
LnGrp LOS	D	C	C	D	D	D	D	D	D	D	C	B
Approach Vol, veh/h		1149			775			750			1071	
Approach Delay, s/veh		38.2			38.1			36.7			25.4	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.1	29.7	12.9	35.4	8.7	38.1	24.1	24.1
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	12.5	19.2	8.6	22.0	5.2	14.4	19.1	13.6
Green Ext Time (p_c), s	0.2	4.1	0.1	3.1	0.0	5.0	0.5	3.3

Intersection Summary	
HCM 6th Ctrl Delay	34.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	194	372	395	79	57	213
Future Vol, veh/h	194	372	395	79	57	213
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	200	384	407	81	59	220
Number of Lanes	2	1	1	2	2	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	3	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	3
HCM Control Delay	11.9	15.2	14.4
HCM LOS	B	C	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	SBLn1	SBLn2
Vol Left, %	100%	88%	0%	100%	26%	0%	0%	0%
Vol Thru, %	0%	12%	100%	0%	0%	0%	100%	8%
Vol Right, %	0%	0%	0%	0%	74%	100%	0%	92%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	198	224	53	129	251	186	38	232
LT Vol	198	198	0	129	65	0	0	0
Through Vol	0	26	53	0	0	0	38	19
RT Vol	0	0	0	0	186	186	0	213
Lane Flow Rate	204	231	54	133	258	192	39	239
Geometry Grp	8	8	8	7	7	7	8	8
Degree of Util (X)	0.419	0.472	0.077	0.266	0.452	0.225	0.081	0.448
Departure Headway (Hd)	7.416	7.356	5.13	7.195	6.297	4.218	7.406	6.75
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	483	487	692	497	569	842	481	529
Service Time	5.196	5.136	2.909	4.969	4.07	1.99	5.199	4.544
HCM Lane V/C Ratio	0.422	0.474	0.078	0.268	0.453	0.228	0.081	0.452
HCM Control Delay	15.5	16.6	8.3	12.6	14.2	8.2	10.9	15
HCM Lane LOS	C	C	A	B	B	A	B	B
HCM 95th-tile Q	2	2.5	0.2	1.1	2.3	0.9	0.3	2.3

Intersection	
Intersection Delay, s/veh	15.2
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	286	246	154	283	268	192
Future Vol, veh/h	286	246	154	283	268	192
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	304	262	164	301	285	204
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	20	12.7	11.9
HCM LOS	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	100%	0%	0%	0%	100%	14%	0%
Vol Thru, %	0%	0%	0%	100%	28%	0%	86%	100%
Vol Right, %	0%	0%	100%	0%	72%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	134	134	192	191	341	139	110	189
LT Vol	134	134	0	0	0	139	15	0
Through Vol	0	0	0	191	95	0	95	189
RT Vol	0	0	192	0	246	0	0	0
Lane Flow Rate	143	143	204	203	363	147	117	201
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.308	0.308	0.271	0.409	0.681	0.33	0.247	0.321
Departure Headway (Hd)	7.772	7.772	4.777	7.266	6.753	8.054	7.616	5.756
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	465	465	756	495	534	447	472	624
Service Time	5.472	5.472	2.477	5.009	4.495	5.8	5.361	3.501
HCM Lane V/C Ratio	0.308	0.308	0.27	0.41	0.68	0.329	0.248	0.322
HCM Control Delay	13.9	13.9	9.2	15	22.8	14.7	12.9	11.2
HCM Lane LOS	B	B	A	B	C	B	B	B
HCM 95th-tile Q	1.3	1.3	1.1	2	5.1	1.4	1	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	419	307	32	336	102	219	478	33	88	534	75
Future Volume (veh/h)	104	419	307	32	336	102	219	478	33	88	534	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	107	432	316	33	346	105	226	493	34	91	551	77
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	138	1019	453	47	837	372	271	1178	81	119	842	117
Arrive On Green	0.08	0.29	0.29	0.03	0.24	0.24	0.15	0.35	0.35	0.07	0.26	0.26
Sat Flow, veh/h	1767	3526	1568	1767	3526	1567	1767	3346	230	1810	3181	443
Grp Volume(v), veh/h	107	432	316	33	346	105	226	259	268	91	312	316
Grp Sat Flow(s),veh/h/ln	1767	1763	1568	1767	1763	1567	1767	1763	1814	1810	1805	1820
Q Serve(g_s), s	4.4	7.3	13.2	1.4	6.1	4.0	9.1	8.2	8.3	3.6	11.3	11.4
Cycle Q Clear(g_c), s	4.4	7.3	13.2	1.4	6.1	4.0	9.1	8.2	8.3	3.6	11.3	11.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.24
Lane Grp Cap(c), veh/h	138	1019	453	47	837	372	271	621	639	119	478	481
V/C Ratio(X)	0.77	0.42	0.70	0.70	0.41	0.28	0.83	0.42	0.42	0.76	0.65	0.66
Avail Cap(c_a), veh/h	720	1915	852	720	1915	851	720	958	986	737	981	989
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.3	21.2	23.3	35.5	23.7	22.9	30.2	18.1	18.1	33.8	24.1	24.1
Incr Delay (d2), s/veh	3.4	0.4	2.8	6.8	0.5	0.6	2.6	0.6	0.6	3.8	2.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.9	4.8	0.6	2.4	1.4	3.8	3.1	3.2	1.7	4.9	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.7	21.6	26.1	42.4	24.2	23.5	32.8	18.7	18.8	37.6	26.2	26.3
LnGrp LOS	D	C	C	D	C	C	C	B	B	D	C	C
Approach Vol, veh/h		855			484			753			719	
Approach Delay, s/veh		25.1			25.3			23.0			27.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	31.7	6.0	27.1	15.3	25.3	9.8	23.3
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	30.0	40.0	30.0	40.0	30.0	40.0	30.0	40.0
Max Q Clear Time (g_c+I1), s	5.6	10.3	3.4	15.2	11.1	13.4	6.4	8.1
Green Ext Time (p_c), s	0.1	4.6	0.0	6.0	0.3	5.9	0.1	3.8

Intersection Summary	
HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	204	38	333	185	234	16	68	302	221	87	2
Future Volume (veh/h)	2	204	38	333	185	234	16	68	302	221	87	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1870	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	2	222	41	358	201	252	17	73	325	238	94	2
Peak Hour Factor	0.92	0.92	0.92	0.93	0.92	0.93	0.93	0.93	0.93	0.93	0.93	0.90
Percent Heavy Veh, %	2	2	2	3	2	3	3	3	3	3	3	3
Cap, veh/h	5	295	55	541	264	331	36	451	629	348	572	12
Arrive On Green	0.00	0.19	0.19	0.16	0.35	0.35	0.02	0.24	0.24	0.10	0.32	0.32
Sat Flow, veh/h	1781	1536	284	3428	752	943	1767	1856	1567	3428	1810	39
Grp Volume(v), veh/h	2	0	263	358	0	453	17	73	325	238	0	96
Grp Sat Flow(s),veh/h/ln	1781	0	1819	1714	0	1695	1767	1856	1567	1714	0	1848
Q Serve(g_s), s	0.1	0.0	8.3	5.9	0.0	14.3	0.6	1.9	9.5	4.1	0.0	2.3
Cycle Q Clear(g_c), s	0.1	0.0	8.3	5.9	0.0	14.3	0.6	1.9	9.5	4.1	0.0	2.3
Prop In Lane	1.00		0.16	1.00		0.56	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	5	0	350	541	0	594	36	451	629	348	0	584
V/C Ratio(X)	0.41	0.00	0.75	0.66	0.00	0.76	0.47	0.16	0.52	0.68	0.00	0.16
Avail Cap(c_a), veh/h	147	0	616	1194	0	1024	146	1008	1099	622	0	1172
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.2	0.0	23.1	24.0	0.0	17.4	29.3	18.1	13.7	26.3	0.0	15.0
Incr Delay (d2), s/veh	47.3	0.0	3.3	2.0	0.0	2.9	9.1	0.2	0.9	0.9	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	3.6	2.4	0.0	5.5	0.3	0.8	3.1	1.6	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.5	0.0	26.4	26.0	0.0	20.3	38.4	18.3	14.7	27.2	0.0	15.1
LnGrp LOS	E	A	C	C	A	C	D	B	B	C	A	B
Approach Vol, veh/h		265			811			415			334	
Approach Delay, s/veh		26.8			22.8			16.3			23.7	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	19.8	14.3	16.4	5.7	24.2	4.7	25.9
Change Period (Y+Rc), s	4.0	5.1	* 4.7	* 4.7	4.5	5.1	4.5	* 4.7
Max Green Setting (Gmax), s	11.0	32.9	* 21	* 21	5.0	38.4	5.0	* 37
Max Q Clear Time (g_c+I1), s	6.1	11.5	7.9	10.3	2.6	4.3	2.1	16.3
Green Ext Time (p_c), s	0.2	2.4	1.6	1.0	0.0	0.7	0.0	4.2

Intersection Summary	
HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	18.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	298	115	136	238	87	79	143	123	59	150	11
Future Vol, veh/h	16	298	115	136	238	87	79	143	123	59	150	11
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.92	0.93	0.93	0.93	0.93
Heavy Vehicles, %	3	3	3	3	3	3	3	2	3	3	3	3
Mvmt Flow	17	320	124	146	256	94	85	155	132	63	161	12
Number of Lanes	1	2	0	1	2	0	1	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	3	3
HCM Control Delay	20.5	18	14.5	24.6
HCM LOS	C	C	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	10%	0%	27%
Vol Thru, %	0%	100%	0%	0%	100%	46%	0%	90%	58%	68%
Vol Right, %	0%	0%	100%	0%	0%	54%	0%	0%	42%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	143	123	16	199	214	122	133	206	220
LT Vol	79	0	0	16	0	0	122	14	0	59
Through Vol	0	143	0	0	199	99	0	119	119	150
RT Vol	0	0	123	0	0	115	0	0	87	11
Lane Flow Rate	85	155	132	17	214	230	132	143	222	237
Geometry Grp	7	7	7	8	8	8	8	8	8	8
Degree of Util (X)	0.21	0.362	0.282	0.045	0.523	0.54	0.338	0.348	0.519	0.599
Departure Headway (Hd)	8.92	8.389	7.688	9.337	8.819	8.43	9.253	8.788	8.428	9.112
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	403	429	467	383	408	429	388	409	428	397
Service Time	6.668	6.137	5.435	7.092	6.574	6.184	7.008	6.543	6.183	6.865
HCM Lane V/C Ratio	0.211	0.361	0.283	0.044	0.525	0.536	0.34	0.35	0.519	0.597
HCM Control Delay	14	15.8	13.4	12.5	20.9	20.7	16.7	16.2	20	24.6
HCM Lane LOS	B	C	B	B	C	C	C	C	C	C
HCM 95th-tile Q	0.8	1.6	1.1	0.1	2.9	3.1	1.5	1.5	2.9	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	349	13	24	306	159	14	22	19	204	8	104
Future Volume (veh/h)	135	349	13	24	306	159	14	22	19	204	8	104
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	142	367	14	25	322	167	15	23	20	215	8	109
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	185	1079	481	42	793	353	20	31	27	314	329	279
Arrive On Green	0.10	0.31	0.31	0.02	0.22	0.22	0.05	0.05	0.05	0.18	0.18	0.18
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	446	684	595	1767	1856	1572
Grp Volume(v), veh/h	142	367	14	25	322	167	58	0	0	215	8	109
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1726	0	0	1767	1856	1572
Q Serve(g_s), s	3.6	3.7	0.3	0.6	3.5	4.2	1.5	0.0	0.0	5.2	0.2	2.8
Cycle Q Clear(g_c), s	3.6	3.7	0.3	0.6	3.5	4.2	1.5	0.0	0.0	5.2	0.2	2.8
Prop In Lane	1.00		1.00	1.00		1.00	0.26		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	185	1079	481	42	793	353	79	0	0	314	329	279
V/C Ratio(X)	0.77	0.34	0.03	0.59	0.41	0.47	0.74	0.00	0.00	0.69	0.02	0.39
Avail Cap(c_a), veh/h	1168	3494	1558	1168	3494	1558	1140	0	0	1168	1226	1039
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	12.2	11.0	21.9	15.0	15.3	21.4	0.0	0.0	17.5	15.4	16.5
Incr Delay (d2), s/veh	2.5	0.3	0.0	4.9	0.5	1.4	12.4	0.0	0.0	2.7	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.1	0.1	0.3	1.2	1.3	0.8	0.0	0.0	2.1	0.1	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	12.5	11.1	26.8	15.5	16.7	33.8	0.0	0.0	20.1	15.5	17.4
LnGrp LOS	C	B	B	C	B	B	C	A	A	C	B	B
Approach Vol, veh/h		523			514			58			332	
Approach Delay, s/veh		15.1			16.4			33.8			19.1	
Approach LOS		B			B			C			B	

Timer - Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		7.2	5.1	19.7		13.5	8.8	16.0
Change Period (Y+Rc), s		5.1	4.0	5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		30.0	30.0	45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		3.5	2.6	5.7		7.2	5.6	6.2
Green Ext Time (p_c), s		0.3	0.0	3.6		1.0	0.2	4.0

Intersection Summary		
HCM 6th Ctrl Delay		17.3
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	34	162	604	62	216	92	1168	429	90	863	14
Future Volume (veh/h)	29	34	162	604	62	216	92	1168	429	90	863	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	29	34	164	610	63	218	93	1180	433	91	872	14
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	37	39	190	661	115	397	114	1637	729	112	2378	38
Arrive On Green	0.02	0.14	0.14	0.19	0.31	0.31	0.06	0.46	0.46	0.06	0.46	0.46
Sat Flow, veh/h	1767	277	1338	3428	365	1263	1767	3526	1570	1767	5135	82
Grp Volume(v), veh/h	29	0	198	610	0	281	93	1180	433	91	573	313
Grp Sat Flow(s),veh/h/ln	1767	0	1615	1714	0	1628	1767	1763	1570	1767	1689	1841
Q Serve(g_s), s	2.3	0.0	16.8	24.5	0.0	20.0	7.3	37.7	28.6	7.1	15.4	15.4
Cycle Q Clear(g_c), s	2.3	0.0	16.8	24.5	0.0	20.0	7.3	37.7	28.6	7.1	15.4	15.4
Prop In Lane	1.00		0.83	1.00		0.78	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	37	0	230	661	0	512	114	1637	729	112	1564	852
V/C Ratio(X)	0.79	0.00	0.86	0.92	0.00	0.55	0.81	0.72	0.59	0.81	0.37	0.37
Avail Cap(c_a), veh/h	379	0	346	735	0	512	199	1637	729	199	1564	852
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.93	0.00	0.93	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.2	0.0	58.7	55.5	0.0	39.8	64.6	30.2	27.7	64.7	24.3	24.3
Incr Delay (d2), s/veh	12.9	0.0	16.0	14.6	0.0	1.5	5.1	2.8	3.5	5.2	0.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	7.9	11.8	0.0	8.2	3.4	16.2	11.3	3.3	6.2	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.1	0.0	74.7	70.1	0.0	41.3	69.8	33.0	31.3	69.9	25.0	25.5
LnGrp LOS	F	A	E	E	A	D	E	C	C	E	C	C
Approach Vol, veh/h		227			891			1706			977	
Approach Delay, s/veh		75.5			61.0			34.6			29.3	
Approach LOS		E			E			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.9	70.8	31.0	25.3	13.1	70.6	6.9	49.4				
Change Period (Y+Rc), s	4.0	5.8	4.0	* 5.4	4.0	5.8	4.0	5.4				
Max Green Setting (Gmax), s	15.8	45.0	30.0	* 30	15.8	45.0	30.0	30.0				
Max Q Clear Time (g_c+I1), s	9.1	39.7	26.5	18.8	9.3	17.4	4.3	22.0				
Green Ext Time (p_c), s	0.0	4.3	0.5	1.1	0.0	8.5	0.0	1.3				
Intersection Summary												
HCM 6th Ctrl Delay			41.9									
HCM 6th LOS			D									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1919	477	129	1113
Future Volume (veh/h)	0	0	1919	477	129	1113
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				0.99	1.00	
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No			No
Adj Sat Flow, veh/h/ln			1856	1856	1856	1856
Adj Flow Rate, veh/h			2020	502	136	1172
Peak Hour Factor			0.95	0.95	0.95	0.95
Percent Heavy Veh, %			3	3	3	3
Cap, veh/h			2958	1311	158	3387
Arrive On Green			1.00	1.00	0.18	1.00
Sat Flow, veh/h			3618	1562	1767	3618
Grp Volume(v), veh/h			2020	502	136	1172
Grp Sat Flow(s),veh/h/ln			1763	1562	1767	1763
Q Serve(g_s), s			0.0	0.0	10.5	0.0
Cycle Q Clear(g_c), s			0.0	0.0	10.5	0.0
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			2958	1311	158	3387
V/C Ratio(X)			0.68	0.38	0.86	0.35
Avail Cap(c_a), veh/h			2958	1311	322	3387
HCM Platoon Ratio			1.33	1.33	2.00	2.00
Upstream Filter(I)			0.37	0.37	1.00	1.00
Uniform Delay (d), s/veh			0.0	0.0	56.6	0.0
Incr Delay (d2), s/veh			0.5	0.3	5.2	0.3
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.2	0.1	4.5	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			0.5	0.3	61.8	0.3
LnGrp LOS			A	A	E	A
Approach Vol, veh/h			2522			1308
Approach Delay, s/veh			0.4			6.7
Approach LOS			A			A

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	17.0	123.0				140.0
Change Period (Y+Rc), s	4.5	5.5				5.5
Max Green Setting (Gmax), s	25.5	104.5				60.0
Max Q Clear Time (g_c+I1), s	12.5	2.0				2.0
Green Ext Time (p_c), s	0.1	22.2				6.4

Intersection Summary		
HCM 6th Ctrl Delay		2.6
HCM 6th LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	550	450	502	317	0	334	0	1549	381	112	984	0
Future Volume (veh/h)	550	450	502	317	0	334	0	1549	381	112	984	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	567	464	518	327	0	344	0	1597	393	115	1014	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	1077	583	493	0	0	0	0	2522	780	136	2140	0
Arrive On Green	0.31	0.31	0.31	0.00	0.00	0.00	0.00	0.50	0.50	0.15	1.00	0.00
Sat Flow, veh/h	3428	1856	1568		0		0	5233	1566	1767	3618	0
Grp Volume(v), veh/h	567	464	518		0.0		0	1597	393	115	1014	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1568				0	1689	1566	1767	1763	0
Q Serve(g_s), s	19.0	32.0	44.0				0.0	32.4	23.6	8.9	0.0	0.0
Cycle Q Clear(g_c), s	19.0	32.0	44.0				0.0	32.4	23.6	8.9	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1077	583	493				0	2522	780	136	2140	0
V/C Ratio(X)	0.53	0.80	1.05				0.00	0.63	0.50	0.84	0.47	0.00
Avail Cap(c_a), veh/h	1077	583	493				0	2522	780	215	2140	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.82	0.82	0.95	0.95	0.00
Uniform Delay (d), s/veh	39.4	43.9	48.0				0.0	25.8	23.6	58.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	7.0	54.6				0.0	1.0	1.9	8.8	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	15.8	24.6				0.0	12.8	8.9	4.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.7	50.9	102.6				0.0	26.8	25.5	67.2	0.7	0.0
LnGrp LOS	D	D	F				A	C	C	E	A	A
Approach Vol, veh/h		1549						1990			1129	
Approach Delay, s/veh		64.1						26.5			7.5	
Approach LOS		E						C			A	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	15.3	75.2		49.5		90.5						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	17.0	31.0		44.0		60.0						
Max Q Clear Time (g_c+I1), s	10.9	34.4		46.0		2.0						
Green Ext Time (p_c), s	0.1	0.0		0.0		8.7						

Intersection Summary			
HCM 6th Ctrl Delay			34.4
HCM 6th LOS			C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	774	198	138	1172	950	759
Future Volume (veh/h)	774	198	138	1172	950	759
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	790	202	141	1196	969	774
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1000	458	222	2886	1606	1175
Arrive On Green	0.29	0.29	0.06	0.57	0.46	0.46
Sat Flow, veh/h	3428	1572	3428	5233	3618	1572
Grp Volume(v), veh/h	790	202	141	1196	969	774
Grp Sat Flow(s),veh/h/ln	1714	1572	1714	1689	1763	1572
Q Serve(g_s), s	17.1	8.4	3.2	10.7	16.7	19.8
Cycle Q Clear(g_c), s	17.1	8.4	3.2	10.7	16.7	19.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1000	458	222	2886	1606	1175
V/C Ratio(X)	0.79	0.44	0.64	0.41	0.60	0.66
Avail Cap(c_a), veh/h	1274	584	1274	2886	1965	1335
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.3	23.3	36.8	9.8	16.5	5.1
Incr Delay (d2), s/veh	3.1	0.9	1.1	0.1	0.5	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	7.9	1.3	3.3	6.0	13.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.5	24.2	38.0	9.9	17.0	6.3
LnGrp LOS	C	C	D	A	B	A
Approach Vol, veh/h	992			1337	1743	
Approach Delay, s/veh	28.4			12.9	12.3	
Approach LOS	C			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		51.8		28.9	9.2	42.6
Change Period (Y+Rc), s		5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		12.7		19.1	5.2	21.8
Green Ext Time (p_c), s		13.7		4.4	0.2	15.0

Intersection Summary						
HCM 6th Ctrl Delay			16.4			
HCM 6th LOS			B			

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	315	300	359	904	922	202
Future Volume (veh/h)	315	300	359	904	922	202
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	328	312	374	942	960	210
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	814	374	409	2253	1287	940
Arrive On Green	0.24	0.24	0.23	0.64	0.37	0.37
Sat Flow, veh/h	3428	1572	1767	3618	3618	1551
Grp Volume(v), veh/h	328	312	374	942	960	210
Grp Sat Flow(s),veh/h/ln	1714	1572	1767	1763	1763	1551
Q Serve(g_s), s	7.6	17.8	19.4	12.4	22.4	5.9
Cycle Q Clear(g_c), s	7.6	17.8	19.4	12.4	22.4	5.9
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	814	374	409	2253	1287	940
V/C Ratio(X)	0.40	0.84	0.91	0.42	0.75	0.22
Avail Cap(c_a), veh/h	1093	501	563	2253	1686	1115
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.2	34.1	35.2	8.4	26.1	8.6
Incr Delay (d2), s/veh	0.5	10.2	13.2	0.2	1.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	1.1	9.5	4.0	9.0	3.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.7	44.4	48.5	8.5	27.7	8.8
LnGrp LOS	C	D	D	A	C	A
Approach Vol, veh/h	640			1316	1170	
Approach Delay, s/veh	37.4			19.9	24.3	
Approach LOS	D			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		65.9		28.2	25.8	40.1
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		14.4		19.8	21.4	24.4
Green Ext Time (p_c), s		10.3		2.6	0.4	10.0

Intersection Summary		
HCM 6th Ctrl Delay		25.1
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	73	415	149	52	423	269	154	902	52	236	918	83
Future Volume (veh/h)	73	415	149	52	423	269	154	902	52	236	918	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	74	419	151	53	427	272	156	911	53	238	927	84
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	96	684	244	68	525	331	189	1192	530	273	1359	604
Arrive On Green	0.05	0.27	0.27	0.04	0.25	0.25	0.11	0.34	0.34	0.15	0.39	0.39
Sat Flow, veh/h	1767	2546	908	1767	2072	1309	1767	3526	1567	1767	3526	1568
Grp Volume(v), veh/h	74	289	281	53	363	336	156	911	53	238	927	84
Grp Sat Flow(s),veh/h/ln	1767	1763	1691	1767	1763	1618	1767	1763	1567	1767	1763	1568
Q Serve(g_s), s	4.1	14.0	14.3	2.9	19.0	19.2	8.5	22.6	2.3	12.9	21.5	3.4
Cycle Q Clear(g_c), s	4.1	14.0	14.3	2.9	19.0	19.2	8.5	22.6	2.3	12.9	21.5	3.4
Prop In Lane	1.00		0.54	1.00		0.81	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	474	455	68	447	410	189	1192	530	273	1359	604
V/C Ratio(X)	0.77	0.61	0.62	0.78	0.81	0.82	0.82	0.76	0.10	0.87	0.68	0.14
Avail Cap(c_a), veh/h	541	539	517	541	539	495	541	1618	719	541	1618	719
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	31.4	31.4	46.7	34.4	34.5	42.9	29.0	22.2	40.5	25.1	19.6
Incr Delay (d2), s/veh	4.9	2.1	2.3	6.8	8.7	9.9	3.4	1.9	0.1	3.4	1.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	6.0	5.9	1.4	8.8	8.4	3.8	9.3	0.8	5.7	8.6	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	33.4	33.8	53.6	43.1	44.5	46.3	30.9	22.3	43.9	26.3	19.7
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	C	B
Approach Vol, veh/h		644			752			1120			1249	
Approach Delay, s/veh		35.6			44.4			32.6			29.2	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.2	39.0	7.8	32.2	14.5	43.6	9.3	30.6
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	30.0	45.0	30.0	30.0	30.0	45.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	14.9	24.6	4.9	16.3	10.5	23.5	6.1	21.2
Green Ext Time (p_c), s	0.3	8.5	0.0	3.8	0.2	9.1	0.1	3.6

Intersection Summary	
HCM 6th Ctrl Delay	34.3
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	538	0	0	389	1	509	2	31	0	0	11
Future Volume (vph)	28	538	0	0	389	1	509	2	31	0	0	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Lane Util. Factor		0.95			0.95		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.99			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.95	1.00			1.00
Satd. Flow (prot)		3496			3503		1665	1670	1546			1596
Flt Permitted		0.92			1.00		0.95	0.95	1.00			1.00
Satd. Flow (perm)		3229			3503		1665	1670	1546			1596
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	30	572	0	0	414	1	541	2	33	0	0	12
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	25	0	0	12
Lane Group Flow (vph)	0	602	0	0	415	0	270	273	8	0	0	0
Confl. Peds. (#/hr)	3		10	10		3			3	3		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA			NA		Split	NA	Perm			Prot
Protected Phases		6			2		4	4				3
Permitted Phases	6								4			
Actuated Green, G (s)		38.2			38.2		16.8	16.8	16.8			1.0
Effective Green, g (s)		38.2			38.2		16.8	16.8	16.8			1.0
Actuated g/C Ratio		0.55			0.55		0.24	0.24	0.24			0.01
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		1762			1911		399	400	371			22
v/s Ratio Prot					0.12		0.16	c0.16				c0.00
v/s Ratio Perm		c0.19							0.01			
v/c Ratio		0.34			0.22		0.68	0.68	0.02			0.01
Uniform Delay, d1		8.9			8.2		24.1	24.2	20.3			34.0
Progression Factor		1.30			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.5			0.3		3.6	3.8	0.0			0.1
Delay (s)		12.1			8.5		27.7	28.0	20.3			34.1
Level of Service		B			A		C	C	C			C
Approach Delay (s)		12.1			8.5			27.4			34.1	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	16.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	1.1					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	248	25	29	254	16	18
Future Vol, veh/h	248	25	29	254	16	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	261	26	31	267	17	19

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	287	0	470	144
Stage 1	-	-	-	-	274	-
Stage 2	-	-	-	-	196	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1265	-	520	874
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	815	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1265	-	505	874
Mov Cap-2 Maneuver	-	-	-	-	505	-
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	791	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	650	-	-	1265	-
HCM Lane V/C Ratio	0.055	-	-	0.024	-
HCM Control Delay (s)	10.9	-	-	7.9	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.4					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	271	7	7	274	9	9
Future Vol, veh/h	271	7	7	274	9	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	285	7	7	288	9	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	292	0	447	146
Stage 1	-	-	-	-	289	-
Stage 2	-	-	-	-	158	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1259	-	537	871
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	851	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1259	-	533	871
Mov Cap-2 Maneuver	-	-	-	-	533	-
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	845	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	661	-	-	1259	-
HCM Lane V/C Ratio	0.029	-	-	0.006	-
HCM Control Delay (s)	10.6	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.8					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	31	22	280	277	3
Future Vol, veh/h	1	31	22	280	277	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1	33	23	295	292	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	488	148	295	0	-	0
Stage 1	294	-	-	-	-	-
Stage 2	194	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	506	869	1256	-	-	-
Stage 1	727	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	495	869	1256	-	-	-
Mov Cap-2 Maneuver	495	-	-	-	-	-
Stage 1	711	-	-	-	-	-
Stage 2	817	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1256	-	849	-	-
HCM Lane V/C Ratio	0.018	-	0.04	-	-
HCM Control Delay (s)	7.9	0.1	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	47	46	66	380	408	68
Future Vol, veh/h	47	46	66	380	408	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	49	48	69	400	429	72

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	803	251	501	0	-	0
Stage 1	465	-	-	-	-	-
Stage 2	338	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	319	746	1052	-	-	-
Stage 1	596	-	-	-	-	-
Stage 2	691	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	298	746	1052	-	-	-
Mov Cap-2 Maneuver	298	-	-	-	-	-
Stage 1	557	-	-	-	-	-
Stage 2	691	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16	1.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1052	-	424	-	-
HCM Lane V/C Ratio	0.066	-	0.231	-	-
HCM Control Delay (s)	8.7	-	16	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.9	-	-

Intersection						
Int Delay, s/veh	1					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	394	291	36	35	19
Future Vol, veh/h	23	394	291	36	35	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	24	415	306	38	37	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	344	0	-	0	581	172
Stage 1	-	-	-	-	325	-
Stage 2	-	-	-	-	256	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	1205	-	-	-	442	839
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	760	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1205	-	-	-	433	839
Mov Cap-2 Maneuver	-	-	-	-	526	-
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	760	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1205	-	-	-	526	839
HCM Lane V/C Ratio	0.02	-	-	-	0.07	0.024
HCM Control Delay (s)	8	-	-	-	12.4	9.4
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2	0.1

HCM 6th Signalized Intersection Summary
101: I-215 Ramp & Eucalyptus Ave

03/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	366	54	1018	489	469	209	0	944	627	0	77
Future Volume (veh/h)	39	366	54	1018	489	469	209	0	944	627	0	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1565	1565	1565	1565	1565	1565	1565	0	1565	1565	0	1565
Adj Flow Rate, veh/h	40	377	0	1049	504	0	215	0	973	646	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	0	3	3	0	3
Cap, veh/h	53	509		1011	1443		295	0	0	728	0	
Arrive On Green	0.04	0.17	0.00	0.35	0.49	0.00	0.10	0.00	0.00	0.25	0.00	0.00
Sat Flow, veh/h	1491	2974	1327	2892	2974	1327	2892	215		2892	646	
Grp Volume(v), veh/h	40	377	0	1049	504	0	215	40.8		646	41.1	
Grp Sat Flow(s),veh/h/ln	1491	1487	1327	1446	1487	1327	1446	D		1446	D	
Q Serve(g_s), s	2.3	10.3	0.0	30.0	9.0	0.0	6.2			18.5		
Cycle Q Clear(g_c), s	2.3	10.3	0.0	30.0	9.0	0.0	6.2			18.5		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	53	509		1011	1443		295			728		
V/C Ratio(X)	0.75	0.74		1.04	0.35		0.73			0.89		
Avail Cap(c_a), veh/h	521	1213		1011	1443		843			843		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00			1.00		
Uniform Delay (d), s/veh	41.0	33.7	0.0	27.9	13.7	0.0	37.4			30.9		
Incr Delay (d2), s/veh	18.7	2.1	0.0	38.4	0.1	0.0	3.4			10.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	1.1	3.7	0.0	15.0	2.8	0.0	2.3			7.2		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.6	35.9	0.0	66.3	13.8	0.0	40.8			41.1		
LnGrp LOS	E	D		F	B		D			D		
Approach Vol, veh/h		417	A		1553	A						
Approach Delay, s/veh		38.2			49.2							
Approach LOS		D			D							
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	36.5	22.7	13.8		9.6	49.6	26.6					
Change Period (Y+Rc), s	6.5	8.0	5.0		6.5	8.0	5.0					
Max Green Setting (Gmax), s	30.0	35.0	25.0		30.0	35.0	25.0					
Max Q Clear Time (g_c+I1), s	32.0	12.3	8.2		4.3	11.0	20.5					
Green Ext Time (p_c), s	0.0	2.4	0.6		0.1	3.3	1.1					
Intersection Summary												
HCM 6th Ctrl Delay			45.1									
HCM 6th LOS			D									

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1033	832	69	38	708	213	92	464	113	178	269	1177
Future Volume (veh/h)	1033	832	69	38	708	213	92	464	113	178	269	1177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	1065	858	71	39	730	220	95	478	116	184	277	1213
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	693	1605	716	57	919	410	121	639	154	215	529	789
Arrive On Green	0.19	0.43	0.43	0.03	0.26	0.26	0.07	0.23	0.23	0.12	0.29	0.29
Sat Flow, veh/h	3645	3749	1672	1767	3526	1572	1767	2817	679	1767	1856	2768
Grp Volume(v), veh/h	1065	858	71	39	730	220	95	298	296	184	277	1213
Grp Sat Flow(s),veh/h/ln	1823	1874	1672	1767	1763	1572	1767	1763	1733	1767	1856	1384
Q Serve(g_s), s	20.0	17.9	2.7	2.3	20.3	12.7	5.6	16.6	16.8	10.7	13.2	30.0
Cycle Q Clear(g_c), s	20.0	17.9	2.7	2.3	20.3	12.7	5.6	16.6	16.8	10.7	13.2	30.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	693	1605	716	57	919	410	121	400	393	215	529	789
V/C Ratio(X)	1.54	0.53	0.10	0.68	0.79	0.54	0.79	0.75	0.75	0.85	0.52	1.54
Avail Cap(c_a), veh/h	693	1605	716	336	1240	553	504	503	494	336	529	789
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	22.3	18.0	50.4	36.3	33.4	48.3	37.9	37.9	45.3	31.6	37.6
Incr Delay (d2), s/veh	249.0	0.3	0.1	5.3	2.6	1.1	4.2	4.6	5.0	7.4	0.9	248.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	32.8	7.8	1.0	1.1	9.0	4.7	2.5	7.2	7.3	5.1	5.9	36.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	291.6	22.7	18.0	55.6	38.9	34.5	52.5	42.4	42.9	52.7	32.6	285.8
LnGrp LOS	F	C	B	E	D	C	D	D	D	D	C	F
Approach Vol, veh/h		1994			989			689			1674	
Approach Delay, s/veh		166.1			38.6			44.0			218.3	
Approach LOS		F			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	50.4	11.2	36.2	25.0	32.8	17.3	30.1
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	4.3	19.9	7.6	32.0	22.0	22.3	12.7	18.8
Green Ext Time (p_c), s	0.0	6.4	0.1	0.0	0.0	5.1	0.1	2.4

Intersection Summary	
HCM 6th Ctrl Delay	143.1
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1000	251	928	662	67	923
Future Volume (veh/h)	1000	251	928	662	67	923
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	1031	259	957	682	69	952
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	838	469	1954	1230	90	2327
Arrive On Green	0.23	0.23	0.18	0.18	0.05	0.66
Sat Flow, veh/h	3645	1672	3618	1567	1767	3618
Grp Volume(v), veh/h	1031	259	957	682	69	952
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1567	1767	1763
Q Serve(g_s), s	23.0	13.2	24.4	20.1	3.9	12.6
Cycle Q Clear(g_c), s	23.0	13.2	24.4	20.1	3.9	12.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	838	469	1954	1230	90	2327
V/C Ratio(X)	1.23	0.55	0.49	0.55	0.77	0.41
Avail Cap(c_a), veh/h	838	469	1954	1230	300	2327
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	30.6	28.2	8.2	46.9	7.9
Incr Delay (d2), s/veh	113.8	1.4	0.9	1.8	12.9	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	23.3	5.4	11.6	17.8	2.0	4.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	152.3	32.0	29.0	10.0	59.8	8.5
LnGrp LOS	F	C	C	B	E	A
Approach Vol, veh/h	1290		1639			1021
Approach Delay, s/veh	128.2		21.1			11.9
Approach LOS	F		C			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.6	60.9				71.5		28.5
Change Period (Y+Rc), s	5.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	17.0	43.5				66.0		23.0
Max Q Clear Time (g_c+I1), s	15.9	26.4				14.6		25.0
Green Ext Time (p_c), s	0.1	8.7				7.9		0.0

Intersection Summary		
HCM 6th Ctrl Delay		53.7
HCM 6th LOS		D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	892	152	1490	956	108	1826
Future Volume (veh/h)	892	152	1490	956	108	1826
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	920	157	1536	986	111	1882
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	838	518	1904	1208	141	3394
Arrive On Green	0.23	0.23	0.54	0.54	0.03	0.22
Sat Flow, veh/h	3645	1672	3618	1567	1767	5233
Grp Volume(v), veh/h	920	157	1536	986	111	1882
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1567	1767	1689
Q Serve(g_s), s	23.0	7.2	35.5	39.0	6.2	33.0
Cycle Q Clear(g_c), s	23.0	7.2	35.5	39.0	6.2	33.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	838	518	1904	1208	141	3394
V/C Ratio(X)	1.10	0.30	0.81	0.82	0.79	0.55
Avail Cap(c_a), veh/h	838	518	1904	1208	265	3394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	38.5	26.3	18.7	7.1	47.8	25.7
Incr Delay (d2), s/veh	61.1	0.3	0.4	0.6	9.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.2	7.4	12.9	24.3	3.2	14.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	99.6	26.6	19.1	7.7	57.1	26.4
LnGrp LOS	F	C	B	A	E	C
Approach Vol, veh/h	1077		2522			1993
Approach Delay, s/veh	89.0		14.6			28.1
Approach LOS	F		B			C
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.0	59.0		28.0		72.0
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	15.0	47.0		23.0		67.0
Max Q Clear Time (g_c+I1), s	8.2	41.0		25.0		35.0
Green Ext Time (p_c), s	0.1	5.3		0.0		18.0

Intersection Summary			
HCM 6th Ctrl Delay			33.7
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	696	216	314	78	129	315	273	1499	117	271	1386	830
Future Volume (veh/h)	696	216	314	78	129	315	273	1499	117	271	1386	830
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	718	223	324	80	133	325	281	1545	121	279	1429	856
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	707	684	576	102	407	341	302	1318	103	302	1396	761
Arrive On Green	0.21	0.37	0.37	0.05	0.21	0.21	0.17	0.28	0.28	0.17	0.28	0.28
Sat Flow, veh/h	3428	1856	1562	1879	1973	1653	1767	4789	375	1767	5066	2762
Grp Volume(v), veh/h	718	223	324	80	133	325	281	1089	577	279	1429	856
Grp Sat Flow(s),veh/h/ln	1714	1856	1562	1879	1973	1653	1767	1689	1786	1767	1689	1381
Q Serve(g_s), s	30.0	12.5	24.0	6.1	8.3	28.2	22.8	40.0	40.0	22.6	40.1	40.1
Cycle Q Clear(g_c), s	30.0	12.5	24.0	6.1	8.3	28.2	22.8	40.0	40.0	22.6	40.1	40.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	707	684	576	102	407	341	302	929	492	302	1396	761
V/C Ratio(X)	1.01	0.33	0.56	0.79	0.33	0.95	0.93	1.17	1.17	0.92	1.02	1.12
Avail Cap(c_a), veh/h	707	684	576	388	407	341	304	929	492	365	1396	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.7	32.9	36.5	67.9	49.1	57.0	59.5	52.7	52.7	59.3	52.7	52.7
Incr Delay (d2), s/veh	37.6	0.3	1.3	5.0	0.5	36.4	33.6	89.0	97.7	25.0	30.2	72.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.6	5.7	9.4	3.1	4.2	15.2	12.9	28.1	30.9	12.1	20.6	21.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.3	33.2	37.8	72.9	49.6	93.4	93.0	141.7	150.4	84.3	82.9	125.2
LnGrp LOS	F	C	D	E	D	F	F	F	F	F	F	F
Approach Vol, veh/h		1265			538			1947			2564	
Approach Delay, s/veh		69.6			79.5			137.3			97.1	
Approach LOS		E			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.4	45.4	11.9	58.7	29.3	45.5	35.5	35.1
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	30.0	40.0	30.0	30.0	25.0	40.0	30.0	* 30
Max Q Clear Time (g_c+I1), s	24.6	42.0	8.1	26.0	24.8	42.1	32.0	30.2
Green Ext Time (p_c), s	0.3	0.0	0.1	1.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	102.5
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	239	203	134	383	412	381	1217	222	535	1165	106
Future Volume (veh/h)	220	239	203	134	383	412	381	1217	222	535	1165	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	239	260	221	146	416	448	414	1323	241	582	1266	115
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	300	231	197	175	932	411	472	1412	257	568	1825	702
Arrive On Green	0.09	0.25	0.25	0.09	0.25	0.25	0.14	0.33	0.33	0.17	0.36	0.36
Sat Flow, veh/h	3428	921	783	1879	3749	1654	3428	4304	784	3428	5066	1566
Grp Volume(v), veh/h	239	0	481	146	416	448	414	1038	526	582	1266	115
Grp Sat Flow(s),veh/h/ln	1714	0	1705	1879	1874	1654	1714	1689	1710	1714	1689	1566
Q Serve(g_s), s	8.3	0.0	30.3	9.2	11.3	30.0	14.3	36.0	36.0	20.0	25.7	5.3
Cycle Q Clear(g_c), s	8.3	0.0	30.3	9.2	11.3	30.0	14.3	36.0	36.0	20.0	25.7	5.3
Prop In Lane	1.00		0.46	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	300	0	428	175	932	411	472	1108	561	568	1825	702
V/C Ratio(X)	0.80	0.00	1.12	0.83	0.45	1.09	0.88	0.94	0.94	1.02	0.69	0.16
Avail Cap(c_a), veh/h	568	0	428	311	932	411	568	1120	567	568	1825	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.0	0.0	45.2	53.8	38.3	45.3	51.0	39.3	39.3	50.3	32.9	19.9
Incr Delay (d2), s/veh	1.8	0.0	81.6	3.9	0.3	70.7	11.3	14.2	23.2	44.0	1.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	22.4	4.5	5.3	20.3	6.8	16.6	18.2	11.9	10.4	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.8	0.0	126.7	57.7	38.6	116.0	62.3	53.5	62.6	94.4	34.1	20.0
LnGrp LOS	E	A	F	E	D	F	E	D	E	F	C	B
Approach Vol, veh/h		720			1010			1978			1963	
Approach Delay, s/veh		103.2			75.7			57.7			51.1	
Approach LOS		F			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	45.0	15.8	34.9	21.1	48.9	16.1	34.6
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	22.0	38.0	11.2	32.3	16.3	27.7	10.3	32.0
Green Ext Time (p_c), s	0.0	1.6	0.1	0.0	0.3	6.8	0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	64.4
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	442	582	93	117	584	254	92	638	87	162	436	285
Future Volume (veh/h)	442	582	93	117	584	254	92	638	87	162	436	285
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	465	613	98	123	615	267	97	672	92	171	459	300
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	449	1156	184	150	743	331	121	796	109	199	1055	870
Arrive On Green	0.25	0.38	0.38	0.08	0.21	0.21	0.07	0.26	0.26	0.11	0.30	0.30
Sat Flow, veh/h	1767	3045	486	1767	3526	1572	1767	3116	426	1767	3526	1572
Grp Volume(v), veh/h	465	354	357	123	615	267	97	380	384	171	459	300
Grp Sat Flow(s),veh/h/ln	1767	1763	1768	1767	1763	1572	1767	1763	1779	1767	1763	1572
Q Serve(g_s), s	30.0	18.4	18.5	8.1	19.7	19.1	6.4	24.2	24.2	11.2	12.4	12.5
Cycle Q Clear(g_c), s	30.0	18.4	18.5	8.1	19.7	19.1	6.4	24.2	24.2	11.2	12.4	12.5
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	449	669	671	150	743	331	121	450	454	199	1055	870
V/C Ratio(X)	1.04	0.53	0.53	0.82	0.83	0.81	0.80	0.84	0.85	0.86	0.43	0.34
Avail Cap(c_a), veh/h	449	669	671	299	895	399	299	597	602	299	1193	931
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.1	28.5	28.5	53.2	44.6	44.4	54.2	41.8	41.8	51.5	33.4	14.6
Incr Delay (d2), s/veh	52.3	0.8	0.8	4.2	5.6	9.8	4.5	8.3	8.4	10.1	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.4	7.8	7.9	3.7	9.1	8.2	3.0	11.4	11.5	5.4	5.2	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.4	29.2	29.3	57.4	50.2	54.1	58.7	50.1	50.1	61.7	33.6	14.8
LnGrp LOS	F	C	C	E	D	D	E	D	D	E	C	B
Approach Vol, veh/h		1176			1005			861			930	
Approach Delay, s/veh		55.8			52.1			51.1			32.7	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.8	35.6	14.5	50.3	12.6	40.8	34.5	30.3
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	13.2	26.2	10.1	20.5	8.4	14.5	32.0	21.7
Green Ext Time (p_c), s	0.1	4.0	0.1	3.0	0.1	4.0	0.0	3.2

Intersection Summary		
HCM 6th Ctrl Delay		48.4
HCM 6th LOS		D

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	25.2
Intersection LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	319	462	555	145	88	261
Future Vol, veh/h	319	462	555	145	88	261
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	332	481	578	151	92	272
Number of Lanes	2	1	1	2	2	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	3	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	3
HCM Control Delay	18.8	31.4	27
HCM LOS	C	D	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	SBLn1	SBLn2
Vol Left, %	100%	85%	0%	100%	33%	0%	0%	0%
Vol Thru, %	0%	15%	100%	0%	0%	0%	100%	10%
Vol Right, %	0%	0%	0%	0%	67%	100%	0%	90%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	278	326	97	213	319	249	59	290
LT Vol	278	278	0	213	106	0	0	0
Through Vol	0	48	97	0	0	0	59	29
RT Vol	0	0	0	0	213	249	0	261
Lane Flow Rate	289	339	101	222	332	260	61	302
Geometry Grp	8	8	8	7	7	7	8	8
Degree of Util (X)	0.697	0.811	0.178	0.505	0.682	0.376	0.155	0.711
Departure Headway (Hd)	8.675	8.599	6.366	8.213	7.397	5.204	9.109	8.461
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	416	421	561	439	488	689	392	426
Service Time	6.445	6.369	4.135	5.964	5.148	2.953	6.898	6.249
HCM Lane V/C Ratio	0.695	0.805	0.18	0.506	0.68	0.377	0.156	0.709
HCM Control Delay	29.2	39.4	10.5	19.1	24.7	11.1	13.6	29.7
HCM Lane LOS	D	E	B	C	C	B	B	D
HCM 95th-tile Q	5.2	7.4	0.6	2.8	5.1	1.8	0.5	5.4

Intersection	
Intersection Delay, s/veh	35.3
Intersection LOS	E

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	406	278	217	465	408	358
Future Vol, veh/h	406	278	217	465	408	358
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	423	290	226	484	425	373
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	65.5	23	19.3
HCM LOS	F	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	100%	0%	0%	0%	100%	12%	0%
Vol Thru, %	0%	0%	0%	100%	33%	0%	88%	100%
Vol Right, %	0%	0%	100%	0%	67%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	204	204	358	271	413	195	177	310
LT Vol	204	204	0	0	0	195	22	0
Through Vol	0	0	0	271	135	0	155	310
RT Vol	0	0	358	0	278	0	0	0
Lane Flow Rate	212	212	373	282	431	203	184	323
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.519	0.519	0.602	0.723	1.045	0.545	0.471	0.663
Departure Headway (Hd)	8.986	8.986	5.957	9.226	8.741	9.937	9.484	7.612
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	404	404	612	392	413	366	383	478
Service Time	6.686	6.686	3.657	7.008	6.523	7.637	7.184	5.312
HCM Lane V/C Ratio	0.525	0.525	0.609	0.719	1.044	0.555	0.48	0.676
HCM Control Delay	21	21	17.3	32.8	86.9	23.9	20.3	24
HCM Lane LOS	C	C	C	D	F	C	C	C
HCM 95th-tile Q	2.9	2.9	4	5.5	13.8	3.1	2.4	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	164	391	224	29	423	166	251	614	44	94	468	123
Future Volume (veh/h)	164	391	224	29	423	166	251	614	44	94	468	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	173	412	236	31	445	175	264	646	46	99	493	129
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	212	1055	470	44	719	320	306	1223	87	129	749	195
Arrive On Green	0.12	0.30	0.30	0.02	0.20	0.20	0.17	0.37	0.37	0.07	0.26	0.26
Sat Flow, veh/h	1767	3526	1571	1767	3526	1570	1767	3337	237	1810	2830	736
Grp Volume(v), veh/h	173	412	236	31	445	175	264	341	351	99	313	309
Grp Sat Flow(s),veh/h/ln	1767	1763	1571	1767	1763	1570	1767	1763	1811	1810	1805	1761
Q Serve(g_s), s	7.9	7.6	10.2	1.4	9.5	8.2	11.9	12.5	12.5	4.4	12.7	12.9
Cycle Q Clear(g_c), s	7.9	7.6	10.2	1.4	9.5	8.2	11.9	12.5	12.5	4.4	12.7	12.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		0.42
Lane Grp Cap(c), veh/h	212	1055	470	44	719	320	306	646	664	129	478	466
V/C Ratio(X)	0.82	0.39	0.50	0.71	0.62	0.55	0.86	0.53	0.53	0.77	0.66	0.66
Avail Cap(c_a), veh/h	645	1715	764	645	1715	764	645	858	881	660	878	857
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	22.9	23.8	39.8	29.8	29.3	33.1	20.5	20.5	37.5	26.9	27.0
Incr Delay (d2), s/veh	2.9	0.3	1.2	7.7	1.2	2.1	2.9	1.0	0.9	3.6	2.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	3.1	3.7	0.7	3.9	3.1	5.1	4.9	5.0	2.0	5.6	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.2	23.2	24.9	47.5	31.1	31.4	35.9	21.4	21.4	41.1	29.1	29.3
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		821			651			956			721	
Approach Delay, s/veh		26.9			31.9			25.4			30.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	35.9	6.0	30.4	18.2	27.6	13.9	22.6
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	30.0	40.0	30.0	40.0	30.0	40.0	30.0	40.0
Max Q Clear Time (g_c+I1), s	6.4	14.5	3.4	12.2	13.9	14.9	9.9	11.5
Green Ext Time (p_c), s	0.1	6.1	0.0	5.3	0.3	5.8	0.2	5.2

Intersection Summary	
HCM 6th Ctrl Delay	28.4
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	220	21	479	293	303	20	82	374	253	101	2
Future Volume (veh/h)	2	220	21	479	293	303	20	82	374	253	101	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	2	232	22	504	308	319	21	86	394	266	106	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	116	341	32	673	281	291	42	459	697	354	593	11
Arrive On Green	0.07	0.20	0.20	0.20	0.34	0.34	0.02	0.25	0.25	0.10	0.33	0.33
Sat Flow, veh/h	1767	1669	158	3428	832	862	1767	1856	1572	3428	1815	34
Grp Volume(v), veh/h	2	0	254	504	0	627	21	86	394	266	0	108
Grp Sat Flow(s),veh/h/ln	1767	0	1827	1714	0	1694	1767	1856	1572	1714	0	1849
Q Serve(g_s), s	0.1	0.0	9.8	10.6	0.0	25.7	0.9	2.8	14.2	5.7	0.0	3.2
Cycle Q Clear(g_c), s	0.1	0.0	9.8	10.6	0.0	25.7	0.9	2.8	14.2	5.7	0.0	3.2
Prop In Lane	1.00		0.09	1.00		0.51	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	116	0	373	673	0	571	42	459	697	354	0	604
V/C Ratio(X)	0.02	0.00	0.68	0.75	0.00	1.10	0.50	0.19	0.57	0.75	0.00	0.18
Avail Cap(c_a), veh/h	418	0	432	1156	0	571	128	782	971	414	0	869
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.3	0.0	28.0	28.9	0.0	25.2	36.8	22.6	15.8	33.2	0.0	18.3
Incr Delay (d2), s/veh	0.1	0.0	3.6	2.4	0.0	67.0	9.1	0.3	1.0	6.4	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	4.5	4.4	0.0	20.2	0.5	1.2	4.9	2.6	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.4	0.0	31.6	31.3	0.0	92.2	45.9	22.9	16.8	39.6	0.0	18.5
LnGrp LOS	C	A	C	C	A	F	D	C	B	D	A	B
Approach Vol, veh/h		256			1131			501			374	
Approach Delay, s/veh		31.6			65.1			19.1			33.5	
Approach LOS		C			E			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	23.9	19.6	20.3	6.3	30.0	9.5	30.4
Change Period (Y+Rc), s	4.5	5.1	* 4.7	* 4.7	4.5	5.1	4.5	* 4.7
Max Green Setting (Gmax), s	9.2	32.1	* 26	* 18	5.5	35.8	18.0	* 26
Max Q Clear Time (g_c+I1), s	7.7	16.2	12.6	11.8	2.9	5.2	2.1	27.7
Green Ext Time (p_c), s	0.1	2.6	2.4	0.7	0.0	0.8	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		45.9
HCM 6th LOS		D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	44.8
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	357	134	151	470	77	135	176	129	74	188	14
Future Vol, veh/h	17	357	134	151	470	77	135	176	129	74	188	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	18	376	141	159	495	81	142	185	136	78	198	15
Number of Lanes	1	2	0	1	2	0	1	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	3	3
HCM Control Delay	44.1	52	21.2	65.4
HCM LOS	E	F	C	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	6%	0%	27%
Vol Thru, %	0%	100%	0%	0%	100%	47%	0%	94%	75%	68%
Vol Right, %	0%	0%	100%	0%	0%	53%	0%	0%	25%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	176	129	17	238	253	136	250	312	276
LT Vol	135	0	0	17	0	0	136	15	0	74
Through Vol	0	176	0	0	238	119	0	235	235	188
RT Vol	0	0	129	0	0	134	0	0	77	14
Lane Flow Rate	142	185	136	18	251	266	143	263	328	291
Geometry Grp	7	7	7	8	8	8	8	8	8	8
Degree of Util (X)	0.424	0.526	0.358	0.058	0.779	0.8	0.445	0.783	0.957	0.912
Departure Headway (Hd)	10.746	10.221	9.487	11.731	11.201	10.808	11.202	10.705	10.49	11.301
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	335	352	379	305	323	336	322	337	345	320
Service Time	8.51	7.985	7.251	9.511	8.981	8.588	8.976	8.479	8.264	9.076
HCM Lane V/C Ratio	0.424	0.526	0.359	0.059	0.777	0.792	0.444	0.78	0.951	0.909
HCM Control Delay	21.2	23.8	17.5	15.2	44.4	45.7	22.7	43.3	71.7	65.4
HCM Lane LOS	C	C	C	C	E	E	C	E	F	F
HCM 95th-tile Q	2	2.9	1.6	0.2	6.2	6.7	2.2	6.4	10.2	8.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	326	3	20	428	203	10	18	24	209	7	127
Future Volume (veh/h)	139	326	3	20	428	203	10	18	24	209	7	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	151	354	3	22	465	221	11	20	26	227	8	138
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	196	1280	571	37	963	430	14	26	34	319	335	284
Arrive On Green	0.11	0.36	0.36	0.02	0.27	0.27	0.04	0.04	0.04	0.18	0.18	0.18
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	328	596	775	1767	1856	1572
Grp Volume(v), veh/h	151	354	3	22	465	221	57	0	0	227	8	138
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1700	0	0	1767	1856	1572
Q Serve(g_s), s	4.3	3.7	0.1	0.6	5.7	6.2	1.7	0.0	0.0	6.3	0.2	4.1
Cycle Q Clear(g_c), s	4.3	3.7	0.1	0.6	5.7	6.2	1.7	0.0	0.0	6.3	0.2	4.1
Prop In Lane	1.00		1.00	1.00		1.00	0.19		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	196	1280	571	37	963	430	73	0	0	319	335	284
V/C Ratio(X)	0.77	0.28	0.01	0.59	0.48	0.51	0.78	0.00	0.00	0.71	0.02	0.49
Avail Cap(c_a), veh/h	1024	3064	1367	1024	3064	1367	985	0	0	1024	1075	911
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	11.7	10.5	25.1	15.8	15.9	24.5	0.0	0.0	19.9	17.5	19.1
Incr Delay (d2), s/veh	2.4	0.2	0.0	5.5	0.5	1.4	15.8	0.0	0.0	2.9	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.2	0.0	0.3	2.0	2.0	1.0	0.0	0.0	2.6	0.1	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.8	11.8	10.5	30.7	16.3	17.3	40.4	0.0	0.0	22.9	17.5	20.3
LnGrp LOS	C	B	B	C	B	B	D	A	A	C	B	C
Approach Vol, veh/h		508			708			57			373	
Approach Delay, s/veh		15.7			17.0			40.4			21.8	
Approach LOS		B			B			D			C	

Timer - Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		7.3	5.1	24.6		14.8	9.7	19.9
Change Period (Y+Rc), s		5.1	4.0	5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		30.0	30.0	45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		3.7	2.6	5.7		8.3	6.3	8.2
Green Ext Time (p_c), s		0.2	0.0	3.4		1.1	0.2	6.0

Intersection Summary			
HCM 6th Ctrl Delay			18.5
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	40	217	703	121	219	130	918	334	100	1032	9
Future Volume (veh/h)	64	40	217	703	121	219	130	918	334	100	1032	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	66	41	224	725	125	226	134	946	344	103	1064	9
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	84	45	248	735	207	373	158	1393	619	125	1952	17
Arrive On Green	0.05	0.18	0.18	0.36	0.58	0.58	0.06	0.26	0.26	0.07	0.38	0.38
Sat Flow, veh/h	1767	248	1357	3428	591	1069	1767	3526	1568	1767	5181	44
Grp Volume(v), veh/h	66	0	265	725	0	351	134	946	344	103	694	379
Grp Sat Flow(s),veh/h/ln	1767	0	1606	1714	0	1661	1767	1763	1568	1767	1689	1847
Q Serve(g_s), s	5.2	0.0	22.6	29.4	0.0	19.1	10.5	33.7	26.5	8.1	22.5	22.6
Cycle Q Clear(g_c), s	5.2	0.0	22.6	29.4	0.0	19.1	10.5	33.7	26.5	8.1	22.5	22.6
Prop In Lane	1.00		0.85	1.00		0.64	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	84	0	293	735	0	580	158	1393	619	125	1272	696
V/C Ratio(X)	0.78	0.00	0.90	0.99	0.00	0.61	0.85	0.68	0.56	0.82	0.55	0.55
Avail Cap(c_a), veh/h	379	0	344	735	0	580	199	1393	619	199	1272	696
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.90	0.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.9	0.0	56.0	44.8	0.0	23.0	64.9	43.5	40.9	64.2	34.2	34.2
Incr Delay (d2), s/veh	5.8	0.0	24.9	28.1	0.0	1.9	19.8	2.7	3.6	6.8	1.7	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	11.2	13.9	0.0	6.3	5.7	15.7	11.3	3.8	9.4	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.7	0.0	81.0	72.9	0.0	24.9	84.7	46.2	44.4	71.0	35.9	37.3
LnGrp LOS	E	A	F	E	A	C	F	D	D	E	D	D
Approach Vol, veh/h		331			1076			1424			1176	
Approach Delay, s/veh		79.1			57.2			49.4			39.4	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	61.1	34.0	31.0	16.5	58.5	10.7	54.3
Change Period (Y+Rc), s	4.0	5.8	4.0	* 5.4	4.0	5.8	4.0	5.4
Max Green Setting (Gmax), s	15.8	45.0	30.0	* 30	15.8	45.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	10.1	35.7	31.4	24.6	12.5	24.6	7.2	21.1
Green Ext Time (p_c), s	0.0	6.1	0.0	0.9	0.0	9.3	0.1	1.9

Intersection Summary	
HCM 6th Ctrl Delay	51.0
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1999	439	140	1380
Future Volume (veh/h)	0	0	1999	439	140	1380
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				0.99	1.00	
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No			No
Adj Sat Flow, veh/h/ln			1856	1856	1856	1856
Adj Flow Rate, veh/h			2104	462	147	1453
Peak Hour Factor			0.95	0.95	0.95	0.95
Percent Heavy Veh, %			3	3	3	3
Cap, veh/h			2937	1301	169	3387
Arrive On Green			1.00	1.00	0.19	1.00
Sat Flow, veh/h			3618	1562	1767	3618
Grp Volume(v), veh/h			2104	462	147	1453
Grp Sat Flow(s),veh/h/ln			1763	1562	1767	1763
Q Serve(g_s), s			0.0	0.0	11.3	0.0
Cycle Q Clear(g_c), s			0.0	0.0	11.3	0.0
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			2937	1301	169	3387
V/C Ratio(X)			0.72	0.36	0.87	0.43
Avail Cap(c_a), veh/h			2937	1301	322	3387
HCM Platoon Ratio			1.33	1.33	2.00	2.00
Upstream Filter(I)			0.23	0.23	1.00	1.00
Uniform Delay (d), s/veh			0.0	0.0	55.8	0.0
Incr Delay (d2), s/veh			0.4	0.2	5.2	0.4
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.1	0.1	4.8	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			0.4	0.2	61.0	0.4
LnGrp LOS			A	A	E	A
Approach Vol, veh/h			2566			1600
Approach Delay, s/veh			0.3			6.0
Approach LOS			A			A

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	17.9	122.1				140.0
Change Period (Y+Rc), s	4.5	5.5				5.5
Max Green Setting (Gmax), s	25.5	104.5				60.0
Max Q Clear Time (g_c+I1), s	13.3	2.0				2.0
Green Ext Time (p_c), s	0.1	24.2				9.0

Intersection Summary	
HCM 6th Ctrl Delay	2.5
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	504	221	610	475	0	482	0	1452	453	159	1221	0
Future Volume (veh/h)	504	221	610	475	0	482	0	1452	453	159	1221	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	514	226	622	485	0	492	0	1482	462	162	1246	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	1077	583	493	0	0	0	0	2389	739	183	2140	0
Arrive On Green	0.31	0.31	0.31	0.00	0.00	0.00	0.00	0.47	0.47	0.21	1.00	0.00
Sat Flow, veh/h	3428	1856	1568		0		0	5233	1567	1767	3618	0
Grp Volume(v), veh/h	514	226	622		0.0		0	1482	462	162	1246	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1568				0	1689	1567	1767	1763	0
Q Serve(g_s), s	16.9	13.3	44.0				0.0	30.6	30.9	12.5	0.0	0.0
Cycle Q Clear(g_c), s	16.9	13.3	44.0				0.0	30.6	30.9	12.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1077	583	493				0	2389	739	183	2140	0
V/C Ratio(X)	0.48	0.39	1.26				0.00	0.62	0.63	0.89	0.58	0.00
Avail Cap(c_a), veh/h	1077	583	493				0	2389	739	215	2140	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.78	0.78	0.91	0.91	0.00
Uniform Delay (d), s/veh	38.7	37.5	48.0				0.0	27.6	27.7	54.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.2	133.5				0.0	1.0	3.1	25.5	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	6.1	35.4				0.0	12.2	11.9	6.2	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	37.6	181.5				0.0	28.6	30.8	80.2	1.1	0.0
LnGrp LOS	D	D	F				A	C	C	F	A	A
Approach Vol, veh/h		1362						1944			1408	
Approach Delay, s/veh		103.8						29.1			10.2	
Approach LOS		F						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	19.0	71.5		49.5		90.5
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	17.0	31.0		44.0		60.0
Max Q Clear Time (g_c+I1), s	14.5	32.9		46.0		2.0
Green Ext Time (p_c), s	0.1	0.0		0.0		12.1

Intersection Summary	
HCM 6th Ctrl Delay	45.0
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	906	193	149	990	943	1048
Future Volume (veh/h)	906	193	149	990	943	1048
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	954	203	157	1042	993	1103
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1044	479	230	2931	1656	1215
Arrive On Green	0.30	0.30	0.07	0.58	0.47	0.47
Sat Flow, veh/h	3428	1572	3428	5233	3618	1567
Grp Volume(v), veh/h	954	203	157	1042	993	1103
Grp Sat Flow(s),veh/h/ln	1714	1572	1714	1689	1763	1567
Q Serve(g_s), s	25.7	9.9	4.3	10.5	19.9	45.0
Cycle Q Clear(g_c), s	25.7	9.9	4.3	10.5	19.9	45.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1044	479	230	2931	1656	1215
V/C Ratio(X)	0.91	0.42	0.68	0.36	0.60	0.91
Avail Cap(c_a), veh/h	1073	492	1073	2931	1656	1215
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	26.6	43.7	10.7	18.8	7.5
Incr Delay (d2), s/veh	11.9	0.8	1.3	0.1	0.7	10.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	0.1	1.8	3.5	7.6	29.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.0	27.5	45.0	10.8	19.5	17.7
LnGrp LOS	D	C	D	B	B	B
Approach Vol, veh/h	1157			1199	2096	
Approach Delay, s/veh	41.1			15.3	18.6	
Approach LOS	D			B	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		61.2		34.6	10.4	50.8
Change Period (Y+Rc), s		5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		12.5		27.7	6.3	47.0
Green Ext Time (p_c), s		11.6		1.5	0.2	0.0
Intersection Summary						
HCM 6th Ctrl Delay			23.5			
HCM 6th LOS			C			

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	328	317	449	754	766	287
Future Volume (veh/h)	328	317	449	754	766	287
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	353	341	483	811	824	309
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	847	389	507	2263	1117	885
Arrive On Green	0.25	0.25	0.29	0.64	0.32	0.32
Sat Flow, veh/h	3428	1572	1767	3618	3618	1568
Grp Volume(v), veh/h	353	341	483	811	824	309
Grp Sat Flow(s),veh/h/ln	1714	1572	1767	1763	1763	1568
Q Serve(g_s), s	9.0	21.8	28.1	11.2	21.8	11.2
Cycle Q Clear(g_c), s	9.0	21.8	28.1	11.2	21.8	11.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	847	389	507	2263	1117	885
V/C Ratio(X)	0.42	0.88	0.95	0.36	0.74	0.35
Avail Cap(c_a), veh/h	983	451	507	2263	1517	1063
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.0	37.9	36.6	8.7	31.8	12.4
Incr Delay (d2), s/veh	0.5	16.8	28.2	0.1	1.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	1.8	15.5	3.8	9.1	6.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.5	54.7	64.8	8.8	33.5	12.7
LnGrp LOS	C	D	E	A	C	B
Approach Vol, veh/h	694			1294	1133	
Approach Delay, s/veh	43.9			29.7	27.8	
Approach LOS	D			C	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		73.0		31.7	34.0	39.0
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		45.0		30.0	30.0	45.0
Max Q Clear Time (g_c+I1), s		13.2		23.8	30.1	23.8
Green Ext Time (p_c), s		8.6		2.1	0.0	9.4

Intersection Summary		
HCM 6th Ctrl Delay		32.2
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	352	147	33	386	280	185	814	20	206	798	74
Future Volume (veh/h)	69	352	147	33	386	280	185	814	20	206	798	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	72	367	153	34	402	292	193	848	21	215	831	77
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	93	704	289	45	511	368	230	1152	512	253	1197	532
Arrive On Green	0.05	0.29	0.29	0.03	0.26	0.26	0.13	0.33	0.33	0.14	0.34	0.34
Sat Flow, veh/h	1767	2436	1000	1767	1956	1406	1767	3526	1567	1767	3526	1567
Grp Volume(v), veh/h	72	264	256	34	362	332	193	848	21	215	831	77
Grp Sat Flow(s),veh/h/ln	1767	1763	1673	1767	1763	1599	1767	1763	1567	1767	1763	1567
Q Serve(g_s), s	3.6	11.4	11.7	1.7	17.3	17.6	9.7	19.3	0.8	10.8	18.5	3.1
Cycle Q Clear(g_c), s	3.6	11.4	11.7	1.7	17.3	17.6	9.7	19.3	0.8	10.8	18.5	3.1
Prop In Lane	1.00		0.60	1.00		0.88	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	93	509	483	45	461	418	230	1152	512	253	1197	532
V/C Ratio(X)	0.77	0.52	0.53	0.76	0.79	0.79	0.84	0.74	0.04	0.85	0.69	0.14
Avail Cap(c_a), veh/h	585	583	554	585	583	529	585	1750	777	585	1750	778
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	27.0	27.1	43.9	31.1	31.2	38.5	27.1	20.8	37.9	25.9	20.8
Incr Delay (d2), s/veh	5.0	1.2	1.3	9.3	6.4	7.5	3.1	1.3	0.0	3.1	1.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	4.7	4.6	0.9	7.8	7.3	4.2	7.8	0.3	4.7	7.4	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.4	28.1	28.4	53.2	37.5	38.7	41.6	28.4	20.9	41.0	26.9	21.0
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	C	C
Approach Vol, veh/h		592			728			1062			1123	
Approach Delay, s/veh		30.6			38.8			30.7			29.2	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	35.4	6.3	32.0	15.8	36.6	8.8	29.5
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	30.0	45.0	30.0	30.0	30.0	45.0	30.0	30.0
Max Q Clear Time (g_c+I1), s	12.8	21.3	3.7	13.7	11.7	20.5	5.6	19.6
Green Ext Time (p_c), s	0.3	8.3	0.0	3.7	0.2	8.6	0.1	4.0

Intersection Summary	
HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	476	0	0	438	2	564	5	37	0	0	22
Future Volume (vph)	63	476	0	0	438	2	564	5	37	0	0	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Lane Util. Factor		0.95			0.95		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.98			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		0.99			1.00		0.95	0.95	1.00			1.00
Satd. Flow (prot)		3481			3502		1665	1670	1543			1596
Flt Permitted		0.84			1.00		0.95	0.95	1.00			1.00
Satd. Flow (perm)		2931			3502		1665	1670	1543			1596
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	72	541	0	0	498	2	641	6	42	0	0	25
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	31	0	0	24
Lane Group Flow (vph)	0	613	0	0	500	0	320	327	11	0	0	1
Confl. Peds. (#/hr)	10		8	8		10			6	6		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA			NA		Split	NA	Perm			Prot
Protected Phases		6			2		4	4				3
Permitted Phases	6								4			
Actuated Green, G (s)		35.3			35.3		18.7	18.7	18.7			2.0
Effective Green, g (s)		35.3			35.3		18.7	18.7	18.7			2.0
Actuated g/C Ratio		0.50			0.50		0.27	0.27	0.27			0.03
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		1478			1766		444	446	412			45
v/s Ratio Prot					0.14		0.19	c0.20				c0.00
v/s Ratio Perm		c0.21							0.01			
v/c Ratio		0.41			0.28		0.72	0.73	0.03			0.02
Uniform Delay, d1		10.9			10.0		23.3	23.4	18.9			33.0
Progression Factor		1.28			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.8			0.4		4.8	5.3	0.0			0.1
Delay (s)		14.7			10.4		28.1	28.7	18.9			33.1
Level of Service		B			B		C	C	B			C
Approach Delay (s)		14.7			10.4			27.8			33.1	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	68.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	0.9					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	443	21	24	330	20	23
Future Vol, veh/h	443	21	24	330	20	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	466	22	25	347	21	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	488	0	701	244
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	224	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1064	-	371	753
Stage 1	-	-	-	-	587	-
Stage 2	-	-	-	-	789	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1064	-	360	753
Mov Cap-2 Maneuver	-	-	-	-	360	-
Stage 1	-	-	-	-	587	-
Stage 2	-	-	-	-	766	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	12.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	499	-	-	1064	-
HCM Lane V/C Ratio	0.091	-	-	0.024	-
HCM Control Delay (s)	12.9	-	-	8.5	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	328	10	9	349	10	7
Future Vol, veh/h	328	10	9	349	10	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	357	11	10	379	11	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	368	0	573	184
Stage 1	-	-	-	-	363	-
Stage 2	-	-	-	-	210	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1187	-	450	827
Stage 1	-	-	-	-	674	-
Stage 2	-	-	-	-	805	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1187	-	445	827
Mov Cap-2 Maneuver	-	-	-	-	445	-
Stage 1	-	-	-	-	674	-
Stage 2	-	-	-	-	796	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	550	-	-	1187	-
HCM Lane V/C Ratio	0.034	-	-	0.008	-
HCM Control Delay (s)	11.8	-	-	8.1	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.7					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	22	28	357	331	4
Future Vol, veh/h	1	22	28	357	331	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	24	30	388	360	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	616	182	364	0	-	0
Stage 1	362	-	-	-	-	-
Stage 2	254	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	422	829	1191	-	-	-
Stage 1	675	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	408	829	1191	-	-	-
Mov Cap-2 Maneuver	408	-	-	-	-	-
Stage 1	653	-	-	-	-	-
Stage 2	765	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1191	-	793	-	-
HCM Lane V/C Ratio	0.026	-	0.032	-	-
HCM Control Delay (s)	8.1	0.1	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection						
Int Delay, s/veh	2.6					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	59	58	60	467	602	62
Future Vol, veh/h	59	58	60	467	602	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	62	61	63	492	634	65

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1039	350	699	0	-	0
Stage 1	667	-	-	-	-	-
Stage 2	372	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	225	643	887	-	-	-
Stage 1	469	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	209	643	887	-	-	-
Mov Cap-2 Maneuver	209	-	-	-	-	-
Stage 1	436	-	-	-	-	-
Stage 2	664	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.7	1.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	887	-	314	-	-
HCM Lane V/C Ratio	0.071	-	0.392	-	-
HCM Control Delay (s)	9.4	-	23.7	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.8	-	-

Intersection						
Int Delay, s/veh	1.2					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	463	567	50	45	34
Future Vol, veh/h	31	463	567	50	45	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	33	487	597	53	47	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	650	0	-	0	934	325
Stage 1	-	-	-	-	624	-
Stage 2	-	-	-	-	310	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	925	-	-	-	263	668
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	714	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	925	-	-	-	254	668
Mov Cap-2 Maneuver	-	-	-	-	369	-
Stage 1	-	-	-	-	476	-
Stage 2	-	-	-	-	714	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	925	-	-	-	369	668
HCM Lane V/C Ratio	0.035	-	-	-	0.128	0.054
HCM Control Delay (s)	9	-	-	-	16.2	10.7
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4	0.2

Appendix L

Year 2026 Total Traffic Conditions Intersection Queueing Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	53	251	46	499	610	307	361	404	387	60
v/c Ratio	0.42	0.20	0.07	0.80	0.35	0.34	0.69	0.35	0.74	0.18
Control Delay	56.9	21.9	1.4	50.7	14.7	2.9	49.0	2.4	51.3	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	21.9	1.4	50.7	14.7	2.9	49.0	2.4	51.3	1.5
Queue Length 50th (ft)	36	57	0	171	119	0	124	0	134	0
Queue Length 95th (ft)	75	96	7	228	191	46	164	26	176	3
Internal Link Dist (ft)		1391			914					
Turn Bay Length (ft)	250		50	275			250	230	500	500
Base Capacity (vph)	340	1279	620	680	1739	906	687	1178	687	404
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.20	0.07	0.73	0.35	0.34	0.53	0.34	0.56	0.15

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	709	404	80	40	695	145	218	403	51	70	437
v/c Ratio	0.94	0.23	0.10	0.31	0.71	0.27	0.70	0.54	0.36	0.35	0.64
Control Delay	59.7	17.1	1.3	52.2	35.0	8.7	50.2	35.2	52.6	47.5	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.7	17.1	1.3	52.2	35.0	8.7	50.2	35.2	52.6	47.5	9.0
Queue Length 50th (ft)	214	77	0	23	192	9	122	107	29	39	0
Queue Length 95th (ft)	#454	142	10	65	299	58	232	180	77	94	50
Internal Link Dist (ft)		914			2001			1265		3471	
Turn Bay Length (ft)	300		360	100		30	150		160		
Base Capacity (vph)	756	1724	835	383	1497	741	575	1441	383	606	1200
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.23	0.10	0.10	0.46	0.20	0.38	0.28	0.13	0.12	0.36

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	499	239	546	287	68	621
v/c Ratio	0.74	0.35	0.28	0.22	0.42	0.26
Control Delay	44.5	5.6	5.0	0.4	50.0	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.5	5.6	5.0	0.4	50.0	6.3
Queue Length 50th (ft)	153	12	25	0	42	70
Queue Length 95th (ft)	202	57	41	0	82	102
Internal Link Dist (ft)	741		655			394
Turn Bay Length (ft)	350	500		180	200	
Base Capacity (vph)	793	792	1916	1352	297	2432
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.30	0.28	0.21	0.23	0.26

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	553	80	673	413	92	1090
v/c Ratio	0.77	0.13	0.36	0.31	0.50	0.31
Control Delay	45.2	4.7	14.9	1.0	49.1	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.2	4.7	14.9	1.0	49.1	3.7
Queue Length 50th (ft)	170	0	126	0	44	43
Queue Length 95th (ft)	226	27	187	20	m74	50
Internal Link Dist (ft)	678		452			142
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	793	695	1881	1356	262	3487
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.12	0.36	0.30	0.35	0.31

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	260	35	51	35	57	119	88	759	177	993	396
v/c Ratio	0.53	0.08	0.11	0.24	0.21	0.36	0.44	0.56	0.57	0.53	0.32
Control Delay	42.1	27.4	0.5	50.2	35.6	10.0	49.2	30.2	44.5	25.5	3.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.1	27.4	0.5	50.2	35.6	10.0	49.2	30.2	44.5	25.5	3.7
Queue Length 50th (ft)	58	14	0	16	25	0	39	106	76	134	0
Queue Length 95th (ft)	165	46	0	69	74	47	135	277	232	343	41
Internal Link Dist (ft)		2884			460			643		452	
Turn Bay Length (ft)	170			140			180		145		
Base Capacity (vph)	1329	803	735	695	766	713	570	2591	684	2954	1760
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.04	0.07	0.05	0.07	0.17	0.15	0.29	0.26	0.34	0.23

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	55	85	48	103	149	139	675	133	845	72
v/c Ratio	0.16	0.21	0.24	0.16	0.36	0.33	0.39	0.32	0.57	0.09
Control Delay	36.4	13.3	37.7	23.6	7.2	34.7	20.9	34.8	23.2	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.4	13.3	37.7	23.6	7.2	34.7	20.9	34.8	23.2	4.9
Queue Length 50th (ft)	9	10	15	16	0	22	67	21	87	0
Queue Length 95th (ft)	41	50	73	44	42	82	191	80	245	29
Internal Link Dist (ft)		786		1093			2183		643	
Turn Bay Length (ft)	190		190			140		180		
Base Capacity (vph)	1203	965	629	1971	936	1203	3427	1203	3497	1185
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.09	0.08	0.05	0.16	0.12	0.20	0.11	0.24	0.06

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	237	383	101	657	154	279	597	90	200	193
v/c Ratio	0.71	0.33	0.55	0.74	0.31	0.79	0.61	0.52	0.37	0.29
Control Delay	53.0	25.4	58.5	42.4	11.0	59.1	37.2	58.7	41.5	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.0	25.4	58.5	42.4	11.0	59.1	37.2	58.7	41.5	15.3
Queue Length 50th (ft)	144	86	63	198	11	172	183	56	62	59
Queue Length 95th (ft)	269	163	139	351	73	#433	297	128	108	110
Internal Link Dist (ft)		2001		2146			961		2183	
Turn Bay Length (ft)	100		170		200	150		180		
Base Capacity (vph)	532	1400	354	1066	568	354	1405	354	1421	829
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.27	0.29	0.62	0.27	0.79	0.42	0.25	0.14	0.23

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	34	248	133	24	344	45	332	320	32	167
v/c Ratio	0.23	0.31	0.30	0.18	0.49	0.12	0.55	0.19	0.22	0.29
Control Delay	43.3	27.7	10.4	43.5	31.8	3.8	28.3	14.3	43.2	28.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.3	27.7	10.4	43.5	31.8	3.8	28.3	14.3	43.2	28.6
Queue Length 50th (ft)	15	43	5	11	76	0	125	50	14	34
Queue Length 95th (ft)	55	115	60	43	158	13	313	97	53	73
Internal Link Dist (ft)		2146			1997			3484		1272
Turn Bay Length (ft)	160		70	150		70	200		190	
Base Capacity (vph)	729	1945	909	729	1945	890	729	1979	751	1956
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.13	0.15	0.03	0.18	0.05	0.46	0.16	0.04	0.09

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	3	85	197	293	51	48	321	86	37
v/c Ratio	0.01	0.27	0.26	0.42	0.19	0.13	0.31	0.20	0.08
Control Delay	24.5	20.4	19.4	12.5	23.8	20.9	2.2	24.0	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	20.4	19.4	12.5	23.8	20.9	2.2	24.0	19.1
Queue Length 50th (ft)	1	19	25	43	13	12	0	11	6
Queue Length 95th (ft)	7	48	48	110	39	35	19	29	29
Internal Link Dist (ft)		220		1668		260			246
Turn Bay Length (ft)	50				75		65	50	
Base Capacity (vph)	221	763	1818	1293	341	1398	1258	546	1326
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.11	0.11	0.23	0.15	0.03	0.26	0.16	0.03

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	79	202	4	19	387	77	53	134	6	123
v/c Ratio	0.33	0.14	0.01	0.11	0.40	0.16	0.40	0.36	0.02	0.29
Control Delay	38.2	18.3	0.0	41.7	26.2	8.5	25.4	30.5	28.3	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.2	18.3	0.0	41.7	26.2	8.5	25.4	30.5	28.3	8.4
Queue Length 50th (ft)	27	22	0	7	63	0	6	44	2	0
Queue Length 95th (ft)	107	97	0	39	191	37	48	141	15	47
Internal Link Dist (ft)		1997			1309		113		677	
Turn Bay Length (ft)	320		100	140		100		200		
Base Capacity (vph)	1006	2641	1201	1006	2641	1201	367	1006	1059	952
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.08	0.00	0.02	0.15	0.06	0.14	0.13	0.01	0.13

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	8	80	554	291	69	797	177	104	1094
v/c Ratio	0.12	0.50	0.86	0.52	0.56	0.43	0.21	0.66	0.39
Control Delay	68.6	30.5	62.7	15.9	79.2	22.8	11.7	80.4	19.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.6	30.5	62.7	15.9	79.2	22.8	11.7	80.4	19.5
Queue Length 50th (ft)	7	14	243	11	62	226	43	93	203
Queue Length 95th (ft)	26	67	292	113	111	338	105	152	289
Internal Link Dist (ft)		117		450		252			761
Turn Bay Length (ft)			260		240		90	200	
Base Capacity (vph)	375	405	728	561	197	1845	852	202	2815
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.20	0.76	0.52	0.35	0.43	0.21	0.51	0.39

Intersection Summary

Lane Group	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1500	295	196	1057
v/c Ratio	0.54	0.23	0.80	0.30
Control Delay	4.9	0.5	80.7	0.2
Queue Delay	0.5	0.8	0.0	0.1
Total Delay	5.4	1.3	80.7	0.4
Queue Length 50th (ft)	83	0	175	0
Queue Length 95th (ft)	78	0	253	0
Internal Link Dist (ft)	119			398
Turn Bay Length (ft)			340	
Base Capacity (vph)	2762	1292	319	3505
Starvation Cap Reductn	734	700	0	0
Spillback Cap Reductn	0	0	0	1224
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.74	0.50	0.61	0.46

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	319	150	350	290	341	1045	186	101	960
v/c Ratio	0.43	0.37	0.85	0.74	0.74	0.48	0.19	0.66	0.50
Control Delay	47.2	46.8	56.0	71.6	18.4	32.5	9.4	80.4	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.0	0.0	4.6	1.3
Total Delay	47.2	46.8	56.0	71.6	18.5	32.6	9.4	85.0	24.1
Queue Length 50th (ft)	129	117	231	133	20	249	37	91	277
Queue Length 95th (ft)	154	162	315	179	124	376	100	150	431
Internal Link Dist (ft)		1417				541			119
Turn Bay Length (ft)	1000		600	140			75	60	
Base Capacity (vph)	1068	579	547	485	495	2166	995	212	1929
Starvation Cap Reductn	0	0	0	0	0	0	0	61	710
Spillback Cap Reductn	0	0	0	0	7	85	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.26	0.64	0.60	0.70	0.50	0.19	0.67	0.79

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	491	84	85	855	982	481
v/c Ratio	0.49	0.16	0.27	0.32	0.66	0.35
Control Delay	24.8	6.5	39.4	9.8	20.5	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.1
Total Delay	24.8	6.5	39.4	9.8	20.5	1.0
Queue Length 50th (ft)	95	0	19	67	181	0
Queue Length 95th (ft)	174	32	51	126	323	13
Internal Link Dist (ft)	1668			931	541	
Turn Bay Length (ft)			130			
Base Capacity (vph)	1551	751	1524	4734	2302	1470
Starvation Cap Reductn	0	0	0	0	14	197
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.11	0.06	0.18	0.43	0.38

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	221	193	208	747	759	243
v/c Ratio	0.32	0.41	0.60	0.35	0.62	0.25
Control Delay	26.4	7.5	36.2	7.5	22.4	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	7.5	36.2	7.5	22.4	1.5
Queue Length 50th (ft)	38	0	73	61	122	0
Queue Length 95th (ft)	88	45	199	157	278	19
Internal Link Dist (ft)	1309			1278	931	
Turn Bay Length (ft)		100	330			100
Base Capacity (vph)	1612	835	824	3304	2475	1303
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.23	0.25	0.23	0.31	0.19

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	95	262	95	547	124	626	114	170	628	83
v/c Ratio	0.50	0.32	0.50	0.66	0.56	0.63	0.23	0.62	0.58	0.16
Control Delay	55.0	29.8	55.0	36.5	53.8	34.8	9.9	52.1	31.3	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.0	29.8	55.0	36.5	53.8	34.8	9.9	52.1	31.3	8.6
Queue Length 50th (ft)	55	60	55	144	72	173	7	97	166	3
Queue Length 95th (ft)	131	124	131	264	160	295	54	205	280	41
Internal Link Dist (ft)		3484		721		1028			1278	
Turn Bay Length (ft)	200		150		190		190	130		190
Base Capacity (vph)	574	1117	574	1116	574	1724	802	574	1724	791
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.23	0.17	0.49	0.22	0.36	0.14	0.30	0.36	0.10

Intersection Summary

Lane Group	EBT	WBT	NBL	NBT	NBR	SBR
Lane Group Flow (vph)	300	536	169	172	25	3
v/c Ratio	0.14	0.24	0.61	0.61	0.07	0.01
Control Delay	9.7	6.4	35.4	35.7	0.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.7	6.4	35.4	35.7	0.4	0.0
Queue Length 50th (ft)	45	36	71	73	0	0
Queue Length 95th (ft)	143	103	118	121	0	0
Internal Link Dist (ft)	450	555		317		
Turn Bay Length (ft)					120	
Base Capacity (vph)	2171	2214	547	548	578	374
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.24	0.31	0.31	0.04	0.01

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	97	570	113	872	684	564	137	593	634	171
v/c Ratio	0.57	0.53	0.21	1.30	0.48	0.60	0.20	0.45	0.94	0.39
Control Delay	58.9	30.1	9.3	181.6	21.7	4.8	34.7	10.9	64.2	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.9	30.1	9.3	181.6	21.7	4.8	34.7	10.9	64.2	8.0
Queue Length 50th (ft)	66	165	13	~411	167	0	40	82	226	0
Queue Length 95th (ft)	116	221	53	#535	242	72	67	130	#334	55
Internal Link Dist (ft)		1391			914					
Turn Bay Length (ft)	250		50	275			250	230	500	500
Base Capacity (vph)	340	1076	535	671	1430	934	687	1318	687	447
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.53	0.21	1.30	0.48	0.60	0.20	0.45	0.92	0.38

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	644	905	200	49	641	153	130	499	166	365	1320
v/c Ratio	1.04	0.66	0.27	0.40	0.75	0.32	0.64	0.57	0.73	0.70	0.99
Control Delay	91.8	33.4	4.9	63.7	45.7	11.7	64.2	38.4	67.7	45.9	40.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.8	33.4	4.9	63.7	45.7	11.7	64.2	38.4	67.7	45.9	40.9
Queue Length 50th (ft)	~250	279	0	34	218	16	89	155	113	233	~286
Queue Length 95th (ft)	#491	452	54	84	335	76	175	243	221	402	#538
Internal Link Dist (ft)		914			2001			1265		3471	
Turn Bay Length (ft)	300		360	100		30	150		160		
Base Capacity (vph)	621	1375	737	315	1231	622	473	1185	315	523	1330
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.04	0.66	0.27	0.16	0.52	0.25	0.27	0.42	0.53	0.70	0.99

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	688	203	1317	534	69	897
v/c Ratio	0.88	0.34	0.73	0.39	0.43	0.39
Control Delay	52.0	21.4	11.7	0.5	50.1	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.0	21.4	11.7	0.5	50.1	8.2
Queue Length 50th (ft)	218	82	129	0	42	123
Queue Length 95th (ft)	#312	132	217	m0	83	158
Internal Link Dist (ft)	741		655			394
Turn Bay Length (ft)	350	500		180	200	
Base Capacity (vph)	793	726	1811	1363	297	2328
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.28	0.73	0.39	0.23	0.39

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	853	429	1462	914	122	1502
v/c Ratio	1.08	0.67	0.83	0.74	0.59	0.45
Control Delay	92.0	29.2	27.3	7.5	52.3	4.7
Queue Delay	0.0	0.0	4.6	0.2	0.0	0.0
Total Delay	92.0	29.2	31.9	7.7	52.3	4.7
Queue Length 50th (ft)	~313	211	405	107	61	59
Queue Length 95th (ft)	#433	305	#544	258	m94	67
Internal Link Dist (ft)	678		452			142
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	793	692	1758	1238	262	3374
Starvation Cap Reductn	0	0	232	40	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.62	0.96	0.76	0.47	0.45

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	654	170	263	36	86	273	195	1593	218	1220	648
v/c Ratio	0.85	0.28	0.38	0.35	0.38	0.63	0.79	0.97	0.78	0.70	0.49
Control Delay	58.6	33.6	5.3	71.8	55.2	12.4	76.9	58.2	71.7	40.2	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Total Delay	58.6	33.6	5.3	71.8	55.2	12.4	76.9	58.2	71.7	40.4	7.8
Queue Length 50th (ft)	245	104	0	28	65	0	148	442	164	297	30
Queue Length 95th (ft)	#517	184	60	78	122	76	#306	#890	318	521	112
Internal Link Dist (ft)		2884			460			643		452	
Turn Bay Length (ft)	170			140			180		145		
Base Capacity (vph)	835	615	691	437	490	612	358	1641	430	1857	1363
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	118	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.78	0.28	0.38	0.08	0.18	0.45	0.54	0.97	0.51	0.70	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	231	382	102	311	361	295	1379	404	1025	71
v/c Ratio	0.63	0.83	0.60	0.37	0.60	0.70	0.85	0.80	0.57	0.09
Control Delay	60.2	53.3	68.1	39.1	11.5	60.0	43.2	62.1	33.8	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	53.3	68.1	39.1	11.5	60.0	43.2	62.1	33.8	4.8
Queue Length 50th (ft)	89	252	77	106	30	113	352	155	226	0
Queue Length 95th (ft)	148	398	151	157	124	184	#566	#270	365	29
Internal Link Dist (ft)		786		1093			2183		643	
Turn Bay Length (ft)	190		190			140		180		
Base Capacity (vph)	598	519	313	1004	665	598	1752	598	1881	857
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.74	0.33	0.31	0.54	0.49	0.79	0.68	0.54	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	326	823	125	466	184	60	690	200	586	285
v/c Ratio	0.83	0.77	0.64	0.68	0.41	0.46	0.77	0.78	0.47	0.28
Control Delay	64.9	43.2	68.8	50.4	9.0	69.6	47.5	72.9	33.5	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.9	43.2	68.8	50.4	9.0	69.6	47.5	72.9	33.5	2.1
Queue Length 50th (ft)	242	301	97	184	0	47	265	153	192	0
Queue Length 95th (ft)	#459	446	176	264	63	101	366	#307	285	38
Internal Link Dist (ft)		2001		2146			961		2183	
Turn Bay Length (ft)	100		170		200	150		180		
Base Capacity (vph)	466	1251	310	943	545	310	1226	310	1318	1075
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.70	0.66	0.40	0.49	0.34	0.19	0.56	0.65	0.44	0.27

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	107	432	316	33	346	105	226	527	91	628
v/c Ratio	0.51	0.42	0.56	0.27	0.51	0.30	0.67	0.42	0.47	0.63
Control Delay	53.9	32.3	21.2	55.5	39.8	17.6	49.2	24.5	54.5	34.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	53.9	32.3	21.2	55.5	39.8	17.6	49.2	24.5	54.5	34.5
Queue Length 50th (ft)	59	114	79	19	95	15	122	117	50	165
Queue Length 95th (ft)	150	217	219	64	190	74	268	220	132	310
Internal Link Dist (ft)		2146			1997			3484		1272
Turn Bay Length (ft)	160		70	150		70	200		190	
Base Capacity (vph)	587	1566	778	587	1566	728	587	1621	604	1586
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.28	0.41	0.06	0.22	0.14	0.39	0.33	0.15	0.40

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	2	263	358	453	17	73	325	238	96
v/c Ratio	0.02	0.66	0.50	0.55	0.13	0.23	0.44	0.54	0.15
Control Delay	40.5	36.5	29.5	16.7	41.7	28.6	6.9	37.1	19.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.5	36.5	29.5	16.7	41.7	28.6	6.9	37.1	19.1
Queue Length 50th (ft)	1	94	66	94	7	27	29	47	27
Queue Length 95th (ft)	9	#253	153	333	33	69	81	118	78
Internal Link Dist (ft)		232		1668		331			236
Turn Bay Length (ft)	50				75		65	50	
Base Capacity (vph)	130	555	1058	952	129	895	869	551	1041
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.47	0.34	0.48	0.13	0.08	0.37	0.43	0.09

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	142	367	14	25	322	167	58	215	8	109
v/c Ratio	0.52	0.28	0.02	0.17	0.45	0.37	0.72	0.56	0.02	0.26
Control Delay	43.9	23.1	0.1	46.9	33.6	9.9	73.9	37.6	31.0	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.9	23.1	0.1	46.9	33.6	9.9	73.9	37.6	31.0	8.6
Queue Length 50th (ft)	61	56	0	11	68	2	19	90	3	0
Queue Length 95th (ft)	173	169	0	49	170	64	#88	229	18	46
Internal Link Dist (ft)		1997			1309		113		677	
Turn Bay Length (ft)	320		100	140		100				200
Base Capacity (vph)	782	2245	1033	782	2245	1062	186	782	823	760
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.16	0.01	0.03	0.14	0.16	0.31	0.27	0.01	0.14

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	29	198	610	281	93	1180	433	91	886
v/c Ratio	0.34	0.72	0.90	0.57	0.63	0.67	0.52	0.63	0.35
Control Delay	74.4	30.0	63.2	27.5	80.3	30.2	20.6	80.1	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.4	30.0	63.2	27.5	80.3	30.2	20.6	80.1	22.9
Queue Length 50th (ft)	26	34	273	85	83	415	185	82	174
Queue Length 95th (ft)	60	113	#314	152	139	601	346	138	253
Internal Link Dist (ft)		117		450		252			761
Turn Bay Length (ft)			260		240		90	200	
Base Capacity (vph)	375	478	728	494	199	1771	840	199	2535
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.41	0.84	0.57	0.47	0.67	0.52	0.46	0.35

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	2020	502	136	1172
v/c Ratio	0.70	0.38	0.72	0.33
Control Delay	7.4	0.7	80.0	0.3
Queue Delay	47.6	2.5	0.0	0.3
Total Delay	55.0	3.2	80.0	0.6
Queue Length 50th (ft)	153	0	122	0
Queue Length 95th (ft)	m235	m8	187	0
Internal Link Dist (ft)	119			398
Turn Bay Length (ft)			340	
Base Capacity (vph)	2873	1314	319	3505
Starvation Cap Reductn	1064	664	0	0
Spillback Cap Reductn	0	0	0	1537
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.12	0.77	0.43	0.60

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	567	464	518	327	344	1597	393	115	1014
v/c Ratio	0.53	0.80	0.94	0.78	0.87	0.99	0.52	0.71	0.65
Control Delay	41.3	55.1	63.6	72.5	41.6	67.6	20.1	82.6	33.2
Queue Delay	0.2	0.0	0.0	0.0	5.3	23.6	0.0	10.5	13.5
Total Delay	41.5	55.1	63.6	72.5	46.9	91.2	20.1	93.1	46.7
Queue Length 50th (ft)	213	378	383	150	105	~582	168	103	385
Queue Length 95th (ft)	278	#529	#624	201	#258	#723	267	167	464
Internal Link Dist (ft)		1417				541			119
Turn Bay Length (ft)	1000		600	140			75	60	
Base Capacity (vph)	1099	596	563	485	422	1612	780	212	1563
Starvation Cap Reductn	0	0	0	0	0	0	0	69	543
Spillback Cap Reductn	93	0	0	0	41	111	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.78	0.92	0.67	0.90	1.06	0.50	0.80	0.99

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	790	202	141	1196	969	774
v/c Ratio	0.67	0.30	0.44	0.45	0.72	0.57
Control Delay	29.1	5.0	43.8	13.4	26.6	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.4
Total Delay	29.1	5.0	43.8	13.4	26.6	3.0
Queue Length 50th (ft)	185	0	38	140	232	24
Queue Length 95th (ft)	310	50	77	188	337	57
Internal Link Dist (ft)	1668			931	541	
Turn Bay Length (ft)			130			
Base Capacity (vph)	1217	682	1191	4525	1843	1368
Starvation Cap Reductn	0	0	0	0	0	193
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.30	0.12	0.26	0.53	0.66

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	328	313	374	942	960	210
v/c Ratio	0.52	0.57	0.81	0.39	0.73	0.23
Control Delay	39.2	8.9	48.9	7.1	30.0	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.2	8.9	48.9	7.1	30.0	3.2
Queue Length 50th (ft)	95	0	212	111	266	14
Queue Length 95th (ft)	155	75	#417	178	388	42
Internal Link Dist (ft)	1309			1278	931	
Turn Bay Length (ft)		100	330			100
Base Capacity (vph)	1130	730	582	2925	1748	1139
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.43	0.64	0.32	0.55	0.18

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	570	53	699	156	911	53	238	927	84
v/c Ratio	0.52	0.62	0.44	0.77	0.68	0.77	0.09	0.77	0.69	0.13
Control Delay	69.5	42.2	69.3	45.0	67.4	41.9	3.3	65.0	34.9	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.5	42.2	69.3	45.0	67.4	41.9	3.3	65.0	34.9	7.7
Queue Length 50th (ft)	58	204	42	248	121	336	0	184	318	4
Queue Length 95th (ft)	117	307	92	#403	208	481	17	291	450	40
Internal Link Dist (ft)		3484		721		1028			1278	
Turn Bay Length (ft)	200		150		190		190	130		190
Base Capacity (vph)	453	928	453	911	453	1361	643	453	1453	681
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.61	0.12	0.77	0.34	0.67	0.08	0.53	0.64	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBR
Lane Group Flow (vph)	602	415	270	273	33	12
v/c Ratio	0.32	0.20	0.68	0.68	0.07	0.04
Control Delay	12.1	9.1	31.9	32.1	0.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.1	9.1	31.9	32.1	0.3	0.3
Queue Length 50th (ft)	163	34	113	114	0	0
Queue Length 95th (ft)	253	101	154	156	0	0
Internal Link Dist (ft)	450	555		317		
Turn Bay Length (ft)					120	
Base Capacity (vph)	1911	2073	561	562	583	343
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.20	0.48	0.49	0.06	0.03

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	40	377	56	1049	504	484	215	973	646	79
v/c Ratio	0.31	0.68	0.18	1.09	0.35	0.54	0.27	0.58	0.82	0.18
Control Delay	46.1	41.1	4.2	89.1	16.8	4.2	28.1	6.5	42.1	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.1	41.1	4.2	89.1	16.8	4.2	28.1	6.5	42.1	3.2
Queue Length 50th (ft)	22	107	0	~355	102	0	50	77	178	0
Queue Length 95th (ft)	55	155	16	#524	151	60	87	160	#291	17
Internal Link Dist (ft)		1391			914					
Turn Bay Length (ft)	250		50	275			250	230	500	500
Base Capacity (vph)	494	1154	568	959	1459	901	799	1688	799	452
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.33	0.10	1.09	0.35	0.54	0.27	0.58	0.81	0.17

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	1065	858	71	39	730	220	95	594	184	277	1213
v/c Ratio	1.77	0.56	0.09	0.36	0.77	0.43	0.58	0.74	0.75	0.52	0.88
Control Delay	381.6	28.8	0.6	64.4	45.5	18.3	66.5	47.3	68.6	39.7	21.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	381.6	28.8	0.6	64.4	45.5	18.3	66.5	47.3	68.6	39.7	21.6
Queue Length 50th (ft)	~639	272	0	29	268	57	71	218	136	177	188
Queue Length 95th (ft)	#840	378	3	69	359	134	132	301	228	287	#347
Internal Link Dist (ft)		914			2001			1265		3471	
Turn Bay Length (ft)	300		360	100		30	150		160		
Base Capacity (vph)	603	1522	751	306	1194	616	459	1156	306	539	1380
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.77	0.56	0.09	0.13	0.61	0.36	0.21	0.51	0.60	0.51	0.88

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1031	259	957	682	69	952
v/c Ratio	1.30	0.41	0.53	0.52	0.43	0.41
Control Delay	177.7	19.3	7.1	1.7	50.1	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	177.7	19.3	7.1	1.7	50.1	8.6
Queue Length 50th (ft)	~436	92	48	0	42	133
Queue Length 95th (ft)	#561	150	m81	m2	83	171
Internal Link Dist (ft)	741		655			394
Turn Bay Length (ft)	350	500		180	200	
Base Capacity (vph)	793	754	1795	1310	297	2313
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.30	0.34	0.53	0.52	0.23	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	920	157	1536	986	111	1882
v/c Ratio	1.16	0.25	0.87	0.79	0.56	0.56
Control Delay	121.8	19.2	29.0	9.1	48.6	5.3
Queue Delay	0.0	0.0	9.6	0.3	0.0	0.0
Total Delay	121.8	19.2	38.6	9.4	48.6	5.3
Queue Length 50th (ft)	~359	60	435	119	56	62
Queue Length 95th (ft)	#481	101	#636	318	m62	m57
Internal Link Dist (ft)	678		452			142
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	793	690	1774	1253	262	3374
Starvation Cap Reductn	0	0	231	37	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.16	0.23	1.00	0.81	0.42	0.56

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	718	223	324	80	133	325	281	1666	279	1429	856
v/c Ratio	0.95	0.42	0.48	0.58	0.52	0.70	0.89	1.08	0.87	0.91	0.67
Control Delay	74.6	42.4	6.2	79.4	61.2	16.4	84.5	92.9	80.0	54.8	14.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Total Delay	74.6	42.4	6.2	79.4	61.2	16.4	84.5	92.9	80.0	55.9	14.2
Queue Length 50th (ft)	308	158	0	67	109	24	232	~582	228	425	94
Queue Length 95th (ft)	#592	252	70	141	177	117	#521	#950	#455	#690	223
Internal Link Dist (ft)		2884			460			643		452	
Turn Bay Length (ft)	170			140			180		145		
Base Capacity (vph)	757	532	673	396	446	596	325	1538	390	1683	1319
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	90	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	0.42	0.48	0.20	0.30	0.55	0.86	1.08	0.72	0.90	0.65

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	239	481	146	416	448	414	1564	582	1266	115
v/c Ratio	0.67	1.05	0.73	0.46	0.71	0.85	0.99	1.08	0.75	0.16
Control Delay	64.8	98.0	75.6	41.5	19.8	69.9	63.1	111.5	41.8	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.8	98.0	75.6	41.5	19.8	69.9	63.1	111.5	41.8	10.1
Queue Length 50th (ft)	96	~420	114	150	100	165	446	~264	331	22
Queue Length 95th (ft)	153	#615	204	211	235	#281	#700	#460	473	65
Internal Link Dist (ft)		786		1093			2183		643	
Turn Bay Length (ft)	190		190			140		180		
Base Capacity (vph)	539	470	282	921	633	539	1577	539	1695	800
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	1.02	0.52	0.45	0.71	0.77	0.99	1.08	0.75	0.14

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	465	711	123	615	267	97	764	171	459	300
v/c Ratio	1.12	0.59	0.67	0.82	0.51	0.61	0.83	0.78	0.44	0.30
Control Delay	124.2	38.4	74.3	59.0	11.3	74.3	52.6	79.1	37.8	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	124.2	38.4	74.3	59.0	11.3	74.3	52.6	79.1	37.8	5.9
Queue Length 50th (ft)	~478	258	104	263	16	82	322	144	165	39
Queue Length 95th (ft)	#742	375	173	355	99	144	410	#234	227	96
Internal Link Dist (ft)		2001		2146			961		2183	
Turn Bay Length (ft)	100		170		200	150		180		
Base Capacity (vph)	417	1196	278	835	558	278	1101	278	1163	993
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	0.59	0.44	0.74	0.48	0.35	0.69	0.62	0.39	0.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	173	412	236	31	445	175	264	692	99	622
v/c Ratio	0.67	0.35	0.39	0.29	0.61	0.45	0.75	0.56	0.54	0.68
Control Delay	62.2	31.7	17.9	66.0	46.4	26.4	59.1	32.1	65.1	42.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.2	31.7	17.9	66.0	46.4	26.4	59.1	32.1	65.1	42.4
Queue Length 50th (ft)	119	123	61	22	153	54	178	204	69	206
Queue Length 95th (ft)	239	207	158	65	263	148	#355	352	154	345
Internal Link Dist (ft)		2146			1997			3484		1272
Turn Bay Length (ft)	160		70	150		70	200		190	
Base Capacity (vph)	496	1370	680	496	1325	646	496	1423	511	1329
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.30	0.35	0.06	0.34	0.27	0.53	0.49	0.19	0.47

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	2	254	504	627	21	86	394	266	108
v/c Ratio	0.01	0.66	0.57	0.71	0.16	0.33	0.48	0.61	0.21
Control Delay	36.0	36.3	26.5	19.6	38.4	34.2	10.1	39.2	25.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	36.3	26.5	19.6	38.4	34.2	10.1	39.2	25.7
Queue Length 50th (ft)	1	102	102	172	9	36	68	59	34
Queue Length 95th (ft)	8	203	159	#458	33	84	138	#123	95
Internal Link Dist (ft)		213		1668		286			244
Turn Bay Length (ft)	50				75		65	50	
Base Capacity (vph)	440	460	1220	878	134	827	957	437	920
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.55	0.41	0.71	0.16	0.10	0.41	0.61	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	151	354	3	22	465	221	57	227	8	138
v/c Ratio	0.55	0.24	0.00	0.17	0.52	0.43	0.71	0.60	0.02	0.31
Control Delay	47.4	20.8	0.0	51.5	32.9	15.6	71.1	42.1	34.7	9.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.4	20.8	0.0	51.5	32.9	15.6	71.1	42.1	34.7	9.0
Queue Length 50th (ft)	70	53	0	10	104	29	16	103	3	0
Queue Length 95th (ft)	196	161	0	48	246	131	78	268	20	55
Internal Link Dist (ft)		1997			1309		113		677	
Turn Bay Length (ft)	320		100	140		100		200		
Base Capacity (vph)	717	2131	985	717	2127	1009	183	717	755	723
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.17	0.00	0.03	0.22	0.22	0.31	0.32	0.01	0.19

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	66	265	725	351	134	946	344	103	1073
v/c Ratio	0.55	0.79	1.00	0.74	0.71	0.59	0.45	0.66	0.49
Control Delay	79.0	36.3	80.2	42.4	79.3	32.5	20.7	80.1	31.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.0	36.3	80.2	42.4	79.3	32.5	20.7	80.1	31.0
Queue Length 50th (ft)	59	75	356	209	120	330	133	92	250
Queue Length 95th (ft)	108	166	#469	206	185	492	271	151	360
Internal Link Dist (ft)		117		450		252			761
Turn Bay Length (ft)			260		240		90	200	
Base Capacity (vph)	375	493	728	476	215	1594	764	202	2195
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.54	1.00	0.74	0.62	0.59	0.45	0.51	0.49

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	2104	462	147	1453
v/c Ratio	0.74	0.36	0.73	0.41
Control Delay	7.5	0.4	80.0	0.4
Queue Delay	47.6	2.9	0.0	1.0
Total Delay	55.1	3.3	80.0	1.3
Queue Length 50th (ft)	198	0	131	0
Queue Length 95th (ft)	m167	m3	198	0
Internal Link Dist (ft)	119			398
Turn Bay Length (ft)			340	
Base Capacity (vph)	2852	1301	319	3505
Starvation Cap Reductn	1083	708	0	0
Spillback Cap Reductn	0	0	0	1659
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.19	0.78	0.46	0.79

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	514	226	622	485	492	1482	462	162	1246
v/c Ratio	0.48	0.39	1.13	1.00	1.14	1.03	0.61	0.84	0.83
Control Delay	40.6	40.0	116.9	100.2	114.6	80.4	22.0	91.8	41.0
Queue Delay	0.1	0.0	0.0	0.0	1.0	27.4	0.0	66.4	48.0
Total Delay	40.7	40.0	116.9	100.2	115.6	107.8	22.0	158.2	89.0
Queue Length 50th (ft)	194	161	~595	230	~322	~546	205	145	523
Queue Length 95th (ft)	250	238	#835	#350	#546	#643	318	#254	620
Internal Link Dist (ft)		1417				541			119
Turn Bay Length (ft)	1000		600	140			75	60	
Base Capacity (vph)	1068	579	550	485	431	1438	752	212	1502
Starvation Cap Reductn	0	0	0	0	0	0	0	88	370
Spillback Cap Reductn	71	0	0	0	41	124	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.39	1.13	1.00	1.26	1.13	0.61	1.31	1.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	954	203	157	1042	993	1103
v/c Ratio	0.81	0.31	0.47	0.39	0.74	0.87
Control Delay	34.5	6.7	44.7	12.9	27.7	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.5	6.7	44.7	12.9	27.7	12.5
Queue Length 50th (ft)	245	8	42	117	243	109
Queue Length 95th (ft)	#425	62	85	159	352	355
Internal Link Dist (ft)	1668			931	541	
Turn Bay Length (ft)			130			
Base Capacity (vph)	1181	654	1156	4469	1787	1270
Starvation Cap Reductn	0	0	0	0	13	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.31	0.14	0.23	0.56	0.87

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	353	341	483	811	824	309
v/c Ratio	0.53	0.58	0.88	0.34	0.73	0.36
Control Delay	38.4	8.4	52.3	7.3	33.3	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	8.4	52.3	7.3	33.3	8.3
Queue Length 50th (ft)	98	0	273	94	230	62
Queue Length 95th (ft)	163	76	#616	162	334	105
Internal Link Dist (ft)	1309			1278	931	
Turn Bay Length (ft)		100	330			100
Base Capacity (vph)	1071	727	552	2909	1657	1023
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.47	0.88	0.28	0.50	0.30

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	72	520	34	694	193	848	21	215	831	77
v/c Ratio	0.49	0.50	0.32	0.74	0.70	0.74	0.04	0.72	0.70	0.14
Control Delay	66.0	34.9	64.7	40.3	61.8	39.6	0.1	60.9	37.0	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.0	34.9	64.7	40.3	61.8	39.6	0.1	60.9	37.0	7.4
Queue Length 50th (ft)	52	160	25	215	139	296	0	154	283	1
Queue Length 95th (ft)	114	263	66	#371	242	429	0	263	407	36
Internal Link Dist (ft)		3484		721		1028			1278	
Turn Bay Length (ft)	200		150		190		190	130		190
Base Capacity (vph)	487	1085	487	983	487	1461	698	487	1473	689
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.48	0.07	0.71	0.40	0.58	0.03	0.44	0.56	0.11

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBR
Lane Group Flow (vph)	613	500	320	327	42	25
v/c Ratio	0.39	0.27	0.72	0.73	0.09	0.11
Control Delay	15.4	11.5	32.0	32.7	0.8	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.4	11.5	32.0	32.7	0.8	1.0
Queue Length 50th (ft)	168	48	130	134	0	0
Queue Length 95th (ft)	238	118	180	184	3	0
Internal Link Dist (ft)	450	555		317		
Turn Bay Length (ft)					120	
Base Capacity (vph)	1578	1886	561	562	582	291
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.39	0.27	0.57	0.58	0.07	0.09

Intersection Summary

Appendix M

Year 2026 Total Traffic Conditions
Freeway Mainline Analysis
HCS Output Sheets

HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	AM
Project Description	SR-60 EB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4294	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1276
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	74.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.1
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

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Jurisdiction		Time Analyzed	PM
Project Description	SR-60 EB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6374	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1797
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.75
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	26.4
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

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Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 EB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6043	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1721
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.72
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

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Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	AM
Project Description	SR-60 WB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3996	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1600
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4014	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1540
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.64
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.4
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 WB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4259	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1687
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.1
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Jurisdiction		Time Analyzed	AM
Project Description	SR-60 EB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3826	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.91	Flow Rate (V_p), pc/h/ln	1549
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.65
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	PM
Project Description	SR-60 EB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4534	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1740
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.72
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 EB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4602	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1766
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.7
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3161	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1213
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	74.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Project Description	SR-60 WB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3881	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1459
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	20.0
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information			
Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 WB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data			
Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	4131	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	1.00	Flow Rate (V_p), pc/h/ln	1522
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.00		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.1
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	AM
Project Description	1. I-215 NB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2628	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.91	Flow Rate (V_p), pc/h/ln	1103
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.7
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	PM
Project Description	1. I-215 NB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3294	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1352
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	73.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.3
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	Sat Mid
Project Description	1. I-215 NB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3625	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1442
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	73.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.7
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	AM
Project Description	1. I-215 SB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4171	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1027
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.6
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	PM
Project Description	1. I-215 SB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4004	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	976
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	Sat
Project Description	1. I-215 SB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4572	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1080
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.3
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	AM
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3186	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1308
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.55
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	74.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.6
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	PM
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3227	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1297
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	74.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	Sat Mid
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3575	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1422
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	73.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.4
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	AM
Project Description	I-215 SB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3813	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1582
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.1
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	PM
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3944	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1585
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2026 Total Traffic
Jurisdiction		Time Analyzed	Sat Mid
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4455	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1810
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.75
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	67.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	26.7
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Appendix N

Year 2040 Background Conditions Intersection Operations Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	526	91	599	1067	398	739	0	447	498	0	96
Future Volume (veh/h)	151	526	91	599	1067	398	739	0	447	498	0	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1565	1565	1565	1565	1565	1565	1565	0	1565	1565	0	1565
Adj Flow Rate, veh/h	153	531	0	605	1078	0	746	0	452	503	0	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	0	3	3	0	3
Cap, veh/h	176	940		665	1273		801	0	0	801	0	
Arrive On Green	0.12	0.32	0.00	0.23	0.43	0.00	0.28	0.00	0.00	0.28	0.00	0.00
Sat Flow, veh/h	1491	2974	1327	2892	2974	1327	2892	746		2892	503	
Grp Volume(v), veh/h	153	531	0	605	1078	0	746	55.2		503	36.2	
Grp Sat Flow(s),veh/h/ln	1491	1487	1327	1446	1487	1327	1446	E		1446	D	
Q Serve(g_s), s	11.1	16.4	0.0	22.4	35.8	0.0	27.7			16.7		
Cycle Q Clear(g_c), s	11.1	16.4	0.0	22.4	35.8	0.0	27.7			16.7		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	176	940		665	1273		801			801		
V/C Ratio(X)	0.87	0.57		0.91	0.85		0.93			0.63		
Avail Cap(c_a), veh/h	183	940		739	1273		841			841		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.46	0.46	0.00	1.00			1.00		
Uniform Delay (d), s/veh	47.7	31.3	0.0	41.2	28.2	0.0	38.8			34.8		
Incr Delay (d2), s/veh	32.5	2.5	0.0	7.6	3.4	0.0	16.5			1.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	5.7	6.1	0.0	8.5	12.8	0.0	11.5			6.0		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.2	33.8	0.0	48.8	31.7	0.0	55.2			36.2		
LnGrp LOS	F	C		D	C		E			D		
Approach Vol, veh/h		684	A		1683	A						
Approach Delay, s/veh		44.2			37.8							
Approach LOS		D			D							

Timer - Assigned Phs	1	2	3		5	6	7
Phs Duration (G+Y+Rc), s	31.8	42.8	35.4		19.5	55.1	35.4
Change Period (Y+Rc), s	6.5	8.0	5.0		6.5	8.0	5.0
Max Green Setting (Gmax), s	28.1	30.4	32.0		13.5	45.0	32.0
Max Q Clear Time (g_c+I1), s	24.4	18.4	29.7		13.1	37.8	18.7
Green Ext Time (p_c), s	0.9	2.7	0.8		0.0	4.0	1.6

Intersection Summary			
HCM 6th Ctrl Delay			42.4
HCM 6th LOS			D

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	665	650	163	110	1037	136	409	298	98	48	66	413
Future Volume (veh/h)	665	650	163	110	1037	136	409	298	98	48	66	413
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	700	684	172	116	1092	143	431	314	103	51	69	435
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	697	1883	584	141	1166	362	408	979	315	66	341	508
Arrive On Green	0.19	0.35	0.35	0.08	0.23	0.23	0.23	0.37	0.37	0.04	0.18	0.18
Sat Flow, veh/h	3645	5386	1672	1767	5066	1572	1767	2622	845	1767	1856	2768
Grp Volume(v), veh/h	700	684	172	116	1092	143	431	209	208	51	69	435
Grp Sat Flow(s),veh/h/ln	1823	1795	1672	1767	1689	1572	1767	1763	1704	1767	1856	1384
Q Serve(g_s), s	24.0	11.9	9.4	8.1	26.6	9.7	29.0	10.6	10.9	3.6	4.0	19.1
Cycle Q Clear(g_c), s	24.0	11.9	9.4	8.1	26.6	9.7	29.0	10.6	10.9	3.6	4.0	19.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	697	1883	584	141	1166	362	408	658	636	66	341	508
V/C Ratio(X)	1.00	0.36	0.29	0.82	0.94	0.40	1.06	0.32	0.33	0.78	0.20	0.86
Avail Cap(c_a), veh/h	697	1883	584	235	1170	363	408	770	744	135	547	816
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	30.4	29.6	56.9	47.4	40.9	48.3	28.0	28.1	59.9	43.5	49.6
Incr Delay (d2), s/veh	35.2	0.1	0.3	4.5	13.8	0.7	60.0	0.3	0.3	7.2	0.3	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.3	5.2	3.7	3.8	12.6	3.7	19.0	4.3	4.3	1.7	1.8	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	85.9	30.5	29.9	61.4	61.2	41.6	108.2	28.2	28.4	67.1	43.7	54.9
LnGrp LOS	F	C	C	E	E	D	F	C	C	E	D	D
Approach Vol, veh/h		1556			1351			848			555	
Approach Delay, s/veh		55.4			59.2			68.9			54.6	
Approach LOS		E			E			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.0	49.3	33.0	29.2	29.0	34.3	9.2	53.1				
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2				
Max Green Setting (Gmax), s	16.7	37.3	29.0	* 37	24.0	29.0	9.6	54.8				
Max Q Clear Time (g_c+I1), s	10.1	13.9	31.0	21.1	26.0	28.6	5.6	12.9				
Green Ext Time (p_c), s	0.1	5.6	0.0	1.9	0.0	0.3	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay			59.1									
HCM 6th LOS			E									

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	856	473	884	371	88	1021
Future Volume (veh/h)	856	473	884	371	88	1021
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	873	483	902	379	90	1042
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1074	601	1676	1211	115	2099
Arrive On Green	0.29	0.29	0.32	0.32	0.07	0.60
Sat Flow, veh/h	3645	1672	3618	1572	1767	3618
Grp Volume(v), veh/h	873	483	902	379	90	1042
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1572	1767	1763
Q Serve(g_s), s	22.2	26.0	21.0	8.6	5.0	17.0
Cycle Q Clear(g_c), s	22.2	26.0	21.0	8.6	5.0	17.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	1074	601	1676	1211	115	2099
V/C Ratio(X)	0.81	0.80	0.54	0.31	0.78	0.50
Avail Cap(c_a), veh/h	1112	619	1676	1211	239	2099
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	28.8	25.1	4.7	46.0	11.6
Incr Delay (d2), s/veh	4.6	7.4	1.2	0.7	10.9	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	11.3	9.4	7.8	2.5	6.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.3	36.2	26.3	5.4	56.9	12.5
LnGrp LOS	D	D	C	A	E	B
Approach Vol, veh/h	1356		1281			1132
Approach Delay, s/veh	36.9		20.1			16.0
Approach LOS	D		C			B

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	12.0	53.0	65.0	35.0
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	13.5	39.5	58.5	30.5
Max Q Clear Time (g_c+I1), s	7.0	23.0	19.0	28.0
Green Ext Time (p_c), s	0.1	6.8	8.7	1.4

Intersection Summary	
HCM 6th Ctrl Delay	24.9
HCM 6th LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	517	79	1178	616	90	1808
Future Volume (veh/h)	517	79	1178	616	90	1808
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	539	82	1227	642	94	1883
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	649	411	2130	1230	120	3658
Arrive On Green	0.18	0.18	0.60	0.60	0.05	0.48
Sat Flow, veh/h	3645	1672	3618	1572	1767	5233
Grp Volume(v), veh/h	539	82	1227	642	94	1883
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1572	1767	1689
Q Serve(g_s), s	14.3	3.9	21.1	15.0	5.3	25.6
Cycle Q Clear(g_c), s	14.3	3.9	21.1	15.0	5.3	25.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	649	411	2130	1230	120	3658
V/C Ratio(X)	0.83	0.20	0.58	0.52	0.78	0.51
Avail Cap(c_a), veh/h	875	515	2130	1230	194	3658
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67
Upstream Filter(I)	1.00	1.00	0.65	0.65	1.00	1.00
Uniform Delay (d), s/veh	39.7	29.9	12.0	4.0	47.0	13.8
Incr Delay (d2), s/veh	5.1	0.2	0.7	1.0	10.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	4.0	7.4	8.7	2.6	10.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.7	30.1	12.8	5.0	57.6	14.3
LnGrp LOS	D	C	B	A	E	B
Approach Vol, veh/h	621		1869			1977
Approach Delay, s/veh	42.8		10.1			16.3
Approach LOS	D		B			B

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.8	65.4		22.8		77.2
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	11.0	50.0		24.0		66.0
Max Q Clear Time (g_c+I1), s	7.3	23.1		16.3		27.6
Green Ext Time (p_c), s	0.1	13.4		1.5		19.9

Intersection Summary		
HCM 6th Ctrl Delay		17.4
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	249	34	49	34	55	114	85	1495	64	169	1785	380
Future Volume (veh/h)	249	34	49	34	55	114	85	1495	64	169	1785	380
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	262	36	52	36	58	120	89	1574	67	178	1879	400
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	333	354	299	60	218	183	113	2306	98	212	2628	1435
Arrive On Green	0.10	0.19	0.19	0.03	0.11	0.11	0.06	0.46	0.46	0.12	0.52	0.52
Sat Flow, veh/h	3428	1856	1565	1879	1973	1658	1767	4982	212	1767	5066	2766
Grp Volume(v), veh/h	262	36	52	36	58	120	89	1067	574	178	1879	400
Grp Sat Flow(s),veh/h/ln	1714	1856	1565	1879	1973	1658	1767	1689	1817	1767	1689	1383
Q Serve(g_s), s	7.3	1.6	2.7	1.8	2.6	6.8	4.9	24.3	24.3	9.6	27.7	8.0
Cycle Q Clear(g_c), s	7.3	1.6	2.7	1.8	2.6	6.8	4.9	24.3	24.3	9.6	27.7	8.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.12	1.00		1.00
Lane Grp Cap(c), veh/h	333	354	299	60	218	183	113	1563	841	212	2628	1435
V/C Ratio(X)	0.79	0.10	0.17	0.60	0.27	0.66	0.79	0.68	0.68	0.84	0.72	0.28
Avail Cap(c_a), veh/h	473	928	783	165	868	729	190	1899	1022	334	3264	1782
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.2	32.6	33.1	46.7	39.9	41.7	45.1	20.6	20.6	42.1	18.0	13.2
Incr Delay (d2), s/veh	3.4	0.1	0.3	3.6	0.6	3.9	4.5	0.8	1.4	8.6	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.7	1.0	0.9	1.3	3.0	2.2	9.0	9.8	4.6	9.8	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.6	32.8	33.4	50.3	40.5	45.7	49.6	21.4	22.0	50.7	18.6	13.3
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	B	B
Approach Vol, veh/h		350			214			1730			2457	
Approach Delay, s/veh		43.2			45.0			23.1			20.0	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.2	50.7	7.1	23.8	10.8	56.1	15.0	15.9
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	18.5	55.0	8.6	48.9	10.5	63.0	13.5	* 43
Max Q Clear Time (g_c+I1), s	11.6	26.3	3.8	4.7	6.9	29.7	9.3	8.8
Green Ext Time (p_c), s	0.2	13.4	0.0	0.3	0.0	21.0	0.2	0.7

Intersection Summary	
HCM 6th Ctrl Delay	24.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	32	50	30	100	86	135	1486	43	98	1777	70
Future Volume (veh/h)	53	32	50	30	100	86	135	1486	43	98	1777	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	56	34	53	32	105	91	142	1564	45	103	1871	74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	155	82	127	60	373	165	219	2696	78	197	2700	909
Arrive On Green	0.05	0.13	0.13	0.03	0.10	0.10	0.06	0.53	0.53	0.06	0.53	0.53
Sat Flow, veh/h	3428	651	1016	1879	3749	1662	3428	5061	146	3428	5066	1572
Grp Volume(v), veh/h	56	0	87	32	105	91	142	1044	565	103	1871	74
Grp Sat Flow(s),veh/h/ln	1714	0	1667	1879	1874	1662	1714	1689	1829	1714	1689	1572
Q Serve(g_s), s	1.2	0.0	3.7	1.3	2.0	4.0	3.1	16.2	16.2	2.3	21.2	1.6
Cycle Q Clear(g_c), s	1.2	0.0	3.7	1.3	2.0	4.0	3.1	16.2	16.2	2.3	21.2	1.6
Prop In Lane	1.00		0.61	1.00		1.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	155	0	209	60	373	165	219	1799	975	197	2700	909
V/C Ratio(X)	0.36	0.00	0.42	0.53	0.28	0.55	0.65	0.58	0.58	0.52	0.69	0.08
Avail Cap(c_a), veh/h	226	0	916	160	2084	924	346	2353	1275	355	3575	1181
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	0.0	31.2	36.9	32.3	33.2	35.4	12.2	12.2	35.4	13.4	7.2
Incr Delay (d2), s/veh	0.5	0.0	1.3	2.7	0.4	2.8	1.2	0.3	0.5	0.8	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.5	0.6	0.9	1.7	1.3	5.1	5.6	0.9	6.7	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.4	0.0	32.5	39.5	32.7	36.0	36.6	12.5	12.8	36.2	13.8	7.3
LnGrp LOS	D	A	C	D	C	D	D	B	B	D	B	A
Approach Vol, veh/h		143			228			1751			2048	
Approach Delay, s/veh		34.0			35.0			14.6			14.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	46.6	7.0	14.3	9.4	46.6	9.0	12.3
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	8.0	53.9	6.6	42.5	7.8	54.6	5.1	43.0
Max Q Clear Time (g_c+I1), s	4.3	18.2	3.3	5.7	5.1	23.2	3.2	6.0
Green Ext Time (p_c), s	0.0	14.3	0.0	0.5	0.1	18.1	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	344	245	169	117	848	217	453	1158	48	217	1322	284
Future Volume (veh/h)	344	245	169	117	848	217	453	1158	48	217	1322	284
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	362	258	178	123	893	228	477	1219	51	228	1392	299
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	238	881	407	146	1058	326	315	1291	54	244	1179	737
Arrive On Green	0.13	0.26	0.26	0.08	0.21	0.21	0.18	0.37	0.37	0.14	0.33	0.33
Sat Flow, veh/h	1767	3377	1562	1767	5066	1559	1767	3448	144	1767	3526	1572
Grp Volume(v), veh/h	362	258	178	123	893	228	477	623	647	228	1392	299
Grp Sat Flow(s),veh/h/ln	1767	1689	1562	1767	1689	1559	1767	1763	1830	1767	1763	1572
Q Serve(g_s), s	18.5	8.4	13.1	9.4	23.3	18.6	24.5	47.0	47.1	17.6	46.0	17.1
Cycle Q Clear(g_c), s	18.5	8.4	13.1	9.4	23.3	18.6	24.5	47.0	47.1	17.6	46.0	17.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	238	881	407	146	1058	326	315	660	685	244	1179	737
V/C Ratio(X)	1.52	0.29	0.44	0.84	0.84	0.70	1.52	0.94	0.94	0.93	1.18	0.41
Avail Cap(c_a), veh/h	238	884	409	173	1142	351	315	660	685	244	1179	737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.5	40.7	42.4	62.2	52.2	50.4	56.5	41.6	41.6	58.6	45.8	23.9
Incr Delay (d2), s/veh	255.6	0.2	0.7	23.1	5.6	5.6	247.6	22.2	21.8	39.4	90.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.1	3.5	5.1	5.2	10.3	7.7	32.5	24.1	25.0	10.4	34.3	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	315.1	40.9	43.1	85.3	57.9	56.0	304.1	63.8	63.5	98.0	136.0	24.3
LnGrp LOS	F	D	D	F	E	E	F	E	E	F	F	C
Approach Vol, veh/h		798			1244			1747			1919	
Approach Delay, s/veh		165.8			60.2			129.3			114.1	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.5	56.9	15.9	41.3	29.0	51.4	23.0	34.1
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	19.0	51.5	13.5	36.0	24.5	46.0	18.5	31.0
Max Q Clear Time (g_c+I1), s	19.6	49.1	11.4	15.1	26.5	48.0	20.5	25.3
Green Ext Time (p_c), s	0.0	1.7	0.0	2.7	0.0	0.0	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	114.2
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	69	151	15	10	45
Future Vol, veh/h	21	69	151	15	10	45
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	22	73	159	16	11	47
Number of Lanes	2	1	1	2	2	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	3	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	3
HCM Control Delay	6.9	8.6	7.5
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	SBLn1	SBLn2
Vol Left, %	100%	94%	0%	100%	17%	0%	0%	0%
Vol Thru, %	0%	6%	100%	0%	0%	0%	100%	7%
Vol Right, %	0%	0%	0%	0%	83%	100%	0%	93%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	76	81	10	14	42	35	7	48
LT Vol	76	76	0	14	7	0	0	0
Through Vol	0	5	10	0	0	0	7	3
RT Vol	0	0	0	0	35	35	0	45
Lane Flow Rate	79	85	11	15	44	36	7	51
Geometry Grp	8	8	8	7	7	7	8	8
Degree of Util (X)	0.117	0.124	0.009	0.023	0.056	0.027	0.01	0.063
Departure Headway (Hd)	5.304	5.273	3.05	5.616	4.619	2.665	5.124	4.471
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	670	674	1151	641	779	1349	701	804
Service Time	3.082	3.051	0.828	3.32	2.322	0.369	2.834	2.181
HCM Lane V/C Ratio	0.118	0.126	0.01	0.023	0.056	0.027	0.01	0.063
HCM Control Delay	8.8	8.8	5.9	8.5	7.6	5.4	7.9	7.5
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.4	0.4	0	0.1	0.2	0.1	0	0.2

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	41	50	61	73	111	63
Future Vol, veh/h	41	50	61	73	111	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	43	53	64	77	117	66
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	8	7.8	7.7
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	100%	0%	0%	0%	100%	41%	0%
Vol Thru, %	0%	0%	0%	100%	21%	0%	59%	100%
Vol Right, %	0%	0%	100%	0%	79%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	56	56	63	27	64	44	41	49
LT Vol	56	56	0	0	0	44	17	0
Through Vol	0	0	0	27	14	0	24	49
RT Vol	0	0	63	0	50	0	0	0
Lane Flow Rate	58	58	66	29	67	46	44	51
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.091	0.091	0.049	0.042	0.088	0.073	0.065	0.049
Departure Headway (Hd)	5.588	5.588	2.636	5.267	4.716	5.689	5.395	3.431
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	643	643	1356	680	760	631	665	1042
Service Time	3.308	3.308	0.357	2.995	2.443	3.414	3.119	1.156
HCM Lane V/C Ratio	0.09	0.09	0.049	0.043	0.088	0.073	0.066	0.049
HCM Control Delay	8.9	8.9	5.5	8.2	7.9	8.9	8.5	6.3
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.2	0.1	0.3	0.2	0.2	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	301	176	36	402	43	440	277	33	31	130	25
Future Volume (veh/h)	33	301	176	36	402	43	440	277	33	31	130	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	35	317	185	38	423	45	463	292	35	33	137	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	53	1080	335	56	758	338	524	1206	143	52	341	63
Arrive On Green	0.03	0.21	0.21	0.03	0.22	0.22	0.30	0.38	0.38	0.03	0.11	0.11
Sat Flow, veh/h	1767	5066	1570	1767	3526	1570	1767	3173	377	1810	3038	564
Grp Volume(v), veh/h	35	317	185	38	423	45	463	161	166	33	80	83
Grp Sat Flow(s),veh/h/ln	1767	1689	1570	1767	1763	1570	1767	1763	1787	1810	1805	1797
Q Serve(g_s), s	1.1	3.0	5.9	1.2	6.1	1.3	14.1	3.5	3.6	1.0	2.3	2.4
Cycle Q Clear(g_c), s	1.1	3.0	5.9	1.2	6.1	1.3	14.1	3.5	3.6	1.0	2.3	2.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.31
Lane Grp Cap(c), veh/h	53	1080	335	56	758	338	524	670	679	52	202	202
V/C Ratio(X)	0.66	0.29	0.55	0.68	0.56	0.13	0.88	0.24	0.24	0.64	0.40	0.41
Avail Cap(c_a), veh/h	312	2882	893	312	2006	893	2092	2797	2836	256	982	978
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	18.7	19.9	27.1	19.8	18.0	19.0	12.0	12.0	27.2	23.3	23.4
Incr Delay (d2), s/veh	5.2	0.2	2.0	5.2	0.9	0.3	2.0	0.3	0.3	4.8	1.8	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.1	2.1	0.5	2.3	0.4	5.1	1.2	1.2	0.5	1.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	18.9	21.9	32.3	20.7	18.2	21.0	12.2	12.3	32.0	25.1	25.3
LnGrp LOS	C	B	C	C	C	B	C	B	B	C	C	C
Approach Vol, veh/h		537			506			790			196	
Approach Delay, s/veh		20.8			21.4			17.4			26.4	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.6	27.3	5.8	17.9	20.8	12.1	5.7	18.0
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	8.0	89.8	10.0	32.2	67.0	30.8	10.0	32.2
Max Q Clear Time (g_c+I1), s	3.0	5.6	3.2	7.9	16.1	4.4	3.1	8.1
Green Ext Time (p_c), s	0.0	2.9	0.0	3.9	0.7	1.2	0.0	3.9

Intersection Summary		
HCM 6th Ctrl Delay		20.1
HCM 6th LOS		C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	129	101	20	72	31	12
Future Volume (veh/h)	129	101	20	72	31	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	136	106	21	76	33	13
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	533	296	1050	713	111	890
Arrive On Green	0.16	0.16	0.30	0.30	0.03	0.48
Sat Flow, veh/h	3428	1572	3618	1572	3428	1856
Grp Volume(v), veh/h	136	106	21	76	33	13
Grp Sat Flow(s),veh/h/ln	1714	1572	1763	1572	1714	1856
Q Serve(g_s), s	0.9	1.6	0.1	0.7	0.3	0.1
Cycle Q Clear(g_c), s	0.9	1.6	0.1	0.7	0.3	0.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	533	296	1050	713	111	890
V/C Ratio(X)	0.25	0.36	0.02	0.11	0.30	0.01
Avail Cap(c_a), veh/h	3830	1808	3939	2002	3830	2073
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.0	9.5	6.7	4.2	12.7	3.7
Incr Delay (d2), s/veh	0.4	1.0	0.0	0.1	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.4	0.0	0.2	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	10.3	10.5	6.7	4.3	13.2	3.7
LnGrp LOS	B	B	A	A	B	A
Approach Vol, veh/h	242		97			46
Approach Delay, s/veh	10.4		4.8			10.5
Approach LOS	B		A			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	4.9	13.1				18.0		8.9
Change Period (Y+Rc), s	4.0	5.1				5.1		4.7
Max Green Setting (Gmax), s	30.0	30.0				30.0		30.0
Max Q Clear Time (g_c+I1), s	2.3	2.7				2.1		3.6
Green Ext Time (p_c), s	0.0	0.5				0.0		1.3

Intersection Summary	
HCM 6th Ctrl Delay	9.0
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	72	19	25	106	36	31
Future Vol, veh/h	72	19	25	106	36	31
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	76	20	26	112	38	33
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	7.8	7	7.3
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	55%	0%	0%	0%	100%	7%	0%
Vol Thru, %	0%	0%	0%	100%	56%	0%	93%	100%
Vol Right, %	0%	45%	100%	0%	44%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	22	21	48	43	23	38	71
LT Vol	24	12	0	0	0	23	3	0
Through Vol	0	0	0	48	24	0	35	71
RT Vol	0	10	21	0	19	0	0	0
Lane Flow Rate	25	23	22	51	45	24	40	74
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.039	0.032	0.016	0.068	0.057	0.036	0.055	0.065
Departure Headway (Hd)	5.541	4.998	2.589	4.863	4.553	5.414	4.946	3.159
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	649	720	1387	727	775	665	728	1138
Service Time	3.248	2.705	0.296	2.661	2.351	3.12	2.653	0.866
HCM Lane V/C Ratio	0.039	0.032	0.016	0.07	0.058	0.036	0.055	0.065
HCM Control Delay	8.5	7.9	5.3	8	7.6	8.3	7.9	6.1
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.1	0	0.2	0.2	0.1	0.2	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	221	4	19	623	26	18	6	36	34	7	31
Future Volume (veh/h)	26	221	4	19	623	26	18	6	36	34	7	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	27	228	4	20	642	27	19	6	37	35	7	32
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	46	1310	584	35	1289	575	25	8	49	99	104	88
Arrive On Green	0.03	0.37	0.37	0.02	0.37	0.37	0.05	0.05	0.05	0.06	0.06	0.06
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	506	160	986	1767	1856	1572
Grp Volume(v), veh/h	27	228	4	20	642	27	62	0	0	35	7	32
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1653	0	0	1767	1856	1572
Q Serve(g_s), s	0.6	1.8	0.1	0.5	5.7	0.4	1.5	0.0	0.0	0.8	0.1	0.8
Cycle Q Clear(g_c), s	0.6	1.8	0.1	0.5	5.7	0.4	1.5	0.0	0.0	0.8	0.1	0.8
Prop In Lane	1.00		1.00	1.00		1.00	0.31		0.60	1.00		1.00
Lane Grp Cap(c), veh/h	46	1310	584	35	1289	575	82	0	0	99	104	88
V/C Ratio(X)	0.59	0.17	0.01	0.57	0.50	0.05	0.76	0.00	0.00	0.35	0.07	0.36
Avail Cap(c_a), veh/h	438	4647	2073	394	4560	2034	1687	0	0	1384	1453	1231
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	8.5	8.0	19.6	9.9	8.3	18.9	0.0	0.0	18.4	18.1	18.4
Incr Delay (d2), s/veh	4.4	0.1	0.0	5.3	0.4	0.0	13.1	0.0	0.0	2.1	0.3	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.5	0.0	0.2	1.6	0.1	0.8	0.0	0.0	0.3	0.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.9	8.6	8.0	24.9	10.4	8.3	32.0	0.0	0.0	20.5	18.3	20.9
LnGrp LOS	C	A	A	C	B	A	C	A	A	C	B	C
Approach Vol, veh/h		259			689			62			74	
Approach Delay, s/veh		10.2			10.7			32.0			20.5	
Approach LOS		B			B			C			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		7.1	4.8	20.8		7.7	5.0	20.6				
Change Period (Y+Rc), s		5.1	4.0	5.8		5.4	4.0	5.8				
Max Green Setting (Gmax), s		41.2	9.0	53.2		31.6	10.0	52.2				
Max Q Clear Time (g_c+I1), s		3.5	2.5	3.8		2.8	2.6	7.7				
Green Ext Time (p_c), s		0.3	0.0	2.2		0.2	0.0	7.1				

Intersection Summary			
HCM 6th Ctrl Delay			12.5
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	15	63	490	41	242	67	880	190	101	1026	7
Future Volume (veh/h)	8	15	63	490	41	242	67	880	190	101	1026	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	8	16	66	516	43	255	71	926	200	106	1080	7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	13	21	86	574	52	311	90	1963	875	128	3003	19
Arrive On Green	0.01	0.07	0.07	0.17	0.23	0.23	0.02	0.18	0.18	0.07	0.58	0.58
Sat Flow, veh/h	1767	316	1304	3428	232	1376	1767	3526	1572	1767	5193	34
Grp Volume(v), veh/h	8	0	82	516	0	298	71	926	200	106	702	385
Grp Sat Flow(s),veh/h/ln	1767	0	1621	1714	0	1608	1767	1763	1572	1767	1689	1849
Q Serve(g_s), s	0.6	0.0	7.0	20.7	0.0	24.7	5.6	32.9	15.2	8.3	15.5	15.5
Cycle Q Clear(g_c), s	0.6	0.0	7.0	20.7	0.0	24.7	5.6	32.9	15.2	8.3	15.5	15.5
Prop In Lane	1.00		0.80	1.00		0.86	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	13	0	107	574	0	363	90	1963	875	128	1953	1070
V/C Ratio(X)	0.59	0.00	0.77	0.90	0.00	0.82	0.79	0.47	0.23	0.83	0.36	0.36
Avail Cap(c_a), veh/h	76	0	212	784	0	501	164	1963	875	215	1953	1070
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.93	0.00	0.93	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.2	0.0	64.3	57.1	0.0	51.5	68.1	38.7	31.5	64.0	15.7	15.7
Incr Delay (d2), s/veh	14.4	0.0	14.8	8.2	0.0	8.4	5.6	0.8	0.6	5.0	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	3.3	9.5	0.0	10.7	2.7	15.8	6.6	3.9	5.9	6.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.7	0.0	79.1	65.3	0.0	59.9	73.6	39.6	32.1	69.0	16.2	16.7
LnGrp LOS	F	A	E	E	A	E	E	D	C	E	B	B
Approach Vol, veh/h		90			814			1197			1193	
Approach Delay, s/veh		79.5			63.3			40.3			21.1	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	83.7	27.4	14.7	11.1	86.8	5.1	37.0
Change Period (Y+Rc), s	4.0	5.8	4.0	* 5.4	4.0	5.8	4.0	5.4
Max Green Setting (Gmax), s	17.0	54.2	32.0	* 18	13.0	58.2	6.0	43.6
Max Q Clear Time (g_c+I1), s	10.3	34.9	22.7	9.0	7.6	17.5	2.6	26.7
Green Ext Time (p_c), s	0.1	9.2	0.8	0.3	0.0	12.4	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	40.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1496	183	212	1087
Future Volume (veh/h)	0	0	1496	183	212	1087
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				1.00	1.00	
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No			No
Adj Sat Flow, veh/h/ln			1856	1856	1856	1856
Adj Flow Rate, veh/h			1575	193	223	1144
Peak Hour Factor			0.95	0.95	0.95	0.95
Percent Heavy Veh, %			3	3	3	3
Cap, veh/h			2786	1243	244	3387
Arrive On Green			1.00	1.00	0.28	1.00
Sat Flow, veh/h			3618	1572	1767	3618
Grp Volume(v), veh/h			1575	193	223	1144
Grp Sat Flow(s),veh/h/ln			1763	1572	1767	1763
Q Serve(g_s), s			0.0	0.0	17.1	0.0
Cycle Q Clear(g_c), s			0.0	0.0	17.1	0.0
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			2786	1243	244	3387
V/C Ratio(X)			0.57	0.16	0.91	0.34
Avail Cap(c_a), veh/h			2786	1243	448	3387
HCM Platoon Ratio			1.33	1.33	2.00	2.00
Upstream Filter(I)			0.70	0.70	1.00	1.00
Uniform Delay (d), s/veh			0.0	0.0	49.8	0.0
Incr Delay (d2), s/veh			0.6	0.2	5.4	0.3
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.2	0.1	6.8	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			0.6	0.2	55.3	0.3
LnGrp LOS			A	A	E	A
Approach Vol, veh/h			1768			1367
Approach Delay, s/veh			0.5			9.2
Approach LOS			A			A
Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	23.9	116.1				140.0
Change Period (Y+Rc), s	4.5	5.5				5.5
Max Green Setting (Gmax), s	35.5	94.5				134.5
Max Q Clear Time (g_c+I1), s	19.1	2.0				2.0
Green Ext Time (p_c), s	0.3	11.2				6.1
Intersection Summary						
HCM 6th Ctrl Delay			4.3			
HCM 6th LOS			A			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	307	241	271	479	0	542	0	756	375	176	1002	0
Future Volume (veh/h)	307	241	271	479	0	542	0	756	375	176	1002	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	323	254	285	504	0	571	0	796	395	185	1055	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	754	408	342	0	0	0	0	2818	875	199	2473	0
Arrive On Green	0.22	0.22	0.22	0.00	0.00	0.00	0.00	0.56	0.56	0.23	1.00	0.00
Sat Flow, veh/h	3428	1856	1555		0		0	5233	1572	1767	3618	0
Grp Volume(v), veh/h	323	254	285		0.0		0	796	395	185	1055	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1555				0	1689	1572	1767	1763	0
Q Serve(g_s), s	11.4	17.3	24.5				0.0	11.6	20.8	14.4	0.0	0.0
Cycle Q Clear(g_c), s	11.4	17.3	24.5				0.0	11.6	20.8	14.4	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	754	408	342				0	2818	875	199	2473	0
V/C Ratio(X)	0.43	0.62	0.83				0.00	0.28	0.45	0.93	0.43	0.00
Avail Cap(c_a), veh/h	1077	583	489				0	2818	875	199	2473	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.96	0.96	0.95	0.95	0.00
Uniform Delay (d), s/veh	47.0	49.3	52.1				0.0	16.3	18.4	53.6	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.6	5.7				0.0	0.2	1.6	41.7	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	8.1	10.1				0.0	4.4	7.7	7.8	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.2	49.9	57.8				0.0	16.6	20.0	95.4	0.5	0.0
LnGrp LOS	D	D	E				A	B	C	F	A	A
Approach Vol, veh/h		862						1191			1240	
Approach Delay, s/veh		51.5						17.7			14.7	
Approach LOS		D						B			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.3	83.4		36.3		103.7
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	15.8	32.7		44.0		53.0
Max Q Clear Time (g_c+I1), s	16.4	22.8		26.5		2.0
Green Ext Time (p_c), s	0.0	3.2		2.0		9.2

Intersection Summary		
HCM 6th Ctrl Delay		25.4
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	183	72	69	954	1275	289
Future Volume (veh/h)	183	72	69	954	1275	289
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	193	76	73	1004	1342	304
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	363	166	154	3662	2175	1136
Arrive On Green	0.11	0.11	0.04	0.72	0.62	0.62
Sat Flow, veh/h	3428	1572	3428	5233	3618	1572
Grp Volume(v), veh/h	193	76	73	1004	1342	304
Grp Sat Flow(s),veh/h/ln	1714	1572	1714	1689	1763	1572
Q Serve(g_s), s	3.5	3.0	1.4	4.5	15.4	4.3
Cycle Q Clear(g_c), s	3.5	3.0	1.4	4.5	15.4	4.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	363	166	154	3662	2175	1136
V/C Ratio(X)	0.53	0.46	0.47	0.27	0.62	0.27
Avail Cap(c_a), veh/h	1814	832	367	5762	3418	1691
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	27.5	30.5	3.1	7.7	3.1
Incr Delay (d2), s/veh	1.7	2.8	0.8	0.1	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.1	0.5	0.7	4.0	1.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.4	30.3	31.3	3.2	8.2	3.3
LnGrp LOS	C	C	C	A	A	A
Approach Vol, veh/h	269			1077	1646	
Approach Delay, s/veh	29.7			5.1	7.3	
Approach LOS	C			A	A	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	53.1	12.3	6.9	46.1
Change Period (Y+Rc), s	5.8	5.4	4.0	5.8
Max Green Setting (Gmax), s	74.4	34.6	7.0	63.4
Max Q Clear Time (g_c+I1), s	6.5	5.5	3.4	17.4
Green Ext Time (p_c), s	13.0	1.5	0.0	22.9

Intersection Summary	
HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	328	79	291	659	811	296
Future Volume (veh/h)	328	79	291	659	811	296
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	345	83	306	694	854	312
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	553	253	359	2320	1384	866
Arrive On Green	0.16	0.16	0.20	0.66	0.39	0.39
Sat Flow, veh/h	3428	1572	1767	3618	3618	1560
Grp Volume(v), veh/h	345	83	306	694	854	312
Grp Sat Flow(s),veh/h/ln	1714	1572	1767	1763	1763	1560
Q Serve(g_s), s	6.0	3.0	10.7	5.4	12.5	7.2
Cycle Q Clear(g_c), s	6.0	3.0	10.7	5.4	12.5	7.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	553	253	359	2320	1384	866
V/C Ratio(X)	0.62	0.33	0.85	0.30	0.62	0.36
Avail Cap(c_a), veh/h	1719	788	897	4216	2207	1230
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.1	23.9	24.7	4.7	15.6	8.0
Incr Delay (d2), s/veh	1.7	1.1	2.2	0.1	0.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.1	4.2	1.2	4.3	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.8	24.9	26.9	4.8	16.3	8.4
LnGrp LOS	C	C	C	A	B	A
Approach Vol, veh/h	428			1000	1166	
Approach Delay, s/veh	26.4			11.5	14.2	
Approach LOS	C			B	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		48.1		16.2	17.1	31.0
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		76.8		32.2	32.6	40.2
Max Q Clear Time (g_c+I1), s		7.4		8.0	12.7	14.5
Green Ext Time (p_c), s		7.9		2.3	0.4	10.7
Intersection Summary						
HCM 6th Ctrl Delay			15.2			
HCM 6th LOS			B			

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	242	69	94	669	208	122	594	111	117	563	133
Future Volume (veh/h)	171	242	69	94	669	208	122	594	111	117	563	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	178	252	72	98	697	217	127	619	116	122	586	139
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	212	1072	300	125	911	284	158	871	386	152	859	381
Arrive On Green	0.12	0.39	0.39	0.07	0.34	0.34	0.09	0.25	0.25	0.09	0.24	0.24
Sat Flow, veh/h	1767	2718	760	1767	2643	823	1767	3526	1563	1767	3526	1563
Grp Volume(v), veh/h	178	161	163	98	465	449	127	619	116	122	586	139
Grp Sat Flow(s),veh/h/ln	1767	1763	1715	1767	1763	1702	1767	1763	1563	1767	1763	1563
Q Serve(g_s), s	9.6	5.9	6.2	5.3	22.8	22.8	6.8	15.6	5.9	6.6	14.6	7.2
Cycle Q Clear(g_c), s	9.6	5.9	6.2	5.3	22.8	22.8	6.8	15.6	5.9	6.6	14.6	7.2
Prop In Lane	1.00		0.44	1.00		0.48	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	695	677	125	608	587	158	871	386	152	859	381
V/C Ratio(X)	0.84	0.23	0.24	0.79	0.76	0.76	0.81	0.71	0.30	0.80	0.68	0.36
Avail Cap(c_a), veh/h	455	1065	1036	302	912	881	346	1519	673	328	1483	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.8	19.6	19.6	44.4	28.3	28.3	43.4	33.4	29.7	43.5	33.3	30.4
Incr Delay (d2), s/veh	3.4	0.2	0.3	4.1	3.0	3.1	3.7	1.5	0.6	3.7	1.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	2.4	2.4	2.4	9.5	9.2	3.1	6.5	2.2	2.9	6.1	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	19.8	19.9	48.5	31.3	31.4	47.0	34.9	30.3	47.2	34.6	31.3
LnGrp LOS	D	B	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		502			1012			862			847	
Approach Delay, s/veh		28.8			33.0			36.1			35.9	
Approach LOS		C			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.3	29.8	10.8	44.1	12.7	29.4	15.6	39.3				
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8				
Max Green Setting (Gmax), s	18.0	41.8	16.6	58.6	19.0	40.8	25.0	50.2				
Max Q Clear Time (g_c+I1), s	11.6	17.6	7.3	8.2	8.8	16.6	11.6	24.8				
Green Ext Time (p_c), s	0.1	6.4	0.1	2.9	0.1	6.2	0.2	8.7				
Intersection Summary												
HCM 6th Ctrl Delay			33.9									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	290	0	0	490	266	284	3	23	0	0	7
Future Volume (vph)	12	290	0	0	490	266	284	3	23	0	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Lane Util. Factor		0.95			0.95		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			0.99		1.00	1.00	1.00			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			0.95		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.95	1.00			1.00
Satd. Flow (prot)		3498			3292		1665	1671	1568			1596
Flt Permitted		0.92			1.00		0.95	0.95	1.00			1.00
Satd. Flow (perm)		3233			3292		1665	1671	1568			1596
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	13	305	0	0	516	280	299	3	24	0	0	7
RTOR Reduction (vph)	0	0	0	0	57	0	0	0	20	0	0	7
Lane Group Flow (vph)	0	318	0	0	739	0	149	153	4	0	0	0
Confl. Peds. (#/hr)	2		4	4		2						
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA			NA		Split	NA	Perm			Prot
Protected Phases		6			2		4	4				3
Permitted Phases	6								4			
Actuated Green, G (s)		44.0			44.0		11.0	11.0	11.0			1.0
Effective Green, g (s)		44.0			44.0		11.0	11.0	11.0			1.0
Actuated g/C Ratio		0.63			0.63		0.16	0.16	0.16			0.01
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		2032			2069		261	262	246			22
v/s Ratio Prot					c0.22		0.09	c0.09				c0.00
v/s Ratio Perm		0.10							0.00			
v/c Ratio		0.16			0.36		0.57	0.58	0.02			0.00
Uniform Delay, d1		5.4			6.2		27.3	27.4	24.9			34.0
Progression Factor		1.48			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.2			0.5		1.9	2.1	0.0			0.0
Delay (s)		8.1			6.7		29.2	29.5	24.9			34.0
Level of Service		A			A		C	C	C			C
Approach Delay (s)		8.1			6.7			29.0			34.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	789	250	774	789	526	286	0	771	849	0	300
Future Volume (veh/h)	250	789	250	774	789	526	286	0	771	849	0	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1565	1565	1565	1565	1565	1565	1565	0	1565	1565	0	1565
Adj Flow Rate, veh/h	263	831	0	815	831	0	301	0	812	894	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	0	3	3	0	3
Cap, veh/h	275	811		776	1060		815	0	0	815	0	
Arrive On Green	0.18	0.27	0.00	0.27	0.36	0.00	0.28	0.00	0.00	0.28	0.00	0.00
Sat Flow, veh/h	1491	2974	1327	2892	2974	1327	2892	301		2892	894	
Grp Volume(v), veh/h	263	831	0	815	831	0	301	31.9		894	100.8	
Grp Sat Flow(s),veh/h/ln	1491	1487	1327	1446	1487	1327	1446	C		1446	F	
Q Serve(g_s), s	19.2	30.0	0.0	29.5	27.5	0.0	9.2			31.0		
Cycle Q Clear(g_c), s	19.2	30.0	0.0	29.5	27.5	0.0	9.2			31.0		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	275	811		776	1060		815			815		
V/C Ratio(X)	0.96	1.02		1.05	0.78		0.37			1.10		
Avail Cap(c_a), veh/h	275	811		776	1060		815			815		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.28	0.28	0.00	1.00			1.00		
Uniform Delay (d), s/veh	44.4	40.0	0.0	40.3	31.6	0.0	31.7			39.5		
Incr Delay (d2), s/veh	42.2	38.0	0.0	32.3	1.7	0.0	0.3			61.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	10.2	14.9	0.0	13.7	9.8	0.0	3.2			17.8		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.6	78.0	0.0	72.6	33.3	0.0	31.9			100.8		
LnGrp LOS	F	F		F	C		C			F		
Approach Vol, veh/h		1094	A		1646	A						
Approach Delay, s/veh		80.0			52.8							
Approach LOS		F			D							

Timer - Assigned Phs	1	2	3		5	6	7
Phs Duration (G+Y+Rc), s	36.0	38.0	36.0		26.8	47.2	36.0
Change Period (Y+Rc), s	6.5	8.0	5.0		6.5	8.0	5.0
Max Green Setting (Gmax), s	29.5	30.0	31.0		20.3	39.2	31.0
Max Q Clear Time (g_c+I1), s	31.5	32.0	11.2		21.2	29.5	33.0
Green Ext Time (p_c), s	0.0	0.0	1.0		0.0	3.9	0.0

Intersection Summary	
HCM 6th Ctrl Delay	69.7
HCM 6th LOS	E

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	614	1449	400	69	564	146	240	369	234	158	350	1258
Future Volume (veh/h)	614	1449	400	69	564	146	240	369	234	158	350	1258
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	646	1525	421	73	594	154	253	388	246	166	368	1324
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	638	1942	600	92	1166	360	242	678	424	191	559	832
Arrive On Green	0.17	0.36	0.36	0.05	0.23	0.23	0.14	0.33	0.33	0.11	0.30	0.30
Sat Flow, veh/h	3645	5386	1665	1767	5066	1566	1767	2080	1301	1767	1856	2762
Grp Volume(v), veh/h	646	1525	421	73	594	154	253	328	306	166	368	1324
Grp Sat Flow(s),veh/h/ln	1823	1795	1665	1767	1689	1566	1767	1763	1618	1767	1856	1381
Q Serve(g_s), s	23.0	33.2	28.4	5.4	13.4	11.0	18.0	20.3	20.6	12.2	22.7	39.6
Cycle Q Clear(g_c), s	23.0	33.2	28.4	5.4	13.4	11.0	18.0	20.3	20.6	12.2	22.7	39.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		1.00
Lane Grp Cap(c), veh/h	638	1942	600	92	1166	360	242	575	528	191	559	832
V/C Ratio(X)	1.01	0.79	0.70	0.79	0.51	0.43	1.05	0.57	0.58	0.87	0.66	1.59
Avail Cap(c_a), veh/h	638	2192	678	120	1480	458	242	575	528	242	559	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	37.5	36.0	61.6	44.1	43.2	56.7	36.7	36.8	57.7	40.0	45.9
Incr Delay (d2), s/veh	38.9	1.7	2.8	17.6	0.3	0.8	70.3	1.4	1.6	19.6	2.8	271.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.0	14.8	11.5	2.9	5.7	4.2	12.5	8.6	8.1	6.4	10.7	44.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.1	39.2	38.8	79.2	44.5	44.0	127.0	38.0	38.4	77.3	42.9	317.7
LnGrp LOS	F	D	D	E	D	D	F	D	D	E	D	F
Approach Vol, veh/h		2592			821			887			1858	
Approach Delay, s/veh		52.6			47.5			63.5			241.8	
Approach LOS		D			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	52.8	22.0	45.8	28.0	35.7	18.7	49.1
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	8.9	53.5	18.0	* 40	23.0	38.4	18.0	38.0
Max Q Clear Time (g_c+I1), s	7.4	35.2	20.0	41.6	25.0	15.4	14.2	22.6
Green Ext Time (p_c), s	0.0	12.2	0.0	0.0	0.0	4.8	0.1	3.1

Intersection Summary	
HCM 6th Ctrl Delay	110.6
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	878	267	1633	489	67	1119
Future Volume (veh/h)	878	267	1633	489	67	1119
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	915	278	1701	509	70	1166
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	989	538	1809	1233	90	2181
Arrive On Green	0.27	0.27	0.68	0.68	0.05	0.62
Sat Flow, veh/h	3645	1672	3618	1572	1767	3618
Grp Volume(v), veh/h	915	278	1701	509	70	1166
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1572	1767	1763
Q Serve(g_s), s	24.4	13.5	42.8	8.0	3.9	18.8
Cycle Q Clear(g_c), s	24.4	13.5	42.8	8.0	3.9	18.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	989	538	1809	1233	90	2181
V/C Ratio(X)	0.93	0.52	0.94	0.41	0.78	0.53
Avail Cap(c_a), veh/h	1010	548	1809	1233	95	2181
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.4	27.6	14.5	2.1	46.9	10.9
Incr Delay (d2), s/veh	13.6	0.8	11.1	1.0	31.6	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	5.4	13.2	4.6	2.5	6.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	49.1	28.4	25.7	3.1	78.6	11.8
LnGrp LOS	D	C	C	A	E	B
Approach Vol, veh/h	1193		2210			1236
Approach Delay, s/veh	44.3		20.5			15.6
Approach LOS	D		C			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.6	56.8				67.4		32.6
Change Period (Y+Rc), s	5.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	5.4	50.4				61.3		27.7
Max Q Clear Time (g_c+I1), s	5.9	44.8				20.8		26.4
Green Ext Time (p_c), s	0.0	4.9				10.3		0.7

Intersection Summary		
HCM 6th Ctrl Delay		25.3
HCM 6th LOS		C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	863	430	1756	910	123	2003
Future Volume (veh/h)	863	430	1756	910	123	2003
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	881	439	1792	929	126	2044
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	933	545	1847	1225	124	3262
Arrive On Green	0.26	0.26	0.52	0.52	0.05	0.43
Sat Flow, veh/h	3645	1672	3618	1569	1767	5233
Grp Volume(v), veh/h	881	439	1792	929	126	2044
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1569	1767	1689
Q Serve(g_s), s	23.7	24.0	49.2	31.9	7.0	31.4
Cycle Q Clear(g_c), s	23.7	24.0	49.2	31.9	7.0	31.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	933	545	1847	1225	124	3262
V/C Ratio(X)	0.94	0.81	0.97	0.76	1.02	0.63
Avail Cap(c_a), veh/h	933	545	1847	1225	124	3262
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67
Upstream Filter(I)	1.00	1.00	0.12	0.12	1.00	1.00
Uniform Delay (d), s/veh	36.5	30.8	23.0	5.9	47.7	19.1
Incr Delay (d2), s/veh	17.5	8.6	3.1	0.6	86.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	21.7	18.8	22.7	6.0	12.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.0	39.4	26.1	6.5	133.6	20.0
LnGrp LOS	D	D	C	A	F	B
Approach Vol, veh/h	1320		2721			2170
Approach Delay, s/veh	49.2		19.4			26.6
Approach LOS	D		B			C

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.0	57.4		30.6		69.4
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	7.0	52.4		25.6		64.4
Max Q Clear Time (g_c+I1), s	9.0	51.2		26.0		33.4
Green Ext Time (p_c), s	0.0	1.1		0.0		19.6

Intersection Summary		
HCM 6th Ctrl Delay		28.2
HCM 6th LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	642	167	257	36	85	268	191	1831	88	213	1962	637
Future Volume (veh/h)	642	167	257	36	85	268	191	1831	88	213	1962	637
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	669	174	268	38	89	279	199	1907	92	222	2044	664
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	554	625	529	53	380	321	179	1896	91	192	1978	1081
Arrive On Green	0.16	0.34	0.34	0.03	0.19	0.19	0.10	0.38	0.38	0.11	0.39	0.39
Sat Flow, veh/h	3428	1856	1570	1879	1973	1667	1767	4951	238	1767	5066	2768
Grp Volume(v), veh/h	669	174	268	38	89	279	199	1299	700	222	2044	664
Grp Sat Flow(s),veh/h/ln	1714	1856	1570	1879	1973	1667	1767	1689	1813	1767	1689	1384
Q Serve(g_s), s	21.5	9.1	18.2	2.7	5.1	21.6	13.5	51.0	51.0	14.5	52.0	25.6
Cycle Q Clear(g_c), s	21.5	9.1	18.2	2.7	5.1	21.6	13.5	51.0	51.0	14.5	52.0	25.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	554	625	529	53	380	321	179	1293	694	192	1978	1081
V/C Ratio(X)	1.21	0.28	0.51	0.71	0.23	0.87	1.11	1.00	1.01	1.15	1.03	0.61
Avail Cap(c_a), veh/h	554	790	668	124	637	538	179	1293	694	192	1978	1081
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	32.3	35.3	64.2	45.4	52.1	59.8	41.1	41.1	59.3	40.6	32.5
Incr Delay (d2), s/veh	110.0	0.2	0.8	6.4	0.3	8.0	100.0	26.1	36.1	112.4	29.4	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.7	4.1	7.1	1.4	2.5	9.7	10.9	25.1	28.9	12.4	26.2	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	165.8	32.5	36.0	70.6	45.8	60.1	159.9	67.2	77.2	171.7	70.0	33.6
LnGrp LOS	F	C	D	E	D	E	F	F	F	F	F	C
Approach Vol, veh/h		1111			406			2198			2930	
Approach Delay, s/veh		113.6			57.9			78.8			69.4	
Approach LOS		F			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	56.4	7.8	50.0	18.0	57.4	27.0	30.8
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	14.5	51.0	8.8	56.7	13.5	52.0	21.5	* 43
Max Q Clear Time (g_c+I1), s	16.5	53.0	4.7	20.2	15.5	54.0	23.5	23.6
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	0.0	0.0	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	79.2
HCM 6th LOS	E

Notes
User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	180	263	89	302	308	282	1647	120	341	1850	68
Future Volume (veh/h)	224	180	263	89	302	308	282	1647	120	341	1850	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	236	189	277	94	318	324	297	1734	126	359	1947	72
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	257	207	304	119	1072	475	316	1762	128	364	1943	720
Arrive On Green	0.08	0.31	0.31	0.06	0.29	0.29	0.09	0.37	0.37	0.11	0.38	0.38
Sat Flow, veh/h	3428	677	992	1879	3749	1660	3428	4819	350	3428	5066	1569
Grp Volume(v), veh/h	236	0	466	94	318	324	297	1214	646	359	1947	72
Grp Sat Flow(s),veh/h/ln	1714	0	1669	1879	1874	1660	1714	1689	1792	1714	1689	1569
Q Serve(g_s), s	8.4	0.0	32.9	6.0	8.1	21.2	10.6	43.6	43.8	12.8	47.0	3.2
Cycle Q Clear(g_c), s	8.4	0.0	32.9	6.0	8.1	21.2	10.6	43.6	43.8	12.8	47.0	3.2
Prop In Lane	1.00		0.59	1.00		1.00	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	257	0	511	119	1072	475	316	1235	655	364	1943	720
V/C Ratio(X)	0.92	0.00	0.91	0.79	0.30	0.68	0.94	0.98	0.99	0.99	1.00	0.10
Avail Cap(c_a), veh/h	257	0	590	152	1315	582	316	1235	655	364	1943	720
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	0.0	40.9	56.6	34.1	38.8	55.3	38.5	38.6	54.7	37.8	18.8
Incr Delay (d2), s/veh	34.2	0.0	17.1	15.0	0.2	2.4	34.6	21.6	31.5	43.5	20.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	15.8	3.4	3.7	8.9	6.0	21.0	24.2	7.6	22.3	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.5	0.0	58.1	71.6	34.3	41.3	89.9	60.1	70.1	98.2	58.7	18.9
LnGrp LOS	F	A	E	E	C	D	F	E	E	F	F	B
Approach Vol, veh/h		702			736			2157			2378	
Approach Delay, s/veh		69.0			42.1			67.2			63.5	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	50.2	12.2	42.1	15.8	52.4	14.7	39.6
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	13.0	44.8	9.9	43.3	11.3	47.0	9.2	43.0
Max Q Clear Time (g_c+I1), s	14.8	45.8	8.0	34.9	12.6	49.0	10.4	23.2
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	0.0	0.0	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	62.8
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	573	1019	256	188	404	181	112	936	120	307	1435	283
Future Volume (veh/h)	573	1019	256	188	404	181	112	936	120	307	1435	283
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	597	1061	267	196	421	189	117	975	125	320	1495	295
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	416	1198	301	221	947	289	99	938	120	231	1317	953
Arrive On Green	0.24	0.30	0.30	0.12	0.19	0.19	0.06	0.30	0.30	0.13	0.37	0.37
Sat Flow, veh/h	1767	4025	1012	1767	5066	1545	1767	3139	402	1767	3526	1560
Grp Volume(v), veh/h	597	890	438	196	421	189	117	547	553	320	1495	295
Grp Sat Flow(s),veh/h/ln	1767	1689	1660	1767	1689	1545	1767	1763	1778	1767	1763	1560
Q Serve(g_s), s	31.5	33.6	33.7	14.6	9.9	15.2	7.5	40.0	40.0	17.5	50.0	12.2
Cycle Q Clear(g_c), s	31.5	33.6	33.7	14.6	9.9	15.2	7.5	40.0	40.0	17.5	50.0	12.2
Prop In Lane	1.00		0.61	1.00		1.00	1.00		0.23	1.00		1.00
Lane Grp Cap(c), veh/h	416	1005	494	221	947	289	99	527	532	231	1317	953
V/C Ratio(X)	1.44	0.89	0.89	0.89	0.44	0.65	1.18	1.04	1.04	1.38	1.13	0.31
Avail Cap(c_a), veh/h	416	1060	521	271	1173	358	99	527	532	231	1317	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	44.8	44.8	57.6	48.2	50.4	63.2	46.9	46.9	58.2	41.9	12.6
Incr Delay (d2), s/veh	209.2	8.9	16.2	22.2	0.3	3.0	147.2	49.7	49.7	197.7	70.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	37.9	15.1	15.9	7.9	4.2	6.1	7.4	24.5	24.7	20.4	33.9	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	260.3	53.7	61.0	79.9	48.6	53.4	210.4	96.6	96.6	255.8	112.5	12.8
LnGrp LOS	F	D	E	E	D	D	F	F	F	F	F	B
Approach Vol, veh/h		1925			806			1217			2110	
Approach Delay, s/veh		119.5			57.3			107.5			120.3	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	45.4	21.2	45.2	12.0	55.4	36.0	30.4
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	17.5	40.0	20.5	42.0	7.5	50.0	31.5	31.0
Max Q Clear Time (g_c+I1), s	19.5	42.0	16.6	35.7	9.5	52.0	33.5	17.2
Green Ext Time (p_c), s	0.0	0.0	0.1	4.1	0.0	0.0	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	109.1
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	12.6
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	165	348	376	78	56	194
Future Vol, veh/h	165	348	376	78	56	194
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	170	359	388	80	58	200
Number of Lanes	2	1	1	2	2	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	3	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	3
HCM Control Delay	11	14.1	13.1
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	SBLn1	SBLn2
Vol Left, %	100%	88%	0%	100%	24%	0%	0%	0%
Vol Thru, %	0%	12%	100%	0%	0%	0%	100%	9%
Vol Right, %	0%	0%	0%	0%	76%	100%	0%	91%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	188	214	52	110	229	174	37	213
LT Vol	188	188	0	110	55	0	0	0
Through Vol	0	26	52	0	0	0	37	19
RT Vol	0	0	0	0	174	174	0	194
Lane Flow Rate	194	221	54	113	236	179	38	219
Geometry Grp	8	8	8	7	7	7	8	8
Degree of Util (X)	0.387	0.436	0.073	0.222	0.402	0.203	0.077	0.397
Departure Headway (Hd)	7.183	7.121	4.901	7.054	6.136	4.082	7.166	6.517
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	500	505	726	508	585	872	498	550
Service Time	4.946	4.885	2.664	4.817	3.898	1.843	4.942	4.292
HCM Lane V/C Ratio	0.388	0.438	0.074	0.222	0.403	0.205	0.076	0.398
HCM Control Delay	14.4	15.3	8.1	11.8	13	7.9	10.5	13.6
HCM Lane LOS	B	C	A	B	B	A	B	B
HCM 95th-tile Q	1.8	2.2	0.2	0.8	1.9	0.8	0.2	1.9

Intersection	
Intersection Delay, s/veh	14.6
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	260	250	157	262	272	197
Future Vol, veh/h	260	250	157	262	272	197
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	274	263	165	276	286	207
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	18.9	12.4	11.8
HCM LOS	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	100%	0%	0%	0%	100%	20%	0%
Vol Thru, %	0%	0%	0%	100%	26%	0%	80%	100%
Vol Right, %	0%	0%	100%	0%	74%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	136	136	197	173	337	135	109	175
LT Vol	136	136	0	0	0	135	22	0
Through Vol	0	0	0	173	87	0	87	175
RT Vol	0	0	197	0	250	0	0	0
Lane Flow Rate	143	143	207	182	354	142	115	184
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.304	0.304	0.268	0.365	0.658	0.314	0.242	0.29
Departure Headway (Hd)	7.643	7.643	4.653	7.194	6.681	7.965	7.558	5.669
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	472	472	776	500	542	452	475	632
Service Time	5.357	5.357	2.366	4.931	4.402	5.708	5.3	3.411
HCM Lane V/C Ratio	0.303	0.303	0.267	0.364	0.653	0.314	0.242	0.291
HCM Control Delay	13.7	13.7	9.1	14	21.4	14.3	12.7	10.7
HCM Lane LOS	B	B	A	B	C	B	B	B
HCM 95th-tile Q	1.3	1.3	1.1	1.7	4.8	1.3	0.9	1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	839	497	138	273	105	266	486	214	90	545	77
Future Volume (veh/h)	107	839	497	138	273	105	266	486	214	90	545	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	110	865	512	142	281	108	274	501	221	93	562	79
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	134	1866	578	167	1364	607	300	772	339	116	693	97
Arrive On Green	0.08	0.37	0.37	0.09	0.39	0.39	0.17	0.32	0.32	0.06	0.22	0.22
Sat Flow, veh/h	1767	5066	1569	1767	3526	1569	1767	2383	1046	1810	3179	446
Grp Volume(v), veh/h	110	865	512	142	281	108	274	370	352	93	318	323
Grp Sat Flow(s),veh/h/ln	1767	1689	1569	1767	1763	1569	1767	1763	1666	1810	1805	1819
Q Serve(g_s), s	8.1	17.1	40.2	10.4	7.0	5.9	20.0	23.6	23.8	6.7	22.0	22.1
Cycle Q Clear(g_c), s	8.1	17.1	40.2	10.4	7.0	5.9	20.0	23.6	23.8	6.7	22.0	22.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.63	1.00		0.24
Lane Grp Cap(c), veh/h	134	1866	578	167	1364	607	300	571	539	116	394	397
V/C Ratio(X)	0.82	0.46	0.89	0.85	0.21	0.18	0.91	0.65	0.65	0.80	0.81	0.81
Avail Cap(c_a), veh/h	250	1976	612	242	1364	607	444	737	697	219	520	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.8	31.6	38.9	58.5	26.8	26.5	53.5	38.0	38.0	60.6	48.7	48.8
Incr Delay (d2), s/veh	4.7	0.3	14.6	12.4	0.1	0.2	13.7	1.8	2.0	4.8	8.2	8.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	7.0	17.3	5.2	2.9	2.2	9.9	10.3	9.8	3.2	10.8	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.5	31.8	53.5	70.9	26.9	26.7	67.3	39.8	40.0	65.4	56.9	57.2
LnGrp LOS	E	C	D	E	C	C	E	D	D	E	E	E
Approach Vol, veh/h		1487			531			996			734	
Approach Delay, s/veh		41.7			38.6			47.4			58.1	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	48.3	16.4	54.1	26.3	34.4	13.9	56.6
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	15.3	54.9	18.0	51.2	33.0	37.8	18.6	50.6
Max Q Clear Time (g_c+I1), s	8.7	25.8	12.4	42.2	22.0	24.1	10.1	9.0
Green Ext Time (p_c), s	0.1	6.8	0.1	6.2	0.3	4.5	0.1	3.2

Intersection Summary	
HCM 6th Ctrl Delay	46.0
HCM 6th LOS	D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	244	277	56	275	267	68
Future Volume (veh/h)	244	277	56	275	267	68
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	257	292	59	289	281	72
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	921	635	843	796	462	886
Arrive On Green	0.27	0.27	0.24	0.24	0.13	0.48
Sat Flow, veh/h	3428	1572	3618	1563	3428	1856
Grp Volume(v), veh/h	257	292	59	289	281	72
Grp Sat Flow(s),veh/h/ln	1714	1572	1763	1563	1714	1856
Q Serve(g_s), s	2.3	5.3	0.5	4.3	3.0	0.8
Cycle Q Clear(g_c), s	2.3	5.3	0.5	4.3	3.0	0.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	921	635	843	796	462	886
V/C Ratio(X)	0.28	0.46	0.07	0.36	0.61	0.08
Avail Cap(c_a), veh/h	2778	1487	3076	1786	2219	3012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.2	8.4	11.4	5.7	15.7	5.5
Incr Delay (d2), s/veh	0.2	0.7	0.0	0.4	0.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	1.4	0.2	2.0	1.0	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.4	9.2	11.4	6.1	16.2	5.5
LnGrp LOS	B	A	B	A	B	A
Approach Vol, veh/h	549		348			353
Approach Delay, s/veh	10.2		7.0			14.0
Approach LOS	B		A			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.2	14.3				23.5		15.1
Change Period (Y+Rc), s	4.0	5.1				5.1		4.7
Max Green Setting (Gmax), s	25.0	33.7				62.7		31.3
Max Q Clear Time (g_c+I1), s	5.0	6.3				2.8		7.3
Green Ext Time (p_c), s	0.5	2.2				0.6		3.2

Intersection Summary	
HCM 6th Ctrl Delay	10.4
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	276	182	77	211	118	68
Future Vol, veh/h	276	182	77	211	118	68
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	291	192	81	222	124	72
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	11.7	9.2	9.4
HCM LOS	B	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	79%	0%	0%	0%	100%	10%	0%
Vol Thru, %	0%	0%	0%	100%	34%	0%	90%	100%
Vol Right, %	0%	21%	100%	0%	66%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	50	58	184	274	69	78	141
LT Vol	79	40	0	0	0	69	8	0
Through Vol	0	0	0	184	92	0	70	141
RT Vol	0	10	58	0	182	0	0	0
Lane Flow Rate	83	52	61	194	288	73	82	148
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.158	0.096	0.066	0.313	0.428	0.136	0.142	0.182
Departure Headway (Hd)	6.867	6.619	3.899	5.809	5.341	6.696	6.241	4.424
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	523	542	917	620	675	536	575	810
Service Time	4.6	4.351	1.631	3.535	3.067	4.43	3.975	2.157
HCM Lane V/C Ratio	0.159	0.096	0.067	0.313	0.427	0.136	0.143	0.183
HCM Control Delay	10.9	10.1	6.9	11.2	12	10.5	10	8.1
HCM Lane LOS	B	B	A	B	B	B	A	A
HCM 95th-tile Q	0.6	0.3	0.2	1.3	2.1	0.5	0.5	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	1039	22	24	422	81	14	27	20	132	8	36
Future Volume (veh/h)	57	1039	22	24	422	81	14	27	20	132	8	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	60	1094	23	25	444	85	15	28	21	139	8	38
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	80	1414	631	42	1337	596	20	37	27	206	216	183
Arrive On Green	0.05	0.40	0.40	0.02	0.38	0.38	0.05	0.05	0.05	0.12	0.12	0.12
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	406	758	569	1767	1856	1572
Grp Volume(v), veh/h	60	1094	23	25	444	85	64	0	0	139	8	38
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1733	0	0	1767	1856	1572
Q Serve(g_s), s	1.7	13.3	0.4	0.7	4.4	1.8	1.8	0.0	0.0	3.7	0.2	1.1
Cycle Q Clear(g_c), s	1.7	13.3	0.4	0.7	4.4	1.8	1.8	0.0	0.0	3.7	0.2	1.1
Prop In Lane	1.00		1.00	1.00		1.00	0.23		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	80	1414	631	42	1337	596	84	0	0	206	216	183
V/C Ratio(X)	0.75	0.77	0.04	0.60	0.33	0.14	0.76	0.00	0.00	0.67	0.04	0.21
Avail Cap(c_a), veh/h	197	1569	700	197	1569	700	1051	0	0	1072	1126	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.3	12.9	9.0	23.9	10.9	10.1	23.2	0.0	0.0	20.9	19.4	19.8
Incr Delay (d2), s/veh	5.1	2.5	0.0	5.1	0.2	0.2	13.3	0.0	0.0	3.8	0.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.4	0.1	0.3	1.4	0.5	1.0	0.0	0.0	1.6	0.1	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	15.3	9.0	29.0	11.1	10.2	36.6	0.0	0.0	24.8	19.4	20.3
LnGrp LOS	C	B	A	C	B	B	D	A	A	C	B	C
Approach Vol, veh/h		1177			554			64			185	
Approach Delay, s/veh		15.9			11.8			36.6			23.6	
Approach LOS		B			B			D			C	

Timer - Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		7.5	5.2	25.6		11.2	6.2	24.5
Change Period (Y+Rc), s		5.1	4.0	5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		30.0	5.5	22.0		30.0	5.5	22.0
Max Q Clear Time (g_c+I1), s		3.8	2.7	15.3		5.7	3.7	6.4
Green Ext Time (p_c), s		0.3	0.0	4.5		0.5	0.0	3.7

Intersection Summary			
HCM 6th Ctrl Delay			16.1
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	35	166	524	64	221	95	1470	431	92	859	14
Future Volume (veh/h)	30	35	166	524	64	221	95	1470	431	92	859	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	30	35	168	529	65	223	96	1485	435	93	868	14
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	38	36	175	578	102	350	116	1759	784	114	2555	41
Arrive On Green	0.02	0.13	0.13	0.17	0.28	0.28	0.13	1.00	1.00	0.06	0.50	0.50
Sat Flow, veh/h	1767	278	1337	3428	368	1261	1767	3526	1571	1767	5135	83
Grp Volume(v), veh/h	30	0	203	529	0	288	96	1485	435	93	571	311
Grp Sat Flow(s),veh/h/ln	1767	0	1615	1714	0	1629	1767	1763	1571	1767	1689	1840
Q Serve(g_s), s	2.4	0.0	17.5	21.2	0.0	21.7	7.4	0.8	0.2	7.3	14.3	14.3
Cycle Q Clear(g_c), s	2.4	0.0	17.5	21.2	0.0	21.7	7.4	0.8	0.2	7.3	14.3	14.3
Prop In Lane	1.00		0.83	1.00		0.77	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	38	0	211	578	0	453	116	1759	784	114	1680	916
V/C Ratio(X)	0.79	0.00	0.96	0.91	0.00	0.64	0.82	0.84	0.56	0.82	0.34	0.34
Avail Cap(c_a), veh/h	86	0	211	637	0	453	196	1759	784	126	1680	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.95	0.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.2	0.0	60.5	57.2	0.0	44.3	60.0	0.1	0.1	64.7	21.3	21.3
Incr Delay (d2), s/veh	12.6	0.0	51.1	15.6	0.0	3.2	5.4	5.2	2.8	27.2	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	10.2	10.4	0.0	9.1	3.3	1.3	0.6	4.1	5.7	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.8	0.0	111.6	72.8	0.0	47.6	65.4	5.2	2.9	91.8	21.8	22.3
LnGrp LOS	F	A	F	E	A	D	E	A	A	F	C	C
Approach Vol, veh/h		233			817			2016			975	
Approach Delay, s/veh		107.6			63.9			7.6			28.6	
Approach LOS		F			E			A			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	75.7	27.6	23.7	13.2	75.5	7.0	44.3
Change Period (Y+Rc), s	4.0	5.8	4.0	* 5.4	4.0	5.8	4.0	5.4
Max Green Setting (Gmax), s	10.0	67.2	26.0	* 18	15.5	61.7	6.8	36.8
Max Q Clear Time (g_c+I1), s	9.3	2.8	23.2	19.5	9.4	16.3	4.4	23.7
Green Ext Time (p_c), s	0.0	33.3	0.4	0.0	0.0	9.6	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	29.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	2090	417	132	1020
Future Volume (veh/h)	0	0	2090	417	132	1020
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				0.99	1.00	
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No			No
Adj Sat Flow, veh/h/ln			1856	1856	1856	1856
Adj Flow Rate, veh/h			2200	439	139	1074
Peak Hour Factor			0.95	0.95	0.95	0.95
Percent Heavy Veh, %			3	3	3	3
Cap, veh/h			2953	1309	161	3387
Arrive On Green			1.00	1.00	0.18	1.00
Sat Flow, veh/h			3618	1562	1767	3618
Grp Volume(v), veh/h			2200	439	139	1074
Grp Sat Flow(s),veh/h/ln			1763	1562	1767	1763
Q Serve(g_s), s			0.0	0.0	10.7	0.0
Cycle Q Clear(g_c), s			0.0	0.0	10.7	0.0
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			2953	1309	161	3387
V/C Ratio(X)			0.74	0.34	0.87	0.32
Avail Cap(c_a), veh/h			2953	1309	246	3387
HCM Platoon Ratio			2.00	2.00	2.00	2.00
Upstream Filter(I)			0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh			0.0	0.0	56.4	0.0
Incr Delay (d2), s/veh			0.2	0.1	12.0	0.2
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.1	0.0	4.8	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			0.2	0.1	68.4	0.2
LnGrp LOS			A	A	E	A
Approach Vol, veh/h			2639			1213
Approach Delay, s/veh			0.1			8.1
Approach LOS			A			A
Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	17.2	122.8				140.0
Change Period (Y+Rc), s	4.5	5.5				5.5
Max Green Setting (Gmax), s	19.5	110.5				134.5
Max Q Clear Time (g_c+I1), s	12.7	2.0				2.0
Green Ext Time (p_c), s	0.1	27.2				5.6
Intersection Summary						
HCM 6th Ctrl Delay			2.6			
HCM 6th LOS			A			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	563	713	410	425	0	561	0	1403	777	238	888	0
Future Volume (veh/h)	563	713	410	425	0	561	0	1403	777	238	888	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	580	735	423	438	0	578	0	1446	801	245	915	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	1163	630	532	0	0	0	0	2370	732	145	2052	0
Arrive On Green	0.34	0.34	0.34	0.00	0.00	0.00	0.00	0.47	0.47	0.16	1.00	0.00
Sat Flow, veh/h	3428	1856	1568		0		0	5233	1565	1767	3618	0
Grp Volume(v), veh/h	580	735	423		0.0		0	1446	801	245	915	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1568				0	1689	1565	1767	1763	0
Q Serve(g_s), s	18.8	47.5	34.2				0.0	29.8	65.5	11.5	0.0	0.0
Cycle Q Clear(g_c), s	18.8	47.5	34.2				0.0	29.8	65.5	11.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1163	630	532				0	2370	732	145	2052	0
V/C Ratio(X)	0.50	1.17	0.79				0.00	0.61	1.09	1.69	0.45	0.00
Avail Cap(c_a), veh/h	1163	630	532				0	2370	732	145	2052	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.80	0.80	0.96	0.96	0.00
Uniform Delay (d), s/veh	36.8	46.3	41.8				0.0	27.7	37.3	58.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	91.7	7.6				0.0	0.9	58.6	336.4	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	37.8	14.3				0.0	11.9	35.8	18.2	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.9	138.0	49.4				0.0	28.7	95.9	394.9	0.7	0.0
LnGrp LOS	D	F	D				A	C	F	F	A	A
Approach Vol, veh/h		1738						2247			1160	
Approach Delay, s/veh		82.7						52.6			83.9	
Approach LOS		F						D			F	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	16.0	71.0		53.0		87.0						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	11.5	36.5		47.5		52.5						
Max Q Clear Time (g_c+I1), s	13.5	67.5		49.5		2.0						
Green Ext Time (p_c), s	0.0	0.0		0.0		7.4						

Intersection Summary		
HCM 6th Ctrl Delay		69.9
HCM 6th LOS		E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	593	200	130	1528	971	541
Future Volume (veh/h)	593	200	130	1528	971	541
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	605	204	133	1559	991	552
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	876	402	213	2992	1669	1146
Arrive On Green	0.26	0.26	0.06	0.59	0.47	0.47
Sat Flow, veh/h	3428	1572	3428	5233	3618	1572
Grp Volume(v), veh/h	605	204	133	1559	991	552
Grp Sat Flow(s),veh/h/ln	1714	1572	1714	1689	1763	1572
Q Serve(g_s), s	11.6	8.1	2.8	13.3	15.0	10.7
Cycle Q Clear(g_c), s	11.6	8.1	2.8	13.3	15.0	10.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	876	402	213	2992	1669	1146
V/C Ratio(X)	0.69	0.51	0.62	0.52	0.59	0.48
Avail Cap(c_a), veh/h	1818	834	518	4898	2683	1598
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.5	23.2	33.3	8.8	14.0	4.1
Incr Delay (d2), s/veh	1.4	1.4	1.1	0.2	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.2	1.1	3.8	5.1	6.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	25.9	24.6	34.4	9.0	14.5	4.6
LnGrp LOS	C	C	C	A	B	A
Approach Vol, veh/h	809			1692	1543	
Approach Delay, s/veh	25.6			11.0	11.0	
Approach LOS	C			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		48.8		24.0	8.5	40.3
Change Period (Y+Rc), s		5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		70.4		38.6	11.0	55.4
Max Q Clear Time (g_c+I1), s		15.3		13.6	4.8	17.0
Green Ext Time (p_c), s		24.8		5.0	0.1	17.5

Intersection Summary		
HCM 6th Ctrl Delay		13.9
HCM 6th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	558	424	286	913	941	285
Future Volume (veh/h)	558	424	286	913	941	285
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	581	442	298	951	980	297
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1042	478	331	2056	1259	1032
Arrive On Green	0.30	0.30	0.19	0.58	0.36	0.36
Sat Flow, veh/h	3428	1572	1767	3618	3618	1550
Grp Volume(v), veh/h	581	442	298	951	980	297
Grp Sat Flow(s),veh/h/ln	1714	1572	1767	1763	1763	1550
Q Serve(g_s), s	14.6	28.0	16.9	15.8	25.5	8.3
Cycle Q Clear(g_c), s	14.6	28.0	16.9	15.8	25.5	8.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1042	478	331	2056	1259	1032
V/C Ratio(X)	0.56	0.92	0.90	0.46	0.78	0.29
Avail Cap(c_a), veh/h	1074	492	498	2633	1502	1138
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	34.6	40.8	12.2	29.4	7.3
Incr Delay (d2), s/veh	0.8	23.5	10.4	0.2	2.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	3.1	8.1	5.6	10.6	5.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.8	58.1	51.2	12.5	32.0	7.5
LnGrp LOS	C	E	D	B	C	A
Approach Vol, veh/h	1023			1249	1277	
Approach Delay, s/veh	42.6			21.7	26.3	
Approach LOS	D			C	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		65.8		37.1	23.3	42.5
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		76.8		32.2	29.0	43.8
Max Q Clear Time (g_c+I1), s		17.8		30.0	18.9	27.5
Green Ext Time (p_c), s		12.2		1.3	0.3	9.3
Intersection Summary						
HCM 6th Ctrl Delay			29.4			
HCM 6th LOS			C			

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	638	152	53	476	291	157	874	53	366	899	110
Future Volume (veh/h)	115	638	152	53	476	291	157	874	53	366	899	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	116	644	154	54	481	294	159	883	54	370	908	111
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	137	790	189	69	509	309	188	972	432	397	1389	618
Arrive On Green	0.08	0.28	0.28	0.04	0.24	0.24	0.11	0.28	0.28	0.22	0.39	0.39
Sat Flow, veh/h	1767	2822	674	1767	2105	1281	1767	3526	1566	1767	3526	1568
Grp Volume(v), veh/h	116	402	396	54	402	373	159	883	54	370	908	111
Grp Sat Flow(s),veh/h/ln	1767	1763	1733	1767	1763	1623	1767	1763	1566	1767	1763	1568
Q Serve(g_s), s	7.0	23.1	23.1	3.3	24.3	24.5	9.6	26.2	2.8	22.3	22.8	5.0
Cycle Q Clear(g_c), s	7.0	23.1	23.1	3.3	24.3	24.5	9.6	26.2	2.8	22.3	22.8	5.0
Prop In Lane	1.00		0.39	1.00		0.79	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	137	493	485	69	426	392	188	972	432	397	1389	618
V/C Ratio(X)	0.85	0.81	0.82	0.78	0.95	0.95	0.85	0.91	0.13	0.93	0.65	0.18
Avail Cap(c_a), veh/h	137	493	485	95	426	392	223	1001	445	407	1389	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	36.4	36.4	51.6	40.4	40.5	47.6	37.9	29.5	41.3	26.8	21.4
Incr Delay (d2), s/veh	34.8	10.6	10.9	16.7	30.2	32.9	19.4	11.9	0.2	27.5	1.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	11.0	10.9	1.7	13.7	13.0	5.1	12.5	1.1	12.4	9.4	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	84.2	47.0	47.3	68.3	70.6	73.4	67.0	49.8	29.6	68.8	28.1	21.6
LnGrp LOS	F	D	D	E	E	E	E	D	C	E	C	C
Approach Vol, veh/h		914			829			1096			1389	
Approach Delay, s/veh		51.9			71.7			51.3			38.4	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.3	35.7	8.2	36.2	15.5	48.5	12.4	32.0
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	25.0	30.8	5.8	28.8	13.7	42.1	8.4	26.2
Max Q Clear Time (g_c+I1), s	24.3	28.2	5.3	25.1	11.6	24.8	9.0	26.5
Green Ext Time (p_c), s	0.1	1.7	0.0	2.0	0.0	8.1	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	51.2
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	542	0	0	388	1	437	2	32	0	0	11
Future Volume (vph)	29	542	0	0	388	1	437	2	32	0	0	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Lane Util. Factor		0.95			0.95		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.99			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.95	1.00			1.00
Satd. Flow (prot)		3495			3503		1665	1670	1546			1596
Flt Permitted		0.92			1.00		0.95	0.95	1.00			1.00
Satd. Flow (perm)		3226			3503		1665	1670	1546			1596
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	31	571	0	0	408	1	460	2	34	0	0	12
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	26	0	0	12
Lane Group Flow (vph)	0	602	0	0	409	0	230	232	8	0	0	0
Confl. Peds. (#/hr)	3		10	10		3			3	3		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA			NA		Split	NA	Perm			Prot
Protected Phases		6			2		4	4				3
Permitted Phases	6								4			
Actuated Green, G (s)		39.0			39.0		16.0	16.0	16.0			1.0
Effective Green, g (s)		39.0			39.0		16.0	16.0	16.0			1.0
Actuated g/C Ratio		0.56			0.56		0.23	0.23	0.23			0.01
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		1797			1951		380	381	353			22
v/s Ratio Prot					0.12		0.14	c0.14				c0.00
v/s Ratio Perm		c0.19							0.01			
v/c Ratio		0.34			0.21		0.61	0.61	0.02			0.01
Uniform Delay, d1		8.4			7.8		24.2	24.2	20.9			34.0
Progression Factor		1.03			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.4			0.2		1.9	1.9	0.0			0.1
Delay (s)		9.2			8.0		26.0	26.1	20.9			34.1
Level of Service		A			A		C	C	C			C
Approach Delay (s)		9.2			8.0			25.7			34.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	517	130	995	610	476	477	0	1401	885	0	147
Future Volume (veh/h)	110	517	130	995	610	476	477	0	1401	885	0	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1565	1565	1565	1565	1565	1565	1565	0	1565	1565	0	1565
Adj Flow Rate, veh/h	113	533	0	1026	629	0	492	0	1444	912	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	0	3	3	0	3
Cap, veh/h	136	607		961	1324		568	0	0	812	0	
Arrive On Green	0.09	0.20	0.00	0.33	0.45	0.00	0.20	0.00	0.00	0.28	0.00	0.00
Sat Flow, veh/h	1491	2974	1327	2892	2974	1327	2892	492		2892	912	
Grp Volume(v), veh/h	113	533	0	1026	629	0	492	48.5		912	109.3	
Grp Sat Flow(s),veh/h/ln	1491	1487	1327	1446	1487	1327	1446	D		1446	F	
Q Serve(g_s), s	8.0	18.6	0.0	35.5	15.9	0.0	17.6			30.0		
Cycle Q Clear(g_c), s	8.0	18.6	0.0	35.5	15.9	0.0	17.6			30.0		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	136	607		961	1324		568			812		
V/C Ratio(X)	0.83	0.88		1.07	0.47		0.87			1.12		
Avail Cap(c_a), veh/h	239	682		961	1324		812			812		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00			1.00		
Uniform Delay (d), s/veh	47.7	41.2	0.0	35.6	20.8	0.0	41.5			38.4		
Incr Delay (d2), s/veh	12.1	11.6	0.0	48.7	0.3	0.0	7.0			70.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	3.4	7.6	0.0	18.5	5.4	0.0	6.8			18.4		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.9	52.8	0.0	84.4	21.1	0.0	48.5			109.3		
LnGrp LOS	E	D		F	C		D			F		
Approach Vol, veh/h		646	A		1655	A						
Approach Delay, s/veh		54.0			60.3							
Approach LOS		D			E							
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	42.0	29.8	26.0		16.2	55.6	35.0					
Change Period (Y+Rc), s	6.5	8.0	5.0		6.5	8.0	5.0					
Max Green Setting (Gmax), s	35.5	24.5	30.0		17.1	42.9	30.0					
Max Q Clear Time (g_c+I1), s	37.5	20.6	19.6		10.0	17.9	32.0					
Green Ext Time (p_c), s	0.0	1.2	1.4		0.1	4.4	0.0					
Intersection Summary												
HCM 6th Ctrl Delay			69.7									
HCM 6th LOS			E									

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1049	1397	141	58	671	216	167	474	246	180	274	1197
Future Volume (veh/h)	1049	1397	141	58	671	216	167	474	246	180	274	1197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	1081	1440	145	60	692	223	172	489	254	186	282	1234
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	869	2132	662	77	978	303	197	695	359	162	544	812
Arrive On Green	0.24	0.40	0.40	0.04	0.19	0.19	0.11	0.31	0.31	0.09	0.29	0.29
Sat Flow, veh/h	3645	5386	1672	1767	5066	1572	1767	2248	1162	1767	1856	2768
Grp Volume(v), veh/h	1081	1440	145	60	692	223	172	383	360	186	282	1234
Grp Sat Flow(s),veh/h/ln	1823	1795	1672	1767	1689	1572	1767	1763	1646	1767	1856	1384
Q Serve(g_s), s	30.0	27.7	7.2	4.2	16.1	16.8	12.1	24.1	24.3	11.5	15.9	36.9
Cycle Q Clear(g_c), s	30.0	27.7	7.2	4.2	16.1	16.8	12.1	24.1	24.3	11.5	15.9	36.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		1.00
Lane Grp Cap(c), veh/h	869	2132	662	77	978	303	197	545	509	162	544	812
V/C Ratio(X)	1.24	0.68	0.22	0.78	0.71	0.73	0.87	0.70	0.71	1.15	0.52	1.52
Avail Cap(c_a), veh/h	869	2505	778	146	1526	474	199	545	509	162	544	812
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	31.3	25.1	59.6	47.4	47.7	55.0	38.3	38.4	57.1	37.0	44.4
Incr Delay (d2), s/veh	119.3	0.6	0.2	6.2	1.0	3.5	30.6	4.0	4.4	117.3	0.9	240.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	27.9	12.0	2.8	2.0	6.9	6.6	6.9	10.6	10.0	10.4	7.3	39.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	167.2	31.9	25.3	65.8	48.4	51.2	85.6	42.4	42.8	174.5	37.9	284.8
LnGrp LOS	F	C	C	E	D	D	F	D	D	F	D	F
Approach Vol, veh/h		2666			975			915			1702	
Approach Delay, s/veh		86.4			50.1			50.7			231.8	
Approach LOS		F			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	55.2	18.0	43.1	35.0	29.7	16.0	45.1
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	10.4	58.5	14.2	* 37	30.0	37.9	11.5	38.0
Max Q Clear Time (g_c+I1), s	6.2	29.7	14.1	38.9	32.0	18.8	13.5	26.3
Green Ext Time (p_c), s	0.0	13.8	0.0	0.0	0.0	5.5	0.0	3.3

Intersection Summary		
HCM 6th Ctrl Delay		115.1
HCM 6th LOS		F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Volume (veh/h)	1328	344	1193	640	68	1197	
Future Volume (veh/h)	1328	344	1193	640	68	1197	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No		No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856	
Adj Flow Rate, veh/h	1369	355	1230	660	70	1234	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	
Percent Heavy Veh, %	3	3	3	3	3	3	
Cap, veh/h	1431	741	1381	1230	90	1754	
Arrive On Green	0.39	0.39	0.39	0.39	0.05	0.50	
Sat Flow, veh/h	3645	1672	3618	1564	1767	3618	
Grp Volume(v), veh/h	1369	355	1230	660	70	1234	
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1564	1767	1763	
Q Serve(g_s), s	36.5	15.0	32.6	15.7	3.9	27.1	
Cycle Q Clear(g_c), s	36.5	15.0	32.6	15.7	3.9	27.1	
Prop In Lane	1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1431	741	1381	1230	90	1754	
V/C Ratio(X)	0.96	0.48	0.89	0.54	0.78	0.70	
Avail Cap(c_a), veh/h	1440	745	1381	1230	94	1754	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	29.5	19.7	28.4	4.0	46.9	19.4	
Incr Delay (d2), s/veh	14.6	0.5	9.0	1.7	32.6	2.4	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	18.3	5.8	14.5	16.1	2.5	10.7	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	44.2	20.2	37.4	5.7	79.5	21.8	
LnGrp LOS	D	C	D	A	E	C	
Approach Vol, veh/h	1724		1890			1304	
Approach Delay, s/veh	39.2		26.3			24.9	
Approach LOS	D		C			C	
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	10.6	44.7				55.2	44.8
Change Period (Y+Rc), s	5.5	5.5				5.5	5.5
Max Green Setting (Gmax), s	5.3	38.7				49.5	39.5
Max Q Clear Time (g_c+I1), s	5.9	34.6				29.1	38.5
Green Ext Time (p_c), s	0.0	3.3				8.8	0.7
Intersection Summary							
HCM 6th Ctrl Delay			30.5				
HCM 6th LOS			C				

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	923	155	1838	973	111	2469
Future Volume (veh/h)	923	155	1838	973	111	2469
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	952	160	1895	1003	114	2545
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	962	542	1854	1239	106	3222
Arrive On Green	0.26	0.26	0.53	0.53	0.04	0.43
Sat Flow, veh/h	3645	1672	3618	1567	1767	5233
Grp Volume(v), veh/h	952	160	1895	1003	114	2545
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1567	1767	1689
Q Serve(g_s), s	26.0	7.2	52.6	37.4	6.0	43.5
Cycle Q Clear(g_c), s	26.0	7.2	52.6	37.4	6.0	43.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	962	542	1854	1239	106	3222
V/C Ratio(X)	0.99	0.30	1.02	0.81	1.08	0.79
Avail Cap(c_a), veh/h	962	542	1854	1239	106	3222
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67
Upstream Filter(I)	1.00	1.00	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	36.7	25.3	23.7	6.1	48.0	22.9
Incr Delay (d2), s/veh	26.3	0.3	12.9	0.6	109.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.8	7.5	22.5	24.7	5.8	18.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	63.0	25.6	36.6	6.7	157.1	25.0
LnGrp LOS	E	C	F	A	F	C
Approach Vol, veh/h	1112		2898			2659
Approach Delay, s/veh	57.6		26.3			30.6
Approach LOS	E		C			C
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.0	57.6		31.4		68.6
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	6.0	52.6		26.4		63.6
Max Q Clear Time (g_c+I1), s	8.0	54.6		28.0		45.5
Green Ext Time (p_c), s	0.0	0.0		0.0		15.7

Intersection Summary		
HCM 6th Ctrl Delay		33.2
HCM 6th LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	711	221	321	80	132	322	279	1955	120	278	2278	849
Future Volume (veh/h)	711	221	321	80	132	322	279	1955	120	278	2278	849
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	733	228	331	82	136	332	288	2015	124	287	2348	875
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	478	606	510	104	458	384	196	1812	111	196	1882	1026
Arrive On Green	0.14	0.33	0.33	0.06	0.23	0.23	0.11	0.37	0.37	0.11	0.37	0.37
Sat Flow, veh/h	3428	1856	1561	1879	1973	1655	1767	4879	299	1767	5066	2763
Grp Volume(v), veh/h	733	228	331	82	136	332	288	1392	747	287	2348	875
Grp Sat Flow(s),veh/h/ln	1714	1856	1561	1879	1973	1655	1767	1689	1801	1767	1689	1382
Q Serve(g_s), s	19.5	13.2	25.4	6.0	8.0	27.0	15.5	52.0	52.0	15.5	52.0	40.8
Cycle Q Clear(g_c), s	19.5	13.2	25.4	6.0	8.0	27.0	15.5	52.0	52.0	15.5	52.0	40.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	478	606	510	104	458	384	196	1254	669	196	1882	1026
V/C Ratio(X)	1.53	0.38	0.65	0.79	0.30	0.86	1.47	1.11	1.12	1.47	1.25	0.85
Avail Cap(c_a), veh/h	478	648	545	196	606	508	196	1254	669	196	1882	1026
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.2	36.2	40.3	65.3	44.3	51.6	62.2	44.0	44.0	62.2	44.0	40.5
Incr Delay (d2), s/veh	251.1	0.4	2.5	4.9	0.4	11.5	237.9	61.1	71.5	235.8	116.1	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.1	6.1	10.1	3.0	4.0	12.4	19.8	31.7	35.7	19.7	41.3	14.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	311.3	36.6	42.7	70.3	44.7	63.1	300.2	105.1	115.5	298.0	160.1	47.5
LnGrp LOS	F	D	D	E	D	E	F	F	F	F	F	D
Approach Vol, veh/h		1292			550			2427			3510	
Approach Delay, s/veh		194.0			59.6			131.4			143.3	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	57.4	11.7	50.8	20.0	57.4	25.0	37.6
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	15.5	52.0	14.6	48.9	15.5	52.0	19.5	* 43
Max Q Clear Time (g_c+I1), s	17.5	54.0	8.0	27.4	17.5	54.0	21.5	29.0
Green Ext Time (p_c), s	0.0	0.0	0.0	2.4	0.0	0.0	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	142.1
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	262	270	125	392	375	384	1774	213	498	2143	108
Future Volume (veh/h)	224	262	270	125	392	375	384	1774	213	498	2143	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	236	276	284	132	413	395	404	1867	224	524	2256	114
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	197	281	289	108	1235	546	276	1634	195	342	1921	684
Arrive On Green	0.06	0.34	0.34	0.06	0.33	0.33	0.08	0.36	0.36	0.10	0.38	0.38
Sat Flow, veh/h	3428	834	859	1879	3749	1658	3428	4586	546	3428	5066	1566
Grp Volume(v), veh/h	236	0	560	132	413	395	404	1371	720	524	2256	114
Grp Sat Flow(s),veh/h/ln	1714	0	1693	1879	1874	1658	1714	1689	1755	1714	1689	1566
Q Serve(g_s), s	7.5	0.0	42.8	7.5	10.8	27.4	10.5	46.5	46.5	13.0	49.5	5.8
Cycle Q Clear(g_c), s	7.5	0.0	42.8	7.5	10.8	27.4	10.5	46.5	46.5	13.0	49.5	5.8
Prop In Lane	1.00		0.51	1.00		1.00	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	197	0	571	108	1235	546	276	1203	625	342	1921	684
V/C Ratio(X)	1.20	0.00	0.98	1.22	0.33	0.72	1.46	1.14	1.15	1.53	1.17	0.17
Avail Cap(c_a), veh/h	197	0	571	108	1235	546	276	1203	625	342	1921	684
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.5	0.0	42.8	61.5	33.0	38.5	60.0	42.0	42.0	58.8	40.5	22.3
Incr Delay (d2), s/veh	127.6	0.0	32.8	158.1	0.2	4.7	227.9	73.3	85.5	254.7	84.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	22.9	8.3	5.0	11.8	13.2	30.9	34.3	17.6	34.8	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	189.1	0.0	75.6	219.6	33.1	43.2	287.9	115.3	127.5	313.5	124.7	22.4
LnGrp LOS	F	A	E	F	C	D	F	F	F	F	F	C
Approach Vol, veh/h		796			940			2495			2894	
Approach Delay, s/veh		109.2			63.5			146.8			154.9	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	51.9	12.0	48.6	15.0	54.9	13.0	47.6
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	13.0	46.5	7.5	44.0	10.5	49.5	7.5	43.0
Max Q Clear Time (g_c+I1), s	15.0	48.5	9.5	44.8	12.5	51.5	9.5	29.4
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6

Intersection Summary	
HCM 6th Ctrl Delay	134.9
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	809	900	167	180	542	259	173	1012	140	263	1125	297
Future Volume (veh/h)	809	900	167	180	542	259	173	1012	140	263	1125	297
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	852	947	176	189	571	273	182	1065	147	277	1184	313
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	461	1462	271	214	1017	316	123	915	126	175	1140	918
Arrive On Green	0.26	0.34	0.34	0.12	0.20	0.20	0.07	0.29	0.29	0.10	0.32	0.32
Sat Flow, veh/h	1767	4294	795	1767	5066	1572	1767	3112	429	1767	3526	1572
Grp Volume(v), veh/h	852	744	379	189	571	273	182	603	609	277	1184	313
Grp Sat Flow(s),veh/h/ln	1767	1689	1712	1767	1689	1572	1767	1763	1778	1767	1763	1572
Q Serve(g_s), s	35.5	25.4	25.5	14.3	13.8	22.9	9.5	40.0	40.0	13.5	44.0	14.1
Cycle Q Clear(g_c), s	35.5	25.4	25.5	14.3	13.8	22.9	9.5	40.0	40.0	13.5	44.0	14.1
Prop In Lane	1.00		0.46	1.00		1.00	1.00		0.24	1.00		1.00
Lane Grp Cap(c), veh/h	461	1150	583	214	1017	316	123	518	523	175	1140	918
V/C Ratio(X)	1.85	0.65	0.65	0.88	0.56	0.86	1.48	1.16	1.17	1.58	1.04	0.34
Avail Cap(c_a), veh/h	461	1150	583	319	1154	358	123	518	523	175	1140	918
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	38.0	38.0	58.9	49.0	52.6	63.3	48.1	48.1	61.3	46.1	14.7
Incr Delay (d2), s/veh	390.2	1.3	2.5	12.8	0.5	17.7	252.4	93.0	94.0	286.7	37.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	65.4	10.6	11.0	7.1	5.9	10.5	12.9	30.7	31.1	19.9	24.6	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	440.5	39.2	40.6	71.7	49.5	70.4	315.8	141.1	142.1	348.0	83.4	14.9
LnGrp LOS	F	D	D	E	D	E	F	F	F	F	F	B
Approach Vol, veh/h		1975			1033			1394			1774	
Approach Delay, s/veh		212.6			59.1			164.3			112.6	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	45.4	21.0	51.7	14.0	49.4	40.0	32.7
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	13.5	40.0	24.6	41.9	9.5	44.0	35.5	31.0
Max Q Clear Time (g_c+I1), s	15.5	42.0	16.3	27.5	11.5	46.0	37.5	24.9
Green Ext Time (p_c), s	0.0	0.0	0.2	6.4	0.0	0.0	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	147.3
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	22.2
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	293	443	539	146	88	238
Future Vol, veh/h	293	443	539	146	88	238
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	305	461	561	152	92	248
Number of Lanes	2	1	1	2	2	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	3	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	3
HCM Control Delay	17.2	27.5	22.3
HCM LOS	C	D	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	SBLn1	SBLn2
Vol Left, %	100%	85%	0%	100%	32%	0%	0%	0%
Vol Thru, %	0%	15%	100%	0%	0%	0%	100%	11%
Vol Right, %	0%	0%	0%	0%	68%	100%	0%	89%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	270	318	97	195	306	235	59	267
LT Vol	270	269	0	195	98	0	0	0
Through Vol	0	49	97	0	0	0	59	29
RT Vol	0	0	0	0	208	235	0	238
Lane Flow Rate	281	331	101	203	319	245	61	278
Geometry Grp	8	8	8	7	7	7	8	8
Degree of Util (X)	0.657	0.769	0.172	0.456	0.641	0.344	0.15	0.635
Departure Headway (Hd)	8.428	8.35	6.124	8.07	7.239	5.068	8.848	8.206
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	430	434	584	448	500	709	405	440
Service Time	6.187	6.109	3.882	5.813	4.982	2.809	6.621	5.979
HCM Lane V/C Ratio	0.653	0.763	0.173	0.453	0.638	0.346	0.151	0.632
HCM Control Delay	26	34	10.2	17.4	22.1	10.5	13.2	24.3
HCM Lane LOS	D	D	B	C	C	B	B	C
HCM 95th-tile Q	4.6	6.5	0.6	2.3	4.5	1.5	0.5	4.3

Intersection	
Intersection Delay, s/veh	35.6
Intersection LOS	E

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	385	282	222	447	415	366
Future Vol, veh/h	385	282	222	447	415	366
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	401	294	231	466	432	381
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	66.9	23	19.7
HCM LOS	F	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	100%	0%	0%	0%	100%	13%	0%
Vol Thru, %	0%	0%	0%	100%	31%	0%	87%	100%
Vol Right, %	0%	0%	100%	0%	69%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	208	208	366	257	410	200	171	298
LT Vol	208	208	0	0	0	200	22	0
Through Vol	0	0	0	257	128	0	149	298
RT Vol	0	0	366	0	282	0	0	0
Lane Flow Rate	216	216	381	267	427	208	178	310
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.532	0.532	0.618	0.695	1.053	0.567	0.463	0.645
Departure Headway (Hd)	8.972	8.972	5.943	9.362	8.866	9.98	9.531	7.655
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	404	404	610	388	410	364	380	475
Service Time	6.672	6.672	3.643	7.062	6.566	7.68	7.231	5.355
HCM Lane V/C Ratio	0.535	0.535	0.625	0.688	1.041	0.571	0.468	0.653
HCM Control Delay	21.4	21.4	17.8	30.8	89.4	25	20.2	23.2
HCM Lane LOS	C	C	C	D	F	C	C	C
HCM 95th-tile Q	3	3	4.2	5.1	14.1	3.4	2.4	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	793	355	123	360	169	300	626	281	97	477	126
Future Volume (veh/h)	168	793	355	123	360	169	300	626	281	97	477	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	177	835	374	129	379	178	316	659	296	102	502	133
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	207	1551	481	157	979	436	347	851	382	128	663	175
Arrive On Green	0.12	0.31	0.31	0.09	0.28	0.28	0.20	0.36	0.36	0.07	0.24	0.24
Sat Flow, veh/h	1767	5066	1571	1767	3526	1571	1767	2360	1060	1810	2820	743
Grp Volume(v), veh/h	177	835	374	129	379	178	316	492	463	102	320	315
Grp Sat Flow(s),veh/h/ln	1767	1689	1571	1767	1763	1571	1767	1763	1657	1810	1805	1758
Q Serve(g_s), s	11.1	15.4	24.5	8.1	9.8	10.4	19.7	27.9	27.9	6.3	18.6	18.8
Cycle Q Clear(g_c), s	11.1	15.4	24.5	8.1	9.8	10.4	19.7	27.9	27.9	6.3	18.6	18.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.64	1.00		0.42
Lane Grp Cap(c), veh/h	207	1551	481	157	979	436	347	636	598	128	424	413
V/C Ratio(X)	0.85	0.54	0.78	0.82	0.39	0.41	0.91	0.77	0.77	0.80	0.75	0.76
Avail Cap(c_a), veh/h	414	1851	574	298	1057	471	627	980	921	274	637	621
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	32.5	35.6	50.5	33.0	33.2	44.4	32.0	32.0	51.6	40.1	40.2
Incr Delay (d2), s/veh	3.9	0.4	6.4	4.1	0.4	0.9	4.2	2.9	3.1	4.2	3.9	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	6.3	9.9	3.7	4.1	4.0	8.8	11.9	11.2	3.0	8.7	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.7	32.9	42.0	54.6	33.3	34.1	48.6	34.9	35.1	55.8	44.0	44.4
LnGrp LOS	D	C	D	D	C	C	D	C	D	E	D	D
Approach Vol, veh/h		1386			686			1271			737	
Approach Delay, s/veh		37.9			37.5			38.4			45.8	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	46.5	14.0	40.3	26.1	32.3	17.2	37.1
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	17.1	62.7	19.0	41.2	40.0	39.8	26.4	33.8
Max Q Clear Time (g_c+I1), s	13.3	29.9	10.1	26.5	21.7	20.8	13.1	12.4
Green Ext Time (p_c), s	0.1	10.2	0.1	8.1	0.4	5.3	0.2	4.1

Intersection Summary		
HCM 6th Ctrl Delay		39.4
HCM 6th LOS		D

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	483	375	68	339	315	87
Future Volume (veh/h)	483	375	68	339	315	87
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	508	395	72	357	332	92
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1136	750	805	880	499	852
Arrive On Green	0.33	0.33	0.23	0.23	0.15	0.46
Sat Flow, veh/h	3428	1572	3618	1572	3428	1856
Grp Volume(v), veh/h	508	395	72	357	332	92
Grp Sat Flow(s),veh/h/ln	1714	1572	1763	1572	1714	1856
Q Serve(g_s), s	5.4	8.2	0.8	6.1	4.3	1.3
Cycle Q Clear(g_c), s	5.4	8.2	0.8	6.1	4.3	1.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	1136	750	805	880	499	852
V/C Ratio(X)	0.45	0.53	0.09	0.41	0.67	0.11
Avail Cap(c_a), veh/h	2197	1237	2260	1529	2197	1189
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.3	8.6	14.2	5.9	18.9	7.2
Incr Delay (d2), s/veh	0.4	0.8	0.1	0.4	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	2.2	0.3	3.4	1.5	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.7	9.4	14.3	6.3	19.5	7.3
LnGrp LOS	B	A	B	A	B	A
Approach Vol, veh/h	903		429			424
Approach Delay, s/veh	11.2		7.6			16.8
Approach LOS	B		A			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.8	15.8				26.6		20.2
Change Period (Y+Rc), s	4.0	5.1				5.1		4.7
Max Green Setting (Gmax), s	30.0	30.0				30.0		30.0
Max Q Clear Time (g_c+I1), s	6.3	8.1				3.3		10.2
Green Ext Time (p_c), s	0.6	2.6				0.6		5.3

Intersection Summary	
HCM 6th Ctrl Delay	11.7
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	14.9
Intersection LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	343	215	117	457	217	78
Future Vol, veh/h	343	215	117	457	217	78
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	361	226	123	481	228	82
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	18.1	13	12.4
HCM LOS	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	90%	0%	0%	0%	100%	7%	0%
Vol Thru, %	0%	0%	0%	100%	35%	0%	93%	100%
Vol Right, %	0%	10%	100%	0%	65%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	145	80	70	229	329	105	164	305
LT Vol	145	72	0	0	0	105	12	0
Through Vol	0	0	0	229	114	0	152	305
RT Vol	0	8	70	0	215	0	0	0
Lane Flow Rate	152	84	74	241	347	111	173	321
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.331	0.18	0.099	0.466	0.626	0.233	0.341	0.471
Departure Headway (Hd)	7.815	7.697	4.819	6.964	6.5	7.575	7.103	5.287
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	458	464	735	513	551	471	502	673
Service Time	5.605	5.486	2.606	4.758	4.294	5.372	4.9	3.082
HCM Lane V/C Ratio	0.332	0.181	0.101	0.47	0.63	0.236	0.345	0.477
HCM Control Delay	14.5	12.2	8.1	15.8	19.7	12.7	13.6	12.8
HCM Lane LOS	B	B	A	C	C	B	B	B
HCM 95th-tile Q	1.4	0.6	0.3	2.4	4.3	0.9	1.5	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	995	6	20	589	131	11	23	25	134	7	58
Future Volume (veh/h)	64	995	6	20	589	131	11	23	25	134	7	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	67	1047	6	21	620	138	12	24	26	141	7	61
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	85	1690	754	35	1590	709	16	32	34	206	216	183
Arrive On Green	0.05	0.48	0.48	0.02	0.45	0.45	0.05	0.05	0.05	0.12	0.12	0.12
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	331	662	717	1767	1856	1572
Grp Volume(v), veh/h	67	1047	6	21	620	138	62	0	0	141	7	61
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1710	0	0	1767	1856	1572
Q Serve(g_s), s	2.3	13.2	0.1	0.7	7.1	3.2	2.2	0.0	0.0	4.6	0.2	2.1
Cycle Q Clear(g_c), s	2.3	13.2	0.1	0.7	7.1	3.2	2.2	0.0	0.0	4.6	0.2	2.1
Prop In Lane	1.00		1.00	1.00		1.00	0.19		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	85	1690	754	35	1590	709	82	0	0	206	216	183
V/C Ratio(X)	0.79	0.62	0.01	0.60	0.39	0.19	0.76	0.00	0.00	0.69	0.03	0.33
Avail Cap(c_a), veh/h	381	3700	1650	205	3348	1493	943	0	0	927	974	825
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.4	11.6	8.2	29.3	11.0	10.0	28.3	0.0	0.0	25.6	23.6	24.5
Incr Delay (d2), s/veh	6.0	0.5	0.0	6.1	0.2	0.2	13.5	0.0	0.0	4.0	0.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	4.1	0.0	0.3	2.2	0.9	1.1	0.0	0.0	2.1	0.1	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.3	12.1	8.2	35.4	11.2	10.1	41.8	0.0	0.0	29.6	23.7	25.5
LnGrp LOS	C	B	A	D	B	B	D	A	A	C	C	C
Approach Vol, veh/h		1120			779			62			209	
Approach Delay, s/veh		13.5			11.7			41.8			28.2	
Approach LOS		B			B			D			C	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.0	5.2	34.7		12.4	6.9	33.0				
Change Period (Y+Rc), s		5.1	4.0	5.8		5.4	4.0	5.8				
Max Green Setting (Gmax), s		33.2	7.0	63.2		31.6	13.0	57.2				
Max Q Clear Time (g_c+I1), s		4.2	2.7	15.2		6.6	4.3	9.1				
Green Ext Time (p_c), s		0.3	0.0	13.6		0.6	0.0	7.6				

Intersection Summary			
HCM 6th Ctrl Delay			15.1
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	41	222	628	124	224	133	1150	333	102	1032	9
Future Volume (veh/h)	66	41	222	628	124	224	133	1150	333	102	1032	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	68	42	229	647	128	231	137	1186	343	105	1064	9
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	86	32	177	694	168	304	159	1614	718	127	2280	19
Arrive On Green	0.05	0.13	0.13	0.34	0.47	0.47	0.18	0.92	0.92	0.07	0.44	0.44
Sat Flow, veh/h	1767	249	1356	3428	592	1068	1767	3526	1568	1767	5181	44
Grp Volume(v), veh/h	68	0	271	647	0	359	137	1186	343	105	694	379
Grp Sat Flow(s),veh/h/ln	1767	0	1604	1714	0	1661	1767	1763	1568	1767	1689	1847
Q Serve(g_s), s	5.3	0.0	18.3	25.5	0.0	24.9	10.5	12.1	4.6	8.2	20.3	20.3
Cycle Q Clear(g_c), s	5.3	0.0	18.3	25.5	0.0	24.9	10.5	12.1	4.6	8.2	20.3	20.3
Prop In Lane	1.00		0.85	1.00		0.64	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	86	0	210	694	0	472	159	1614	718	127	1486	813
V/C Ratio(X)	0.79	0.00	1.29	0.93	0.00	0.76	0.86	0.73	0.48	0.83	0.47	0.47
Avail Cap(c_a), veh/h	114	0	210	808	0	493	246	1614	718	164	1486	813
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.94	0.00	0.94	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.9	0.0	60.9	45.4	0.0	32.8	56.6	3.7	3.4	64.1	27.6	27.6
Incr Delay (d2), s/veh	17.4	0.0	162.3	14.5	0.0	6.7	11.2	3.0	2.3	18.4	1.1	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	16.9	11.1	0.0	9.4	4.7	2.4	1.4	4.3	8.3	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.3	0.0	223.2	59.9	0.0	39.5	67.8	6.7	5.7	82.5	28.7	29.5
LnGrp LOS	F	A	F	E	A	D	E	A	A	F	C	C
Approach Vol, veh/h		339			1006			1666			1178	
Approach Delay, s/veh		195.1			52.6			11.5			33.8	
Approach LOS		F			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.1	69.9	32.3	23.7	16.6	67.4	10.8	45.2
Change Period (Y+Rc), s	4.0	5.8	4.0	* 5.4	4.0	5.8	4.0	5.4
Max Green Setting (Gmax), s	13.0	57.2	33.0	* 18	19.5	50.7	9.0	41.6
Max Q Clear Time (g_c+I1), s	10.2	14.1	27.5	20.3	12.5	22.3	7.3	26.9
Green Ext Time (p_c), s	0.0	19.5	0.8	0.0	0.1	10.8	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	42.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↑↑	↱	↰	↑↑
Traffic Volume (veh/h)	0	0	2179	374	144	1298
Future Volume (veh/h)	0	0	2179	374	144	1298
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				0.99	1.00	
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No			No
Adj Sat Flow, veh/h/ln			1856	1856	1856	1856
Adj Flow Rate, veh/h			2294	394	152	1366
Peak Hour Factor			0.95	0.95	0.95	0.95
Percent Heavy Veh, %			3	3	3	3
Cap, veh/h			2927	1297	174	3387
Arrive On Green			1.00	1.00	0.20	1.00
Sat Flow, veh/h			3618	1562	1767	3618
Grp Volume(v), veh/h			2294	394	152	1366
Grp Sat Flow(s),veh/h/ln			1763	1562	1767	1763
Q Serve(g_s), s			0.0	0.0	11.7	0.0
Cycle Q Clear(g_c), s			0.0	0.0	11.7	0.0
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			2927	1297	174	3387
V/C Ratio(X)			0.78	0.30	0.88	0.40
Avail Cap(c_a), veh/h			2927	1297	266	3387
HCM Platoon Ratio			1.33	1.33	2.00	2.00
Upstream Filter(I)			0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh			0.0	0.0	55.4	0.0
Incr Delay (d2), s/veh			0.2	0.1	12.5	0.4
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.1	0.0	5.3	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			0.2	0.1	67.9	0.4
LnGrp LOS			A	A	E	A
Approach Vol, veh/h			2688			1518
Approach Delay, s/veh			0.2			7.1
Approach LOS			A			A

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	18.3	121.7				140.0
Change Period (Y+Rc), s	4.5	5.5				5.5
Max Green Setting (Gmax), s	21.1	108.9				134.5
Max Q Clear Time (g_c+I1), s	13.7	2.0				2.0
Green Ext Time (p_c), s	0.1	30.0				8.2

Intersection Summary		
HCM 6th Ctrl Delay		2.7
HCM 6th LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	516	350	524	647	0	809	0	1295	929	338	1134	0
Future Volume (veh/h)	516	350	524	647	0	809	0	1295	929	338	1134	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	527	357	535	660	0	826	0	1321	948	345	1157	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	1077	583	493	0	0	0	0	2424	750	170	2140	0
Arrive On Green	0.31	0.31	0.31	0.00	0.00	0.00	0.00	0.48	0.48	0.19	1.00	0.00
Sat Flow, veh/h	3428	1856	1568		0		0	5233	1568	1767	3618	0
Grp Volume(v), veh/h	527	357	535		0.0		0	1321	948	345	1157	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1568				0	1689	1568	1767	1763	0
Q Serve(g_s), s	17.4	22.9	44.0				0.0	25.8	67.0	13.5	0.0	0.0
Cycle Q Clear(g_c), s	17.4	22.9	44.0				0.0	25.8	67.0	13.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1077	583	493				0	2424	750	170	2140	0
V/C Ratio(X)	0.49	0.61	1.09				0.00	0.54	1.26	2.02	0.54	0.00
Avail Cap(c_a), veh/h	1077	583	493				0	2424	750	170	2140	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.81	0.81	0.93	0.93	0.00
Uniform Delay (d), s/veh	38.9	40.8	48.0				0.0	25.7	36.5	56.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.4	65.7				0.0	0.7	127.3	479.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	10.7	26.1				0.0	10.3	50.9	28.0	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.0	42.1	113.7				0.0	26.5	163.8	536.2	0.9	0.0
LnGrp LOS	D	D	F				A	C	F	F	A	A
Approach Vol, veh/h		1419						2269			1502	
Approach Delay, s/veh		68.0						83.9			123.9	
Approach LOS		E						F			F	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	18.0	72.5	49.5	90.5
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	13.5	35.0	44.0	53.0
Max Q Clear Time (g_c+I1), s	15.5	69.0	46.0	2.0
Green Ext Time (p_c), s	0.0	0.0	0.0	10.6

Intersection Summary	
HCM 6th Ctrl Delay	91.1
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	718	194	139	1293	963	844
Future Volume (veh/h)	718	194	139	1293	963	844
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	756	204	146	1361	1014	888
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1010	463	217	2935	1661	1202
Arrive On Green	0.29	0.29	0.06	0.58	0.47	0.47
Sat Flow, veh/h	3428	1572	3428	5233	3618	1567
Grp Volume(v), veh/h	756	204	146	1361	1014	888
Grp Sat Flow(s),veh/h/ln	1714	1572	1714	1689	1763	1567
Q Serve(g_s), s	17.7	9.3	3.7	13.7	19.0	27.2
Cycle Q Clear(g_c), s	17.7	9.3	3.7	13.7	19.0	27.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1010	463	217	2935	1661	1202
V/C Ratio(X)	0.75	0.44	0.67	0.46	0.61	0.74
Avail Cap(c_a), veh/h	1922	882	363	3376	1818	1271
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.4	25.4	40.7	10.7	17.4	5.6
Incr Delay (d2), s/veh	1.6	0.9	1.4	0.2	0.7	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	0.1	1.5	4.4	7.1	19.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.0	26.3	42.1	10.9	18.1	8.0
LnGrp LOS	C	C	D	B	B	A
Approach Vol, veh/h	960			1507	1902	
Approach Delay, s/veh	29.2			13.9	13.4	
Approach LOS	C			B	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		57.3		31.6	9.6	47.6
Change Period (Y+Rc), s		5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		59.2		49.8	9.4	45.8
Max Q Clear Time (g_c+I1), s		15.7		19.7	5.7	29.2
Green Ext Time (p_c), s		18.4		6.4	0.1	12.6
Intersection Summary						
HCM 6th Ctrl Delay			17.1			
HCM 6th LOS			B			

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	594	449	383	758	780	403
Future Volume (veh/h)	594	449	383	758	780	403
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	625	473	403	798	821	424
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1048	481	435	2059	1058	951
Arrive On Green	0.31	0.31	0.25	0.58	0.30	0.30
Sat Flow, veh/h	3428	1572	1767	3618	3618	1567
Grp Volume(v), veh/h	625	473	403	798	821	424
Grp Sat Flow(s),veh/h/ln	1714	1572	1767	1763	1763	1567
Q Serve(g_s), s	16.3	31.5	23.5	12.8	22.4	15.4
Cycle Q Clear(g_c), s	16.3	31.5	23.5	12.8	22.4	15.4
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1048	481	435	2059	1058	951
V/C Ratio(X)	0.60	0.98	0.93	0.39	0.78	0.45
Avail Cap(c_a), veh/h	1048	481	604	2571	1232	1028
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.0	36.3	38.8	11.8	33.6	11.2
Incr Delay (d2), s/veh	1.1	36.8	14.2	0.2	3.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	4.9	11.5	4.6	9.6	10.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.2	73.1	52.9	11.9	36.7	11.7
LnGrp LOS	C	E	D	B	D	B
Approach Vol, veh/h	1098			1201	1245	
Approach Delay, s/veh	49.8			25.7	28.2	
Approach LOS	D			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		67.3		38.0	29.9	37.4
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		76.8		32.2	36.0	36.8
Max Q Clear Time (g_c+I1), s		14.8		33.5	25.5	24.4
Green Ext Time (p_c), s		9.5		0.0	0.5	7.2

Intersection Summary		
HCM 6th Ctrl Delay		34.0
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	540	150	34	432	307	189	786	20	308	774	97
Future Volume (veh/h)	109	540	150	34	432	307	189	786	20	308	774	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	114	562	156	35	450	320	197	819	21	321	806	101
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	139	884	245	44	533	377	226	1021	454	350	1269	564
Arrive On Green	0.08	0.32	0.32	0.03	0.27	0.27	0.13	0.29	0.29	0.20	0.36	0.36
Sat Flow, veh/h	1767	2727	754	1767	1970	1394	1767	3526	1566	1767	3526	1567
Grp Volume(v), veh/h	114	363	355	35	402	368	197	819	21	321	806	101
Grp Sat Flow(s),veh/h/ln	1767	1763	1718	1767	1763	1601	1767	1763	1566	1767	1763	1567
Q Serve(g_s), s	7.6	21.0	21.2	2.4	25.9	26.1	13.2	25.8	1.2	21.4	22.8	5.3
Cycle Q Clear(g_c), s	7.6	21.0	21.2	2.4	25.9	26.1	13.2	25.8	1.2	21.4	22.8	5.3
Prop In Lane	1.00		0.44	1.00		0.87	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	139	572	557	44	477	433	226	1021	454	350	1269	564
V/C Ratio(X)	0.82	0.63	0.64	0.79	0.84	0.85	0.87	0.80	0.05	0.92	0.64	0.18
Avail Cap(c_a), veh/h	221	651	635	129	560	509	418	1344	597	529	1567	697
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	34.5	34.6	58.3	41.4	41.5	51.5	39.5	30.7	47.2	31.9	26.3
Incr Delay (d2), s/veh	6.0	2.1	2.2	11.0	10.8	12.2	4.1	3.2	0.1	12.0	0.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	9.1	8.9	1.2	12.4	11.5	6.0	11.3	0.4	10.4	9.6	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.5	36.6	36.8	69.2	52.2	53.7	55.6	42.6	30.8	59.2	32.7	26.5
LnGrp LOS	E	D	D	E	D	D	E	D	C	E	C	C
Approach Vol, veh/h		832			805			1037			1228	
Approach Delay, s/veh		40.0			53.6			44.9			39.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.8	40.6	7.0	44.8	19.3	49.0	13.5	38.3
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	36.0	45.8	8.8	44.4	28.4	53.4	15.0	38.2
Max Q Clear Time (g_c+I1), s	23.4	27.8	4.4	23.2	15.2	24.8	9.6	28.1
Green Ext Time (p_c), s	0.4	7.0	0.0	6.0	0.2	8.9	0.1	4.4

Intersection Summary	
HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

HCM Signalized Intersection Capacity Analysis
119: SR 60 WB Off Ramp/Shopping Access & Hemlock Ave 03/27/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	479	0	0	439	2	495	5	38	0	0	22
Future Volume (vph)	65	479	0	0	439	2	495	5	38	0	0	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Lane Util. Factor		0.95			0.95		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.98			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		0.99			1.00		0.95	0.95	1.00			1.00
Satd. Flow (prot)		3480			3502		1665	1670	1543			1596
Flt Permitted		0.85			1.00		0.95	0.95	1.00			1.00
Satd. Flow (perm)		2962			3502		1665	1670	1543			1596
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	68	504	0	0	462	2	521	5	40	0	0	23
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	30	0	0	22
Lane Group Flow (vph)	0	572	0	0	464	0	260	266	10	0	0	1
Confl. Peds. (#/hr)	10		8	8		10			6	6		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA			NA		Split	NA	Perm			Prot
Protected Phases		6			2		4	4				3
Permitted Phases	6								4			
Actuated Green, G (s)		36.9			36.9		17.1	17.1	17.1			2.0
Effective Green, g (s)		36.9			36.9		17.1	17.1	17.1			2.0
Actuated g/C Ratio		0.53			0.53		0.24	0.24	0.24			0.03
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		1561			1846		406	407	376			45
v/s Ratio Prot					0.13		0.16	c0.16				c0.00
v/s Ratio Perm		c0.19							0.01			
v/c Ratio		0.37			0.25		0.64	0.65	0.03			0.01
Uniform Delay, d1		9.7			9.0		23.7	23.8	20.1			33.0
Progression Factor		1.22			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.6			0.3		2.6	2.9	0.0			0.0
Delay (s)		12.4			9.3		26.3	26.7	20.1			33.1
Level of Service		B			A		C	C	C			C
Approach Delay (s)		12.4			9.3			26.0			33.1	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	67.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Appendix O

Year 2040 Background Conditions Intersection Queueing Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	153	531	92	605	1078	402	746	452	503	97
v/c Ratio	0.85	0.59	0.18	0.86	0.85	0.50	0.92	0.36	0.62	0.19
Control Delay	84.9	36.7	1.6	53.1	37.2	4.5	55.5	8.7	38.1	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	84.9	36.7	1.6	53.1	37.2	4.5	55.5	8.7	38.1	0.8
Queue Length 50th (ft)	107	173	0	207	363	0	258	53	156	0
Queue Length 95th (ft)	#221	233	8	#280	#475	61	#364	84	212	0
Internal Link Dist (ft)		1391			914					
Turn Bay Length (ft)	250		50	275			250	230	500	500
Base Capacity (vph)	186	901	507	742	1265	798	845	1294	845	517
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.59	0.18	0.82	0.85	0.50	0.88	0.35	0.60	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	700	684	172	116	1092	143	431	417	51	69	435
v/c Ratio	0.94	0.35	0.24	0.64	0.83	0.27	0.95	0.42	0.44	0.42	0.68
Control Delay	65.7	26.4	5.0	63.7	46.1	5.1	72.7	31.5	62.2	55.4	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	65.7	26.4	5.0	63.7	46.1	5.1	72.7	31.5	62.2	55.4	10.2
Queue Length 50th (ft)	254	125	0	81	269	0	302	118	36	48	0
Queue Length 95th (ft)	#396	184	49	142	#346	38	#532	170	77	94	50
Internal Link Dist (ft)		914			2001			1265		3471	
Turn Bay Length (ft)	300		360	100		30	150		160		
Base Capacity (vph)	742	1940	711	262	1309	528	455	1677	150	612	1206
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.35	0.24	0.44	0.83	0.27	0.95	0.25	0.34	0.11	0.36

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	873	483	902	379	90	1042
v/c Ratio	0.87	0.65	0.58	0.29	0.50	0.50
Control Delay	43.7	23.0	9.3	0.4	51.5	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.7	23.0	9.3	0.4	51.5	12.8
Queue Length 50th (ft)	265	202	55	0	55	192
Queue Length 95th (ft)	342	293	69	0	103	244
Internal Link Dist (ft)	741		655			394
Turn Bay Length (ft)	350	500		180	200	
Base Capacity (vph)	1052	793	1542	1330	236	2095
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.61	0.58	0.28	0.38	0.50

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	539	82	1227	642	94	1883
v/c Ratio	0.73	0.14	0.65	0.48	0.56	0.55
Control Delay	42.5	11.7	19.2	2.6	54.1	6.1
Queue Delay	0.0	0.0	0.7	0.5	0.0	0.0
Total Delay	42.5	11.7	19.9	3.1	54.1	6.1
Queue Length 50th (ft)	163	17	291	35	51	189
Queue Length 95th (ft)	216	46	382	65	m86	208
Internal Link Dist (ft)	678		452			142
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	828	621	1889	1361	192	3450
Starvation Cap Reductn	0	0	313	326	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.13	0.78	0.62	0.49	0.55

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	262	36	52	36	58	120	89	1641	178	1879	400
v/c Ratio	0.69	0.11	0.14	0.35	0.26	0.38	0.62	0.73	0.72	0.73	0.26
Control Delay	62.4	39.8	0.8	68.1	49.3	5.9	74.3	30.1	67.0	26.1	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.0
Total Delay	62.4	39.8	0.8	68.1	49.3	5.9	74.3	30.1	67.0	27.0	6.9
Queue Length 50th (ft)	97	24	0	26	42	0	65	335	127	358	26
Queue Length 95th (ft)	#209	52	0	75	80	25	#178	618	#302	686	86
Internal Link Dist (ft)		2884			460			643		452	
Turn Bay Length (ft)	170			140			180		145		
Base Capacity (vph)	409	805	737	136	718	696	164	2466	289	2833	1647
Starvation Cap Reductn	0	0	0	0	0	0	0	43	0	599	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.64	0.04	0.07	0.26	0.08	0.17	0.54	0.68	0.62	0.84	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	56	87	32	105	91	142	1609	103	1871	74
v/c Ratio	0.28	0.27	0.27	0.21	0.29	0.49	0.62	0.38	0.72	0.07
Control Delay	52.8	19.2	54.8	36.3	7.6	51.9	19.4	50.8	21.4	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.8	19.2	54.8	36.3	7.6	51.9	19.4	50.8	21.4	4.1
Queue Length 50th (ft)	15	18	17	28	0	39	210	28	265	2
Queue Length 95th (ft)	47	59	62	54	30	#108	486	75	600	29
Internal Link Dist (ft)		786		1093			2183		643	
Turn Bay Length (ft)	190		190			140		180		
Base Capacity (vph)	200	845	135	1771	834	306	3132	314	3184	1023
Starvation Cap Reductn	0	0	0	0	0	0	0	0	7	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.10	0.24	0.06	0.11	0.46	0.51	0.33	0.59	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	362	436	123	893	228	477	1270	228	1392	299
v/c Ratio	1.55	0.33	0.79	0.82	0.46	1.54	0.98	0.95	1.20	0.36
Control Delay	307.3	30.5	94.9	59.2	10.9	297.0	63.6	106.0	137.8	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	307.3	30.5	94.9	59.2	10.9	297.0	63.6	106.0	137.8	15.7
Queue Length 50th (ft)	~464	84	111	283	15	~610	600	209	~809	111
Queue Length 95th (ft)	#666	118	#206	338	89	#829	#762	#377	#949	180
Internal Link Dist (ft)		2001		2146			961		2183	
Turn Bay Length (ft)	100		170		200	150		180		
Base Capacity (vph)	233	1314	170	1126	512	309	1296	240	1163	834
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.55	0.33	0.72	0.79	0.45	1.54	0.98	0.95	1.20	0.36

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	317	185	38	423	45	463	327	33	163
v/c Ratio	0.25	0.28	0.39	0.26	0.54	0.11	0.76	0.19	0.24	0.30
Control Delay	52.5	32.3	10.4	52.6	36.1	0.5	35.9	14.7	53.4	36.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.5	32.3	10.4	52.6	36.1	0.5	35.9	14.7	53.4	36.3
Queue Length 50th (ft)	18	51	6	19	104	0	216	56	17	38
Queue Length 95th (ft)	69	120	77	72	238	0	487	105	66	94
Internal Link Dist (ft)		2146			923			3484		1272
Turn Bay Length (ft)	160		70	150		70	200		190	
Base Capacity (vph)	229	2119	749	229	1475	709	1395	3161	188	1422
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.15	0.25	0.17	0.29	0.06	0.33	0.10	0.18	0.11

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	136	106	21	76	33	13
v/c Ratio	0.15	0.16	0.02	0.07	0.07	0.01
Control Delay	10.2	1.7	13.9	0.9	16.5	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	1.7	13.9	0.9	16.5	7.6
Queue Length 50th (ft)	10	0	1	0	2	1
Queue Length 95th (ft)	22	10	10	6	13	10
Internal Link Dist (ft)	1668		764			205
Turn Bay Length (ft)				65	50	
Base Capacity (vph)	2888	1442	2978	1465	2888	1845
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.07	0.01	0.05	0.01	0.01

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	27	228	4	20	642	27	62	35	7	32
v/c Ratio	0.15	0.12	0.00	0.11	0.35	0.03	0.53	0.12	0.02	0.10
Control Delay	41.7	18.3	0.0	42.5	19.4	0.1	35.4	31.5	31.7	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.7	18.3	0.0	42.5	19.4	0.1	35.4	31.5	31.7	0.6
Queue Length 50th (ft)	8	23	0	6	74	0	7	10	2	0
Queue Length 95th (ft)	53	107	0	43	303	0	66	52	17	0
Internal Link Dist (ft)		981			1309		113		677	
Turn Bay Length (ft)	320		100	140		100		200		
Base Capacity (vph)	342	2927	1322	308	2911	1316	356	1059	1116	981
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.08	0.00	0.06	0.22	0.02	0.17	0.03	0.01	0.03

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	8	82	516	298	71	926	200	106	1087
v/c Ratio	0.12	0.50	0.83	0.52	0.57	0.50	0.23	0.66	0.38
Control Delay	69.0	30.2	63.0	16.8	79.3	23.9	10.0	80.4	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.0	30.2	63.0	16.8	79.3	23.9	10.0	80.4	19.2
Queue Length 50th (ft)	7	14	240	81	64	270	38	95	197
Queue Length 95th (ft)	26	67	282	148	114	417	106	154	293
Internal Link Dist (ft)		117		450		252			761
Turn Bay Length (ft)			260		240		90	200	
Base Capacity (vph)	75	269	777	653	166	1861	873	215	2840
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.30	0.66	0.46	0.43	0.50	0.23	0.49	0.38

Intersection Summary

Lane Group	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1575	193	223	1144
v/c Ratio	0.58	0.15	0.80	0.33
Control Delay	8.1	1.2	77.0	0.2
Queue Delay	2.9	1.1	0.0	0.2
Total Delay	11.1	2.4	77.0	0.5
Queue Length 50th (ft)	154	4	198	0
Queue Length 95th (ft)	m190	m8	276	0
Internal Link Dist (ft)	119			398
Turn Bay Length (ft)			340	
Base Capacity (vph)	2697	1251	444	3505
Starvation Cap Reductn	980	846	0	0
Spillback Cap Reductn	0	0	0	1432
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.92	0.48	0.50	0.55

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	323	254	285	504	571	796	395	185	1055
v/c Ratio	0.48	0.70	0.76	0.77	1.01	0.48	0.40	0.77	0.61
Control Delay	51.0	61.7	46.8	62.4	64.4	40.6	8.0	78.4	29.0
Queue Delay	0.9	0.0	0.0	0.0	31.3	0.1	0.3	66.5	4.5
Total Delay	51.9	61.7	46.8	62.4	95.7	40.7	8.3	144.9	33.5
Queue Length 50th (ft)	138	222	172	226	~274	213	58	161	345
Queue Length 95th (ft)	156	268	235	291	#523	293	157	#320	535
Internal Link Dist (ft)		1417				541			119
Turn Bay Length (ft)	1000		600	140			75	60	
Base Capacity (vph)	1068	579	547	655	565	1649	991	240	1740
Starvation Cap Reductn	0	0	0	0	0	0	207	113	597
Spillback Cap Reductn	487	0	0	0	59	118	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.44	0.52	0.77	1.13	0.52	0.50	1.46	0.92

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	193	76	73	1004	1342	304
v/c Ratio	0.30	0.21	0.25	0.31	0.70	0.22
Control Delay	30.6	9.2	43.4	6.5	16.6	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.6	9.2	43.4	6.5	16.6	0.9
Queue Length 50th (ft)	41	0	16	55	220	7
Queue Length 95th (ft)	89	37	53	150	485	17
Internal Link Dist (ft)	1668			931	541	
Turn Bay Length (ft)			130			
Base Capacity (vph)	1711	815	346	4555	2895	1532
Starvation Cap Reductn	0	0	0	0	107	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.09	0.21	0.22	0.48	0.20

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	345	83	306	694	854	312
v/c Ratio	0.48	0.21	0.73	0.31	0.69	0.32
Control Delay	33.3	9.0	42.9	7.5	28.7	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.3	9.0	42.9	7.5	28.7	2.8
Queue Length 50th (ft)	81	0	143	69	189	11
Queue Length 95th (ft)	157	39	311	151	382	50
Internal Link Dist (ft)	1309			1278	931	
Turn Bay Length (ft)		100	330			100
Base Capacity (vph)	1381	677	720	3073	1778	1234
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.25	0.12	0.42	0.23	0.48	0.25

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	178	324	98	914	127	619	116	122	586	139
v/c Ratio	0.72	0.25	0.60	0.80	0.66	0.70	0.25	0.66	0.68	0.30
Control Delay	71.6	25.7	74.7	43.8	74.5	48.6	11.3	75.2	48.1	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.6	25.7	74.7	43.8	74.5	48.6	11.3	75.2	48.1	11.4
Queue Length 50th (ft)	141	85	79	344	102	244	7	98	229	10
Queue Length 95th (ft)	257	146	160	525	196	362	60	192	344	70
Internal Link Dist (ft)		3484		721		1028			1278	
Turn Bay Length (ft)	200		150		190		190	130		190
Base Capacity (vph)	371	1691	246	1447	282	1242	610	267	1213	610
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.19	0.40	0.63	0.45	0.50	0.19	0.46	0.48	0.23

Intersection Summary

Lane Group	EBT	WBT	NBL	NBT	NBR	SBR
Lane Group Flow (vph)	318	796	149	153	24	7
v/c Ratio	0.15	0.35	0.57	0.59	0.07	0.02
Control Delay	7.8	5.4	35.2	35.8	0.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.8	5.4	35.2	35.8	0.4	0.1
Queue Length 50th (ft)	63	43	64	65	0	0
Queue Length 95th (ft)	88	129	109	111	0	0
Internal Link Dist (ft)	450	555		317		
Turn Bay Length (ft)					120	
Base Capacity (vph)	2180	2271	570	572	599	427
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.35	0.26	0.27	0.04	0.02

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	263	831	263	815	831	554	301	812	894	316
v/c Ratio	0.95	1.02	0.55	1.05	0.78	0.66	0.37	0.57	1.09	0.52
Control Delay	88.9	76.0	19.5	84.7	37.6	6.6	33.2	14.6	97.4	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.9	76.0	19.5	84.7	37.6	6.6	33.2	14.6	97.4	6.9
Queue Length 50th (ft)	185	~317	65	~322	272	0	87	174	~367	0
Queue Length 95th (ft)	#347	#452	152	#444	351	88	127	236	#492	70
Internal Link Dist (ft)		1391			914					
Turn Bay Length (ft)	250		50	275			250	230	500	500
Base Capacity (vph)	276	817	474	779	1068	834	819	1426	819	604
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	1.02	0.55	1.05	0.78	0.66	0.37	0.57	1.09	0.52

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	646	1525	421	73	594	154	253	634	166	368	1324
v/c Ratio	1.11	0.78	0.49	0.70	0.44	0.31	1.10	0.61	0.81	0.69	1.10
Control Delay	122.6	40.7	4.5	94.9	42.7	11.2	141.2	38.4	87.8	51.2	82.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	122.6	40.7	4.5	94.9	42.7	11.2	141.2	38.4	87.8	51.2	82.7
Queue Length 50th (ft)	~346	436	0	65	161	17	~260	225	146	297	~548
Queue Length 95th (ft)	#468	497	67	#140	200	74	#436	294	#249	414	#701
Internal Link Dist (ft)		914			2001			1265		3471	
Turn Bay Length (ft)	300		360	100		30	150		160		
Base Capacity (vph)	582	2005	879	114	1418	526	231	1036	231	535	1207
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.11	0.76	0.48	0.64	0.42	0.29	1.10	0.61	0.72	0.69	1.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	915	278	1701	509	70	1166
v/c Ratio	0.96	0.45	0.96	0.38	0.74	0.54
Control Delay	57.0	24.7	20.6	0.4	89.6	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	24.7	20.6	0.4	89.6	12.4
Queue Length 50th (ft)	295	124	296	0	45	208
Queue Length 95th (ft)	#423	199	m#405	m5	#121	263
Internal Link Dist (ft)	741		655			394
Turn Bay Length (ft)	350	500		180	200	
Base Capacity (vph)	955	620	1766	1343	94	2148
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.45	0.96	0.38	0.74	0.54

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	881	439	1792	929	126	2044
v/c Ratio	1.00	0.73	0.98	0.75	1.03	0.63
Control Delay	67.9	34.5	40.1	8.0	129.9	6.8
Queue Delay	0.0	0.0	41.3	0.4	0.0	0.0
Total Delay	67.9	34.5	81.4	8.4	129.9	6.8
Queue Length 50th (ft)	290	231	557	145	~81	152
Queue Length 95th (ft)	#423	352	#751	249	m#155	m178
Internal Link Dist (ft)	678		452			142
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	883	604	1836	1233	122	3243
Starvation Cap Reductn	0	0	247	56	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.73	1.13	0.79	1.03	0.63

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	669	174	268	38	89	279	199	1999	222	2044	664
v/c Ratio	1.14	0.32	0.42	0.39	0.34	0.75	1.05	0.97	1.09	0.97	0.49
Control Delay	127.5	36.4	6.5	72.2	50.4	30.5	132.5	51.1	139.9	49.9	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.3	0.1
Total Delay	127.5	36.4	6.5	72.2	50.4	30.5	132.5	51.1	139.9	92.2	14.0
Queue Length 50th (ft)	~307	114	6	29	66	75	~164	539	~190	550	88
Queue Length 95th (ft)	#570	177	67	78	114	168	#412	#947	#453	#961	205
Internal Link Dist (ft)		2884			460			643		452	
Turn Bay Length (ft)	170			140			180		145		
Base Capacity (vph)	588	842	846	126	647	661	190	2055	204	2107	1363
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	302	79
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.14	0.21	0.32	0.30	0.14	0.42	1.05	0.97	1.09	1.13	0.52

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	236	466	94	318	324	297	1860	359	1947	72
v/c Ratio	0.91	0.90	0.71	0.32	0.57	0.94	1.00	0.98	0.99	0.10
Control Delay	94.5	56.9	85.0	35.1	18.5	92.3	60.6	98.0	56.9	7.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.5	56.9	85.0	35.1	18.5	92.3	60.6	98.0	56.9	7.4
Queue Length 50th (ft)	98	314	74	104	87	123	~577	~150	~582	7
Queue Length 95th (ft)	#192	456	#163	143	179	#229	#742	#273	#764	35
Internal Link Dist (ft)		786		1093			2183		643	
Turn Bay Length (ft)	190		190			140		180		
Base Capacity (vph)	258	635	145	1265	677	317	1852	365	1958	747
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.73	0.65	0.25	0.48	0.94	1.00	0.98	0.99	0.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	597	1328	196	421	189	117	1100	320	1495	295
v/c Ratio	1.48	0.89	0.84	0.41	0.41	1.22	1.08	1.42	1.16	0.31
Control Delay	264.8	52.6	87.2	48.5	8.7	215.8	98.3	256.8	121.5	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	264.8	52.6	87.2	48.5	8.7	215.8	98.3	256.8	121.5	9.6
Queue Length 50th (ft)	~754	410	174	120	0	~132	~597	~397	~862	86
Queue Length 95th (ft)	#988	474	#290	156	64	#262	#737	#589	#1002	136
Internal Link Dist (ft)		2001		2146			961		2183	
Turn Bay Length (ft)	100		170		200	150		180		
Base Capacity (vph)	404	1536	263	1145	493	96	1016	225	1285	961
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.48	0.86	0.75	0.37	0.38	1.22	1.08	1.42	1.16	0.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	110	865	512	142	281	108	274	722	93	641
v/c Ratio	0.65	0.54	0.81	0.74	0.24	0.19	0.83	0.62	0.61	0.77
Control Delay	82.8	40.7	37.8	86.4	35.7	8.8	76.7	39.0	83.2	57.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	82.8	40.7	37.8	86.4	35.7	8.8	76.7	39.0	83.2	57.2
Queue Length 50th (ft)	106	248	286	137	101	4	262	293	90	310
Queue Length 95th (ft)	180	319	480	#245	156	52	#385	379	158	401
Internal Link Dist (ft)		2146			963			3484		1272
Turn Bay Length (ft)	160		70	150		70	200		190	
Base Capacity (vph)	251	1988	733	243	1392	672	445	1448	221	1038
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.44	0.70	0.58	0.20	0.16	0.62	0.50	0.42	0.62

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	257	292	59	289	281	72
v/c Ratio	0.31	0.34	0.07	0.32	0.44	0.07
Control Delay	17.0	2.5	14.2	2.1	21.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	2.5	14.2	2.1	21.5	5.9
Queue Length 50th (ft)	23	0	5	4	27	7
Queue Length 95th (ft)	82	37	21	25	102	28
Internal Link Dist (ft)	1668		764			205
Turn Bay Length (ft)				65	50	
Base Capacity (vph)	2487	1342	2760	1380	1986	1767
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.22	0.02	0.21	0.14	0.04

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	60	1094	23	25	444	85	64	139	8	38
v/c Ratio	0.39	0.74	0.03	0.17	0.37	0.14	0.59	0.41	0.02	0.10
Control Delay	45.7	27.7	0.1	41.8	23.7	3.9	43.0	29.9	26.4	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.7	27.7	0.1	41.8	23.7	3.9	43.0	29.9	26.4	0.5
Queue Length 50th (ft)	21	176	0	9	74	0	15	46	3	0
Queue Length 95th (ft)	#110	#690	0	46	202	23	67	129	16	0
Internal Link Dist (ft)		946			1309		113		677	
Turn Bay Length (ft)	320		100	140		100				200
Base Capacity (vph)	156	1479	728	156	1442	713	272	852	898	824
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.74	0.03	0.16	0.31	0.12	0.24	0.16	0.01	0.05

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	30	203	529	288	96	1485	435	93	882
v/c Ratio	0.39	0.75	0.89	0.60	0.66	0.80	0.50	0.70	0.34
Control Delay	79.8	37.2	73.0	36.0	82.4	32.4	17.8	89.6	21.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0
Total Delay	79.8	37.2	73.0	36.0	82.4	33.2	17.8	89.6	21.1
Queue Length 50th (ft)	27	54	255	170	86	594	180	83	169
Queue Length 95th (ft)	63	138	#333	216	145	740	295	#177	234
Internal Link Dist (ft)		117		450		252			761
Turn Bay Length (ft)			260		240		90	200	
Base Capacity (vph)	85	334	631	517	193	1857	877	139	2623
Starvation Cap Reductn	0	0	0	0	0	142	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.61	0.84	0.56	0.50	0.87	0.50	0.67	0.34

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	2200	439	139	1074
v/c Ratio	0.76	0.34	0.74	0.31
Control Delay	6.7	0.2	82.9	0.2
Queue Delay	47.5	3.6	0.0	0.3
Total Delay	54.2	3.8	82.9	0.6
Queue Length 50th (ft)	230	0	124	0
Queue Length 95th (ft)	m123	m1	193	0
Internal Link Dist (ft)	119			398
Turn Bay Length (ft)			340	
Base Capacity (vph)	2878	1295	244	3505
Starvation Cap Reductn	1063	747	0	0
Spillback Cap Reductn	0	0	0	1653
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.21	0.80	0.57	0.58

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	580	735	423	438	578	1446	801	245	915
v/c Ratio	0.50	1.18	0.72	0.75	1.36	1.10	1.14	1.71	0.70
Control Delay	38.7	136.1	39.2	64.3	207.1	105.3	112.3	384.6	40.4
Queue Delay	0.1	0.0	0.0	0.0	0.8	0.4	0.0	4.7	50.8
Total Delay	38.8	136.1	39.2	64.3	208.0	105.7	112.3	389.2	91.2
Queue Length 50th (ft)	216	~797	267	197	~544	~546	~824	~327	368
Queue Length 95th (ft)	274	#1043	401	259	#780	#643	#814	#503	446
Internal Link Dist (ft)		1417				541			119
Turn Bay Length (ft)	1000		600	140			75	60	
Base Capacity (vph)	1153	625	586	582	424	1312	702	143	1314
Starvation Cap Reductn	0	0	0	0	0	0	0	29	548
Spillback Cap Reductn	48	0	0	0	34	134	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	1.18	0.72	0.75	1.48	1.23	1.14	2.15	1.19

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	605	204	133	1559	991	552
v/c Ratio	0.57	0.33	0.41	0.56	0.70	0.43
Control Delay	28.1	5.4	45.2	13.8	24.6	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.2
Total Delay	28.1	5.4	45.2	13.8	24.6	3.1
Queue Length 50th (ft)	135	0	34	182	220	41
Queue Length 95th (ft)	244	52	80	293	368	83
Internal Link Dist (ft)	1668			931	541	
Turn Bay Length (ft)			130			
Base Capacity (vph)	1612	839	459	4183	2385	1465
Starvation Cap Reductn	0	0	0	0	52	262
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.24	0.29	0.37	0.42	0.46

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	581	442	298	951	980	297
v/c Ratio	0.65	0.70	0.80	0.44	0.77	0.28
Control Delay	38.4	18.3	56.2	11.0	34.6	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.4	18.3	56.2	11.0	34.6	2.7
Queue Length 50th (ft)	180	81	194	164	305	16
Queue Length 95th (ft)	268	220	316	223	434	50
Internal Link Dist (ft)	1309			1278	931	
Turn Bay Length (ft)		100	330			100
Base Capacity (vph)	1127	720	523	2701	1580	1141
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.61	0.57	0.35	0.62	0.26

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	116	798	54	775	159	883	54	370	908	111
v/c Ratio	0.85	0.82	0.60	0.90	0.79	0.90	0.10	0.94	0.67	0.17
Control Delay	96.7	44.4	78.1	49.2	73.8	51.1	0.4	75.3	30.4	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.7	44.4	78.1	49.2	73.8	51.1	0.4	75.3	30.4	5.4
Queue Length 50th (ft)	83	276	38	244	110	315	0	257	277	2
Queue Length 95th (ft)	#189	#382	#95	#353	#208	#431	0	#437	350	37
Internal Link Dist (ft)		3484		721		1028			1278	
Turn Bay Length (ft)	200		150		190		190	130		190
Base Capacity (vph)	136	971	94	883	223	1002	545	407	1378	670
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.85	0.82	0.57	0.88	0.71	0.88	0.10	0.91	0.66	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBR
Lane Group Flow (vph)	602	409	230	232	34	12
v/c Ratio	0.31	0.19	0.60	0.61	0.08	0.04
Control Delay	9.6	9.2	29.5	29.5	0.4	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.6	9.2	29.5	29.5	0.4	0.3
Queue Length 50th (ft)	67	30	96	97	0	0
Queue Length 95th (ft)	225	105	122	124	0	0
Internal Link Dist (ft)	450	555		317		
Turn Bay Length (ft)					120	
Base Capacity (vph)	1943	2111	591	593	610	385
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.19	0.39	0.39	0.06	0.03

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	113	533	134	1026	629	491	492	1444	912	152
v/c Ratio	0.63	0.84	0.34	1.07	0.50	0.58	0.61	0.92	1.13	0.30
Control Delay	60.3	54.0	6.9	86.0	25.2	5.1	37.9	26.9	109.7	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.3	54.0	6.9	86.0	25.2	5.1	37.9	26.9	109.7	4.5
Queue Length 50th (ft)	76	187	0	~419	165	0	155	453	~388	0
Queue Length 95th (ft)	132	#254	41	#546	233	72	212	#695	#512	33
Internal Link Dist (ft)		1391			914					
Turn Bay Length (ft)	250		50	275			250	230	500	500
Base Capacity (vph)	238	681	419	957	1259	848	809	1571	809	502
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.78	0.32	1.07	0.50	0.58	0.61	0.92	1.13	0.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	1081	1440	145	60	692	223	172	743	186	282	1234
v/c Ratio	1.34	0.68	0.19	0.54	0.61	0.49	0.89	0.74	1.19	0.55	0.95
Control Delay	201.3	33.1	4.3	78.0	47.2	21.1	99.2	43.7	182.1	45.4	35.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	201.3	33.1	4.3	78.0	47.2	21.1	99.2	43.7	182.1	45.4	35.0
Queue Length 50th (ft)	~613	369	0	50	193	64	145	271	~189	201	283
Queue Length 95th (ft)	#815	431	41	102	236	142	#307	377	#369	319	#498
Internal Link Dist (ft)		914			2001			1265		3471	
Turn Bay Length (ft)	300		360	100		30	150		160		
Base Capacity (vph)	805	2326	803	141	1485	555	193	1029	156	529	1309
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.34	0.62	0.18	0.43	0.47	0.40	0.89	0.72	1.19	0.53	0.94

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1369	355	1230	660	70	1234
v/c Ratio	1.00	0.44	0.91	0.53	0.76	0.71
Control Delay	56.5	17.3	25.1	1.3	92.8	22.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.5	17.3	25.1	1.3	92.8	22.6
Queue Length 50th (ft)	~446	133	253	0	45	310
Queue Length 95th (ft)	#604	206	m244	m0	#122	390
Internal Link Dist (ft)	741		655			394
Turn Bay Length (ft)	350	500		180	200	
Base Capacity (vph)	1363	807	1356	1252	92	1734
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.44	0.91	0.53	0.76	0.71

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	952	160	1895	1003	114	2545
v/c Ratio	1.05	0.27	1.03	0.81	1.09	0.79
Control Delay	79.1	22.3	53.1	9.9	134.1	11.0
Queue Delay	0.0	0.0	28.8	0.5	0.0	0.0
Total Delay	79.1	22.3	82.0	10.4	134.1	11.0
Queue Length 50th (ft)	~341	66	~683	168	~81	380
Queue Length 95th (ft)	#464	117	#822	299	m#111	m424
Internal Link Dist (ft)	678		452			142
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	911	599	1843	1244	105	3202
Starvation Cap Reductn	0	0	233	49	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.27	1.18	0.84	1.09	0.79

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	733	228	331	82	136	332	288	2139	287	2348	875
v/c Ratio	1.40	0.52	0.58	0.59	0.47	0.80	1.35	1.04	1.34	1.14	0.64
Control Delay	232.0	46.3	12.8	76.1	52.8	33.4	226.2	69.8	224.4	103.7	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.1
Total Delay	232.0	46.3	12.8	76.1	52.8	33.4	226.2	69.8	224.4	104.1	18.9
Queue Length 50th (ft)	~399	164	39	64	103	103	~297	~664	~296	~787	163
Queue Length 95th (ft)	#663	251	130	137	163	208	#593	#1039	#591	#1182	324
Internal Link Dist (ft)		2884			460			643		452	
Turn Bay Length (ft)	170			140			180		145		
Base Capacity (vph)	523	711	758	204	634	663	214	2047	214	2064	1357
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	265	58
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.40	0.32	0.44	0.40	0.21	0.50	1.35	1.04	1.34	1.31	0.67

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	236	560	132	413	395	404	2091	524	2256	114
v/c Ratio	1.19	0.96	1.28	0.36	0.64	1.46	1.16	1.53	1.17	0.16
Control Delay	176.9	68.2	227.4	34.6	24.8	266.8	117.6	290.9	117.1	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	176.9	68.2	227.4	34.6	24.8	266.8	117.6	290.9	117.1	8.2
Queue Length 50th (ft)	~125	430	~142	138	154	~242	~774	~321	~837	18
Queue Length 95th (ft)	#212	#660	#276	185	268	#347	#869	#435	#929	52
Internal Link Dist (ft)		786		1093			2183		643	
Turn Bay Length (ft)	190		190			140		180		
Base Capacity (vph)	198	604	103	1187	639	277	1796	343	1935	725
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.19	0.93	1.28	0.35	0.62	1.46	1.16	1.53	1.17	0.16

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
107: Day St & Eucalyptus Ave

03/29/2022

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	852	1123	189	571	273	182	1212	277	1184	313
v/c Ratio	1.81	0.73	0.79	0.64	0.70	1.46	1.16	1.56	1.02	0.31
Control Delay	404.3	43.6	77.8	53.8	35.0	283.8	122.4	313.5	74.2	10.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	404.3	43.6	77.8	53.8	35.0	283.8	122.4	313.5	74.2	10.1
Queue Length 50th (ft)	~1090	309	158	168	112	~210	~636	~331	~540	88
Queue Length 95th (ft)	#1441	388	246	209	211	#390	#852	#546	#766	164
Internal Link Dist (ft)		2001		2146			961		2183	
Turn Bay Length (ft)	100		170		200	150		180		
Base Capacity (vph)	470	1576	325	1180	471	125	1048	178	1165	1025
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.81	0.71	0.58	0.48	0.58	1.46	1.16	1.56	1.02	0.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	177	835	374	129	379	178	316	955	102	635
v/c Ratio	0.73	0.62	0.72	0.68	0.46	0.38	0.82	0.75	0.61	0.74
Control Delay	73.8	45.3	37.2	78.3	46.9	17.7	67.6	38.4	77.3	51.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.8	45.3	37.2	78.3	46.9	17.7	67.6	38.4	77.3	51.1
Queue Length 50th (ft)	146	227	183	107	144	33	258	352	85	256
Queue Length 95th (ft)	261	336	365	206	242	118	422	500	170	385
Internal Link Dist (ft)		2146			949			3484		1272
Turn Bay Length (ft)	160		70	150		70	200		190	
Base Capacity (vph)	377	1695	614	271	981	531	572	1731	252	1145
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.49	0.61	0.48	0.39	0.34	0.55	0.55	0.40	0.55

Intersection Summary

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	508	395	72	357	332	92
v/c Ratio	0.46	0.39	0.12	0.34	0.47	0.11
Control Delay	14.5	1.6	19.4	2.7	19.6	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.5	1.6	19.4	2.7	19.6	8.3
Queue Length 50th (ft)	54	0	8	10	40	13
Queue Length 95th (ft)	101	19	27	43	81	38
Internal Link Dist (ft)	1668		764			205
Turn Bay Length (ft)				65	50	
Base Capacity (vph)	2185	1448	2253	1447	2185	1845
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.27	0.03	0.25	0.15	0.05

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	67	1047	6	21	620	138	62	141	7	61
v/c Ratio	0.38	0.63	0.01	0.17	0.45	0.20	0.85	0.46	0.02	0.17
Control Delay	54.7	23.6	0.0	57.6	25.1	8.8	103.6	45.2	41.9	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.7	23.6	0.0	57.6	25.1	8.8	103.6	45.2	41.9	1.0
Queue Length 50th (ft)	31	194	0	10	132	10	20	63	3	0
Queue Length 95th (ft)	118	525	0	51	298	66	#119	193	20	0
Internal Link Dist (ft)		965			1309		113		677	
Turn Bay Length (ft)	320		100	140		100		200		
Base Capacity (vph)	302	2669	1213	162	2482	1142	177	734	773	721
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.39	0.00	0.13	0.25	0.12	0.35	0.19	0.01	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

113: Pigeon Pass Rd & Shopping Access/Hemlock Ave

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	68	271	647	359	137	1186	343	105	1073
v/c Ratio	0.67	0.86	0.89	0.73	0.74	0.73	0.44	0.73	0.48
Control Delay	93.7	49.2	64.4	44.5	82.5	35.3	20.1	90.7	30.5
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Total Delay	93.7	49.2	64.4	44.6	82.5	35.3	20.1	90.7	30.5
Queue Length 50th (ft)	61	99	283	217	123	484	147	94	264
Queue Length 95th (ft)	#126	#227	376	204	192	598	246	#169	337
Internal Link Dist (ft)		117		450		252			761
Turn Bay Length (ft)			260		240		90	200	
Base Capacity (vph)	112	350	801	536	244	1630	775	162	2217
Starvation Cap Reductn	0	0	0	10	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.77	0.81	0.68	0.56	0.73	0.44	0.65	0.48

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	2294	394	152	1366
v/c Ratio	0.80	0.31	0.75	0.39
Control Delay	7.2	0.2	82.1	0.3
Queue Delay	47.4	4.1	0.0	1.1
Total Delay	54.6	4.3	82.1	1.5
Queue Length 50th (ft)	238	0	136	0
Queue Length 95th (ft)	m120	m2	208	0
Internal Link Dist (ft)	119			398
Turn Bay Length (ft)			340	
Base Capacity (vph)	2850	1284	264	3505
Starvation Cap Reductn	1095	794	0	0
Spillback Cap Reductn	0	0	0	1793
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.31	0.80	0.58	0.80

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	527	357	535	660	826	1321	948	345	1157
v/c Ratio	0.49	0.62	0.98	1.01	1.74	1.05	1.20	2.03	0.87
Control Delay	41.0	46.5	71.9	92.7	364.5	89.5	127.6	513.7	48.3
Queue Delay	0.2	0.0	0.0	0.0	0.8	20.6	0.0	5.0	48.1
Total Delay	41.2	46.5	71.9	92.7	365.2	110.1	127.6	518.7	96.4
Queue Length 50th (ft)	201	277	416	~316	~950	~478	~652	~492	511
Queue Length 95th (ft)	257	388	#658	#447	#1205	#576	#914	#691	610
Internal Link Dist (ft)		1417				541			119
Turn Bay Length (ft)	1000		600	140			75	60	
Base Capacity (vph)	1068	579	550	655	476	1259	793	170	1330
Starvation Cap Reductn	0	0	0	0	0	0	0	40	409
Spillback Cap Reductn	103	0	0	0	40	118	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.62	0.97	1.01	1.89	1.16	1.20	2.65	1.26

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	756	204	146	1361	1014	888
v/c Ratio	0.58	0.28	0.52	0.54	0.77	0.74
Control Delay	26.8	4.2	55.2	18.7	33.0	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.8	4.2	55.2	18.7	33.1	7.7
Queue Length 50th (ft)	202	0	48	213	302	150
Queue Length 95th (ft)	284	46	92	305	440	240
Internal Link Dist (ft)	1668			931	541	
Turn Bay Length (ft)			130			
Base Capacity (vph)	1773	903	334	3123	1681	1363
Starvation Cap Reductn	0	0	0	0	17	2
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.23	0.44	0.44	0.61	0.65

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	625	473	403	798	821	424
v/c Ratio	0.68	0.74	0.85	0.37	0.77	0.44
Control Delay	39.7	21.2	54.9	10.7	40.2	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	21.2	54.9	10.7	40.2	7.1
Queue Length 50th (ft)	204	111	277	142	284	68
Queue Length 95th (ft)	291	260	#412	179	382	142
Internal Link Dist (ft)	1309			1278	931	
Turn Bay Length (ft)		100	330			100
Base Capacity (vph)	1083	703	624	2634	1276	1037
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.67	0.65	0.30	0.64	0.41

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	114	719	35	770	197	819	21	321	806	101
v/c Ratio	0.71	0.67	0.39	0.85	0.76	0.80	0.04	0.86	0.64	0.16
Control Delay	87.5	45.5	81.4	52.2	77.3	52.8	0.1	74.6	40.3	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.5	45.5	81.4	52.2	77.3	52.8	0.1	74.6	40.3	6.2
Queue Length 50th (ft)	107	309	33	321	185	382	0	298	332	0
Queue Length 95th (ft)	#197	412	75	#431	275	483	0	#446	439	41
Internal Link Dist (ft)		3484		721		1028			1278	
Turn Bay Length (ft)	200		150		190		190	130		190
Base Capacity (vph)	199	1161	117	1025	377	1219	632	479	1441	692
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.62	0.30	0.75	0.52	0.67	0.03	0.67	0.56	0.15

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBR
Lane Group Flow (vph)	572	464	260	266	40	23
v/c Ratio	0.34	0.24	0.64	0.66	0.09	0.09
Control Delay	13.6	10.9	29.9	30.4	0.6	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.6	10.9	29.9	30.4	0.6	0.7
Queue Length 50th (ft)	78	38	109	112	0	0
Queue Length 95th (ft)	261	120	138	142	3	0
Internal Link Dist (ft)	450	555		317		
Turn Bay Length (ft)					120	
Base Capacity (vph)	1664	1968	591	593	609	345
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.24	0.44	0.45	0.07	0.07

Intersection Summary

Appendix P

Year 2040 Background Conditions
Freeway Mainline Analysis
HCS Output Sheets

HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2040 Background
Jurisdiction		Time Analyzed	AM
Project Description	SR-60 EB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5247	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1558
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.65
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.7
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

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Project Description	SR-60 EB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6945	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1958
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.82
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	65.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	30.1
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2040 Background
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 EB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6584	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1875
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.78
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	66.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	28.1
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

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Agency	Kittelson	Analysis Year	Year 2040 Background
Jurisdiction		Time Analyzed	AM
Project Description	SR-60 WB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4042	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1618
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Project Description	SR-60 WB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4541	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1742
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.73
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Project Information

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Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 WB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4818	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1908
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.80
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	66.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	28.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Project Description	SR-60 EB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4697	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.91	Flow Rate (V_p), pc/h/ln	1901
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.79
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	66.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	28.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Project Information

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Agency	Kittelson	Analysis Year	Year 2040 Background
Jurisdiction		Time Analyzed	PM
Project Description	SR-60 EB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4791	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1838
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.77
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	67.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	27.3
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

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Agency	Kittelson	Analysis Year	Year 2040 Background
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 EB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4860	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1865
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.78
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	66.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	27.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Agency	Kittelson	Analysis Year	Year 2040 Background
Jurisdiction		Time Analyzed	AM
Project Description	SR-60 WB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3485	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1337
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	74.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.1
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2040 Background
Jurisdiction		Time Analyzed	PM
Project Description	SR-60 WB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4462	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1677
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	70.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	23.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2040 Background
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 WB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4759	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	1.00	Flow Rate (V_p), pc/h/ln	1753
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.73
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.4
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2040Background
Jurisdiction		Time Analyzed	AM
Project Description	1. I-215 NB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2687	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.91	Flow Rate (V_p), pc/h/ln	1127
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.0
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2040 Background
Jurisdiction		Time Analyzed	PM
Project Description	1. I-215 NB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3496	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1435
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	73.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.6
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2040 Background
Jurisdiction		Time Analyzed	Sat Mid
Project Description	1. I-215 NB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3853	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1532
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.64
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2040 Background
Jurisdiction		Time Analyzed	AM
Project Description	1. I-215 SB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5639	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1389
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	73.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
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Jurisdiction		Time Analyzed	PM
Project Description	1. I-215 SB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4095	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	998
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2040 Background
Jurisdiction		Time Analyzed	Sat
Project Description	1. I-215 SB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4674	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1104
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.7
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2040 Background
Jurisdiction		Time Analyzed	AM
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3226	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1324
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.55
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	74.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2040 Background
Jurisdiction		Time Analyzed	PM
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3812	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1532
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.64
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2040Background
Jurisdiction		Time Analyzed	Sat Mid
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4217	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1677
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	70.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	23.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Project Information

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Agency	Kittelson	Analysis Year	Year 2040 Background
Jurisdiction		Time Analyzed	AM
Project Description	I-215 SB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4952	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2055
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.86
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	62.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	32.7
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2040 Background
Jurisdiction		Time Analyzed	PM
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3989	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1603
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2040 Background
Jurisdiction		Time Analyzed	Sat Mid
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4512	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1833
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.76
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	67.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	27.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Appendix Q

Year 2040 Total Traffic Conditions Intersection Operations Worksheets

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	541	91	651	1093	398	739	0	476	498	0	96
Future Volume (veh/h)	151	541	91	651	1093	398	739	0	476	498	0	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1565	1565	1565	1565	1565	1565	1565	0	1565	1565	0	1565
Adj Flow Rate, veh/h	153	546	0	658	1104	0	746	0	481	503	0	0
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	0	3	3	0	3
Cap, veh/h	176	890		720	1279		794	0	0	794	0	
Arrive On Green	0.12	0.30	0.00	0.25	0.43	0.00	0.27	0.00	0.00	0.27	0.00	0.00
Sat Flow, veh/h	1491	2974	1327	2892	2974	1327	2892	746		2892	503	
Grp Volume(v), veh/h	153	546	0	658	1104	0	746	57.3		503	36.6	
Grp Sat Flow(s),veh/h/ln	1491	1487	1327	1446	1487	1327	1446	E		1446	D	
Q Serve(g_s), s	11.1	17.3	0.0	24.3	37.0	0.0	27.7			16.8		
Cycle Q Clear(g_c), s	11.1	17.3	0.0	24.3	37.0	0.0	27.7			16.8		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	176	890		720	1279		794			794		
V/C Ratio(X)	0.87	0.61		0.91	0.86		0.94			0.63		
Avail Cap(c_a), veh/h	183	890		797	1279		815			815		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.47	0.47	0.00	1.00			1.00		
Uniform Delay (d), s/veh	47.7	33.1	0.0	40.2	28.4	0.0	39.0			35.0		
Incr Delay (d2), s/veh	32.5	3.1	0.0	7.6	3.9	0.0	18.3			1.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	5.7	6.5	0.0	9.2	13.3	0.0	11.7			6.0		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.2	36.2	0.0	47.8	32.3	0.0	57.3			36.6		
LnGrp LOS	F	D		D	C		E			D		
Approach Vol, veh/h		699	A		1762	A						
Approach Delay, s/veh		45.8			38.1							
Approach LOS		D			D							
Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	33.9	40.9	35.2		19.5	55.3	35.2					
Change Period (Y+Rc), s	6.5	8.0	5.0		6.5	8.0	5.0					
Max Green Setting (Gmax), s	30.3	29.2	31.0		13.5	46.0	31.0					
Max Q Clear Time (g_c+I1), s	26.3	19.3	29.7		13.1	39.0	18.8					
Green Ext Time (p_c), s	1.0	2.5	0.5		0.0	4.0	1.5					
Intersection Summary												
HCM 6th Ctrl Delay			43.2									
HCM 6th LOS			D									
Notes												

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	665	694	163	110	1116	136	409	298	98	48	66	413
Future Volume (veh/h)	665	694	163	110	1116	136	409	298	98	48	66	413
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	700	731	172	116	1175	143	431	314	103	51	69	435
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	641	1919	596	141	1277	397	395	960	309	66	341	508
Arrive On Green	0.18	0.36	0.36	0.08	0.25	0.25	0.22	0.37	0.37	0.04	0.18	0.18
Sat Flow, veh/h	3645	5386	1672	1767	5066	1572	1767	2622	845	1767	1856	2768
Grp Volume(v), veh/h	700	731	172	116	1175	143	431	209	208	51	69	435
Grp Sat Flow(s),veh/h/ln	1823	1795	1672	1767	1689	1572	1767	1763	1704	1767	1856	1384
Q Serve(g_s), s	22.0	12.7	9.2	8.1	28.3	9.4	28.0	10.7	11.0	3.6	3.9	19.1
Cycle Q Clear(g_c), s	22.0	12.7	9.2	8.1	28.3	9.4	28.0	10.7	11.0	3.6	3.9	19.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	641	1919	596	141	1277	397	395	646	624	66	341	508
V/C Ratio(X)	1.09	0.38	0.29	0.82	0.92	0.36	1.09	0.32	0.33	0.78	0.20	0.86
Avail Cap(c_a), veh/h	641	1919	596	236	1295	402	395	758	732	136	549	818
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.6	30.0	28.9	56.7	45.6	38.5	48.6	28.5	28.6	59.7	43.3	49.5
Incr Delay (d2), s/veh	63.3	0.1	0.3	4.5	10.7	0.6	71.7	0.3	0.3	7.2	0.3	5.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.6	5.5	3.6	3.8	13.0	3.6	19.7	4.4	4.4	1.7	1.8	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	114.9	30.1	29.2	61.2	56.2	39.0	120.2	28.8	28.9	66.9	43.6	54.6
LnGrp LOS	F	C	C	E	E	D	F	C	C	E	D	D
Approach Vol, veh/h		1603			1434			848			555	
Approach Delay, s/veh		67.0			54.9			75.3			54.4	
Approach LOS		E			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	50.0	32.0	29.2	27.0	37.0	9.1	52.0
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	16.7	38.3	28.0	* 37	22.0	32.0	9.6	53.8
Max Q Clear Time (g_c+I1), s	10.1	14.7	30.0	21.1	24.0	30.3	5.6	13.0
Green Ext Time (p_c), s	0.1	6.0	0.0	1.9	0.0	1.3	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	63.1
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	857	473	895	416	88	1027
Future Volume (veh/h)	857	473	895	416	88	1027
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	874	483	913	424	90	1048
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1074	602	1676	1211	115	2099
Arrive On Green	0.29	0.29	0.32	0.32	0.07	0.60
Sat Flow, veh/h	3645	1672	3618	1572	1767	3618
Grp Volume(v), veh/h	874	483	913	424	90	1048
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1572	1767	1763
Q Serve(g_s), s	22.2	26.0	21.4	9.8	5.0	17.1
Cycle Q Clear(g_c), s	22.2	26.0	21.4	9.8	5.0	17.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	1074	602	1676	1211	115	2099
V/C Ratio(X)	0.81	0.80	0.54	0.35	0.78	0.50
Avail Cap(c_a), veh/h	1112	619	1676	1211	239	2099
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	28.8	25.2	4.9	46.0	11.6
Incr Delay (d2), s/veh	4.6	7.4	1.3	0.8	10.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	11.3	9.5	8.9	2.5	6.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.3	36.2	26.4	5.7	56.9	12.5
LnGrp LOS	D	D	C	A	E	B
Approach Vol, veh/h	1357		1337			1138
Approach Delay, s/veh	36.9		19.9			16.0
Approach LOS	D		B			B

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.0	53.0				65.0		35.0
Change Period (Y+Rc), s	5.5	5.5				5.5		5.5
Max Green Setting (Gmax), s	13.5	39.5				58.5		30.5
Max Q Clear Time (g_c+I1), s	7.0	23.4				19.1		28.0
Green Ext Time (p_c), s	0.1	7.0				8.8		1.4

Intersection Summary		
HCM 6th Ctrl Delay		24.8
HCM 6th LOS		C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	541	79	1234	620	90	1815
Future Volume (veh/h)	541	79	1234	620	90	1815
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	564	82	1285	646	94	1891
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	674	423	2106	1230	120	3622
Arrive On Green	0.18	0.18	0.60	0.60	0.05	0.48
Sat Flow, veh/h	3645	1672	3618	1572	1767	5233
Grp Volume(v), veh/h	564	82	1285	646	94	1891
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1572	1767	1689
Q Serve(g_s), s	14.9	3.9	23.1	15.2	5.3	25.9
Cycle Q Clear(g_c), s	14.9	3.9	23.1	15.2	5.3	25.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	674	423	2106	1230	120	3622
V/C Ratio(X)	0.84	0.19	0.61	0.53	0.78	0.52
Avail Cap(c_a), veh/h	889	521	2106	1230	194	3622
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67
Upstream Filter(I)	1.00	1.00	0.62	0.62	1.00	1.00
Uniform Delay (d), s/veh	39.3	29.4	12.8	4.0	47.0	14.2
Incr Delay (d2), s/veh	5.4	0.2	0.8	1.0	10.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	4.0	8.2	8.9	2.6	10.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.7	29.6	13.6	5.0	57.6	14.7
LnGrp LOS	D	C	B	A	E	B
Approach Vol, veh/h	646		1931			1985
Approach Delay, s/veh	42.8		10.7			16.7
Approach LOS	D		B			B
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.8	64.7		23.5		76.5
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	11.0	49.6		24.4		65.6
Max Q Clear Time (g_c+I1), s	17.3	25.1		16.9		27.9
Green Ext Time (p_c), s	0.1	13.4		1.6		19.8

Intersection Summary			
HCM 6th Ctrl Delay			17.9
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	249	34	49	34	55	114	85	1554	64	169	1816	380
Future Volume (veh/h)	249	34	49	34	55	114	85	1554	64	169	1816	380
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	262	36	52	36	58	120	89	1636	67	178	1912	400
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	332	353	297	59	217	182	113	2336	96	211	2652	1448
Arrive On Green	0.10	0.19	0.19	0.03	0.11	0.11	0.06	0.47	0.47	0.12	0.52	0.52
Sat Flow, veh/h	3428	1856	1565	1879	1973	1658	1767	4991	204	1767	5066	2766
Grp Volume(v), veh/h	262	36	52	36	58	120	89	1107	596	178	1912	400
Grp Sat Flow(s),veh/h/ln	1714	1856	1565	1879	1973	1658	1767	1689	1819	1767	1689	1383
Q Serve(g_s), s	7.4	1.6	2.8	1.9	2.7	6.9	4.9	25.8	25.8	9.8	28.8	8.0
Cycle Q Clear(g_c), s	7.4	1.6	2.8	1.9	2.7	6.9	4.9	25.8	25.8	9.8	28.8	8.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	332	353	297	59	217	182	113	1581	851	211	2652	1448
V/C Ratio(X)	0.79	0.10	0.17	0.61	0.27	0.66	0.79	0.70	0.70	0.84	0.72	0.28
Avail Cap(c_a), veh/h	465	911	769	162	852	716	169	1899	1023	311	3256	1778
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.0	33.3	33.8	47.6	40.6	42.5	45.9	21.0	21.0	42.9	18.2	13.2
Incr Delay (d2), s/veh	3.9	0.1	0.3	3.6	0.7	4.0	7.2	0.9	1.7	11.2	0.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.7	1.1	0.9	1.3	3.0	2.3	9.6	10.5	4.8	10.2	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.9	33.4	34.1	51.2	41.3	46.5	53.2	21.9	22.7	54.1	18.8	13.3
LnGrp LOS	D	C	C	D	D	D	D	C	C	D	B	B
Approach Vol, veh/h		350			214			1792			2490	
Approach Delay, s/veh		44.3			45.9			23.7			20.4	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.4	52.0	7.2	24.0	10.9	57.5	15.1	16.0				
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1				
Max Green Setting (Gmax), s	17.5	56.0	8.6	48.9	9.5	64.0	13.5	* 43				
Max Q Clear Time (g_c+I1), s	11.8	27.8	3.9	4.8	6.9	30.8	9.4	8.9				
Green Ext Time (p_c), s	0.2	14.0	0.0	0.3	0.0	21.4	0.2	0.7				

Intersection Summary		
HCM 6th Ctrl Delay		24.5
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	32	50	46	100	144	135	1486	50	128	1777	70
Future Volume (veh/h)	53	32	50	46	100	144	135	1486	50	128	1777	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	56	34	53	48	105	152	142	1564	53	135	1871	74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	150	98	152	76	504	224	215	2582	87	207	2618	882
Arrive On Green	0.04	0.15	0.15	0.04	0.13	0.13	0.06	0.51	0.51	0.06	0.52	0.52
Sat Flow, veh/h	3428	652	1016	1879	3749	1665	3428	5031	170	3428	5066	1572
Grp Volume(v), veh/h	56	0	87	48	105	152	142	1050	567	135	1871	74
Grp Sat Flow(s),veh/h/ln	1714	0	1668	1879	1874	1665	1714	1689	1825	1714	1689	1572
Q Serve(g_s), s	1.3	0.0	3.9	2.1	2.1	7.2	3.3	18.1	18.1	3.2	23.4	1.8
Cycle Q Clear(g_c), s	1.3	0.0	3.9	2.1	2.1	7.2	3.3	18.1	18.1	3.2	23.4	1.8
Prop In Lane	1.00		0.61	1.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	150	0	250	76	504	224	215	1733	937	207	2618	882
V/C Ratio(X)	0.37	0.00	0.35	0.63	0.21	0.68	0.66	0.61	0.61	0.65	0.71	0.08
Avail Cap(c_a), veh/h	212	0	860	148	1952	867	324	2245	1213	291	3349	1109
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.4	0.0	31.5	39.0	31.8	34.0	37.8	14.2	14.2	38.0	15.3	8.4
Incr Delay (d2), s/veh	0.6	0.0	0.8	3.2	0.2	3.6	1.3	0.3	0.6	1.3	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.6	1.0	0.9	3.1	1.4	6.0	6.6	1.3	7.8	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.0	0.0	32.3	42.2	32.0	37.6	39.1	14.5	14.8	39.3	15.8	8.4
LnGrp LOS	D	A	C	D	C	D	D	B	B	D	B	A
Approach Vol, veh/h		143			305			1759			2080	
Approach Delay, s/veh		34.9			36.4			16.6			17.1	
Approach LOS		C			D			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	47.8	7.8	17.0	9.7	48.1	9.1	15.7
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	7.0	54.9	6.5	42.6	7.8	54.6	5.1	43.0
Max Q Clear Time (g_c+I1), s	5.2	20.1	4.1	5.9	5.3	25.4	3.3	9.2
Green Ext Time (p_c), s	0.0	14.3	0.0	0.5	0.1	17.3	0.0	1.2

Intersection Summary		
HCM 6th Ctrl Delay		18.9
HCM 6th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	350	283	169	139	915	217	453	1160	61	217	1326	296
Future Volume (veh/h)	350	283	169	139	915	217	453	1160	61	217	1326	296
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	368	298	178	146	963	228	477	1221	64	228	1396	312
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	249	879	406	169	1091	336	312	1263	66	231	1144	731
Arrive On Green	0.14	0.26	0.26	0.10	0.22	0.22	0.18	0.37	0.37	0.13	0.32	0.32
Sat Flow, veh/h	1767	3377	1562	1767	5066	1559	1767	3408	178	1767	3526	1572
Grp Volume(v), veh/h	368	298	178	146	963	228	477	631	654	228	1396	312
Grp Sat Flow(s),veh/h/ln	1767	1689	1562	1767	1689	1559	1767	1763	1823	1767	1763	1572
Q Serve(g_s), s	19.5	9.9	13.2	11.3	25.5	18.6	24.5	48.7	48.8	17.9	45.0	18.4
Cycle Q Clear(g_c), s	19.5	9.9	13.2	11.3	25.5	18.6	24.5	48.7	48.8	17.9	45.0	18.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	249	879	406	169	1091	336	312	653	676	231	1144	731
V/C Ratio(X)	1.48	0.34	0.44	0.86	0.88	0.68	1.53	0.97	0.97	0.99	1.22	0.43
Avail Cap(c_a), veh/h	249	879	406	199	1132	349	312	653	676	231	1144	731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.6	41.6	42.8	61.8	52.7	50.0	57.1	42.8	42.8	60.2	46.8	24.7
Incr Delay (d2), s/veh	236.8	0.2	0.7	24.4	8.2	5.0	253.1	26.8	26.7	55.7	107.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.0	4.2	5.2	6.2	11.6	7.7	32.8	25.6	26.5	11.5	36.2	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	296.3	41.8	43.6	86.2	60.9	55.0	310.2	69.6	69.5	115.9	154.0	25.1
LnGrp LOS	F	D	D	F	E	E	F	E	E	F	F	C
Approach Vol, veh/h		844			1337			1762			1936	
Approach Delay, s/veh		153.2			62.7			134.7			128.7	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.6	56.8	17.8	41.5	29.0	50.4	24.0	35.3
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	18.1	51.4	15.6	34.9	24.5	45.0	19.5	31.0
Max Q Clear Time (g_c+I1), s	19.9	50.8	13.3	15.2	26.5	47.0	21.5	27.5
Green Ext Time (p_c), s	0.0	0.5	0.0	2.9	0.0	0.0	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	119.0
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	39	89	189	16	13	82
Future Vol, veh/h	39	89	189	16	13	82
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	41	94	199	17	14	86
Number of Lanes	2	1	1	2	2	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	3	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	3
HCM Control Delay	7.4	9.1	8
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	SBLn1	SBLn2
Vol Left, %	100%	95%	0%	100%	23%	0%	0%	0%
Vol Thru, %	0%	5%	100%	0%	0%	0%	100%	5%
Vol Right, %	0%	0%	0%	0%	77%	100%	0%	95%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	95	100	11	26	58	45	9	86
LT Vol	95	95	0	26	13	0	0	0
Through Vol	0	5	11	0	0	0	9	4
RT Vol	0	0	0	0	45	45	0	82
Lane Flow Rate	99	105	11	27	61	47	9	91
Geometry Grp	8	8	8	7	7	7	8	8
Degree of Util (X)	0.154	0.161	0.01	0.044	0.082	0.037	0.013	0.118
Departure Headway (Hd)	5.556	5.53	3.328	5.818	4.889	2.865	5.327	4.66
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	646	649	1082	617	734	1247	672	770
Service Time	3.285	3.258	1.028	3.541	2.612	0.588	3.055	2.388
HCM Lane V/C Ratio	0.153	0.162	0.01	0.044	0.083	0.038	0.013	0.118
HCM Control Delay	9.3	9.3	6.1	8.8	8.1	5.7	8.1	8
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.5	0.6	0	0.1	0.3	0.1	0	0.4

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	60	53	61	111	112	63
Future Vol, veh/h	60	53	61	111	112	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	63	56	64	117	118	66
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	8.2	7.8	7.8
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	100%	0%	0%	0%	100%	14%	0%
Vol Thru, %	0%	0%	0%	100%	27%	0%	86%	100%
Vol Right, %	0%	0%	100%	0%	73%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	56	56	63	40	73	55	43	74
LT Vol	56	56	0	0	0	55	6	0
Through Vol	0	0	0	40	20	0	37	74
RT Vol	0	0	63	0	53	0	0	0
Lane Flow Rate	59	59	66	42	77	58	45	78
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.094	0.094	0.051	0.062	0.103	0.092	0.067	0.075
Departure Headway (Hd)	5.712	5.712	2.76	5.336	4.826	5.748	5.317	3.489
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	628	628	1291	670	741	624	673	1024
Service Time	3.443	3.443	0.491	3.076	2.566	3.482	3.051	1.222
HCM Lane V/C Ratio	0.094	0.094	0.051	0.063	0.104	0.093	0.067	0.076
HCM Control Delay	9	9	5.6	8.4	8.1	9.1	8.4	6.5
HCM Lane LOS	A	A	A	A	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	352	176	36	491	43	440	278	33	31	133	25
Future Volume (veh/h)	33	352	176	36	491	43	440	278	33	31	133	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	35	371	185	38	517	45	463	293	35	33	140	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	52	1242	385	55	871	388	520	1180	140	51	321	58
Arrive On Green	0.03	0.25	0.25	0.03	0.25	0.25	0.29	0.37	0.37	0.03	0.11	0.11
Sat Flow, veh/h	1767	5066	1571	1767	3526	1571	1767	3174	376	1810	3049	554
Grp Volume(v), veh/h	35	371	185	38	517	45	463	162	166	33	82	84
Grp Sat Flow(s),veh/h/ln	1767	1689	1571	1767	1763	1571	1767	1763	1788	1810	1805	1798
Q Serve(g_s), s	1.2	3.6	6.1	1.3	7.8	1.3	15.2	3.8	3.9	1.1	2.6	2.7
Cycle Q Clear(g_c), s	1.2	3.6	6.1	1.3	7.8	1.3	15.2	3.8	3.9	1.1	2.6	2.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		0.31
Lane Grp Cap(c), veh/h	52	1242	385	55	871	388	520	655	664	51	190	189
V/C Ratio(X)	0.67	0.30	0.48	0.69	0.59	0.12	0.89	0.25	0.25	0.65	0.43	0.45
Avail Cap(c_a), veh/h	292	2947	914	292	2051	914	1869	2529	2564	239	919	915
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	18.6	19.5	29.0	20.1	17.7	20.4	13.2	13.2	29.1	25.4	25.4
Incr Delay (d2), s/veh	5.5	0.2	1.3	5.6	0.9	0.2	2.2	0.3	0.3	5.1	2.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.3	2.1	0.6	2.9	0.5	5.6	1.3	1.4	0.5	1.2	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	18.8	20.9	34.6	21.0	17.9	22.6	13.4	13.5	34.2	27.5	27.7
LnGrp LOS	C	B	C	C	C	B	C	B	B	C	C	C
Approach Vol, veh/h		591			600			791			199	
Approach Delay, s/veh		20.4			21.7			18.8			28.7	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.7	28.3	5.9	20.6	21.8	12.2	5.8	20.7
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	8.0	86.8	10.0	35.2	64.0	30.8	10.0	35.2
Max Q Clear Time (g_c+I1), s	3.1	5.9	3.3	8.1	17.2	4.7	3.2	9.8
Green Ext Time (p_c), s	0.0	2.9	0.0	4.6	0.7	1.3	0.0	5.0

Intersection Summary	
HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	51	15	154	123	107	39	38	249	66	26	2
Future Volume (veh/h)	2	51	15	154	123	107	39	38	249	66	26	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	2	54	16	162	129	113	41	40	262	69	27	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	5	171	51	430	230	202	81	420	553	184	378	28
Arrive On Green	0.00	0.12	0.12	0.13	0.25	0.25	0.05	0.23	0.23	0.05	0.22	0.22
Sat Flow, veh/h	1767	1375	407	3428	912	799	1767	1856	1572	3428	1706	126
Grp Volume(v), veh/h	2	0	70	162	0	242	41	40	262	69	0	29
Grp Sat Flow(s),veh/h/ln	1767	0	1782	1714	0	1711	1767	1856	1572	1714	0	1833
Q Serve(g_s), s	0.0	0.0	1.4	1.7	0.0	4.9	0.9	0.7	5.1	0.8	0.0	0.5
Cycle Q Clear(g_c), s	0.0	0.0	1.4	1.7	0.0	4.9	0.9	0.7	5.1	0.8	0.0	0.5
Prop In Lane	1.00		0.23	1.00		0.47	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	5	0	222	430	0	432	81	420	553	184	0	406
V/C Ratio(X)	0.41	0.00	0.31	0.38	0.00	0.56	0.51	0.10	0.47	0.37	0.00	0.07
Avail Cap(c_a), veh/h	247	0	837	2028	0	1576	381	1729	1662	609	0	1614
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.6	0.0	15.7	15.8	0.0	12.8	18.4	12.0	9.9	18.0	0.0	12.1
Incr Delay (d2), s/veh	47.6	0.0	0.8	0.8	0.0	1.6	4.8	0.1	0.9	0.5	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.5	0.6	0.0	1.7	0.4	0.2	1.5	0.3	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.2	0.0	16.5	16.6	0.0	14.4	23.2	12.2	10.8	18.5	0.0	12.2
LnGrp LOS	E	A	B	B	A	B	C	B	B	B	A	B
Approach Vol, veh/h		72			404			343			98	
Approach Delay, s/veh		17.9			15.3			12.5			16.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.1	14.0	9.6	9.6	6.3	13.8	4.6	14.6
Change Period (Y+Rc), s	4.0	5.1	* 4.7	* 4.7	4.5	5.1	4.5	* 4.7
Max Green Setting (Gmax), s	7.0	36.7	* 23	* 19	8.5	34.7	5.5	* 36
Max Q Clear Time (g_c+I1), s	2.0	7.1	3.7	3.4	2.9	2.5	2.0	6.9
Green Ext Time (p_c), s	0.0	1.8	0.7	0.2	0.0	0.1	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	14.6
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	96	21	108	126	33	25	53	89	105	101	20
Future Vol, veh/h	6	96	21	108	126	33	25	53	89	105	101	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	6	101	22	114	133	35	26	56	94	111	106	21
Number of Lanes	1	2	0	1	2	0	1	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	3	3
HCM Control Delay	10.1	10.4	9.3	13.7
HCM LOS	B	B	A	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	24%	0%	46%
Vol Thru, %	0%	100%	0%	0%	100%	60%	0%	76%	66%	45%
Vol Right, %	0%	0%	100%	0%	0%	40%	0%	0%	34%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	53	89	6	64	53	89	82	96	226
LT Vol	25	0	0	6	0	0	89	19	0	105
Through Vol	0	53	0	0	64	32	0	63	63	101
RT Vol	0	0	89	0	0	21	0	0	33	20
Lane Flow Rate	26	56	94	6	67	56	93	87	101	238
Geometry Grp	7	7	7	8	8	8	8	8	8	8
Degree of Util (X)	0.048	0.094	0.14	0.013	0.124	0.098	0.175	0.154	0.169	0.421
Departure Headway (Hd)	6.599	6.097	5.393	7.131	6.624	6.343	6.773	6.387	6.024	6.369
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	542	587	663	501	540	564	529	561	595	566
Service Time	4.344	3.841	3.137	4.882	4.375	4.093	4.518	4.131	3.768	4.111
HCM Lane V/C Ratio	0.048	0.095	0.142	0.012	0.124	0.099	0.176	0.155	0.17	0.42
HCM Control Delay	9.7	9.5	9	10	10.3	9.8	11	10.3	10	13.7
HCM Lane LOS	A	A	A	A	B	A	B	B	A	B
HCM 95th-tile Q	0.2	0.3	0.5	0	0.4	0.3	0.6	0.5	0.6	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	221	4	19	623	75	18	6	36	131	7	120
Future Volume (veh/h)	77	221	4	19	623	75	18	6	36	131	7	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	79	228	4	20	642	77	19	6	37	135	7	124
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	100	1329	593	34	1198	534	24	8	47	230	241	204
Arrive On Green	0.06	0.38	0.38	0.02	0.34	0.34	0.05	0.05	0.05	0.13	0.13	0.13
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	506	160	986	1767	1856	1572
Grp Volume(v), veh/h	79	228	4	20	642	77	62	0	0	135	7	124
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1653	0	0	1767	1856	1572
Q Serve(g_s), s	2.1	2.1	0.1	0.5	7.0	1.6	1.8	0.0	0.0	3.4	0.2	3.6
Cycle Q Clear(g_c), s	2.1	2.1	0.1	0.5	7.0	1.6	1.8	0.0	0.0	3.4	0.2	3.6
Prop In Lane	1.00		1.00	1.00		1.00	0.31		0.60	1.00		1.00
Lane Grp Cap(c), veh/h	100	1329	593	34	1198	534	79	0	0	230	241	204
V/C Ratio(X)	0.79	0.17	0.01	0.58	0.54	0.14	0.78	0.00	0.00	0.59	0.03	0.61
Avail Cap(c_a), veh/h	630	4154	1853	259	3415	1523	1324	0	0	1245	1307	1108
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	9.9	9.3	23.2	12.7	10.9	22.5	0.0	0.0	19.5	18.1	19.6
Incr Delay (d2), s/veh	5.1	0.1	0.0	5.6	0.5	0.2	15.1	0.0	0.0	2.4	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.6	0.0	0.2	2.2	0.5	1.0	0.0	0.0	1.4	0.1	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.3	10.0	9.3	28.8	13.2	11.1	37.5	0.0	0.0	21.9	18.2	22.5
LnGrp LOS	C	A	A	C	B	B	D	A	A	C	B	C
Approach Vol, veh/h		311			739			62			266	
Approach Delay, s/veh		14.4			13.4			37.5			22.1	
Approach LOS		B			B			D			C	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	7.4	4.9	23.8	11.6	6.7	22.0
Change Period (Y+Rc), s	5.1	4.0	5.8	5.4	4.0	5.8
Max Green Setting (Gmax), s	38.2	7.0	56.2	33.6	17.0	46.2
Max Q Clear Time (g_c+I1), s	3.8	2.5	4.1	5.6	4.1	9.0
Green Ext Time (p_c), s	0.3	0.0	2.2	0.8	0.1	7.2

Intersection Summary	
HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	15	63	548	41	242	67	907	200	101	1041	7
Future Volume (veh/h)	8	15	63	548	41	242	67	907	200	101	1041	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	8	16	66	577	43	255	71	955	211	106	1096	7
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	13	21	86	636	57	336	90	1899	847	128	2910	19
Arrive On Green	0.01	0.07	0.07	0.19	0.24	0.24	0.02	0.18	0.18	0.07	0.56	0.56
Sat Flow, veh/h	1767	316	1304	3428	232	1376	1767	3526	1572	1767	5193	33
Grp Volume(v), veh/h	8	0	82	577	0	298	71	955	211	106	713	390
Grp Sat Flow(s),veh/h/ln	1767	0	1621	1714	0	1608	1767	1763	1572	1767	1689	1850
Q Serve(g_s), s	0.6	0.0	7.0	23.1	0.0	24.1	5.6	34.2	16.2	8.3	16.5	16.5
Cycle Q Clear(g_c), s	0.6	0.0	7.0	23.1	0.0	24.1	5.6	34.2	16.2	8.3	16.5	16.5
Prop In Lane	1.00		0.80	1.00		0.86	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	13	0	107	636	0	392	90	1899	847	128	1892	1036
V/C Ratio(X)	0.59	0.00	0.77	0.91	0.00	0.76	0.79	0.50	0.25	0.83	0.38	0.38
Avail Cap(c_a), veh/h	69	0	212	833	0	529	157	1899	847	202	1892	1036
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.92	0.00	0.92	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	69.2	0.0	64.3	55.9	0.0	49.1	68.1	40.6	33.2	64.0	17.2	17.2
Incr Delay (d2), s/veh	14.4	0.0	14.8	9.2	0.0	5.0	5.6	1.0	0.7	7.6	0.6	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	3.3	10.7	0.0	10.2	2.7	16.4	7.0	4.0	6.4	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.7	0.0	79.1	65.0	0.0	54.2	73.7	41.6	33.9	71.7	17.7	18.2
LnGrp LOS	F	A	E	E	A	D	E	D	C	E	B	B
Approach Vol, veh/h		90			875			1237			1209	
Approach Delay, s/veh		79.5			61.3			42.1			22.6	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	81.2	30.0	14.7	11.1	84.2	5.1	39.5
Change Period (Y+Rc), s	4.0	5.8	4.0	* 5.4	4.0	5.8	4.0	5.4
Max Green Setting (Gmax), s	16.0	53.2	34.0	* 18	12.4	56.8	5.5	46.1
Max Q Clear Time (g_c+I1), s	10.3	36.2	25.1	9.0	7.6	18.5	2.6	26.1
Green Ext Time (p_c), s	0.1	8.8	0.9	0.3	0.0	12.5	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	41.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	1646	274	212	1159
Future Volume (veh/h)	0	0	1646	274	212	1159
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				1.00	1.00	
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No			No
Adj Sat Flow, veh/h/ln			1856	1856	1856	1856
Adj Flow Rate, veh/h			1733	288	223	1220
Peak Hour Factor			0.95	0.95	0.95	0.95
Percent Heavy Veh, %			3	3	3	3
Cap, veh/h			2787	1243	244	3387
Arrive On Green			1.00	1.00	0.28	1.00
Sat Flow, veh/h			3618	1572	1767	3618
Grp Volume(v), veh/h			1733	288	223	1220
Grp Sat Flow(s),veh/h/ln			1763	1572	1767	1763
Q Serve(g_s), s			0.0	0.0	17.1	0.0
Cycle Q Clear(g_c), s			0.0	0.0	17.1	0.0
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			2787	1243	244	3387
V/C Ratio(X)			0.62	0.23	0.91	0.36
Avail Cap(c_a), veh/h			2787	1243	410	3387
HCM Platoon Ratio			1.33	1.33	2.00	2.00
Upstream Filter(I)			0.58	0.58	1.00	1.00
Uniform Delay (d), s/veh			0.0	0.0	49.8	0.0
Incr Delay (d2), s/veh			0.6	0.3	9.9	0.3
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.2	0.1	7.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			0.6	0.3	59.8	0.3
LnGrp LOS			A	A	E	A
Approach Vol, veh/h			2021			1443
Approach Delay, s/veh			0.6			9.5
Approach LOS			A			A
Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	23.8	116.2				140.0
Change Period (Y+Rc), s	4.5	5.5				5.5
Max Green Setting (Gmax), s	32.5	97.5				134.5
Max Q Clear Time (g_c+I1), s	19.1	2.0				2.0
Green Ext Time (p_c), s	0.2	14.1				6.8
Intersection Summary						
HCM 6th Ctrl Delay			4.3			
HCM 6th LOS			A			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	307	241	335	488	0	542	0	999	391	176	1074	0
Future Volume (veh/h)	307	241	335	488	0	542	0	999	391	176	1074	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	323	254	353	514	0	571	0	1052	412	185	1131	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	878	475	399	0	0	0	0	2646	821	196	2345	0
Arrive On Green	0.26	0.26	0.26	0.00	0.00	0.00	0.00	0.52	0.52	0.22	1.00	0.00
Sat Flow, veh/h	3428	1856	1558		0		0	5233	1572	1767	3618	0
Grp Volume(v), veh/h	323	254	353		0.0		0	1052	412	185	1131	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1558				0	1689	1572	1767	1763	0
Q Serve(g_s), s	10.8	16.5	30.5				0.0	17.5	23.7	14.4	0.0	0.0
Cycle Q Clear(g_c), s	10.8	16.5	30.5				0.0	17.5	23.7	14.4	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	878	475	399				0	2646	821	196	2345	0
V/C Ratio(X)	0.37	0.53	0.88				0.00	0.40	0.50	0.95	0.48	0.00
Avail Cap(c_a), veh/h	1077	583	490				0	2646	821	196	2345	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.92	0.92	0.95	0.95	0.00
Uniform Delay (d), s/veh	42.8	44.9	50.1				0.0	20.2	21.6	54.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.3	13.4				0.0	0.4	2.0	46.9	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	7.7	13.4				0.0	6.8	9.0	8.1	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.8	45.2	63.4				0.0	20.6	23.7	101.0	0.7	0.0
LnGrp LOS	D	D	E				A	C	C	F	A	A
Approach Vol, veh/h		930						1464			1316	
Approach Delay, s/veh		51.3						21.4			14.8	
Approach LOS		D						C			B	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	20.0	78.6	41.4	98.6
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	15.5	34.0	44.0	54.0
Max Q Clear Time (g_c+I1), s	16.4	25.7	32.5	2.0
Green Ext Time (p_c), s	0.0	3.7	2.0	10.2

Intersection Summary	
HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	441	77	78	954	1275	434
Future Volume (veh/h)	441	77	78	954	1275	434
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	464	81	82	1004	1342	457
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	656	301	144	3383	2029	1206
Arrive On Green	0.19	0.19	0.04	0.67	0.58	0.58
Sat Flow, veh/h	3428	1572	3428	5233	3618	1572
Grp Volume(v), veh/h	464	81	82	1004	1342	457
Grp Sat Flow(s),veh/h/ln	1714	1572	1714	1689	1763	1572
Q Serve(g_s), s	10.1	3.5	1.9	6.5	20.8	7.6
Cycle Q Clear(g_c), s	10.1	3.5	1.9	6.5	20.8	7.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	656	301	144	3383	2029	1206
V/C Ratio(X)	0.71	0.27	0.57	0.30	0.66	0.38
Avail Cap(c_a), veh/h	1535	704	302	4675	2766	1535
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.1	27.4	37.4	5.5	11.6	3.0
Incr Delay (d2), s/veh	2.0	0.7	1.3	0.1	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.1	0.8	1.7	6.7	4.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.1	28.1	38.7	5.5	12.1	3.3
LnGrp LOS	C	C	D	A	B	A
Approach Vol, veh/h	545			1086	1799	
Approach Delay, s/veh	31.5			8.0	9.9	
Approach LOS	C			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		58.9		20.6	7.3	51.6
Change Period (Y+Rc), s		5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		73.4		35.6	7.0	62.4
Max Q Clear Time (g_c+I1), s		8.5		12.1	3.9	22.8
Green Ext Time (p_c), s		12.9		3.2	0.0	23.0

Intersection Summary			
HCM 6th Ctrl Delay			12.7
HCM 6th LOS			B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	328	176	340	667	817	296
Future Volume (veh/h)	328	176	340	667	817	296
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	345	185	358	702	860	312
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	612	281	407	2318	1307	859
Arrive On Green	0.18	0.18	0.23	0.66	0.37	0.37
Sat Flow, veh/h	3428	1572	1767	3618	3618	1560
Grp Volume(v), veh/h	345	185	358	702	860	312
Grp Sat Flow(s),veh/h/ln	1714	1572	1767	1763	1763	1560
Q Serve(g_s), s	6.5	7.7	13.8	6.0	14.4	8.0
Cycle Q Clear(g_c), s	6.5	7.7	13.8	6.0	14.4	8.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	612	281	407	2318	1307	859
V/C Ratio(X)	0.56	0.66	0.88	0.30	0.66	0.36
Avail Cap(c_a), veh/h	1551	711	874	3838	1894	1119
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	27.1	26.3	5.2	18.5	9.0
Incr Delay (d2), s/veh	1.2	3.7	2.5	0.1	0.8	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.3	5.6	1.5	5.3	3.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.7	30.8	28.8	5.3	19.3	9.4
LnGrp LOS	C	C	C	A	B	A
Approach Vol, veh/h	530			1060	1172	
Approach Delay, s/veh	28.8			13.2	16.7	
Approach LOS	C			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		52.3		18.4	20.3	32.0
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		77.0		32.0	35.0	38.0
Max Q Clear Time (g_c+I1), s		8.0		9.7	15.8	16.4
Green Ext Time (p_c), s		8.0		2.9	0.5	9.9

Intersection Summary			
HCM 6th Ctrl Delay			17.7
HCM 6th LOS			B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	246	69	94	670	236	122	623	111	166	616	133
Future Volume (veh/h)	171	246	69	94	670	236	122	623	111	166	616	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	178	256	72	98	698	246	127	649	116	173	642	139
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	209	1063	293	123	871	307	155	864	383	204	960	426
Arrive On Green	0.12	0.39	0.39	0.07	0.34	0.34	0.09	0.25	0.25	0.12	0.27	0.27
Sat Flow, veh/h	1767	2728	751	1767	2552	899	1767	3526	1563	1767	3526	1564
Grp Volume(v), veh/h	178	163	165	98	482	462	127	649	116	173	642	139
Grp Sat Flow(s),veh/h/ln	1767	1763	1716	1767	1763	1688	1767	1763	1563	1767	1763	1564
Q Serve(g_s), s	10.7	6.8	7.0	5.9	27.0	27.0	7.7	18.5	6.6	10.4	17.6	7.7
Cycle Q Clear(g_c), s	10.7	6.8	7.0	5.9	27.0	27.0	7.7	18.5	6.6	10.4	17.6	7.7
Prop In Lane	1.00		0.44	1.00		0.53	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	209	687	669	123	602	576	155	864	383	204	960	426
V/C Ratio(X)	0.85	0.24	0.25	0.79	0.80	0.80	0.82	0.75	0.30	0.85	0.67	0.33
Avail Cap(c_a), veh/h	374	903	879	268	797	764	305	1290	572	374	1426	633
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	22.3	22.4	49.8	32.5	32.5	48.7	38.0	33.5	47.2	35.2	31.6
Incr Delay (d2), s/veh	3.8	0.3	0.3	4.3	5.2	5.4	4.0	1.9	0.6	3.8	1.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	2.8	2.8	2.7	11.9	11.4	3.5	8.0	2.5	4.7	7.5	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	22.6	22.7	54.2	37.6	37.8	52.7	39.9	34.1	51.0	36.4	32.2
LnGrp LOS	D	C	C	D	D	D	D	D	C	D	D	C
Approach Vol, veh/h		506			1042			892			954	
Approach Delay, s/veh		32.5			39.3			41.0			38.4	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	32.4	11.6	48.2	13.6	35.4	16.8	42.9
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	23.0	39.8	16.5	55.7	18.8	44.0	23.0	49.2
Max Q Clear Time (g_c+I1), s	12.4	20.5	7.9	9.0	9.7	19.6	12.7	29.0
Green Ext Time (p_c), s	0.2	6.1	0.1	2.9	0.1	6.8	0.2	8.2

Intersection Summary	
HCM 6th Ctrl Delay	38.5
HCM 6th LOS	D

HCM Signalized Intersection Capacity Analysis
119: SR 60 WB Off Ramp/Shopping Access & Hemlock Ave

03/27/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	301	0	0	495	266	335	3	23	0	0	7
Future Volume (vph)	12	301	0	0	495	266	335	3	23	0	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Lane Util. Factor		0.95			0.95		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			0.99		1.00	1.00	1.00			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			0.95		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.95	1.00			1.00
Satd. Flow (prot)		3498			3294		1665	1670	1568			1596
Flt Permitted		0.92			1.00		0.95	0.95	1.00			1.00
Satd. Flow (perm)		3235			3294		1665	1670	1568			1596
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	13	317	0	0	521	280	353	3	24	0	0	7
RTOR Reduction (vph)	0	0	0	0	58	0	0	0	20	0	0	7
Lane Group Flow (vph)	0	330	0	0	743	0	176	180	4	0	0	0
Confl. Peds. (#/hr)	2		4	4		2						
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA			NA		Split	NA	Perm			Prot
Protected Phases		6			2		4	4				3
Permitted Phases	6								4			
Actuated Green, G (s)		42.9			42.9		12.1	12.1	12.1			1.0
Effective Green, g (s)		42.9			42.9		12.1	12.1	12.1			1.0
Actuated g/C Ratio		0.61			0.61		0.17	0.17	0.17			0.01
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		1982			2018		287	288	271			22
v/s Ratio Prot					c0.23		0.11	c0.11				c0.00
v/s Ratio Perm		0.10							0.00			
v/c Ratio		0.17			0.37		0.61	0.62	0.02			0.00
Uniform Delay, d1		5.8			6.8		26.8	26.8	24.0			34.0
Progression Factor		1.39			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.2			0.5		2.7	3.0	0.0			0.0
Delay (s)		8.3			7.3		29.5	29.9	24.0			34.0
Level of Service		A			A		C	C	C			C
Approach Delay (s)		8.3			7.3			29.3			34.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	47.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	3.6					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	46	9	11	63	32	37
Future Vol, veh/h	46	9	11	63	32	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	48	9	12	66	34	39

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	57	0	110	29
Stage 1	-	-	-	-	53	-
Stage 2	-	-	-	-	57	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1538	-	872	1036
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	956	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1538	-	865	1036
Mov Cap-2 Maneuver	-	-	-	-	865	-
Stage 1	-	-	-	-	960	-
Stage 2	-	-	-	-	948	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	949	-	-	1538	-
HCM Lane V/C Ratio	0.077	-	-	0.008	-
HCM Control Delay (s)	9.1	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	74	6	9	102	7	5
Future Vol, veh/h	74	6	9	102	7	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	78	6	9	107	7	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	84	0	153	42
Stage 1	-	-	-	-	81	-
Stage 2	-	-	-	-	72	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1503	-	821	1016
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	939	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1503	-	816	1016
Mov Cap-2 Maneuver	-	-	-	-	816	-
Stage 1	-	-	-	-	930	-
Stage 2	-	-	-	-	933	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	889	-	-	1503	-
HCM Lane V/C Ratio	0.014	-	-	0.006	-
HCM Control Delay (s)	9.1	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	16	32	111	76	2
Future Vol, veh/h	0	16	32	111	76	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	0	17	34	117	80	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	208	41	82	0	-	0
Stage 1	81	-	-	-	-	-
Stage 2	127	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	758	1018	1506	-	-	-
Stage 1	930	-	-	-	-	-
Stage 2	882	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	740	1018	1506	-	-	-
Mov Cap-2 Maneuver	740	-	-	-	-	-
Stage 1	908	-	-	-	-	-
Stage 2	882	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	1.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1506	-	1018	-	-
HCM Lane V/C Ratio	0.022	-	0.017	-	-
HCM Control Delay (s)	7.4	0.1	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection						
Int Delay, s/veh	3.2					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	81	80	25	257	181	26
Future Vol, veh/h	81	80	25	257	181	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	85	84	26	271	191	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	393	109	218	0	-	0
Stage 1	205	-	-	-	-	-
Stage 2	188	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	581	921	1341	-	-	-
Stage 1	806	-	-	-	-	-
Stage 2	822	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	570	921	1341	-	-	-
Mov Cap-2 Maneuver	570	-	-	-	-	-
Stage 1	791	-	-	-	-	-
Stage 2	822	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.7	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1341	-	703	-	-
HCM Lane V/C Ratio	0.02	-	0.241	-	-
HCM Control Delay (s)	7.7	-	11.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.9	-	-

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	105	158	14	26	9
Future Vol, veh/h	5	105	158	14	26	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	5	111	166	15	27	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	181	0	-	0	240	91
Stage 1	-	-	-	-	174	-
Stage 2	-	-	-	-	66	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	1384	-	-	-	724	945
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	946	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1384	-	-	-	721	945
Mov Cap-2 Maneuver	-	-	-	-	726	-
Stage 1	-	-	-	-	833	-
Stage 2	-	-	-	-	946	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1384	-	-	-	726	945
HCM Lane V/C Ratio	0.004	-	-	-	0.038	0.01
HCM Control Delay (s)	7.6	-	-	-	10.2	8.8
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	812	250	814	809	526	286	0	818	849	0	300
Future Volume (veh/h)	250	812	250	814	809	526	286	0	818	849	0	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1565	1565	1565	1565	1565	1565	1565	0	1565	1565	0	1565
Adj Flow Rate, veh/h	263	855	0	857	852	0	301	0	861	894	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	0	3	3	0	3
Cap, veh/h	275	792		794	1060		815	0	0	815	0	
Arrive On Green	0.18	0.27	0.00	0.27	0.36	0.00	0.28	0.00	0.00	0.28	0.00	0.00
Sat Flow, veh/h	1491	2974	1327	2892	2974	1327	2892	301		2892	894	
Grp Volume(v), veh/h	263	855	0	857	852	0	301	31.9		894	100.8	
Grp Sat Flow(s),veh/h/ln	1491	1487	1327	1446	1487	1327	1446	C		1446	F	
Q Serve(g_s), s	19.2	29.3	0.0	30.2	28.4	0.0	9.2			31.0		
Cycle Q Clear(g_c), s	19.2	29.3	0.0	30.2	28.4	0.0	9.2			31.0		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	275	792		794	1060		815			815		
V/C Ratio(X)	0.96	1.08		1.08	0.80		0.37			1.10		
Avail Cap(c_a), veh/h	275	792		794	1060		815			815		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.27	0.27	0.00	1.00			1.00		
Uniform Delay (d), s/veh	44.4	40.3	0.0	39.9	31.9	0.0	31.7			39.5		
Incr Delay (d2), s/veh	42.2	55.5	0.0	42.7	1.8	0.0	0.3			61.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	10.2	16.5	0.0	15.1	10.2	0.0	3.2			17.8		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.6	95.9	0.0	82.6	33.8	0.0	31.9			100.8		
LnGrp LOS	F	F		F	C		C			F		
Approach Vol, veh/h		1118	A		1709	A						
Approach Delay, s/veh		93.7			58.2							
Approach LOS		F			E							

Timer - Assigned Phs	1	2	3		5	6	7
Phs Duration (G+Y+Rc), s	36.7	37.3	36.0		26.8	47.2	36.0
Change Period (Y+Rc), s	6.5	8.0	5.0		6.5	8.0	5.0
Max Green Setting (Gmax), s	30.2	29.3	31.0		20.3	39.2	31.0
Max Q Clear Time (g_c+I1), s	32.2	31.3	11.2		21.2	30.4	33.0
Green Ext Time (p_c), s	0.0	0.0	1.0		0.0	3.7	0.0

Intersection Summary	
HCM 6th Ctrl Delay	75.6
HCM 6th LOS	E

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	614	1519	400	69	623	146	240	369	234	158	350	1258
Future Volume (veh/h)	614	1519	400	69	623	146	240	369	234	158	350	1258
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	646	1599	421	73	656	154	253	388	246	166	368	1324
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	628	1964	607	92	1201	371	251	675	423	191	546	813
Arrive On Green	0.17	0.36	0.36	0.05	0.24	0.24	0.14	0.32	0.32	0.11	0.29	0.29
Sat Flow, veh/h	3645	5386	1665	1767	5066	1567	1767	2080	1301	1767	1856	2762
Grp Volume(v), veh/h	646	1599	421	73	656	154	253	328	306	166	368	1324
Grp Sat Flow(s),veh/h/ln	1823	1795	1665	1767	1689	1567	1767	1763	1618	1767	1856	1381
Q Serve(g_s), s	23.0	35.8	28.7	5.5	15.2	11.1	19.0	20.6	21.0	12.4	23.3	39.3
Cycle Q Clear(g_c), s	23.0	35.8	28.7	5.5	15.2	11.1	19.0	20.6	21.0	12.4	23.3	39.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		1.00
Lane Grp Cap(c), veh/h	628	1964	607	92	1201	371	251	572	526	191	546	813
V/C Ratio(X)	1.03	0.81	0.69	0.79	0.55	0.41	1.01	0.57	0.58	0.87	0.67	1.63
Avail Cap(c_a), veh/h	628	2129	658	118	1430	442	251	572	526	238	546	813
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	38.3	36.1	62.6	44.7	43.1	57.3	37.4	37.5	58.6	41.5	47.1
Incr Delay (d2), s/veh	43.6	2.4	2.9	18.7	0.4	0.7	58.4	1.4	1.6	20.6	3.3	288.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.3	16.1	11.6	2.9	6.4	4.3	12.3	8.8	8.3	6.6	11.1	45.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.9	40.7	38.9	81.2	45.0	43.8	115.7	38.8	39.2	79.3	44.8	335.9
LnGrp LOS	F	D	D	F	D	D	F	D	D	E	D	F
Approach Vol, veh/h		2666			883			887			1858	
Approach Delay, s/veh		54.5			47.8			60.9			255.3	
Approach LOS		D			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	54.1	23.0	45.5	28.0	37.1	18.9	49.6
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	8.3	52.8	19.0	* 39	23.0	37.7	18.0	38.7
Max Q Clear Time (g_c+I1), s	7.5	37.8	21.0	41.3	25.0	17.2	14.4	23.0
Green Ext Time (p_c), s	0.0	10.9	0.0	0.0	0.0	5.1	0.1	3.1

Intersection Summary	
HCM 6th Ctrl Delay	113.8
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	880	267	1641	521	67	1128
Future Volume (veh/h)	880	267	1641	521	67	1128
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	917	278	1709	543	70	1175
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	990	539	1807	1233	90	2180
Arrive On Green	0.27	0.27	0.68	0.68	0.05	0.62
Sat Flow, veh/h	3645	1672	3618	1572	1767	3618
Grp Volume(v), veh/h	917	278	1709	543	70	1175
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1572	1767	1763
Q Serve(g_s), s	24.5	13.5	43.4	9.0	3.9	19.1
Cycle Q Clear(g_c), s	24.5	13.5	43.4	9.0	3.9	19.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	990	539	1807	1233	90	2180
V/C Ratio(X)	0.93	0.52	0.95	0.44	0.78	0.54
Avail Cap(c_a), veh/h	1010	548	1807	1233	94	2180
HCM Platoon Ratio	1.00	1.00	1.33	1.33	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.4	27.5	14.7	2.2	46.9	10.9
Incr Delay (d2), s/veh	13.8	0.8	11.7	1.1	32.6	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.5	5.4	13.5	5.1	2.5	6.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	49.2	28.3	26.4	3.3	79.5	11.9
LnGrp LOS	D	C	C	A	E	B
Approach Vol, veh/h	1195		2252			1245
Approach Delay, s/veh	44.4		20.8			15.7
Approach LOS	D		C			B

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	10.6	56.8	67.3	32.7
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	5.3	50.5	61.3	27.7
Max Q Clear Time (g_c+I1), s	5.9	45.4	21.1	26.5
Green Ext Time (p_c), s	0.0	4.5	10.4	0.7

Intersection Summary	
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	902	430	1796	912	123	2015
Future Volume (veh/h)	902	430	1796	912	123	2015
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	920	439	1833	931	126	2056
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	948	552	1833	1225	124	3242
Arrive On Green	0.26	0.26	0.52	0.52	0.05	0.43
Sat Flow, veh/h	3645	1672	3618	1569	1767	5233
Grp Volume(v), veh/h	920	439	1833	931	126	2056
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1569	1767	1689
Q Serve(g_s), s	25.0	23.9	52.0	32.1	7.0	31.8
Cycle Q Clear(g_c), s	25.0	23.9	52.0	32.1	7.0	31.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	948	552	1833	1225	124	3242
V/C Ratio(X)	0.97	0.80	1.00	0.76	1.02	0.63
Avail Cap(c_a), veh/h	948	552	1833	1225	124	3242
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67
Upstream Filter(I)	1.00	1.00	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	36.6	30.4	24.0	5.9	47.7	19.4
Incr Delay (d2), s/veh	22.3	7.9	6.3	0.4	86.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	13.8	21.6	20.6	22.9	6.0	13.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	58.9	38.4	30.3	6.4	133.6	20.3
LnGrp LOS	E	D	C	A	F	C
Approach Vol, veh/h	1359		2764			2182
Approach Delay, s/veh	52.3		22.2			26.9
Approach LOS	D		C			C

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.0	57.0		31.0		69.0
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	7.0	52.0		26.0		64.0
Max Q Clear Time (g_c+I1), s	9.0	54.0		27.0		33.8
Green Ext Time (p_c), s	0.0	0.0		0.0		19.4

Intersection Summary		
HCM 6th Ctrl Delay		30.3
HCM 6th LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	642	167	257	36	85	268	191	1873	88	213	2013	637
Future Volume (veh/h)	642	167	257	36	85	268	191	1873	88	213	2013	637
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	669	174	268	38	89	279	199	1951	92	222	2097	664
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	554	625	529	53	380	321	166	1899	89	192	2016	1102
Arrive On Green	0.16	0.34	0.34	0.03	0.19	0.19	0.09	0.38	0.38	0.11	0.40	0.40
Sat Flow, veh/h	3428	1856	1570	1879	1973	1667	1767	4957	233	1767	5066	2768
Grp Volume(v), veh/h	669	174	268	38	89	279	199	1328	715	222	2097	664
Grp Sat Flow(s),veh/h/ln	1714	1856	1570	1879	1973	1667	1767	1689	1814	1767	1689	1384
Q Serve(g_s), s	21.5	9.1	18.2	2.7	5.1	21.6	12.5	51.0	51.0	14.5	53.0	25.3
Cycle Q Clear(g_c), s	21.5	9.1	18.2	2.7	5.1	21.6	12.5	51.0	51.0	14.5	53.0	25.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	554	625	529	53	380	321	166	1293	695	192	2016	1102
V/C Ratio(X)	1.21	0.28	0.51	0.71	0.23	0.87	1.20	1.03	1.03	1.15	1.04	0.60
Avail Cap(c_a), veh/h	554	790	668	124	637	538	166	1293	695	192	2016	1102
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	32.3	35.3	64.2	45.4	52.1	60.3	41.1	41.1	59.3	40.1	31.7
Incr Delay (d2), s/veh	110.0	0.2	0.8	6.4	0.3	8.0	133.7	32.0	42.1	112.4	31.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.7	4.1	7.1	1.4	2.5	9.7	11.7	26.2	30.1	12.4	27.0	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	165.8	32.5	36.0	70.6	45.8	60.1	194.0	73.1	83.2	171.7	71.4	32.7
LnGrp LOS	F	C	D	E	D	E	F	F	F	F	F	C
Approach Vol, veh/h		1111			406			2242			2983	
Approach Delay, s/veh		113.6			57.9			87.0			70.3	
Approach LOS		F			E			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	56.4	7.8	50.0	17.0	58.4	27.0	30.8
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	14.5	51.0	8.8	56.7	12.5	53.0	21.5	* 43
Max Q Clear Time (g_c+I1), s	16.5	53.0	4.7	20.2	14.5	55.0	23.5	23.6
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	0.0	0.0	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	82.2
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	180	263	99	302	350	282	1647	134	392	1850	68
Future Volume (veh/h)	224	180	263	99	302	350	282	1647	134	392	1850	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	236	189	277	104	318	368	297	1734	141	413	1947	72
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	234	207	303	129	1116	494	289	1744	141	358	1972	718
Arrive On Green	0.07	0.31	0.31	0.07	0.30	0.30	0.08	0.37	0.37	0.10	0.39	0.39
Sat Flow, veh/h	3428	677	992	1879	3749	1660	3428	4774	387	3428	5066	1569
Grp Volume(v), veh/h	236	0	466	104	318	368	297	1225	650	413	1947	72
Grp Sat Flow(s),veh/h/ln	1714	0	1669	1879	1874	1660	1714	1689	1785	1714	1689	1569
Q Serve(g_s), s	8.5	0.0	33.5	6.8	8.1	24.9	10.5	45.0	45.3	13.0	47.5	3.3
Cycle Q Clear(g_c), s	8.5	0.0	33.5	6.8	8.1	24.9	10.5	45.0	45.3	13.0	47.5	3.3
Prop In Lane	1.00		0.59	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	234	0	509	129	1116	494	289	1233	652	358	1972	718
V/C Ratio(X)	1.01	0.00	0.91	0.81	0.28	0.74	1.03	0.99	1.00	1.15	0.99	0.10
Avail Cap(c_a), veh/h	234	0	587	131	1294	573	289	1233	652	358	1972	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.0	0.0	41.7	57.2	33.6	39.5	57.0	39.4	39.5	55.8	37.7	19.2
Incr Delay (d2), s/veh	61.2	0.0	17.6	27.3	0.1	4.5	60.3	24.0	34.4	96.6	17.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	16.2	4.2	3.7	10.7	6.9	22.0	25.3	10.3	21.9	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	119.2	0.0	59.3	84.5	33.7	44.0	117.4	63.4	73.8	152.4	55.0	19.3
LnGrp LOS	F	A	E	F	C	D	F	E	E	F	E	B
Approach Vol, veh/h		702			790			2172			2432	
Approach Delay, s/veh		79.5			45.2			73.9			70.5	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	50.9	13.1	42.6	15.0	53.9	14.0	41.7
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	13.0	45.5	8.7	43.8	10.5	48.5	8.5	43.0
Max Q Clear Time (g_c+I1), s	15.0	47.3	8.8	35.5	12.5	49.5	10.5	26.9
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	0.0	0.0	0.0	3.1

Intersection Summary		
HCM 6th Ctrl Delay		69.5
HCM 6th LOS		E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	584	1078	256	205	455	181	112	940	140	307	1437	291
Future Volume (veh/h)	584	1078	256	205	455	181	112	940	140	307	1437	291
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	608	1123	267	214	474	189	117	979	146	320	1497	303
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	404	1246	296	237	1069	327	96	891	133	224	1278	925
Arrive On Green	0.23	0.31	0.31	0.13	0.21	0.21	0.05	0.29	0.29	0.13	0.36	0.36
Sat Flow, veh/h	1767	4077	969	1767	5066	1548	1767	3072	458	1767	3526	1559
Grp Volume(v), veh/h	608	930	460	214	474	189	117	561	564	320	1497	303
Grp Sat Flow(s),veh/h/ln	1767	1689	1669	1767	1689	1548	1767	1763	1767	1767	1763	1559
Q Serve(g_s), s	31.5	36.4	36.4	16.5	11.2	15.1	7.5	40.0	40.0	17.5	50.0	13.6
Cycle Q Clear(g_c), s	31.5	36.4	36.4	16.5	11.2	15.1	7.5	40.0	40.0	17.5	50.0	13.6
Prop In Lane	1.00		0.58	1.00		1.00	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	404	1032	510	237	1069	327	96	511	513	224	1278	925
V/C Ratio(X)	1.51	0.90	0.90	0.90	0.44	0.58	1.22	1.10	1.10	1.43	1.17	0.33
Avail Cap(c_a), veh/h	404	1072	530	240	1139	348	96	511	513	224	1278	925
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.2	45.9	45.9	58.9	47.3	48.9	65.2	49.0	49.0	60.2	44.0	14.3
Incr Delay (d2), s/veh	240.4	10.2	18.1	32.8	0.3	2.1	161.4	69.3	69.7	216.1	85.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	40.8	16.5	17.5	9.5	4.8	6.0	7.7	27.2	27.3	21.2	36.4	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	293.6	56.1	64.0	91.7	47.6	51.0	226.6	118.2	118.6	276.3	129.7	14.5
LnGrp LOS	F	E	E	F	D	D	F	F	F	F	F	B
Approach Vol, veh/h		1998			877			1242			2120	
Approach Delay, s/veh		130.2			59.1			128.6			135.3	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	45.4	23.0	47.6	12.0	55.4	36.0	34.5
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	17.5	40.0	18.7	43.8	7.5	50.0	31.5	31.0
Max Q Clear Time (g_c+I1), s	19.5	42.0	18.5	38.4	9.5	52.0	33.5	17.1
Green Ext Time (p_c), s	0.0	0.0	0.0	3.7	0.0	0.0	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	121.6
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	14
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	198	380	404	81	58	218
Future Vol, veh/h	198	380	404	81	58	218
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	204	392	416	84	60	225
Number of Lanes	2	1	1	2	2	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	3	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	3
HCM Control Delay	12.2	15.6	14.9
HCM LOS	B	C	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	SBLn1	SBLn2
Vol Left, %	100%	88%	0%	100%	26%	0%	0%	0%
Vol Thru, %	0%	12%	100%	0%	0%	0%	100%	8%
Vol Right, %	0%	0%	0%	0%	74%	100%	0%	92%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	202	229	54	132	256	190	39	237
LT Vol	202	202	0	132	66	0	0	0
Through Vol	0	27	54	0	0	0	39	19
RT Vol	0	0	0	0	190	190	0	218
Lane Flow Rate	208	236	56	136	264	196	40	245
Geometry Grp	8	8	8	7	7	7	8	8
Degree of Util (X)	0.432	0.486	0.08	0.274	0.465	0.232	0.083	0.464
Departure Headway (Hd)	7.476	7.416	5.19	7.246	6.347	4.268	7.477	6.821
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	479	484	684	494	565	832	476	524
Service Time	5.262	5.202	2.974	5.023	4.124	2.043	5.275	4.619
HCM Lane V/C Ratio	0.434	0.488	0.082	0.275	0.467	0.236	0.084	0.468
HCM Control Delay	15.9	17.1	8.4	12.8	14.6	8.4	11	15.5
HCM Lane LOS	C	C	A	B	B	A	B	C
HCM 95th-tile Q	2.1	2.6	0.3	1.1	2.4	0.9	0.3	2.4

Intersection	
Intersection Delay, s/veh	15.4
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	292	251	157	289	274	197
Future Vol, veh/h	292	251	157	289	274	197
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	307	264	165	304	288	207
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	20.5	12.9	12
HCM LOS	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	100%	0%	0%	0%	100%	14%	0%
Vol Thru, %	0%	0%	0%	100%	28%	0%	86%	100%
Vol Right, %	0%	0%	100%	0%	72%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	137	137	197	195	348	141	112	193
LT Vol	137	137	0	0	0	141	16	0
Through Vol	0	0	0	195	97	0	96	193
RT Vol	0	0	197	0	251	0	0	0
Lane Flow Rate	144	144	207	205	367	149	118	203
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.313	0.313	0.277	0.416	0.692	0.334	0.251	0.326
Departure Headway (Hd)	7.802	7.802	4.807	7.303	6.79	8.094	7.655	5.795
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	463	463	753	494	532	445	469	619
Service Time	5.502	5.502	2.507	5.048	4.534	5.844	5.405	3.545
HCM Lane V/C Ratio	0.311	0.311	0.275	0.415	0.69	0.335	0.252	0.328
HCM Control Delay	14	14	9.3	15.2	23.5	14.9	13	11.3
HCM Lane LOS	B	B	A	C	C	B	B	B
HCM 95th-tile Q	1.3	1.3	1.1	2	5.3	1.4	1	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	918	497	138	342	105	266	489	214	90	546	77
Future Volume (veh/h)	107	918	497	138	342	105	266	489	214	90	546	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	110	946	512	142	353	108	274	504	221	93	563	79
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	134	1870	579	167	1367	608	300	773	337	116	693	97
Arrive On Green	0.08	0.37	0.37	0.09	0.39	0.39	0.17	0.32	0.32	0.06	0.22	0.22
Sat Flow, veh/h	1767	5066	1569	1767	3526	1569	1767	2388	1042	1810	3179	445
Grp Volume(v), veh/h	110	946	512	142	353	108	274	371	354	93	319	323
Grp Sat Flow(s),veh/h/ln	1767	1689	1569	1767	1763	1569	1767	1763	1667	1810	1805	1819
Q Serve(g_s), s	8.1	19.1	40.3	10.4	9.0	6.0	20.1	23.8	24.0	6.7	22.1	22.3
Cycle Q Clear(g_c), s	8.1	19.1	40.3	10.4	9.0	6.0	20.1	23.8	24.0	6.7	22.1	22.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.63	1.00		0.24
Lane Grp Cap(c), veh/h	134	1870	579	167	1367	608	300	571	540	116	394	397
V/C Ratio(X)	0.82	0.51	0.88	0.85	0.26	0.18	0.91	0.65	0.66	0.80	0.81	0.81
Avail Cap(c_a), veh/h	249	1968	609	241	1367	608	442	734	694	218	518	522
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.0	32.3	38.9	58.8	27.4	26.5	53.8	38.2	38.3	60.9	49.0	49.0
Incr Delay (d2), s/veh	4.7	0.3	14.5	12.6	0.1	0.2	14.0	1.8	2.0	4.8	8.3	8.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	7.8	17.3	5.2	3.8	2.2	9.9	10.4	9.9	3.2	10.9	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.8	32.6	53.4	71.4	27.6	26.7	67.7	40.0	40.3	65.6	57.3	57.6
LnGrp LOS	E	C	D	E	C	C	E	D	D	E	E	E
Approach Vol, veh/h		1568			603			999			735	
Approach Delay, s/veh		41.6			37.8			47.7			58.5	
Approach LOS		D			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	48.5	16.4	54.5	26.4	34.5	14.0	56.9
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	15.3	54.9	18.0	51.2	33.0	37.8	18.6	50.6
Max Q Clear Time (g_c+I1), s	8.7	26.0	12.4	42.3	22.1	24.3	10.1	11.0
Green Ext Time (p_c), s	0.1	6.8	0.1	6.4	0.3	4.5	0.1	4.0

Intersection Summary	
HCM 6th Ctrl Delay	45.8
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	208	38	337	188	238	16	69	307	225	88	2
Future Volume (veh/h)	2	208	38	337	188	238	16	69	307	225	88	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1870	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	2	219	40	355	198	251	17	73	323	237	93	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	3	2	3	3	3	3	3	3	3
Cap, veh/h	5	293	54	539	260	330	36	450	627	348	570	12
Arrive On Green	0.00	0.19	0.19	0.16	0.35	0.35	0.02	0.24	0.24	0.10	0.32	0.32
Sat Flow, veh/h	1781	1539	281	3428	747	947	1767	1856	1567	3428	1809	39
Grp Volume(v), veh/h	2	0	259	355	0	449	17	73	323	237	0	95
Grp Sat Flow(s),veh/h/ln	1781	0	1820	1714	0	1694	1767	1856	1567	1714	0	1848
Q Serve(g_s), s	0.1	0.0	8.1	5.8	0.0	14.1	0.6	1.9	9.4	4.0	0.0	2.2
Cycle Q Clear(g_c), s	0.1	0.0	8.1	5.8	0.0	14.1	0.6	1.9	9.4	4.0	0.0	2.2
Prop In Lane	1.00		0.15	1.00		0.56	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	5	0	347	539	0	590	36	450	627	348	0	583
V/C Ratio(X)	0.41	0.00	0.75	0.66	0.00	0.76	0.47	0.16	0.51	0.68	0.00	0.16
Avail Cap(c_a), veh/h	148	0	621	1204	0	1032	147	1016	1105	628	0	1182
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.9	0.0	22.9	23.8	0.0	17.3	29.1	17.9	13.6	26.0	0.0	14.8
Incr Delay (d2), s/veh	47.3	0.0	3.2	2.0	0.0	2.9	9.1	0.2	0.9	0.9	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	3.5	2.4	0.0	5.4	0.3	0.8	3.1	1.6	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.2	0.0	26.2	25.7	0.0	20.2	38.2	18.2	14.6	26.9	0.0	15.0
LnGrp LOS	E	A	C	C	A	C	D	B	B	C	A	B
Approach Vol, veh/h		261			804			413			332	
Approach Delay, s/veh		26.5			22.7			16.2			23.5	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	19.7	14.1	16.1	5.7	24.0	4.7	25.6
Change Period (Y+Rc), s	4.0	5.1	* 4.7	* 4.7	4.5	5.1	4.5	* 4.7
Max Green Setting (Gmax), s	11.0	32.9	* 21	* 21	5.0	38.4	5.0	* 37
Max Q Clear Time (g_c+I1), s	6.0	11.4	7.8	10.1	2.6	4.2	2.1	16.1
Green Ext Time (p_c), s	0.2	2.4	1.6	1.0	0.0	0.7	0.0	4.1

Intersection Summary	
HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	18.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	298	115	136	238	87	79	143	123	59	150	11
Future Vol, veh/h	16	298	115	136	238	87	79	143	123	59	150	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	2	3	3	3	3
Mvmt Flow	17	314	121	143	251	92	83	151	129	62	158	12
Number of Lanes	1	2	0	1	2	0	1	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	3	3
HCM Control Delay	19.6	17.3	14.2	23.3
HCM LOS	C	C	B	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	10%	0%	27%
Vol Thru, %	0%	100%	0%	0%	100%	46%	0%	90%	58%	68%
Vol Right, %	0%	0%	100%	0%	0%	54%	0%	0%	42%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	143	123	16	199	214	122	133	206	220
LT Vol	79	0	0	16	0	0	122	14	0	59
Through Vol	0	143	0	0	199	99	0	119	119	150
RT Vol	0	0	123	0	0	115	0	0	87	11
Lane Flow Rate	83	151	129	17	209	226	129	140	217	232
Geometry Grp	7	7	7	8	8	8	8	8	8	8
Degree of Util (X)	0.203	0.346	0.272	0.043	0.504	0.519	0.326	0.335	0.499	0.577
Departure Headway (Hd)	8.799	8.269	7.569	9.19	8.673	8.284	9.108	8.644	8.285	8.972
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	408	435	475	390	416	435	396	416	436	403
Service Time	6.543	6.012	5.312	6.94	6.422	6.034	6.857	6.393	6.034	6.721
HCM Lane V/C Ratio	0.203	0.347	0.272	0.044	0.502	0.52	0.326	0.337	0.498	0.576
HCM Control Delay	13.8	15.3	13.1	12.4	20	19.7	16.2	15.7	19	23.3
HCM Lane LOS	B	C	B	B	C	C	C	C	C	C
HCM 95th-tile Q	0.8	1.5	1.1	0.1	2.8	2.9	1.4	1.5	2.7	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	1039	22	24	422	161	14	27	20	207	8	105
Future Volume (veh/h)	137	1039	22	24	422	161	14	27	20	207	8	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	144	1094	23	25	444	169	15	28	21	218	8	111
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	183	1671	745	39	1384	617	20	37	28	285	299	254
Arrive On Green	0.10	0.47	0.47	0.02	0.39	0.39	0.05	0.05	0.05	0.16	0.16	0.16
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	406	758	569	1767	1856	1572
Grp Volume(v), veh/h	144	1094	23	25	444	169	64	0	0	218	8	111
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1733	0	0	1767	1856	1572
Q Serve(g_s), s	5.5	16.4	0.5	1.0	6.1	5.1	2.5	0.0	0.0	8.2	0.3	4.4
Cycle Q Clear(g_c), s	5.5	16.4	0.5	1.0	6.1	5.1	2.5	0.0	0.0	8.2	0.3	4.4
Prop In Lane	1.00		1.00	1.00		1.00	0.23		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	183	1671	745	39	1384	617	85	0	0	285	299	254
V/C Ratio(X)	0.79	0.65	0.03	0.64	0.32	0.27	0.75	0.00	0.00	0.76	0.03	0.44
Avail Cap(c_a), veh/h	562	3219	1436	179	2455	1095	831	0	0	807	847	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.3	13.9	9.7	33.6	14.6	14.3	32.5	0.0	0.0	27.8	24.5	26.2
Incr Delay (d2), s/veh	2.8	0.6	0.0	6.4	0.2	0.3	12.3	0.0	0.0	4.3	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	5.5	0.2	0.5	2.2	1.6	1.3	0.0	0.0	3.6	0.1	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	14.5	9.7	40.0	14.8	14.6	44.7	0.0	0.0	32.0	24.5	27.4
LnGrp LOS	C	B	A	D	B	B	D	A	A	C	C	C
Approach Vol, veh/h		1261			638			64			337	
Approach Delay, s/veh		16.5			15.7			44.7			30.3	
Approach LOS		B			B			D			C	
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		8.5	5.5	38.6		16.6	11.2	33.0				
Change Period (Y+Rc), s		5.1	4.0	5.8		5.4	4.0	5.8				
Max Green Setting (Gmax), s		33.2	7.0	63.2		31.6	22.0	48.2				
Max Q Clear Time (g_c+I1), s		4.5	3.0	18.4		10.2	7.5	8.1				
Green Ext Time (p_c), s		0.3	0.0	14.4		1.0	0.1	5.4				
Intersection Summary												
HCM 6th Ctrl Delay			19.1									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	35	166	615	64	221	95	1490	439	92	882	14
Future Volume (veh/h)	30	35	166	615	64	221	95	1490	439	92	882	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	30	35	168	621	65	223	96	1505	443	93	891	14
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	38	36	175	665	111	382	116	1671	744	114	2426	38
Arrive On Green	0.02	0.13	0.13	0.19	0.30	0.30	0.13	0.95	0.95	0.06	0.47	0.47
Sat Flow, veh/h	1767	278	1337	3428	368	1261	1767	3526	1571	1767	5137	81
Grp Volume(v), veh/h	30	0	203	621	0	288	96	1505	443	93	585	320
Grp Sat Flow(s),veh/h/ln	1767	0	1615	1714	0	1629	1767	1763	1571	1767	1689	1841
Q Serve(g_s), s	2.4	0.0	17.5	25.0	0.0	21.0	7.4	21.4	4.7	7.3	15.5	15.5
Cycle Q Clear(g_c), s	2.4	0.0	17.5	25.0	0.0	21.0	7.4	21.4	4.7	7.3	15.5	15.5
Prop In Lane	1.00		0.83	1.00		0.77	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	38	0	211	665	0	494	116	1671	744	114	1595	869
V/C Ratio(X)	0.79	0.00	0.96	0.93	0.00	0.58	0.82	0.90	0.60	0.82	0.37	0.37
Avail Cap(c_a), veh/h	86	0	211	686	0	494	196	1671	744	114	1595	869
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.93	0.00	0.93	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.2	0.0	60.5	55.5	0.0	41.3	60.0	2.5	2.1	64.7	23.6	23.6
Incr Delay (d2), s/veh	12.6	0.0	51.1	18.2	0.0	2.0	5.4	8.3	3.5	33.7	0.7	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	10.2	12.4	0.0	8.7	3.3	3.3	1.5	4.3	6.2	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.8	0.0	111.6	73.7	0.0	43.3	65.4	10.7	5.5	98.4	24.2	24.8
LnGrp LOS	F	A	F	E	A	D	E	B	A	F	C	C
Approach Vol, veh/h		233			909			2044			998	
Approach Delay, s/veh		107.6			64.1			12.2			31.3	
Approach LOS		F			E			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	72.1	31.2	23.7	13.2	71.9	7.0	47.9
Change Period (Y+Rc), s	4.0	5.8	4.0	* 5.4	4.0	5.8	4.0	5.4
Max Green Setting (Gmax), s	9.0	66.2	28.0	* 18	15.5	59.7	6.8	38.8
Max Q Clear Time (g_c+I1), s	9.3	23.4	27.0	19.5	9.4	17.5	4.4	23.0
Green Ext Time (p_c), s	0.0	27.1	0.2	0.0	0.0	9.8	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	33.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↑↑	↱	↰	↑↑
Traffic Volume (veh/h)	0	0	2204	486	132	1135
Future Volume (veh/h)	0	0	2204	486	132	1135
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				0.99	1.00	
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No			No
Adj Sat Flow, veh/h/ln			1856	1856	1856	1856
Adj Flow Rate, veh/h			2320	512	139	1195
Peak Hour Factor			0.95	0.95	0.95	0.95
Percent Heavy Veh, %			3	3	3	3
Cap, veh/h			2953	1309	161	3387
Arrive On Green			1.00	1.00	0.18	1.00
Sat Flow, veh/h			3618	1562	1767	3618
Grp Volume(v), veh/h			2320	512	139	1195
Grp Sat Flow(s),veh/h/ln			1763	1562	1767	1763
Q Serve(g_s), s			0.0	0.0	10.7	0.0
Cycle Q Clear(g_c), s			0.0	0.0	10.7	0.0
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			2953	1309	161	3387
V/C Ratio(X)			0.79	0.39	0.87	0.35
Avail Cap(c_a), veh/h			2953	1309	246	3387
HCM Platoon Ratio			2.00	2.00	2.00	2.00
Upstream Filter(I)			0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh			0.0	0.0	56.4	0.0
Incr Delay (d2), s/veh			0.2	0.1	12.0	0.3
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.1	0.0	4.8	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			0.2	0.1	68.4	0.3
LnGrp LOS			A	A	E	A
Approach Vol, veh/h			2832			1334
Approach Delay, s/veh			0.2			7.4
Approach LOS			A			A

Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	17.2	122.8				140.0
Change Period (Y+Rc), s	4.5	5.5				5.5
Max Green Setting (Gmax), s	19.5	110.5				134.5
Max Q Clear Time (g_c+I1), s	12.7	2.0				2.0
Green Ext Time (p_c), s	0.1	32.6				6.6

Intersection Summary		
HCM 6th Ctrl Delay		2.5
HCM 6th LOS		A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	563	713	512	439	0	561	0	1587	789	238	1003	0
Future Volume (veh/h)	563	713	512	439	0	561	0	1587	789	238	1003	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	580	735	528	453	0	578	0	1636	813	245	1034	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	1139	616	521	0	0	0	0	2442	755	133	2078	0
Arrive On Green	0.33	0.33	0.33	0.00	0.00	0.00	0.00	0.48	0.48	0.15	1.00	0.00
Sat Flow, veh/h	3428	1856	1568		0		0	5233	1566	1767	3618	0
Grp Volume(v), veh/h	580	735	528		0.0		0	1636	813	245	1034	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1568				0	1689	1566	1767	1763	0
Q Serve(g_s), s	19.0	46.5	46.5				0.0	34.6	67.5	10.5	0.0	0.0
Cycle Q Clear(g_c), s	19.0	46.5	46.5				0.0	34.6	67.5	10.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1139	616	521				0	2442	755	133	2078	0
V/C Ratio(X)	0.51	1.19	1.01				0.00	0.67	1.08	1.85	0.50	0.00
Avail Cap(c_a), veh/h	1139	616	521				0	2442	755	133	2078	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.75	0.75	0.95	0.95	0.00
Uniform Delay (d), s/veh	37.6	46.8	46.8				0.0	27.7	36.3	59.5	0.0	0.0
Incr Delay (d2), s/veh	0.2	102.0	42.9				0.0	1.1	51.5	408.1	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	38.8	24.2				0.0	13.8	35.3	19.3	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.7	148.8	89.6				0.0	28.8	87.7	467.6	0.8	0.0
LnGrp LOS	D	F	F				A	C	F	F	A	A
Approach Vol, veh/h		1843						2449			1279	
Approach Delay, s/veh		96.9						48.4			90.2	
Approach LOS		F						D			F	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	15.0	73.0	52.0	88.0
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	10.5	38.5	46.5	53.5
Max Q Clear Time (g_c+I1), s	12.5	69.5	48.5	2.0
Green Ext Time (p_c), s	0.0	0.0	0.0	8.9

Intersection Summary	
HCM 6th Ctrl Delay	74.0
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	788	203	141	1528	971	772
Future Volume (veh/h)	788	203	141	1528	971	772
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	804	207	144	1559	991	788
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1054	483	215	2866	1614	1203
Arrive On Green	0.31	0.31	0.06	0.57	0.46	0.46
Sat Flow, veh/h	3428	1572	3428	5233	3618	1572
Grp Volume(v), veh/h	804	207	144	1559	991	788
Grp Sat Flow(s),veh/h/ln	1714	1572	1714	1689	1763	1572
Q Serve(g_s), s	18.7	9.3	3.6	17.0	18.7	20.8
Cycle Q Clear(g_c), s	18.7	9.3	3.6	17.0	18.7	20.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1054	483	215	2866	1614	1203
V/C Ratio(X)	0.76	0.43	0.67	0.54	0.61	0.66
Avail Cap(c_a), veh/h	1693	777	388	3752	2053	1399
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	24.4	40.5	12.0	18.1	4.9
Incr Delay (d2), s/veh	1.7	0.9	1.3	0.2	0.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.6	8.7	1.5	5.6	7.0	16.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.3	25.2	41.8	12.3	18.6	6.0
LnGrp LOS	C	C	D	B	B	A
Approach Vol, veh/h	1011			1703	1779	
Approach Delay, s/veh	28.5			14.8	13.0	
Approach LOS	C			B	B	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		55.8		32.5	9.5	46.2
Change Period (Y+Rc), s		5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		65.4		43.6	10.0	51.4
Max Q Clear Time (g_c+I1), s		19.0		20.7	5.6	22.8
Green Ext Time (p_c), s		23.0		6.4	0.1	17.6

Intersection Summary	
HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	558	499	366	924	943	285
Future Volume (veh/h)	558	499	366	924	943	285
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	581	520	381	962	982	297
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	998	458	411	2129	1182	977
Arrive On Green	0.29	0.29	0.23	0.60	0.34	0.34
Sat Flow, veh/h	3428	1572	1767	3618	3618	1549
Grp Volume(v), veh/h	581	520	381	962	982	297
Grp Sat Flow(s),veh/h/ln	1714	1572	1767	1763	1763	1549
Q Serve(g_s), s	16.0	32.2	23.3	16.4	28.4	9.8
Cycle Q Clear(g_c), s	16.0	32.2	23.3	16.4	28.4	9.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	998	458	411	2129	1182	977
V/C Ratio(X)	0.58	1.14	0.93	0.45	0.83	0.30
Avail Cap(c_a), veh/h	998	458	511	2449	1301	1030
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	39.2	41.5	11.9	33.8	9.5
Incr Delay (d2), s/veh	1.1	84.7	18.9	0.2	4.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	34.8	12.0	5.9	12.4	6.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.5	123.9	60.5	12.1	38.5	9.8
LnGrp LOS	C	F	E	B	D	A
Approach Vol, veh/h	1101			1343	1279	
Approach Delay, s/veh	76.7			25.9	31.8	
Approach LOS	E			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		72.6		38.0	29.7	42.9
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		76.8		32.2	32.0	40.8
Max Q Clear Time (g_c+I1), s		18.4		34.2	25.3	30.4
Green Ext Time (p_c), s		12.4		0.0	0.4	6.7

Intersection Summary			
HCM 6th Ctrl Delay			42.9
HCM 6th LOS			D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	640	152	53	478	336	157	921	53	403	938	110
Future Volume (veh/h)	115	640	152	53	478	336	157	921	53	403	938	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	116	646	154	54	483	339	159	930	54	407	947	111
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	129	762	181	69	468	328	187	974	433	418	1434	638
Arrive On Green	0.07	0.27	0.27	0.04	0.24	0.24	0.11	0.28	0.28	0.24	0.41	0.41
Sat Flow, veh/h	1767	2824	672	1767	1981	1386	1767	3526	1566	1767	3526	1568
Grp Volume(v), veh/h	116	403	397	54	430	392	159	930	54	407	947	111
Grp Sat Flow(s),veh/h/ln	1767	1763	1734	1767	1763	1604	1767	1763	1566	1767	1763	1568
Q Serve(g_s), s	7.2	23.8	23.9	3.3	26.0	26.0	9.7	28.5	2.8	25.1	24.0	5.0
Cycle Q Clear(g_c), s	7.2	23.8	23.9	3.3	26.0	26.0	9.7	28.5	2.8	25.1	24.0	5.0
Prop In Lane	1.00		0.39	1.00		0.86	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	129	476	468	69	417	379	187	974	433	418	1434	638
V/C Ratio(X)	0.90	0.85	0.85	0.78	1.03	1.03	0.85	0.95	0.12	0.97	0.66	0.17
Avail Cap(c_a), veh/h	129	476	468	90	417	379	220	974	433	418	1434	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.6	38.0	38.0	52.4	42.0	42.0	48.3	39.1	29.8	41.7	26.5	20.8
Incr Delay (d2), s/veh	49.8	13.7	14.1	20.3	52.4	55.5	20.2	18.9	0.2	37.1	1.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	11.7	11.6	1.8	17.0	15.8	5.2	14.4	1.1	14.9	9.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	100.5	51.7	52.1	72.6	94.4	97.5	68.5	58.0	30.0	78.7	27.8	21.0
LnGrp LOS	F	D	D	E	F	F	E	E	C	E	C	C
Approach Vol, veh/h		916			876			1143			1465	
Approach Delay, s/veh		58.1			94.4			58.2			41.4	
Approach LOS		E			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.0	36.2	8.3	35.5	15.7	50.5	12.0	31.8
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	26.0	30.4	5.6	28.4	13.7	42.7	8.0	26.0
Max Q Clear Time (g_c+I1), s	27.1	30.5	5.3	25.9	11.7	26.0	9.2	28.0
Green Ext Time (p_c), s	0.0	0.0	0.0	1.4	0.0	8.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	59.8
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	550	0	0	398	1	519	2	32	0	0	11
Future Volume (vph)	29	550	0	0	398	1	519	2	32	0	0	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Lane Util. Factor		0.95			0.95		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.99			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		1.00			1.00		0.95	0.95	1.00			1.00
Satd. Flow (prot)		3495			3503		1665	1670	1546			1596
Flt Permitted		0.92			1.00		0.95	0.95	1.00			1.00
Satd. Flow (perm)		3224			3503		1665	1670	1546			1596
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	31	579	0	0	419	1	546	2	34	0	0	12
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	26	0	0	12
Lane Group Flow (vph)	0	610	0	0	420	0	273	275	9	0	0	0
Confl. Peds. (#/hr)	3		10	10		3			3	3		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA			NA		Split	NA	Perm			Prot
Protected Phases		6			2		4	4				3
Permitted Phases	6								4			
Actuated Green, G (s)		37.5			37.5		17.5	17.5	17.5			1.0
Effective Green, g (s)		37.5			37.5		17.5	17.5	17.5			1.0
Actuated g/C Ratio		0.54			0.54		0.25	0.25	0.25			0.01
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		1727			1876		416	417	386			22
v/s Ratio Prot					0.12		0.16	c0.16				c0.00
v/s Ratio Perm		c0.19							0.01			
v/c Ratio		0.35			0.22		0.66	0.66	0.02			0.01
Uniform Delay, d1		9.3			8.6		23.6	23.6	19.8			34.0
Progression Factor		1.04			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.5			0.3		2.8	2.9	0.0			0.1
Delay (s)		10.1			8.8		26.4	26.4	19.8			34.1
Level of Service		B			A		C	C	B			C
Approach Delay (s)		10.1			8.8			26.0			34.1	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	60.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	253	25	28	259	15	18
Future Vol, veh/h	253	25	28	259	15	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	266	26	29	273	16	19

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	292	0	474	146
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	195	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1259	-	517	871
Stage 1	-	-	-	-	740	-
Stage 2	-	-	-	-	816	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1259	-	503	871
Mov Cap-2 Maneuver	-	-	-	-	503	-
Stage 1	-	-	-	-	740	-
Stage 2	-	-	-	-	794	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	654	-	-	1259	-
HCM Lane V/C Ratio	0.053	-	-	0.023	-
HCM Control Delay (s)	10.8	-	-	7.9	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.4					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	276	7	6	280	9	9
Future Vol, veh/h	276	7	6	280	9	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	291	7	6	295	9	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	298	0	455	149
Stage 1	-	-	-	-	295	-
Stage 2	-	-	-	-	160	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1253	-	531	868
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	849	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1253	-	528	868
Mov Cap-2 Maneuver	-	-	-	-	528	-
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	844	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	657	-	-	1253	-
HCM Lane V/C Ratio	0.029	-	-	0.005	-
HCM Control Delay (s)	10.6	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.8					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	30	21	285	282	3
Future Vol, veh/h	1	30	21	285	282	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	1	32	22	300	297	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	493	150	300	0	-	0
Stage 1	299	-	-	-	-	-
Stage 2	194	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	503	866	1251	-	-	-
Stage 1	723	-	-	-	-	-
Stage 2	817	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	492	866	1251	-	-	-
Mov Cap-2 Maneuver	492	-	-	-	-	-
Stage 1	708	-	-	-	-	-
Stage 2	817	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.4	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1251	-	845	-	-
HCM Lane V/C Ratio	0.018	-	0.039	-	-
HCM Control Delay (s)	7.9	0.1	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection						
Int Delay, s/veh	2					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	47	46	66	387	413	68
Future Vol, veh/h	47	46	66	387	413	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	49	48	69	407	435	72

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	813	254	507	0	-	0
Stage 1	471	-	-	-	-	-
Stage 2	342	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	314	742	1047	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	293	742	1047	-	-	-
Mov Cap-2 Maneuver	293	-	-	-	-	-
Stage 1	553	-	-	-	-	-
Stage 2	688	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.2	1.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1047	-	418	-	-
HCM Lane V/C Ratio	0.066	-	0.234	-	-
HCM Control Delay (s)	8.7	-	16.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	0.9	-	-

Intersection						
Int Delay, s/veh	1					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	394	291	36	35	19
Future Vol, veh/h	23	394	291	36	35	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	24	415	306	38	37	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	344	0	-	0	581	172
Stage 1	-	-	-	-	325	-
Stage 2	-	-	-	-	256	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	1205	-	-	-	442	839
Stage 1	-	-	-	-	702	-
Stage 2	-	-	-	-	760	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1205	-	-	-	433	839
Mov Cap-2 Maneuver	-	-	-	-	526	-
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	760	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1205	-	-	-	526	839
HCM Lane V/C Ratio	0.02	-	-	-	0.07	0.024
HCM Control Delay (s)	8	-	-	-	12.4	9.4
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	539	130	1036	630	476	477	0	1446	885	0	147
Future Volume (veh/h)	110	539	130	1036	630	476	477	0	1446	885	0	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1565	1565	1565	1565	1565	1565	1565	0	1565	1565	0	1565
Adj Flow Rate, veh/h	113	556	0	1068	649	0	492	0	1491	912	0	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	0	3	3	0	3
Cap, veh/h	136	624		955	1335		567	0	0	807	0	
Arrive On Green	0.09	0.21	0.00	0.33	0.45	0.00	0.20	0.00	0.00	0.28	0.00	0.00
Sat Flow, veh/h	1491	2974	1327	2892	2974	1327	2892	492		2892	912	
Grp Volume(v), veh/h	113	556	0	1068	649	0	492	49.0		912	112.9	
Grp Sat Flow(s),veh/h/ln	1491	1487	1327	1446	1487	1327	1446	D		1446	F	
Q Serve(g_s), s	8.0	19.5	0.0	35.5	16.5	0.0	17.7			30.0		
Cycle Q Clear(g_c), s	8.0	19.5	0.0	35.5	16.5	0.0	17.7			30.0		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	136	624		955	1335		567			807		
V/C Ratio(X)	0.83	0.89		1.12	0.49		0.87			1.13		
Avail Cap(c_a), veh/h	219	677		955	1335		807			807		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00			1.00		
Uniform Delay (d), s/veh	48.1	41.3	0.0	36.0	20.9	0.0	41.9			38.8		
Incr Delay (d2), s/veh	13.5	13.4	0.0	67.5	0.3	0.0	7.2			74.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	3.5	8.2	0.0	21.0	5.6	0.0	6.8			18.7		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.6	54.7	0.0	103.6	21.2	0.0	49.0			112.9		
LnGrp LOS	E	D		F	C		D			F		
Approach Vol, veh/h		669	A		1717	A						
Approach Delay, s/veh		55.8			72.4							
Approach LOS		E			E							

Timer - Assigned Phs	1	2	3		5	6	7
Phs Duration (G+Y+Rc), s	42.0	30.6	26.1		16.3	56.3	35.0
Change Period (Y+Rc), s	6.5	8.0	5.0		6.5	8.0	5.0
Max Green Setting (Gmax), s	35.5	24.5	30.0		15.8	44.2	30.0
Max Q Clear Time (g_c+I1), s	37.5	21.5	19.7		10.0	18.5	32.0
Green Ext Time (p_c), s	0.0	1.0	1.4		0.1	4.6	0.0

Intersection Summary			
HCM 6th Ctrl Delay			76.2
HCM 6th LOS			E

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1049	1465	141	58	733	216	167	474	246	180	274	1197
Future Volume (veh/h)	1049	1465	141	58	733	216	167	474	246	180	274	1197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	1081	1510	145	60	756	223	172	489	254	186	282	1234
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	859	2163	671	77	1022	317	197	690	356	160	538	802
Arrive On Green	0.24	0.40	0.40	0.04	0.20	0.20	0.11	0.31	0.31	0.09	0.29	0.29
Sat Flow, veh/h	3645	5386	1672	1767	5066	1572	1767	2248	1162	1767	1856	2768
Grp Volume(v), veh/h	1081	1510	145	60	756	223	172	383	360	186	282	1234
Grp Sat Flow(s),veh/h/ln	1823	1795	1672	1767	1689	1572	1767	1763	1646	1767	1856	1384
Q Serve(g_s), s	30.0	29.7	7.2	4.3	17.8	16.8	12.2	24.5	24.7	11.5	16.2	36.9
Cycle Q Clear(g_c), s	30.0	29.7	7.2	4.3	17.8	16.8	12.2	24.5	24.7	11.5	16.2	36.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		1.00
Lane Grp Cap(c), veh/h	859	2163	671	77	1022	317	197	541	505	160	538	802
V/C Ratio(X)	1.26	0.70	0.22	0.78	0.74	0.70	0.87	0.71	0.71	1.17	0.52	1.54
Avail Cap(c_a), veh/h	859	2474	768	144	1508	468	197	541	505	160	538	802
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	31.7	25.0	60.3	47.7	47.3	55.7	39.1	39.2	57.9	37.9	45.2
Incr Delay (d2), s/veh	125.9	0.7	0.2	6.3	1.1	2.8	31.4	4.2	4.7	122.7	0.9	248.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.6	12.9	2.8	2.1	7.6	6.6	7.0	10.8	10.2	10.5	7.5	39.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	174.6	32.4	25.1	66.6	48.8	50.1	87.1	43.3	43.8	180.7	38.8	294.0
LnGrp LOS	F	C	C	E	D	D	F	D	D	F	D	F
Approach Vol, veh/h		2736			1039			915			1702	
Approach Delay, s/veh		88.2			50.1			51.8			239.3	
Approach LOS		F			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	56.5	18.2	43.1	35.0	31.1	16.0	45.3
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	10.4	58.5	14.2	* 37	30.0	37.9	11.5	38.0
Max Q Clear Time (g_c+I1), s	6.3	31.7	14.2	38.9	32.0	19.8	13.5	26.7
Green Ext Time (p_c), s	0.0	14.0	0.0	0.0	0.0	5.8	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	117.0
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1330	344	1201	674	68	1206
Future Volume (veh/h)	1330	344	1201	674	68	1206
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	1371	355	1238	695	70	1243
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1432	741	1380	1230	90	1753
Arrive On Green	0.39	0.39	0.39	0.39	0.05	0.50
Sat Flow, veh/h	3645	1672	3618	1564	1767	3618
Grp Volume(v), veh/h	1371	355	1238	695	70	1243
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1564	1767	1763
Q Serve(g_s), s	36.6	15.0	32.9	17.2	3.9	27.4
Cycle Q Clear(g_c), s	36.6	15.0	32.9	17.2	3.9	27.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	1432	741	1380	1230	90	1753
V/C Ratio(X)	0.96	0.48	0.90	0.56	0.78	0.71
Avail Cap(c_a), veh/h	1440	745	1380	1230	94	1753
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.6	19.7	28.5	4.2	46.9	19.5
Incr Delay (d2), s/veh	14.8	0.5	9.4	1.9	32.6	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.3	5.8	14.8	17.6	2.5	10.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.3	20.1	38.0	6.1	79.5	22.0
LnGrp LOS	D	C	D	A	E	C
Approach Vol, veh/h	1726		1933			1313
Approach Delay, s/veh	39.4		26.5			25.0
Approach LOS	D		C			C

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	10.6	44.7	55.2	44.8
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	5.3	38.7	49.5	39.5
Max Q Clear Time (g_c+I1), s	5.9	34.9	29.4	38.6
Green Ext Time (p_c), s	0.0	3.1	8.8	0.7

Intersection Summary	
HCM 6th Ctrl Delay	30.6
HCM 6th LOS	C

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	960	155	1881	975	111	2480
Future Volume (veh/h)	960	155	1881	975	111	2480
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1973	1973	1856	1856	1856	1856
Adj Flow Rate, veh/h	990	160	1939	1005	114	2557
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	984	552	1833	1239	106	3191
Arrive On Green	0.27	0.27	0.52	0.52	0.04	0.42
Sat Flow, veh/h	3645	1672	3618	1566	1767	5233
Grp Volume(v), veh/h	990	160	1939	1005	114	2557
Grp Sat Flow(s),veh/h/ln	1823	1672	1763	1566	1767	1689
Q Serve(g_s), s	27.0	7.1	52.0	37.6	6.0	44.1
Cycle Q Clear(g_c), s	27.0	7.1	52.0	37.6	6.0	44.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	984	552	1833	1239	106	3191
V/C Ratio(X)	1.01	0.29	1.06	0.81	1.08	0.80
Avail Cap(c_a), veh/h	984	552	1833	1239	106	3191
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67
Upstream Filter(I)	1.00	1.00	0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh	36.5	24.8	24.0	6.2	48.0	23.4
Incr Delay (d2), s/veh	30.1	0.3	27.5	0.6	109.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.8	7.5	26.1	24.7	5.8	18.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	66.6	25.1	51.5	6.7	157.1	25.6
LnGrp LOS	F	C	F	A	F	C
Approach Vol, veh/h	1150		2944			2671
Approach Delay, s/veh	60.8		36.2			31.3
Approach LOS	E		D			C

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.0	57.0		32.0		68.0
Change Period (Y+Rc), s	5.0	5.0		5.0		5.0
Max Green Setting (Gmax), s	6.0	52.0		27.0		63.0
Max Q Clear Time (g_c+I1), s	8.0	54.0		29.0		46.1
Green Ext Time (p_c), s	0.0	0.0		0.0		14.8

Intersection Summary						
HCM 6th Ctrl Delay			38.4			
HCM 6th LOS			D			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	711	221	321	80	132	322	279	1999	120	278	2326	849
Future Volume (veh/h)	711	221	321	80	132	322	279	1999	120	278	2326	849
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	733	228	331	82	136	332	288	2061	124	287	2398	875
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	399	584	491	106	477	400	160	1832	110	160	1899	1036
Arrive On Green	0.12	0.31	0.31	0.06	0.24	0.24	0.09	0.37	0.37	0.09	0.37	0.37
Sat Flow, veh/h	3428	1856	1560	1879	1973	1655	1767	4886	293	1767	5066	2763
Grp Volume(v), veh/h	733	228	331	82	136	332	288	1421	764	287	2398	875
Grp Sat Flow(s),veh/h/ln	1714	1856	1560	1879	1973	1655	1767	1689	1802	1767	1689	1382
Q Serve(g_s), s	13.5	11.1	21.4	5.0	6.5	22.1	10.5	43.5	43.5	10.5	43.5	33.6
Cycle Q Clear(g_c), s	13.5	11.1	21.4	5.0	6.5	22.1	10.5	43.5	43.5	10.5	43.5	33.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	399	584	491	106	477	400	160	1266	675	160	1899	1036
V/C Ratio(X)	1.84	0.39	0.67	0.78	0.29	0.83	1.80	1.12	1.13	1.79	1.26	0.84
Avail Cap(c_a), veh/h	399	720	605	202	731	613	160	1266	675	160	1899	1036
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.3	31.1	34.6	54.0	35.8	41.7	52.8	36.3	36.3	52.8	36.3	33.2
Incr Delay (d2), s/veh	386.7	0.4	2.2	4.5	0.3	5.7	384.3	66.1	76.6	381.6	122.7	6.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	27.1	5.0	8.4	2.5	3.2	9.6	21.6	28.6	32.5	21.5	38.6	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	438.0	31.5	36.8	58.5	36.2	47.5	437.1	102.4	112.8	434.3	159.0	39.7
LnGrp LOS	F	C	D	E	D	D	F	F	F	F	F	D
Approach Vol, veh/h		1292			550			2473			3560	
Approach Delay, s/veh		263.5			46.3			144.6			151.9	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	48.9	10.5	41.6	15.0	48.9	19.0	33.1				
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1				
Max Green Setting (Gmax), s	10.5	43.5	12.5	45.0	10.5	43.5	13.5	* 43				
Max Q Clear Time (g_c+I1), s	12.5	45.5	7.0	23.4	12.5	45.5	15.5	24.1				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.4	0.0	0.0	0.0	1.9				
Intersection Summary												
HCM 6th Ctrl Delay			160.5									
HCM 6th LOS			F									

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	262	270	137	392	420	384	1774	226	546	2143	108
Future Volume (veh/h)	224	262	270	137	392	420	384	1774	226	546	2143	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	236	276	284	144	413	442	404	1867	238	575	2256	114
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	171	275	283	108	1235	546	276	1656	209	342	1960	684
Arrive On Green	0.05	0.33	0.33	0.06	0.33	0.33	0.08	0.36	0.36	0.10	0.39	0.39
Sat Flow, veh/h	3428	834	858	1879	3749	1658	3428	4551	575	3428	5066	1566
Grp Volume(v), veh/h	236	0	560	144	413	442	404	1381	724	575	2256	114
Grp Sat Flow(s),veh/h/ln	1714	0	1693	1879	1874	1658	1714	1689	1749	1714	1689	1566
Q Serve(g_s), s	6.5	0.0	43.0	7.5	10.8	31.8	10.5	47.5	47.5	13.0	50.5	5.8
Cycle Q Clear(g_c), s	6.5	0.0	43.0	7.5	10.8	31.8	10.5	47.5	47.5	13.0	50.5	5.8
Prop In Lane	1.00		0.51	1.00		1.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	171	0	558	108	1235	546	276	1229	637	342	1960	684
V/C Ratio(X)	1.38	0.00	1.00	1.33	0.33	0.81	1.46	1.12	1.14	1.68	1.15	0.17
Avail Cap(c_a), veh/h	171	0	558	108	1235	546	276	1229	637	342	1960	684
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.0	0.0	43.8	61.5	33.0	40.0	60.0	41.5	41.5	58.8	40.0	22.3
Incr Delay (d2), s/veh	204.1	0.0	39.1	200.1	0.2	8.9	227.9	66.8	79.6	320.1	74.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	0.0	23.9	9.6	5.0	14.2	13.2	30.5	33.8	20.7	33.6	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	266.1	0.0	82.9	261.6	33.1	48.8	287.9	108.3	121.1	378.9	114.3	22.4
LnGrp LOS	F	A	F	F	C	D	F	F	F	F	F	C
Approach Vol, veh/h		796			999			2509			2945	
Approach Delay, s/veh		137.2			73.0			140.9			162.4	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	52.9	12.0	47.6	15.0	55.9	12.0	47.6
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	13.0	47.5	7.5	43.0	10.5	50.5	6.5	43.0
Max Q Clear Time (g_c+I1), s	15.0	49.5	9.5	45.0	12.5	52.5	8.5	33.8
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	139.9
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↑	↱	↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	819	958	167	198	595	259	173	1015	160	263	1128	306
Future Volume (veh/h)	819	958	167	198	595	259	173	1015	160	263	1128	306
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	862	1008	176	208	626	273	182	1068	168	277	1187	322
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	460	1436	250	232	1022	317	123	918	144	162	1138	917
Arrive On Green	0.26	0.33	0.33	0.13	0.20	0.20	0.07	0.30	0.30	0.09	0.32	0.32
Sat Flow, veh/h	1767	4340	756	1767	5066	1572	1767	3053	479	1767	3526	1572
Grp Volume(v), veh/h	862	784	400	208	626	273	182	616	620	277	1187	322
Grp Sat Flow(s),veh/h/ln	1767	1689	1719	1767	1689	1572	1767	1763	1769	1767	1763	1572
Q Serve(g_s), s	35.5	27.6	27.7	15.8	15.3	22.9	9.5	41.0	41.0	12.5	44.0	14.6
Cycle Q Clear(g_c), s	35.5	27.6	27.7	15.8	15.3	22.9	9.5	41.0	41.0	12.5	44.0	14.6
Prop In Lane	1.00		0.44	1.00		1.00	1.00		0.27	1.00		1.00
Lane Grp Cap(c), veh/h	460	1118	569	232	1022	317	123	530	532	162	1138	917
V/C Ratio(X)	1.87	0.70	0.70	0.90	0.61	0.86	1.48	1.16	1.17	1.71	1.04	0.35
Avail Cap(c_a), veh/h	460	1120	570	276	1152	358	123	530	532	162	1138	917
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.4	39.7	39.8	58.3	49.5	52.5	63.4	47.6	47.6	61.9	46.1	14.9
Incr Delay (d2), s/veh	401.0	2.0	3.9	24.2	0.8	17.3	253.3	91.9	93.4	343.9	38.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	66.7	11.6	12.2	8.6	6.5	10.5	12.9	31.2	31.6	21.0	24.8	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	451.4	41.7	43.6	82.5	50.3	69.8	316.7	139.5	141.0	405.8	84.7	15.1
LnGrp LOS	F	D	D	F	D	E	F	F	F	F	F	B
Approach Vol, veh/h		2046			1107			1418			1786	
Approach Delay, s/veh		214.7			61.2			162.9			122.0	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	46.4	22.4	50.5	14.0	49.4	40.0	32.9
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	12.5	41.0	21.3	45.2	9.5	44.0	35.5	31.0
Max Q Clear Time (g_c+I1), s	14.5	43.0	17.8	29.7	11.5	46.0	37.5	24.9
Green Ext Time (p_c), s	0.0	0.0	0.1	7.0	0.0	0.0	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	150.4
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Intersection	
Intersection Delay, s/veh	26.9
Intersection LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	326	472	567	148	90	267
Future Vol, veh/h	326	472	567	148	90	267
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	340	492	591	154	94	278
Number of Lanes	2	1	1	2	2	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	3
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	3	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	3	0	3
HCM Control Delay	19.7	33.9	29.1
HCM LOS	C	D	D

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	SBLn1	SBLn2
Vol Left, %	100%	85%	0%	100%	33%	0%	0%	0%
Vol Thru, %	0%	15%	100%	0%	0%	0%	100%	10%
Vol Right, %	0%	0%	0%	0%	67%	100%	0%	90%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	284	333	99	217	326	255	60	297
LT Vol	284	284	0	217	109	0	0	0
Through Vol	0	49	99	0	0	0	60	30
RT Vol	0	0	0	0	217	255	0	267
Lane Flow Rate	295	347	103	226	339	266	62	309
Geometry Grp	8	8	8	7	7	7	8	8
Degree of Util (X)	0.72	0.838	0.185	0.521	0.704	0.389	0.16	0.738
Departure Headway (Hd)	8.774	8.698	6.463	8.282	7.466	5.271	9.242	8.593
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	410	416	552	435	485	680	386	418
Service Time	6.548	6.472	4.236	6.037	5.22	3.023	7.041	6.392
HCM Lane V/C Ratio	0.72	0.834	0.187	0.52	0.699	0.391	0.161	0.739
HCM Control Delay	31.2	43.1	10.7	19.8	26.2	11.4	13.8	32.2
HCM Lane LOS	D	E	B	C	D	B	B	D
HCM 95th-tile Q	5.6	7.9	0.7	2.9	5.5	1.8	0.6	5.9

Intersection	
Intersection Delay, s/veh	39.1
Intersection LOS	E

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	414	285	222	475	418	366
Future Vol, veh/h	414	285	222	475	418	366
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	431	297	231	495	435	381
Number of Lanes	2	0	1	2	2	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	3	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	3	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	3	0	3
HCM Control Delay	75.3	24.4	20
HCM LOS	F	C	C

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3
Vol Left, %	100%	100%	0%	0%	0%	100%	12%	0%
Vol Thru, %	0%	0%	0%	100%	33%	0%	88%	100%
Vol Right, %	0%	0%	100%	0%	67%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	209	209	366	276	423	200	181	317
LT Vol	209	209	0	0	0	200	22	0
Through Vol	0	0	0	276	138	0	159	317
RT Vol	0	0	366	0	285	0	0	0
Lane Flow Rate	218	218	381	288	441	208	188	330
Geometry Grp	7	7	7	8	8	8	8	8
Degree of Util (X)	0.531	0.531	0.622	0.75	1.09	0.564	0.487	0.688
Departure Headway (Hd)	9.083	9.083	6.052	9.388	8.902	10.089	9.636	7.763
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	401	401	602	385	410	360	376	468
Service Time	6.783	6.783	3.752	7.149	6.663	7.789	7.336	5.463
HCM Lane V/C Ratio	0.544	0.544	0.633	0.748	1.076	0.578	0.5	0.705
HCM Control Delay	21.6	21.6	18.2	35.6	101.2	25.1	21.1	25.9
HCM Lane LOS	C	C	C	E	F	D	C	D
HCM 95th-tile Q	3	3	4.3	6	15.3	3.3	2.6	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	870	355	123	431	169	300	628	281	97	479	126
Future Volume (veh/h)	168	870	355	123	431	169	300	628	281	97	479	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1900	1900	1900
Adj Flow Rate, veh/h	177	916	374	129	454	178	316	661	296	102	504	133
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	0	0	0
Cap, veh/h	207	1574	488	157	996	444	346	847	379	128	658	173
Arrive On Green	0.12	0.31	0.31	0.09	0.28	0.28	0.20	0.36	0.36	0.07	0.23	0.23
Sat Flow, veh/h	1767	5066	1571	1767	3526	1571	1767	2363	1058	1810	2823	741
Grp Volume(v), veh/h	177	916	374	129	454	178	316	493	464	102	321	316
Grp Sat Flow(s),veh/h/ln	1767	1689	1571	1767	1763	1571	1767	1763	1658	1810	1805	1759
Q Serve(g_s), s	11.2	17.4	24.6	8.2	12.1	10.5	20.0	28.5	28.5	6.4	19.0	19.2
Cycle Q Clear(g_c), s	11.2	17.4	24.6	8.2	12.1	10.5	20.0	28.5	28.5	6.4	19.0	19.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.64	1.00		0.42
Lane Grp Cap(c), veh/h	207	1574	488	157	996	444	346	632	594	128	421	410
V/C Ratio(X)	0.86	0.58	0.77	0.82	0.46	0.40	0.91	0.78	0.78	0.80	0.76	0.77
Avail Cap(c_a), veh/h	408	1868	579	293	1072	478	618	952	895	269	612	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.6	33.2	35.7	51.3	33.8	33.2	45.0	32.7	32.7	52.4	40.9	41.0
Incr Delay (d2), s/veh	3.9	0.5	5.8	4.1	0.5	0.8	4.9	3.3	3.5	4.2	4.5	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	7.1	9.9	3.7	5.1	4.0	9.0	12.2	11.5	3.0	8.9	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.5	33.7	41.5	55.4	34.3	34.1	49.9	35.9	36.1	56.6	45.4	45.9
LnGrp LOS	D	C	D	E	C	C	D	D	D	E	D	D
Approach Vol, veh/h		1467			761			1273			739	
Approach Delay, s/veh		38.0			37.8			39.5			47.2	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	46.8	14.1	41.4	26.4	32.5	17.4	38.1
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	17.0	61.8	19.0	42.2	40.0	38.8	26.4	34.8
Max Q Clear Time (g_c+I1), s	8.4	30.5	10.2	26.6	22.0	21.2	13.2	14.1
Green Ext Time (p_c), s	0.1	10.0	0.1	8.9	0.4	5.2	0.2	4.8

Intersection Summary	
HCM 6th Ctrl Delay	40.0
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	225	21	487	299	309	20	83	380	258	103	2
Future Volume (veh/h)	2	225	21	487	299	309	20	83	380	258	103	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	2	237	22	513	315	325	21	87	400	272	108	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	115	376	35	659	296	305	42	466	698	290	567	11
Arrive On Green	0.06	0.22	0.22	0.19	0.35	0.35	0.02	0.25	0.25	0.08	0.31	0.31
Sat Flow, veh/h	1767	1672	155	3428	834	861	1767	1856	1572	3428	1816	34
Grp Volume(v), veh/h	2	0	259	513	0	640	21	87	400	272	0	110
Grp Sat Flow(s),veh/h/ln	1767	0	1828	1714	0	1695	1767	1856	1572	1714	0	1849
Q Serve(g_s), s	0.1	0.0	9.8	10.9	0.0	27.3	0.9	2.8	14.6	6.1	0.0	3.3
Cycle Q Clear(g_c), s	0.1	0.0	9.8	10.9	0.0	27.3	0.9	2.8	14.6	6.1	0.0	3.3
Prop In Lane	1.00		0.08	1.00		0.51	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	115	0	411	659	0	601	42	466	698	290	0	578
V/C Ratio(X)	0.02	0.00	0.63	0.78	0.00	1.06	0.51	0.19	0.57	0.94	0.00	0.19
Avail Cap(c_a), veh/h	413	0	575	940	0	601	115	801	981	290	0	834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.7	0.0	26.9	29.5	0.0	24.8	37.1	22.6	16.0	35.0	0.0	19.3
Incr Delay (d2), s/veh	0.1	0.0	1.6	3.4	0.0	55.0	9.2	0.3	1.1	36.9	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	4.3	4.7	0.0	19.4	0.5	1.2	5.0	3.9	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.7	0.0	28.5	32.9	0.0	79.8	46.3	22.9	17.0	72.0	0.0	19.6
LnGrp LOS	C	A	C	C	A	F	D	C	B	E	A	B
Approach Vol, veh/h		261			1153			508			382	
Approach Delay, s/veh		28.6			59.0			19.2			56.9	
Approach LOS		C			E			B			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	24.4	19.5	22.0	6.3	29.1	9.5	32.0
Change Period (Y+Rc), s	4.5	5.1	* 4.7	* 4.7	4.5	5.1	4.5	* 4.7
Max Green Setting (Gmax), s	6.5	33.2	* 21	* 24	5.0	34.7	18.0	* 27
Max Q Clear Time (g_c+I1), s	8.1	16.6	12.9	11.8	2.9	5.3	2.1	29.3
Green Ext Time (p_c), s	0.0	2.7	1.9	1.1	0.0	0.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	46.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	43.2
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	357	134	151	470	77	135	176	129	14	188	74
Future Vol, veh/h	17	357	134	151	470	77	135	176	129	14	188	74
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	18	376	141	159	495	81	142	185	136	15	198	78
Number of Lanes	1	2	0	1	2	0	1	1	1	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	1	3
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	3	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	3	1	3	3
HCM Control Delay	43.2	50.8	21	59.7
HCM LOS	E	F	C	F

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	6%	0%	5%
Vol Thru, %	0%	100%	0%	0%	100%	47%	0%	94%	75%	68%
Vol Right, %	0%	0%	100%	0%	0%	53%	0%	0%	25%	27%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	135	176	129	17	238	253	136	250	312	276
LT Vol	135	0	0	17	0	0	136	15	0	14
Through Vol	0	176	0	0	238	119	0	235	235	188
RT Vol	0	0	129	0	0	134	0	0	77	74
Lane Flow Rate	142	185	136	18	251	266	143	263	328	291
Geometry Grp	7	7	7	8	8	8	8	8	8	8
Degree of Util (X)	0.422	0.523	0.356	0.058	0.774	0.794	0.442	0.778	0.95	0.888
Departure Headway (Hd)	10.683	10.159	9.426	11.658	11.129	10.736	11.129	10.632	10.417	11.007
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	337	356	382	307	326	338	323	340	348	328
Service Time	8.445	7.92	7.187	9.435	8.906	8.513	8.901	8.404	8.189	8.78
HCM Lane V/C Ratio	0.421	0.52	0.356	0.059	0.77	0.787	0.443	0.774	0.943	0.887
HCM Control Delay	21.1	23.6	17.3	15.2	43.6	44.7	22.5	42.5	69.8	59.7
HCM Lane LOS	C	C	C	C	E	E	C	E	F	F
HCM 95th-tile Q	2	2.9	1.6	0.2	6.1	6.6	2.2	6.3	10	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	995	6	20	589	206	11	23	25	212	7	128
Future Volume (veh/h)	140	995	6	20	589	206	11	23	25	212	7	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	147	1047	6	21	620	217	12	24	26	223	7	135
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	187	1624	724	34	1318	588	16	32	34	295	310	263
Arrive On Green	0.11	0.46	0.46	0.02	0.37	0.37	0.05	0.05	0.05	0.17	0.17	0.17
Sat Flow, veh/h	1767	3526	1572	1767	3526	1572	331	662	717	1767	1856	1572
Grp Volume(v), veh/h	147	1047	6	21	620	217	62	0	0	223	7	135
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1767	1763	1572	1710	0	0	1767	1856	1572
Q Serve(g_s), s	5.4	15.2	0.1	0.8	8.9	6.7	2.4	0.0	0.0	8.0	0.2	5.2
Cycle Q Clear(g_c), s	5.4	15.2	0.1	0.8	8.9	6.7	2.4	0.0	0.0	8.0	0.2	5.2
Prop In Lane	1.00		1.00	1.00		1.00	0.19		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	187	1624	724	34	1318	588	82	0	0	295	310	263
V/C Ratio(X)	0.78	0.64	0.01	0.61	0.47	0.37	0.76	0.00	0.00	0.76	0.02	0.51
Avail Cap(c_a), veh/h	637	3349	1494	165	2406	1073	822	0	0	892	937	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	13.8	9.7	32.4	15.8	15.1	31.3	0.0	0.0	26.4	23.2	25.2
Incr Delay (d2), s/veh	2.7	0.6	0.0	6.5	0.4	0.6	13.3	0.0	0.0	3.9	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	5.1	0.0	0.4	3.2	2.2	1.2	0.0	0.0	3.5	0.1	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.7	14.4	9.7	38.9	16.2	15.7	44.6	0.0	0.0	30.3	23.2	26.8
LnGrp LOS	C	B	A	D	B	B	D	A	A	C	C	C
Approach Vol, veh/h		1200			858			62			365	
Approach Delay, s/veh		16.5			16.6			44.6			28.9	
Approach LOS		B			B			D			C	

Timer - Assigned Phs		2	3	4		6	7	8
Phs Duration (G+Y+Rc), s		8.3	5.3	36.4		16.5	11.1	30.7
Change Period (Y+Rc), s		5.1	4.0	5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		32.0	6.2	63.2		33.6	24.0	45.4
Max Q Clear Time (g_c+I1), s		4.4	2.8	17.2		10.0	7.4	10.9
Green Ext Time (p_c), s		0.3	0.0	13.5		1.1	0.2	7.8

Intersection Summary			
HCM 6th Ctrl Delay			19.1
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	41	222	717	124	224	133	1171	341	102	1055	9
Future Volume (veh/h)	66	41	222	717	124	224	133	1171	341	102	1055	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	68	42	229	739	128	231	137	1207	352	105	1088	9
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	86	32	177	782	184	331	159	1524	678	127	2147	18
Arrive On Green	0.05	0.13	0.13	0.38	0.52	0.52	0.18	0.86	0.86	0.07	0.41	0.41
Sat Flow, veh/h	1767	249	1356	3428	592	1069	1767	3526	1568	1767	5182	43
Grp Volume(v), veh/h	68	0	271	739	0	359	137	1207	352	105	709	388
Grp Sat Flow(s),veh/h/ln	1767	0	1604	1714	0	1661	1767	1763	1568	1767	1689	1848
Q Serve(g_s), s	5.3	0.0	18.3	29.2	0.0	22.8	10.5	20.6	7.7	8.2	21.8	21.8
Cycle Q Clear(g_c), s	5.3	0.0	18.3	29.2	0.0	22.8	10.5	20.6	7.7	8.2	21.8	21.8
Prop In Lane	1.00		0.85	1.00		0.64	1.00		1.00	1.00		0.02
Lane Grp Cap(c), veh/h	86	0	210	782	0	515	159	1524	678	127	1399	766
V/C Ratio(X)	0.79	0.00	1.29	0.95	0.00	0.70	0.86	0.79	0.52	0.83	0.51	0.51
Avail Cap(c_a), veh/h	151	0	210	857	0	515	242	1524	678	151	1399	766
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.92	0.00	0.92	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.9	0.0	60.9	42.5	0.0	28.8	56.6	6.8	5.9	64.1	30.4	30.4
Incr Delay (d2), s/veh	5.9	0.0	162.3	16.4	0.0	4.2	12.1	4.3	2.8	22.9	1.3	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	16.9	12.7	0.0	8.2	4.8	3.8	2.2	4.5	9.0	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.8	0.0	223.2	58.9	0.0	33.0	68.7	11.1	8.7	87.0	31.7	32.8
LnGrp LOS	E	A	F	E	A	C	E	B	A	F	C	C
Approach Vol, veh/h		339			1098			1696			1202	
Approach Delay, s/veh		192.8			50.4			15.2			36.9	
Approach LOS		F			D			B			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.1	66.3	35.9	23.7	16.6	63.8	10.8	48.8
Change Period (Y+Rc), s	4.0	5.8	4.0	* 5.4	4.0	5.8	4.0	5.4
Max Green Setting (Gmax), s	12.0	56.2	35.0	* 18	19.2	49.0	12.0	40.6
Max Q Clear Time (g_c+I1), s	10.2	22.6	31.2	20.3	12.5	23.8	7.3	24.8
Green Ext Time (p_c), s	0.0	17.7	0.7	0.0	0.1	10.5	0.0	2.7

Intersection Summary		
HCM 6th Ctrl Delay		44.0
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	2298	447	144	1409
Future Volume (veh/h)	0	0	2298	447	144	1409
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)				0.99	1.00	
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach			No			No
Adj Sat Flow, veh/h/ln			1856	1856	1856	1856
Adj Flow Rate, veh/h			2419	471	152	1483
Peak Hour Factor			0.95	0.95	0.95	0.95
Percent Heavy Veh, %			3	3	3	3
Cap, veh/h			2928	1297	173	3387
Arrive On Green			1.00	1.00	0.20	1.00
Sat Flow, veh/h			3618	1562	1767	3618
Grp Volume(v), veh/h			2419	471	152	1483
Grp Sat Flow(s),veh/h/ln			1763	1562	1767	1763
Q Serve(g_s), s			0.0	0.0	11.7	0.0
Cycle Q Clear(g_c), s			0.0	0.0	11.7	0.0
Prop In Lane				1.00	1.00	
Lane Grp Cap(c), veh/h			2928	1297	173	3387
V/C Ratio(X)			0.83	0.36	0.88	0.44
Avail Cap(c_a), veh/h			2928	1297	246	3387
HCM Platoon Ratio			2.00	2.00	2.00	2.00
Upstream Filter(I)			0.09	0.09	1.00	1.00
Uniform Delay (d), s/veh			0.0	0.0	55.4	0.0
Incr Delay (d2), s/veh			0.3	0.1	16.8	0.4
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.1	0.0	5.5	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			0.3	0.1	72.2	0.4
LnGrp LOS			A	A	E	A
Approach Vol, veh/h			2890			1635
Approach Delay, s/veh			0.2			7.1
Approach LOS			A			A
Timer - Assigned Phs	1	2				6
Phs Duration (G+Y+Rc), s	18.2	121.8				140.0
Change Period (Y+Rc), s	4.5	5.5				5.5
Max Green Setting (Gmax), s	19.5	110.5				134.5
Max Q Clear Time (g_c+I1), s	13.7	2.0				2.0
Green Ext Time (p_c), s	0.1	36.2				9.5
Intersection Summary						
HCM 6th Ctrl Delay			2.7			
HCM 6th LOS			A			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	516	350	622	660	0	809	0	1487	941	338	1245	0
Future Volume (veh/h)	516	350	622	660	0	809	0	1487	941	338	1245	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	527	357	635	673	0	826	0	1517	960	345	1270	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	1090	590	498	0	0	0	0	2442	756	158	2128	0
Arrive On Green	0.32	0.32	0.32	0.00	0.00	0.00	0.00	0.48	0.48	0.18	1.00	0.00
Sat Flow, veh/h	3428	1856	1568		0		0	5233	1568	1767	3618	0
Grp Volume(v), veh/h	527	357	635		0.0		0	1517	960	345	1270	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1568				0	1689	1568	1767	1763	0
Q Serve(g_s), s	17.3	22.8	44.5				0.0	31.0	67.5	12.5	0.0	0.0
Cycle Q Clear(g_c), s	17.3	22.8	44.5				0.0	31.0	67.5	12.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	1090	590	498				0	2442	756	158	2128	0
V/C Ratio(X)	0.48	0.61	1.27				0.00	0.62	1.27	2.19	0.60	0.00
Avail Cap(c_a), veh/h	1090	590	498				0	2442	756	158	2128	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.75	0.75	0.91	0.91	0.00
Uniform Delay (d), s/veh	38.5	40.3	47.8				0.0	26.8	36.3	57.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	1.3	138.3				0.0	0.9	129.5	552.4	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	10.7	36.4				0.0	12.3	51.7	29.2	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	41.6	186.0				0.0	27.7	165.7	609.9	1.1	0.0
LnGrp LOS	D	D	F				A	C	F	F	A	A
Approach Vol, veh/h		1519						2477			1615	
Approach Delay, s/veh		100.9						81.2			131.2	
Approach LOS		F						F			F	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	17.0	73.0	50.0	90.0
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	12.5	36.5	44.5	53.5
Max Q Clear Time (g_c+I1), s	14.5	69.5	46.5	2.0
Green Ext Time (p_c), s	0.0	0.0	0.0	12.3

Intersection Summary	
HCM 6th Ctrl Delay	100.9
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	922	197	152	1293	963	1067
Future Volume (veh/h)	922	197	152	1293	963	1067
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	971	207	160	1361	1014	1123
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	1237	568	226	2650	1466	1219
Arrive On Green	0.36	0.36	0.07	0.52	0.42	0.42
Sat Flow, veh/h	3428	1572	3428	5233	3618	1567
Grp Volume(v), veh/h	971	207	160	1361	1014	1123
Grp Sat Flow(s),veh/h/ln	1714	1572	1714	1689	1763	1567
Q Serve(g_s), s	24.4	9.4	4.4	16.9	22.8	40.2
Cycle Q Clear(g_c), s	24.4	9.4	4.4	16.9	22.8	40.2
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	1237	568	226	2650	1466	1219
V/C Ratio(X)	0.78	0.36	0.71	0.51	0.69	0.92
Avail Cap(c_a), veh/h	2007	921	291	2746	1466	1219
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	22.7	44.2	15.0	23.2	6.9
Incr Delay (d2), s/veh	1.6	0.6	3.2	0.2	1.6	11.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	9.2	1.9	5.9	9.1	30.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.1	23.3	47.5	15.2	24.7	18.5
LnGrp LOS	C	C	D	B	C	B
Approach Vol, veh/h	1178			1521	2137	
Approach Delay, s/veh	28.1			18.6	21.4	
Approach LOS	C			B	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		56.4		40.3	10.4	46.0
Change Period (Y+Rc), s		5.8		5.4	4.0	5.8
Max Green Setting (Gmax), s		52.4		56.6	8.2	40.2
Max Q Clear Time (g_c+I1), s		18.9		26.4	6.4	42.2
Green Ext Time (p_c), s		16.4		8.5	0.0	0.0

Intersection Summary		
HCM 6th Ctrl Delay		22.2
HCM 6th LOS		C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	594	527	458	771	783	403
Future Volume (veh/h)	594	527	458	771	783	403
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	625	555	482	812	824	424
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3
Cap, veh/h	993	455	511	2137	991	896
Arrive On Green	0.29	0.29	0.29	0.61	0.28	0.28
Sat Flow, veh/h	3428	1572	1767	3618	3618	1567
Grp Volume(v), veh/h	625	555	482	812	824	424
Grp Sat Flow(s),veh/h/ln	1714	1572	1767	1763	1763	1567
Q Serve(g_s), s	17.6	32.2	29.7	13.1	24.4	17.7
Cycle Q Clear(g_c), s	17.6	32.2	29.7	13.1	24.4	17.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	993	455	511	2137	991	896
V/C Ratio(X)	0.63	1.22	0.94	0.38	0.83	0.47
Avail Cap(c_a), veh/h	993	455	620	2434	1071	931
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	39.5	38.6	11.2	37.5	14.1
Incr Delay (d2), s/veh	1.5	117.1	19.6	0.2	5.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	14.8	15.1	4.7	10.9	11.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.8	156.6	58.2	11.4	43.2	14.6
LnGrp LOS	D	F	E	B	D	B
Approach Vol, veh/h	1180			1294	1248	
Approach Delay, s/veh	92.6			28.8	33.5	
Approach LOS	F			C	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		73.2		38.0	36.2	37.1
Change Period (Y+Rc), s		5.8		5.8	4.0	5.8
Max Green Setting (Gmax), s		76.8		32.2	39.0	33.8
Max Q Clear Time (g_c+I1), s		15.1		34.2	31.7	26.4
Green Ext Time (p_c), s		9.7		0.0	0.5	4.9

Intersection Summary			
HCM 6th Ctrl Delay			50.6
HCM 6th LOS			D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	109	542	150	34	434	350	189	831	20	348	816	97
Future Volume (veh/h)	109	542	150	34	434	350	189	831	20	348	816	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	114	565	156	35	452	365	197	866	21	362	850	101
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	137	880	242	45	501	403	222	1014	450	387	1342	597
Arrive On Green	0.08	0.32	0.32	0.03	0.27	0.27	0.13	0.29	0.29	0.22	0.38	0.38
Sat Flow, veh/h	1767	2730	751	1767	1854	1492	1767	3526	1566	1767	3526	1568
Grp Volume(v), veh/h	114	364	357	35	430	387	197	866	21	362	850	101
Grp Sat Flow(s),veh/h/ln	1767	1763	1719	1767	1763	1583	1767	1763	1566	1767	1763	1568
Q Serve(g_s), s	8.6	23.7	23.9	2.6	31.6	31.8	14.8	31.2	1.3	27.1	26.5	5.7
Cycle Q Clear(g_c), s	8.6	23.7	23.9	2.6	31.6	31.8	14.8	31.2	1.3	27.1	26.5	5.7
Prop In Lane	1.00		0.44	1.00		0.94	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	137	568	554	45	476	427	222	1014	450	387	1342	597
V/C Ratio(X)	0.83	0.64	0.64	0.78	0.90	0.91	0.89	0.85	0.05	0.94	0.63	0.17
Avail Cap(c_a), veh/h	184	573	558	114	503	452	363	1161	516	503	1442	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.2	38.9	39.0	65.2	47.4	47.4	57.8	45.2	34.6	51.6	34.0	27.6
Incr Delay (d2), s/veh	16.0	2.8	2.9	10.6	19.4	21.6	8.6	6.2	0.1	19.5	1.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	10.5	10.3	1.3	16.1	14.8	7.0	14.2	0.5	13.9	11.3	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.2	41.7	41.9	75.8	66.8	69.0	66.4	51.4	34.7	71.1	35.0	27.8
LnGrp LOS	E	D	D	E	E	E	E	D	C	E	C	C
Approach Vol, veh/h		835			852			1084			1313	
Approach Delay, s/veh		46.6			68.2			53.8			44.4	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.5	44.5	7.4	49.2	20.9	57.0	14.4	42.1
Change Period (Y+Rc), s	4.0	5.8	4.0	5.8	4.0	5.8	4.0	5.8
Max Green Setting (Gmax), s	38.3	44.3	8.7	43.7	27.6	55.0	14.0	38.4
Max Q Clear Time (g_c+I1), s	29.1	33.2	4.6	25.9	16.8	28.5	10.6	33.8
Green Ext Time (p_c), s	0.4	5.5	0.0	5.6	0.2	9.2	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	52.3
HCM 6th LOS	D

HCM Signalized Intersection Capacity Analysis
119: SR 60 WB Off Ramp/Shopping Access & Hemlock Ave 03/27/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	487	0	0	448	2	575	5	38	0	0	22
Future Volume (vph)	65	487	0	0	448	2	575	5	38	0	0	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Lane Util. Factor		0.95			0.95		0.95	0.95	1.00			1.00
Frpb, ped/bikes		1.00			1.00		1.00	1.00	0.98			1.00
Flpb, ped/bikes		1.00			1.00		1.00	1.00	1.00			1.00
Frt		1.00			1.00		1.00	1.00	0.85			0.86
Flt Protected		0.99			1.00		0.95	0.95	1.00			1.00
Satd. Flow (prot)		3481			3502		1665	1670	1543			1596
Flt Permitted		0.84			1.00		0.95	0.95	1.00			1.00
Satd. Flow (perm)		2958			3502		1665	1670	1543			1596
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	68	513	0	0	472	2	605	5	40	0	0	23
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	29	0	0	22
Lane Group Flow (vph)	0	581	0	0	474	0	302	308	11	0	0	1
Confl. Peds. (#/hr)	10		8	8		10			6	6		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA			NA		Split	NA	Perm			Prot
Protected Phases		6			2		4	4				3
Permitted Phases	6								4			
Actuated Green, G (s)		35.3			35.3		18.7	18.7	18.7			2.0
Effective Green, g (s)		35.3			35.3		18.7	18.7	18.7			2.0
Actuated g/C Ratio		0.50			0.50		0.27	0.27	0.27			0.03
Clearance Time (s)		5.0			5.0		5.0	5.0	5.0			4.0
Vehicle Extension (s)		2.0			2.0		2.0	2.0	2.0			2.0
Lane Grp Cap (vph)		1491			1766		444	446	412			45
v/s Ratio Prot					0.14		0.18	c0.18				c0.00
v/s Ratio Perm		c0.20							0.01			
v/c Ratio		0.39			0.27		0.68	0.69	0.03			0.01
Uniform Delay, d1		10.7			9.9		23.0	23.1	18.9			33.0
Progression Factor		1.23			1.00		1.00	1.00	1.00			1.00
Incremental Delay, d2		0.7			0.4		3.4	3.7	0.0			0.0
Delay (s)		13.8			10.3		26.4	26.8	18.9			33.1
Level of Service		B			B		C	C	B			C
Approach Delay (s)		13.8			10.3			26.1			33.1	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.0
Intersection Capacity Utilization	69.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Intersection						
Int Delay, s/veh	0.9					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	453	20	24	337	19	23
Future Vol, veh/h	453	20	24	337	19	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	477	21	25	355	20	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	498	0	716	249
Stage 1	-	-	-	-	488	-
Stage 2	-	-	-	-	228	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1055	-	363	748
Stage 1	-	-	-	-	580	-
Stage 2	-	-	-	-	785	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1055	-	352	748
Mov Cap-2 Maneuver	-	-	-	-	352	-
Stage 1	-	-	-	-	580	-
Stage 2	-	-	-	-	761	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	13
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	496	-	-	1055	-
HCM Lane V/C Ratio	0.089	-	-	0.024	-
HCM Control Delay (s)	13	-	-	8.5	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection						
Int Delay, s/veh	0.4					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	335	9	9	356	9	7
Future Vol, veh/h	335	9	9	356	9	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	353	9	9	375	9	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	362	0	564	181
Stage 1	-	-	-	-	358	-
Stage 2	-	-	-	-	206	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1193	-	456	831
Stage 1	-	-	-	-	678	-
Stage 2	-	-	-	-	808	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1193	-	451	831
Mov Cap-2 Maneuver	-	-	-	-	451	-
Stage 1	-	-	-	-	678	-
Stage 2	-	-	-	-	800	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	564	-	-	1193	-
HCM Lane V/C Ratio	0.03	-	-	0.008	-
HCM Control Delay (s)	11.6	-	-	8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	0.7					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	22	28	364	338	4
Future Vol, veh/h	1	22	28	364	338	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	23	29	383	356	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	608	180	360	0	-	0
Stage 1	358	-	-	-	-	-
Stage 2	250	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	427	832	1195	-	-	-
Stage 1	678	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	414	832	1195	-	-	-
Mov Cap-2 Maneuver	414	-	-	-	-	-
Stage 1	657	-	-	-	-	-
Stage 2	768	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	0.7	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1195	-	797	-	-
HCM Lane V/C Ratio	0.025	-	0.03	-	-
HCM Control Delay (s)	8.1	0.1	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection						
Int Delay, s/veh	2.6					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	59	58	60	475	613	62
Future Vol, veh/h	59	58	60	475	613	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	75	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	62	61	63	500	645	65

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1054	355	710	0	-	0
Stage 1	678	-	-	-	-	-
Stage 2	376	-	-	-	-	-
Critical Hdwy	6.86	6.96	4.16	-	-	-
Critical Hdwy Stg 1	5.86	-	-	-	-	-
Critical Hdwy Stg 2	5.86	-	-	-	-	-
Follow-up Hdwy	3.53	3.33	2.23	-	-	-
Pot Cap-1 Maneuver	220	638	878	-	-	-
Stage 1	463	-	-	-	-	-
Stage 2	661	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	204	638	878	-	-	-
Mov Cap-2 Maneuver	204	-	-	-	-	-
Stage 1	430	-	-	-	-	-
Stage 2	661	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.3	1.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	878	-	308	-	-
HCM Lane V/C Ratio	0.072	-	0.4	-	-
HCM Control Delay (s)	9.4	-	24.3	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.9	-	-

Intersection						
Int Delay, s/veh	1.2					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	31	463	567	50	45	34
Future Vol, veh/h	31	463	567	50	45	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	33	487	597	53	47	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	650	0	-	0	934	325
Stage 1	-	-	-	-	624	-
Stage 2	-	-	-	-	310	-
Critical Hdwy	4.16	-	-	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	2.23	-	-	-	3.53	3.33
Pot Cap-1 Maneuver	925	-	-	-	263	668
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	714	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	925	-	-	-	254	668
Mov Cap-2 Maneuver	-	-	-	-	369	-
Stage 1	-	-	-	-	476	-
Stage 2	-	-	-	-	714	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	925	-	-	-	369	668
HCM Lane V/C Ratio	0.035	-	-	-	0.128	0.054
HCM Control Delay (s)	9	-	-	-	16.2	10.7
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4	0.2

Appendix R

Year 2040 Total Traffic Conditions Intersection Queueing Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	153	546	92	658	1104	402	746	481	503	97
v/c Ratio	0.86	0.64	0.19	0.86	0.86	0.50	0.93	0.37	0.63	0.19
Control Delay	87.3	39.1	1.7	51.3	37.2	4.4	58.2	9.3	38.8	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.3	39.1	1.7	51.3	37.2	4.4	58.2	9.3	38.8	0.9
Queue Length 50th (ft)	107	182	0	224	370	0	262	63	159	0
Queue Length 95th (ft)	#221	244	8	#300	#484	59	#374	96	215	0
Internal Link Dist (ft)		1391			914					
Turn Bay Length (ft)	250		50	275			250	230	500	500
Base Capacity (vph)	183	854	488	801	1283	803	819	1316	819	506
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.64	0.19	0.82	0.86	0.50	0.91	0.37	0.61	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	700	731	172	116	1175	143	431	417	51	69	435
v/c Ratio	1.03	0.37	0.24	0.64	0.81	0.25	0.98	0.43	0.44	0.42	0.68
Control Delay	86.7	26.0	4.9	63.7	42.8	4.6	81.2	32.4	62.2	55.4	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.7	26.0	4.9	63.7	42.8	4.6	81.2	32.4	62.2	55.4	10.2
Queue Length 50th (ft)	~274	133	0	81	284	0	306	120	36	48	0
Queue Length 95th (ft)	#420	194	48	142	364	36	#544	172	77	94	50
Internal Link Dist (ft)		914			2001			1265		3471	
Turn Bay Length (ft)	300		360	100		30	150		160		
Base Capacity (vph)	680	1986	723	262	1444	566	439	1647	150	612	1206
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.37	0.24	0.44	0.81	0.25	0.98	0.25	0.34	0.11	0.36

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	874	483	913	424	90	1048
v/c Ratio	0.87	0.65	0.59	0.32	0.50	0.50
Control Delay	43.8	23.1	9.8	0.5	51.5	12.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.8	23.1	9.8	0.5	51.5	12.8
Queue Length 50th (ft)	265	203	55	0	55	194
Queue Length 95th (ft)	342	294	83	0	103	246
Internal Link Dist (ft)	741		655			394
Turn Bay Length (ft)	350	500		180	200	
Base Capacity (vph)	1052	792	1542	1339	236	2095
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.61	0.59	0.32	0.38	0.50

Intersection Summary

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Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	564	82	1285	646	94	1891
v/c Ratio	0.74	0.14	0.69	0.49	0.56	0.55
Control Delay	42.7	13.0	20.4	2.6	54.0	6.3
Queue Delay	0.0	0.0	0.8	0.5	0.0	0.0
Total Delay	42.7	13.0	21.2	3.1	54.0	6.3
Queue Length 50th (ft)	171	19	316	36	51	198
Queue Length 95th (ft)	225	49	413	66	m86	211
Internal Link Dist (ft)	678		452			142
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	842	625	1871	1359	192	3424
Starvation Cap Reductn	0	0	293	325	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.13	0.81	0.62	0.49	0.55

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	262	36	52	36	58	120	89	1703	178	1912	400
v/c Ratio	0.70	0.11	0.14	0.35	0.26	0.38	0.64	0.75	0.72	0.74	0.26
Control Delay	62.8	39.9	0.8	68.4	49.4	5.9	76.9	30.4	67.8	25.9	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Total Delay	62.8	39.9	0.8	68.4	49.4	5.9	76.9	30.5	67.8	26.9	6.7
Queue Length 50th (ft)	97	24	0	26	42	0	65	353	127	360	26
Queue Length 95th (ft)	#209	52	0	75	80	25	#190	645	#314	697	86
Internal Link Dist (ft)		2884			460			643		452	
Turn Bay Length (ft)	170			140			180		145		
Base Capacity (vph)	406	798	732	135	712	692	147	2482	271	2853	1657
Starvation Cap Reductn	0	0	0	0	0	0	0	51	0	616	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.05	0.07	0.27	0.08	0.17	0.61	0.70	0.66	0.85	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	56	87	48	105	152	142	1617	135	1871	74
v/c Ratio	0.28	0.32	0.39	0.21	0.45	0.49	0.62	0.51	0.72	0.07
Control Delay	52.7	20.1	58.0	36.3	13.3	51.9	19.2	53.3	21.4	4.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.7	20.1	58.0	36.3	13.3	51.9	19.2	53.3	21.4	4.1
Queue Length 50th (ft)	15	18	26	28	10	39	210	37	265	2
Queue Length 95th (ft)	47	59	#93	54	61	#108	482	#109	600	29
Internal Link Dist (ft)		786		1093			2183		643	
Turn Bay Length (ft)	190		190			140		180		
Base Capacity (vph)	200	848	134	1772	848	307	3189	275	3186	1023
Starvation Cap Reductn	0	0	0	0	0	0	0	0	7	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.10	0.36	0.06	0.18	0.46	0.51	0.49	0.59	0.07

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
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Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	368	476	146	963	228	477	1285	228	1396	312
v/c Ratio	1.50	0.37	0.82	0.87	0.46	1.55	1.00	1.00	1.23	0.38
Control Delay	286.5	34.0	94.1	62.3	13.0	300.1	68.5	120.7	153.1	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	286.5	34.0	94.1	62.3	13.0	300.1	68.5	120.7	153.1	16.3
Queue Length 50th (ft)	~464	102	131	311	26	~610	~614	~212	~826	119
Queue Length 95th (ft)	#666	138	#234	368	104	#829	#780	#388	#966	190
Internal Link Dist (ft)		2001		2146			961		2183	
Turn Bay Length (ft)	100		170		200	150		180		
Base Capacity (vph)	245	1291	196	1120	498	308	1286	227	1132	830
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.50	0.37	0.74	0.86	0.46	1.55	1.00	1.00	1.23	0.38

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	35	371	185	38	517	45	463	328	33	166
v/c Ratio	0.26	0.29	0.37	0.28	0.59	0.10	0.77	0.20	0.25	0.32
Control Delay	56.4	32.0	12.5	56.4	36.6	0.4	38.6	16.2	57.2	39.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.4	32.0	12.5	56.4	36.6	0.4	38.6	16.2	57.2	39.2
Queue Length 50th (ft)	19	62	15	21	136	0	231	61	18	42
Queue Length 95th (ft)	71	139	95	75	296	0	516	115	69	102
Internal Link Dist (ft)		2146			1008			3484		1272
Turn Bay Length (ft)	160		70	150		70	200		190	
Base Capacity (vph)	214	2176	753	214	1514	725	1300	3039	177	1337
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.17	0.25	0.18	0.34	0.06	0.36	0.11	0.19	0.12

Intersection Summary

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	2	70	162	242	41	40	262	69	29
v/c Ratio	0.01	0.19	0.20	0.37	0.14	0.10	0.23	0.14	0.06
Control Delay	24.0	17.2	18.3	11.2	22.2	19.8	2.3	22.3	19.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.0	17.2	18.3	11.2	22.2	19.8	2.3	22.3	19.2
Queue Length 50th (ft)	1	14	20	33	10	10	0	9	5
Queue Length 95th (ft)	6	46	50	108	39	36	35	28	29
Internal Link Dist (ft)		220		1668		260			246
Turn Bay Length (ft)	50				75		65	50	
Base Capacity (vph)	255	881	2103	1390	395	1502	1283	632	1446
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.08	0.08	0.17	0.10	0.03	0.20	0.11	0.02

Intersection Summary

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	79	228	4	20	642	77	62	135	7	124
v/c Ratio	0.37	0.15	0.01	0.14	0.54	0.13	0.61	0.41	0.02	0.32
Control Delay	46.7	18.9	0.0	50.3	27.6	2.9	45.5	39.1	35.6	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.7	18.9	0.0	50.3	27.6	2.9	45.5	39.1	35.6	9.8
Queue Length 50th (ft)	34	28	0	9	127	0	11	56	3	0
Queue Length 95th (ft)	121	104	0	46	322	17	71	166	18	52
Internal Link Dist (ft)		895			1309		113		677	
Turn Bay Length (ft)	320		100	140		100		200		
Base Capacity (vph)	466	2682	1219	191	2275	1056	279	921	970	883
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.09	0.00	0.10	0.28	0.07	0.22	0.15	0.01	0.14

Intersection Summary

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	8	82	577	298	71	955	211	106	1103
v/c Ratio	0.13	0.50	0.85	0.49	0.57	0.53	0.25	0.66	0.40
Control Delay	69.6	30.2	61.9	15.9	79.3	26.0	11.3	80.4	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	69.6	30.2	61.9	15.9	79.3	26.0	11.3	80.4	20.8
Queue Length 50th (ft)	7	14	270	72	64	294	45	95	210
Queue Length 95th (ft)	26	67	313	150	114	450	119	154	309
Internal Link Dist (ft)		117		450		252			761
Turn Bay Length (ft)			260		240		90	200	
Base Capacity (vph)	68	269	825	682	160	1799	848	205	2751
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.30	0.70	0.44	0.44	0.53	0.25	0.52	0.40

Intersection Summary

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Lane Group	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1733	288	223	1220
v/c Ratio	0.64	0.23	0.81	0.35
Control Delay	7.2	0.5	77.5	0.3
Queue Delay	26.1	1.5	0.0	0.4
Total Delay	33.3	2.0	77.5	0.6
Queue Length 50th (ft)	132	0	198	0
Queue Length 95th (ft)	m155	m3	276	0
Internal Link Dist (ft)	119			398
Turn Bay Length (ft)			340	
Base Capacity (vph)	2698	1273	406	3505
Starvation Cap Reductn	1041	789	0	0
Spillback Cap Reductn	0	0	0	1546
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.05	0.60	0.55	0.62

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

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Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	323	254	353	514	571	1052	412	185	1131
v/c Ratio	0.42	0.61	0.84	0.81	1.04	0.69	0.44	0.77	0.68
Control Delay	46.7	53.8	54.8	66.0	73.5	47.1	12.3	77.8	32.8
Queue Delay	0.2	0.0	0.0	0.0	22.5	0.5	0.4	66.5	9.9
Total Delay	46.9	53.8	54.8	66.0	96.0	47.6	12.7	144.3	42.6
Queue Length 50th (ft)	130	210	234	234	~310	317	109	161	412
Queue Length 95th (ft)	156	268	320	#301	#544	397	213	#323	583
Internal Link Dist (ft)		1417				541			119
Turn Bay Length (ft)	1000		600	140			75	60	
Base Capacity (vph)	1068	579	547	631	549	1533	927	241	1663
Starvation Cap Reductn	0	0	0	0	0	0	171	113	509
Spillback Cap Reductn	221	0	0	0	48	158	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.44	0.65	0.81	1.14	0.77	0.54	1.45	0.98

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	464	81	82	1004	1342	457
v/c Ratio	0.54	0.18	0.33	0.33	0.73	0.33
Control Delay	33.3	8.3	50.2	8.7	20.3	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.1	0.2
Total Delay	33.3	8.3	50.2	8.7	20.4	1.8
Queue Length 50th (ft)	121	0	23	86	302	25
Queue Length 95th (ft)	202	38	58	150	485	41
Internal Link Dist (ft)	1668			931	541	
Turn Bay Length (ft)			130			
Base Capacity (vph)	1484	720	291	4089	2525	1506
Starvation Cap Reductn	0	0	0	0	168	363
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.11	0.28	0.25	0.57	0.40

Intersection Summary

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Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	345	185	358	702	860	312
v/c Ratio	0.48	0.39	0.78	0.31	0.72	0.33
Control Delay	35.0	7.9	45.4	7.5	31.2	3.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.0	7.9	45.4	7.5	31.2	3.8
Queue Length 50th (ft)	88	0	183	75	213	19
Queue Length 95th (ft)	157	55	360	153	398	64
Internal Link Dist (ft)	1309			1278	931	
Turn Bay Length (ft)		100	330			100
Base Capacity (vph)	1300	705	733	2986	1591	1186
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.26	0.49	0.24	0.54	0.26

Intersection Summary

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Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	178	328	98	944	127	649	116	173	642	139
v/c Ratio	0.76	0.26	0.62	0.83	0.69	0.75	0.24	0.75	0.67	0.28
Control Delay	79.3	28.2	80.3	48.3	80.3	53.2	5.9	78.7	47.7	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	79.3	28.2	80.3	48.3	80.3	53.2	5.9	78.7	47.7	12.2
Queue Length 50th (ft)	159	95	88	394	114	290	0	154	275	16
Queue Length 95th (ft)	262	154	160	552	197	390	37	253	370	75
Internal Link Dist (ft)		3484		721		1028			1278	
Turn Bay Length (ft)	200		150		190		190	130		190
Base Capacity (vph)	318	1503	228	1320	260	1101	572	318	1217	607
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.22	0.43	0.72	0.49	0.59	0.20	0.54	0.53	0.23

Intersection Summary

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Lane Group	EBT	WBT	NBL	NBT	NBR	SBR
Lane Group Flow (vph)	330	801	176	180	24	7
v/c Ratio	0.16	0.36	0.61	0.62	0.07	0.02
Control Delay	8.1	6.0	35.1	35.6	0.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.1	6.0	35.1	35.6	0.4	0.1
Queue Length 50th (ft)	64	47	74	76	0	0
Queue Length 95th (ft)	91	137	123	125	0	0
Internal Link Dist (ft)	450	555		317		
Turn Bay Length (ft)					120	
Base Capacity (vph)	2129	2219	570	572	599	397
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.36	0.31	0.31	0.04	0.02

Intersection Summary

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	263	855	263	857	852	554	301	861	894	316
v/c Ratio	0.95	1.07	0.56	1.07	0.80	0.66	0.37	0.60	1.09	0.52
Control Delay	88.9	91.9	20.0	92.4	38.6	6.6	33.2	14.8	97.4	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.9	91.9	20.0	92.4	38.6	6.6	33.2	14.8	97.4	6.9
Queue Length 50th (ft)	185	~353	66	~347	282	0	87	188	~367	0
Queue Length 95th (ft)	#347	#478	153	#470	363	88	127	254	#492	70
Internal Link Dist (ft)		1391			914					
Turn Bay Length (ft)	250		50	275			250	230	500	500
Base Capacity (vph)	276	798	466	798	1068	834	819	1440	819	604
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.95	1.07	0.56	1.07	0.80	0.66	0.37	0.60	1.09	0.52

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	646	1599	421	73	656	154	253	634	166	368	1324
v/c Ratio	1.12	0.82	0.49	0.70	0.49	0.30	1.05	0.61	0.82	0.70	1.11
Control Delay	125.9	42.7	4.6	95.4	43.9	10.6	126.8	38.0	88.4	52.2	88.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	125.9	42.7	4.6	95.4	43.9	10.6	126.8	38.0	88.4	52.2	88.3
Queue Length 50th (ft)	~346	472	0	65	181	15	~248	223	146	298	~556
Queue Length 95th (ft)	#468	535	68	#140	223	71	#424	291	#249	415	#709
Internal Link Dist (ft)		914			2001			1265		3471	
Turn Bay Length (ft)	300		360	100		30	150		160		
Base Capacity (vph)	577	1963	870	113	1381	519	242	1043	229	527	1192
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.12	0.81	0.48	0.65	0.48	0.30	1.05	0.61	0.72	0.70	1.11

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	917	278	1709	543	70	1175
v/c Ratio	0.96	0.45	0.97	0.40	0.76	0.55
Control Delay	57.4	24.9	20.0	0.4	92.8	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	24.9	20.0	0.4	92.8	12.5
Queue Length 50th (ft)	296	125	317	0	45	211
Queue Length 95th (ft)	#423	200	m341	m5	#122	266
Internal Link Dist (ft)	741		655			394
Turn Bay Length (ft)	350	500		180	200	
Base Capacity (vph)	955	618	1770	1343	92	2148
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.45	0.97	0.40	0.76	0.55

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	920	439	1833	931	126	2056
v/c Ratio	1.03	0.72	1.01	0.76	1.03	0.64
Control Delay	74.1	34.0	47.4	8.1	129.7	7.0
Queue Delay	0.0	0.0	35.5	0.4	0.0	0.0
Total Delay	74.1	34.0	82.9	8.4	129.7	7.0
Queue Length 50th (ft)	~324	231	~597	147	~81	156
Queue Length 95th (ft)	#445	351	#785	251	m#156	m182
Internal Link Dist (ft)	678		452			142
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	897	609	1822	1233	122	3223
Starvation Cap Reductn	0	0	234	54	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.03	0.72	1.15	0.79	1.03	0.64

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	669	174	268	38	89	279	199	2043	222	2097	664
v/c Ratio	1.14	0.31	0.42	0.39	0.33	0.76	1.14	1.00	1.09	0.98	0.48
Control Delay	129.7	36.2	7.5	72.7	49.9	32.7	160.4	57.1	141.8	51.7	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.0	0.1
Total Delay	129.7	36.2	7.5	72.7	49.9	32.7	160.4	57.1	141.8	92.7	14.0
Queue Length 50th (ft)	~311	114	13	29	66	85	~179	567	~193	574	90
Queue Length 95th (ft)	#570	177	77	78	114	179	#424	#979	#453	#987	205
Internal Link Dist (ft)		2884			460			643		452	
Turn Bay Length (ft)	170			140			180		145		
Base Capacity (vph)	585	837	836	125	644	651	175	2045	203	2138	1375
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	317	94
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.14	0.21	0.32	0.30	0.14	0.43	1.14	1.00	1.09	1.15	0.52

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	236	466	104	318	368	297	1875	413	1947	72
v/c Ratio	0.99	0.90	0.82	0.32	0.65	1.01	1.00	1.13	0.97	0.10
Control Delay	114.1	57.0	100.2	35.0	24.5	111.2	59.7	138.0	50.4	7.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	114.1	57.0	100.2	35.0	24.5	111.2	59.7	138.0	50.4	7.1
Queue Length 50th (ft)	~98	312	83	104	130	~128	~552	~197	550	7
Queue Length 95th (ft)	#200	453	#200	143	236	#239	#742	#326	#746	35
Internal Link Dist (ft)		786		1093			2183		643	
Turn Bay Length (ft)	190		190			140		180		
Base Capacity (vph)	238	639	127	1260	668	294	1871	364	2012	754
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.73	0.82	0.25	0.55	1.01	1.00	1.13	0.97	0.10

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	608	1390	214	474	189	117	1125	320	1497	303
v/c Ratio	1.53	0.90	0.93	0.44	0.40	1.24	1.12	1.45	1.18	0.32
Control Delay	286.3	53.3	102.8	48.6	8.5	223.7	113.8	266.2	130.2	10.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	286.3	53.3	102.8	48.6	8.5	223.7	113.8	266.2	130.2	10.9
Queue Length 50th (ft)	~775	430	195	136	0	~132	~623	~397	~864	97
Queue Length 95th (ft)	#1011	495	#349	174	64	#262	#764	#589	#1004	150
Internal Link Dist (ft)		2001		2146			961		2183	
Turn Bay Length (ft)	100		170		200	150		180		
Base Capacity (vph)	398	1575	236	1127	488	94	1000	221	1265	940
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.53	0.88	0.91	0.42	0.39	1.24	1.13	1.45	1.18	0.32

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	110	946	512	142	353	108	274	725	93	642
v/c Ratio	0.66	0.58	0.82	0.75	0.30	0.18	0.83	0.63	0.62	0.78
Control Delay	83.8	41.6	39.9	87.7	36.4	8.8	77.7	39.7	84.2	58.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	83.8	41.6	39.9	87.7	36.4	8.8	77.7	39.7	84.2	58.1
Queue Length 50th (ft)	107	276	305	137	129	4	262	296	90	311
Queue Length 95th (ft)	180	352	503	#245	194	52	#385	382	158	401
Internal Link Dist (ft)		2146			951			3484		1272
Turn Bay Length (ft)	160		70	150		70	200		190	
Base Capacity (vph)	246	1946	711	237	1363	661	436	1418	216	1016
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.49	0.72	0.60	0.26	0.16	0.63	0.51	0.43	0.63

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	2	259	355	449	17	73	323	237	95
v/c Ratio	0.02	0.66	0.50	0.54	0.13	0.23	0.44	0.53	0.15
Control Delay	40.5	36.3	29.4	16.6	41.6	28.5	6.7	36.9	19.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.5	36.3	29.4	16.6	41.6	28.5	6.7	36.9	19.0
Queue Length 50th (ft)	1	92	65	92	7	27	28	46	26
Queue Length 95th (ft)	9	#242	151	328	33	69	79	118	77
Internal Link Dist (ft)		232		1668		331			236
Turn Bay Length (ft)	50				75		65	50	
Base Capacity (vph)	130	558	1062	954	129	899	874	554	1046
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.46	0.33	0.47	0.13	0.08	0.37	0.43	0.09

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	144	1094	23	25	444	169	64	218	8	111
v/c Ratio	0.57	0.70	0.03	0.22	0.42	0.30	0.97	0.61	0.02	0.27
Control Delay	59.3	29.1	0.1	64.7	31.4	12.7	143.9	51.8	44.2	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.3	29.1	0.1	64.7	31.4	12.7	143.9	51.8	44.2	10.5
Queue Length 50th (ft)	94	321	0	17	117	22	~37	139	5	0
Queue Length 95th (ft)	212	569	0	59	234	95	#141	290	23	53
Internal Link Dist (ft)		955			1309		113		677	
Turn Bay Length (ft)	320		100	140		100				200
Base Capacity (vph)	468	2357	1081	148	1964	931	154	672	708	671
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.46	0.02	0.17	0.23	0.18	0.42	0.32	0.01	0.17

Intersection Summary

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Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	30	203	621	288	96	1505	443	93	905
v/c Ratio	0.39	0.75	0.94	0.56	0.66	0.84	0.52	0.70	0.36
Control Delay	79.8	37.2	75.3	33.7	82.4	36.0	19.4	89.6	22.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0
Total Delay	79.8	37.2	75.3	33.7	82.4	37.1	19.4	89.6	22.9
Queue Length 50th (ft)	27	54	303	172	86	634	196	83	180
Queue Length 95th (ft)	63	138	#405	222	145	770	309	#188	247
Internal Link Dist (ft)		117		450		252			761
Turn Bay Length (ft)			260		240		90	200	
Base Capacity (vph)	85	334	680	542	193	1785	847	134	2520
Starvation Cap Reductn	0	0	0	0	0	110	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.61	0.91	0.53	0.50	0.90	0.52	0.69	0.36

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	2320	512	139	1195
v/c Ratio	0.81	0.40	0.74	0.34
Control Delay	8.7	0.3	82.9	0.3
Queue Delay	47.3	5.8	0.0	0.5
Total Delay	56.0	6.1	82.9	0.8
Queue Length 50th (ft)	321	0	124	0
Queue Length 95th (ft)	m131	m4	193	0
Internal Link Dist (ft)	119			398
Turn Bay Length (ft)			340	
Base Capacity (vph)	2878	1295	244	3505
Starvation Cap Reductn	1068	713	0	0
Spillback Cap Reductn	0	0	0	1711
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.28	0.88	0.57	0.67

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	580	735	528	453	578	1636	813	245	1034
v/c Ratio	0.51	1.20	0.92	0.78	1.40	1.18	1.12	1.87	0.77
Control Delay	39.6	146.2	59.1	65.7	224.8	133.8	105.1	451.7	42.5
Queue Delay	0.2	0.0	0.0	0.0	1.0	0.6	0.0	3.5	49.8
Total Delay	39.8	146.2	59.1	65.7	225.7	134.3	105.1	455.2	92.3
Queue Length 50th (ft)	219	~810	395	205	~568	~653	~828	~339	431
Queue Length 95th (ft)	277	#1056	#621	268	#804	#749	#819	#515	517
Internal Link Dist (ft)		1417				541			119
Turn Bay Length (ft)	1000		600	140			75	60	
Base Capacity (vph)	1129	612	575	582	412	1384	723	131	1339
Starvation Cap Reductn	0	0	0	0	0	0	0	20	483
Spillback Cap Reductn	114	0	0	0	38	184	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	1.20	0.92	0.78	1.55	1.36	1.12	2.21	1.21

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	804	207	144	1559	991	788
v/c Ratio	0.64	0.30	0.50	0.60	0.74	0.61
Control Delay	29.4	4.7	53.2	18.3	30.1	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.5
Total Delay	29.4	4.7	53.2	18.3	30.2	5.4
Queue Length 50th (ft)	215	0	46	254	289	108
Queue Length 95th (ft)	335	50	90	324	391	181
Internal Link Dist (ft)	1668			931	541	
Turn Bay Length (ft)			130			
Base Capacity (vph)	1566	823	359	3481	1904	1414
Starvation Cap Reductn	0	0	0	0	53	267
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.25	0.40	0.45	0.54	0.69

Intersection Summary

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	581	520	381	963	982	297
v/c Ratio	0.67	0.78	0.87	0.43	0.82	0.30
Control Delay	41.0	21.7	60.2	10.9	40.1	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	21.7	60.2	10.9	40.1	4.5
Queue Length 50th (ft)	203	118	275	177	355	35
Queue Length 95th (ft)	268	268	#434	226	454	72
Internal Link Dist (ft)	1309			1278	931	
Turn Bay Length (ft)		100	330			100
Base Capacity (vph)	1050	729	537	2583	1372	1066
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.71	0.71	0.37	0.72	0.28

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	116	800	54	822	159	930	54	407	947	111
v/c Ratio	0.91	0.84	0.63	0.93	0.80	0.96	0.10	0.98	0.68	0.16
Control Delay	111.2	46.2	81.9	51.0	75.3	60.5	0.4	82.8	30.5	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	111.2	46.2	81.9	51.0	75.3	60.5	0.4	82.8	30.5	5.2
Queue Length 50th (ft)	83	279	38	251	110	340	0	287	291	2
Queue Length 95th (ft)	#193	#388	#98	#372	#208	#473	0	#486	365	37
Internal Link Dist (ft)		3484		721		1028			1278	
Turn Bay Length (ft)	200		150		190		190	130		190
Base Capacity (vph)	127	955	89	888	218	969	532	414	1399	678
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	0.84	0.61	0.93	0.73	0.96	0.10	0.98	0.68	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBR
Lane Group Flow (vph)	610	420	273	275	34	12
v/c Ratio	0.33	0.21	0.66	0.66	0.07	0.05
Control Delay	10.4	9.8	30.0	30.1	0.3	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.4	9.8	30.0	30.1	0.3	0.4
Queue Length 50th (ft)	70	36	112	113	0	0
Queue Length 95th (ft)	233	108	146	147	0	0
Internal Link Dist (ft)	450	555		317		
Turn Bay Length (ft)					120	
Base Capacity (vph)	1873	2036	591	593	610	356
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.21	0.46	0.46	0.06	0.03

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Group Flow (vph)	113	556	134	1068	649	491	492	1491	912	152
v/c Ratio	0.64	0.86	0.33	1.12	0.51	0.58	0.61	0.96	1.13	0.30
Control Delay	62.0	55.8	6.9	103.2	25.1	5.0	38.2	32.4	111.8	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.0	55.8	6.9	103.2	25.1	5.0	38.2	32.4	111.8	4.5
Queue Length 50th (ft)	76	197	0	~451	172	0	155	499	~388	0
Queue Length 95th (ft)	134	#281	41	#579	236	70	212	#739	#512	33
Internal Link Dist (ft)		1391			914					
Turn Bay Length (ft)	250		50	275			250	230	500	500
Base Capacity (vph)	218	678	418	953	1273	852	805	1560	805	501
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.82	0.32	1.12	0.51	0.58	0.61	0.96	1.13	0.30

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	1081	1510	145	60	756	223	172	743	186	282	1234
v/c Ratio	1.36	0.70	0.19	0.54	0.64	0.48	0.91	0.74	1.21	0.55	0.96
Control Delay	210.6	33.6	4.3	79.1	47.6	20.6	103.0	44.5	189.3	46.2	37.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	210.6	33.6	4.3	79.1	47.6	20.6	103.0	44.5	189.3	46.2	37.0
Queue Length 50th (ft)	~647	395	0	51	214	64	151	285	~200	211	306
Queue Length 95th (ft)	#815	459	41	102	259	142	#307	377	#369	319	#505
Internal Link Dist (ft)		914			2001			1265		3471	
Turn Bay Length (ft)	300		360	100		30	150		160		
Base Capacity (vph)	793	2290	792	139	1462	548	190	1014	154	521	1294
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.36	0.66	0.18	0.43	0.52	0.41	0.91	0.73	1.21	0.54	0.95

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1371	355	1238	695	70	1243
v/c Ratio	1.01	0.44	0.91	0.56	0.76	0.72
Control Delay	56.9	17.4	23.1	1.4	92.8	22.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.9	17.4	23.1	1.4	92.8	22.7
Queue Length 50th (ft)	~448	133	251	0	45	313
Queue Length 95th (ft)	#605	207	m223	m0	#122	393
Internal Link Dist (ft)	741		655			394
Turn Bay Length (ft)	350	500		180	200	
Base Capacity (vph)	1363	806	1356	1252	92	1734
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.01	0.44	0.91	0.56	0.76	0.72

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	990	160	1939	1005	114	2557
v/c Ratio	1.06	0.26	1.06	0.81	1.09	0.81
Control Delay	84.0	22.0	65.5	9.9	133.8	11.5
Queue Delay	0.0	0.0	15.3	0.5	0.0	0.0
Total Delay	84.0	22.0	80.8	10.4	133.8	11.5
Queue Length 50th (ft)	~360	66	~721	168	~80	389
Queue Length 95th (ft)	#485	116	#860	300	m#111	m431
Internal Link Dist (ft)	678		452			142
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	931	608	1822	1245	105	3172
Starvation Cap Reductn	0	0	218	46	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.06	0.26	1.21	0.84	1.09	0.81

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	733	228	331	82	136	332	288	2185	287	2398	875
v/c Ratio	1.71	0.48	0.58	0.56	0.40	0.78	1.68	1.08	1.68	1.17	0.64
Control Delay	361.0	38.5	14.5	64.7	40.7	31.9	362.7	76.5	360.3	114.3	15.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Total Delay	361.0	38.5	14.5	64.7	40.7	31.9	362.7	76.5	360.3	114.4	15.3
Queue Length 50th (ft)	~370	138	51	54	83	106	~280	~587	~279	~693	119
Queue Length 95th (ft)	#628	215	140	122	136	202	#565	#968	#562	#1094	271
Internal Link Dist (ft)		2884			460			643		452	
Turn Bay Length (ft)	170			140			180		145		
Base Capacity (vph)	428	774	784	207	751	729	171	2028	171	2044	1374
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	111	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.71	0.29	0.42	0.40	0.18	0.46	1.68	1.08	1.68	1.24	0.64

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	236	560	144	413	442	404	2105	575	2256	114
v/c Ratio	1.39	0.97	1.40	0.36	0.71	1.47	1.15	1.69	1.15	0.16
Control Delay	250.0	71.5	271.9	34.5	29.2	270.0	113.5	357.1	110.3	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	250.0	71.5	271.9	34.5	29.2	270.0	113.5	357.1	110.3	8.2
Queue Length 50th (ft)	~137	436	~163	138	198	~242	~771	~367	~825	18
Queue Length 95th (ft)	#224	#673	#302	185	328	#347	#866	#484	#917	52
Internal Link Dist (ft)		786		1093			2183		643	
Turn Bay Length (ft)	190		190			140		180		
Base Capacity (vph)	170	588	103	1181	636	275	1824	341	1963	721
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.39	0.95	1.40	0.35	0.69	1.47	1.15	1.69	1.15	0.16

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	862	1184	208	626	273	182	1236	277	1187	322
v/c Ratio	1.86	0.76	0.85	0.66	0.68	1.47	1.17	1.70	1.03	0.32
Control Delay	424.1	44.5	86.2	53.9	33.6	291.8	126.3	375.1	79.0	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	424.1	44.5	86.2	53.9	33.6	291.8	126.3	375.1	79.0	10.8
Queue Length 50th (ft)	~1146	341	177	187	113	~218	~675	~355	~587	100
Queue Length 95th (ft)	#1460	399	#305	231	212	#390	#862	#558	#771	170
Internal Link Dist (ft)		2001		2146			961		2183	
Turn Bay Length (ft)	100		170		200	150		180		
Base Capacity (vph)	464	1678	278	1165	466	124	1060	163	1151	1013
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.86	0.71	0.75	0.54	0.59	1.47	1.17	1.70	1.03	0.32

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	177	916	374	129	454	178	316	957	102	637
v/c Ratio	0.74	0.65	0.71	0.69	0.52	0.36	0.83	0.77	0.62	0.75
Control Delay	76.3	45.8	37.7	80.8	47.8	17.3	70.1	40.2	79.7	53.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	76.3	45.8	37.7	80.8	47.8	17.3	70.1	40.2	79.7	53.2
Queue Length 50th (ft)	154	258	196	113	180	33	272	376	89	272
Queue Length 95th (ft)	261	370	375	206	288	117	422	508	170	390
Internal Link Dist (ft)		2146			973			3484		1272
Turn Bay Length (ft)	160		70	150		70	200		190	
Base Capacity (vph)	365	1679	602	263	986	533	553	1652	242	1081
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.48	0.55	0.62	0.49	0.46	0.33	0.57	0.58	0.42	0.59

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	2	259	513	640	21	87	400	272	110
v/c Ratio	0.01	0.64	0.58	0.71	0.16	0.32	0.46	0.83	0.23
Control Delay	34.0	32.6	26.0	18.3	37.1	32.0	6.7	57.3	26.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	32.6	26.0	18.3	37.1	32.0	6.7	57.3	26.1
Queue Length 50th (ft)	1	98	95	160	9	34	36	59	34
Queue Length 95th (ft)	7	184	166	#448	32	81	107	#150	96
Internal Link Dist (ft)		213		1668		286			244
Turn Bay Length (ft)	50				75		65	50	
Base Capacity (vph)	465	653	1059	900	129	904	949	326	943
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.00	0.40	0.48	0.71	0.16	0.10	0.42	0.83	0.12

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	147	1047	6	21	620	217	62	223	7	135
v/c Ratio	0.57	0.63	0.01	0.19	0.58	0.39	0.90	0.62	0.02	0.31
Control Delay	55.5	25.4	0.0	62.5	33.8	18.9	118.7	48.8	41.0	9.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.5	25.4	0.0	62.5	33.8	18.9	118.7	48.8	41.0	9.8
Queue Length 50th (ft)	81	227	0	12	163	48	24	119	3	0
Queue Length 95th (ft)	215	541	0	52	344	162	#124	295	20	58
Internal Link Dist (ft)		938			1309		113		677	
Turn Bay Length (ft)	320		100	140		100		200		
Base Capacity (vph)	509	2442	1117	131	1928	911	156	712	750	717
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.43	0.01	0.16	0.32	0.24	0.40	0.31	0.01	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	68	271	739	359	137	1207	352	105	1097
v/c Ratio	0.58	0.86	0.92	0.70	0.74	0.77	0.47	0.76	0.52
Control Delay	82.2	49.2	65.5	42.4	83.0	38.6	21.9	94.0	33.0
Queue Delay	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Total Delay	82.2	49.2	65.5	42.8	83.0	38.6	21.9	94.0	33.0
Queue Length 50th (ft)	61	99	323	196	123	523	162	94	286
Queue Length 95th (ft)	112	#227	#439	204	192	622	260	#181	354
Internal Link Dist (ft)		117		450		252			761
Turn Bay Length (ft)			260		240		90	200	
Base Capacity (vph)	150	350	850	528	240	1559	746	152	2105
Starvation Cap Reductn	0	0	0	23	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.45	0.77	0.87	0.71	0.57	0.77	0.47	0.69	0.52

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	2419	471	152	1483
v/c Ratio	0.85	0.37	0.77	0.42
Control Delay	9.7	0.2	84.6	0.4
Queue Delay	47.1	7.3	0.0	2.3
Total Delay	56.8	7.6	84.6	2.7
Queue Length 50th (ft)	418	0	136	0
Queue Length 95th (ft)	m100	m1	211	0
Internal Link Dist (ft)	119			398
Turn Bay Length (ft)			340	
Base Capacity (vph)	2858	1281	244	3505
Starvation Cap Reductn	1075	755	0	0
Spillback Cap Reductn	0	0	0	1831
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.36	0.90	0.62	0.89

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	527	357	635	673	826	1517	960	345	1270
v/c Ratio	0.49	0.61	1.14	1.07	1.81	1.16	1.20	2.21	0.95
Control Delay	40.4	45.7	121.4	108.2	396.4	125.0	128.4	592.2	56.4
Queue Delay	0.2	0.0	0.0	0.0	0.9	0.6	0.0	4.5	44.4
Total Delay	40.6	45.7	121.4	108.2	397.3	125.6	128.4	596.7	100.8
Queue Length 50th (ft)	200	275	~615	~347	~977	~595	~674	~504	585
Queue Length 95th (ft)	255	385	#857	#471	#1232	#693	#935	#703	#736
Internal Link Dist (ft)		1417				541			119
Turn Bay Length (ft)	1000		600	140			75	60	
Base Capacity (vph)	1080	586	555	631	457	1312	801	156	1339
Starvation Cap Reductn	0	0	0	0	0	0	0	32	341
Spillback Cap Reductn	123	0	0	0	43	180	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.61	1.14	1.07	2.00	1.34	1.20	2.78	1.27

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	971	207	160	1361	1014	1123
v/c Ratio	0.63	0.26	0.66	0.61	0.86	0.90
Control Delay	25.5	3.7	66.3	25.5	43.8	17.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3
Total Delay	25.5	3.7	66.3	25.5	43.8	18.2
Queue Length 50th (ft)	280	3	63	293	385	300
Queue Length 95th (ft)	347	45	#109	343	475	#606
Internal Link Dist (ft)	1668			931	541	
Turn Bay Length (ft)			130			
Base Capacity (vph)	1774	901	256	2433	1299	1326
Starvation Cap Reductn	0	0	0	0	0	25
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.23	0.63	0.56	0.78	0.86

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	625	555	482	812	824	424
v/c Ratio	0.70	0.83	0.90	0.37	0.83	0.46
Control Delay	42.2	25.9	58.6	10.6	46.1	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	25.9	58.6	10.6	46.1	9.4
Queue Length 50th (ft)	223	156	349	146	314	99
Queue Length 95th (ft)	291	#355	#531	183	398	171
Internal Link Dist (ft)	1309			1278	931	
Turn Bay Length (ft)		100	330			100
Base Capacity (vph)	1018	715	635	2504	1102	973
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.78	0.76	0.32	0.75	0.44

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	114	721	35	817	197	866	21	363	850	101
v/c Ratio	0.75	0.68	0.41	0.89	0.79	0.86	0.04	0.89	0.65	0.16
Control Delay	95.5	47.7	84.4	56.3	82.6	59.1	0.1	78.9	40.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	95.5	47.7	84.4	56.3	82.6	59.1	0.1	78.9	40.5	5.9
Queue Length 50th (ft)	113	330	35	363	194	432	0	351	358	0
Queue Length 95th (ft)	#209	416	75	#485	277	526	0	#515	460	40
Internal Link Dist (ft)		3484		721		1028			1278	
Turn Bay Length (ft)	200		150		190		190	130		190
Base Capacity (vph)	175	1082	108	981	345	1109	587	479	1410	680
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.67	0.32	0.83	0.57	0.78	0.04	0.76	0.60	0.15

Intersection Summary

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	WBT	NBL	NBT	NBR	SBR
Lane Group Flow (vph)	581	474	302	308	40	23
v/c Ratio	0.36	0.25	0.68	0.69	0.08	0.10
Control Delay	14.9	11.7	29.9	30.4	0.6	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.9	11.7	29.9	30.4	0.6	0.9
Queue Length 50th (ft)	82	44	124	127	0	0
Queue Length 95th (ft)	267	122	163	166	3	0
Internal Link Dist (ft)	450	555		317		
Turn Bay Length (ft)					120	
Base Capacity (vph)	1595	1888	591	593	609	324
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.25	0.51	0.52	0.07	0.07

Intersection Summary

Appendix S

Year 2040 Total Traffic Conditions
Freeway Mainline Analysis
HCS Output Sheets

HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	AM
Project Description	SR-60 EB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5247	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1558
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.65
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.7
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

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Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	PM
Project Description	SR-60 EB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6945	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1958
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.82
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	65.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	30.1
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 EB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, In	4	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	6584	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1875
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.78
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	66.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	28.1
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

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Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	AM
Project Description	SR-60 WB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4042	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1618
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

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Jurisdiction		Time Analyzed	PM
Project Description	SR-60 WB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4541	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1742
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.73
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

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Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 WB between Day St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4818	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1908
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.80
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	66.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	28.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Jurisdiction		Time Analyzed	AM
Project Description	SR-60 EB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4789	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.91	Flow Rate (V_p), pc/h/ln	1938
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.81
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	65.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	29.6
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

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Jurisdiction		Time Analyzed	PM
Project Description	SR-60 EB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4860	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1865
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.78
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	66.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	27.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

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Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 EB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4933	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1893
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.79
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	66.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	28.6
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

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Jurisdiction		Time Analyzed	AM
Project Description	SR-60 WB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3537	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1357
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.57
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	73.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.4
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

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Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	PM
Project Description	SR-60 WB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4544	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	0.98	Flow Rate (V_p), pc/h/ln	1708
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.71
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	Sat Mid
Project Description	SR-60 WB East of Frederick St Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4839	Heavy Vehicle Adjustment Factor (f_{HV})	0.905
Peak Hour Factor	1.00	Flow Rate (V_p), pc/h/ln	1782
Total Trucks, %	10.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	26.1
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	AM
Project Description	1. I-215 NB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2687	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.91	Flow Rate (V_p), pc/h/ln	1127
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.0
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	PM
Project Description	1. I-215 NB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3496	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1435
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	73.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.6
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	Sat Mid
Project Description	1. I-215 NB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3853	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1532
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.64
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	72.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	AM
Project Description	1. I-215 SB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5639	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1389
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	73.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	PM
Project Description	1. I-215 SB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4095	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	998
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/13/2022
Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	Sat
Project Description	1. I-215 SB between SR 60 ramps and Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	5	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4674	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.97	Flow Rate (V_p), pc/h/ln	1104
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	75.2
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.7
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	AM
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3255	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	1336
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	74.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.1
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	PM
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3859	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1551
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.65
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.6
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	Sat Mid
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4262	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.96	Flow Rate (V_p), pc/h/ln	1695
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.71
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.3
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	AM
Project Description	I-215 SB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	5005	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	2077
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.87
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	62.3
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	33.3
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

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Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	PM
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4028	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.95	Flow Rate (V_p), pc/h/ln	1619
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.67
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	71.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	22.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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HCS7 Basic Freeway Report

Project Information

Analyst	A. McIntyre	Date	1/19/2022
Agency	Kittelson	Analysis Year	Year 2040 Total Traffic
Jurisdiction		Time Analyzed	Sat Mid
Project Description	I-215 NB South of Eucalyptus Ave Ramps	Units	U.S. Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	75.4
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4554	Heavy Vehicle Adjustment Factor (f_{HV})	0.873
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1850
Total Trucks, %	14.50	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.77
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	67.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	27.6
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	75.4		

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Appendix T
Signal Warrant Worksheets

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	8. Town Cir/Campus Pkwy
Scenario:	Existing Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	151	51	82	0

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

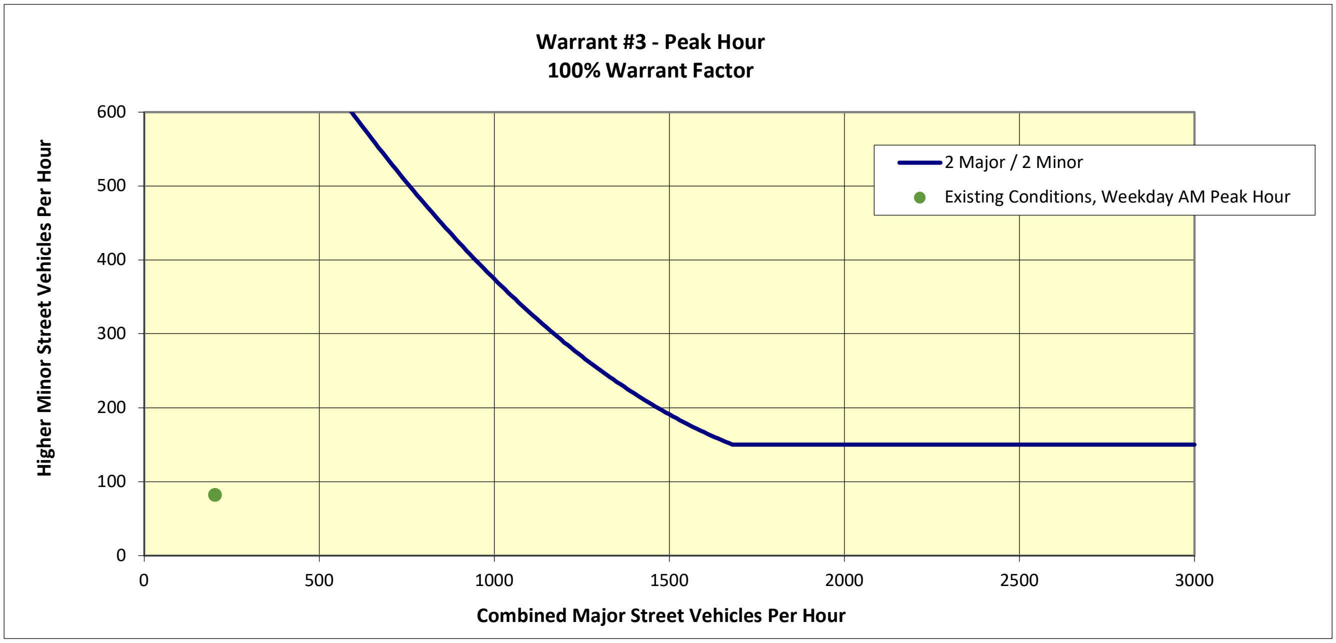
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	6.9	
Number Of Lanes On Minor Street Approach	4	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.16	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	82	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	284	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
202	82



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	8. Town Cir/Campus Pkwy
Scenario:	Existing Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
4:45 PM	5:45 PM	413	227	466	0

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

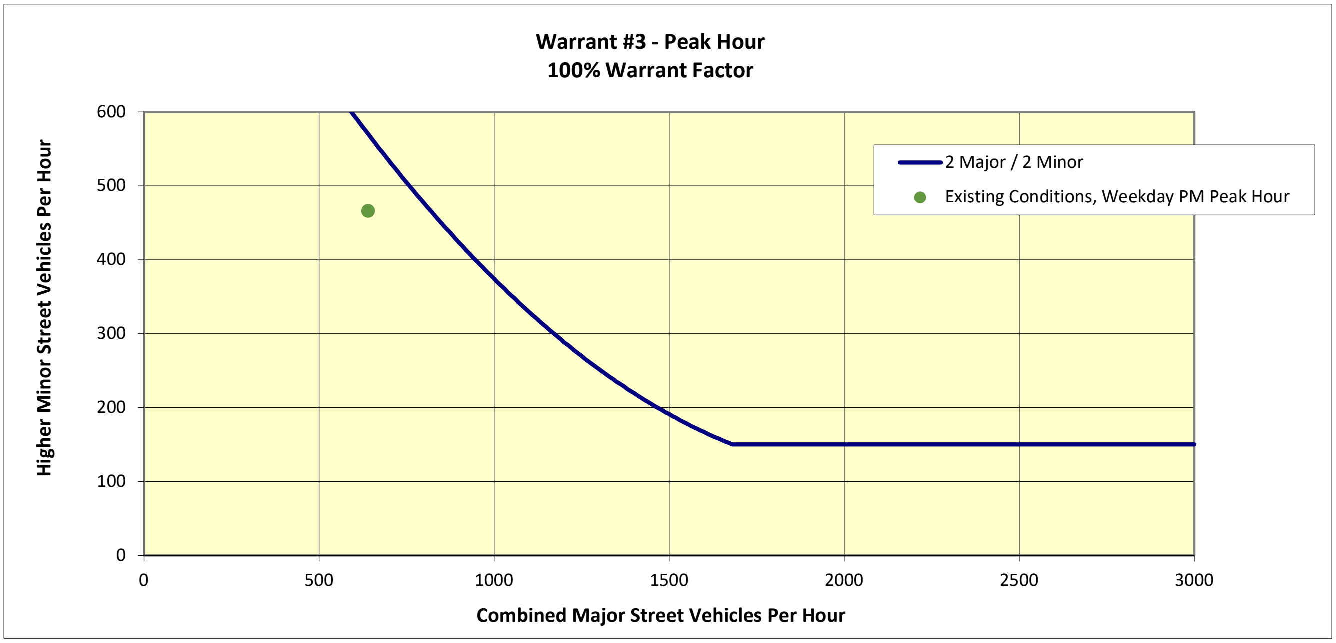
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	10.3	
Number Of Lanes On Minor Street Approach	4	0
Vehicle-Hours Of Stopped Delay On Minor Approach	1.33	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	466	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1106	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
640	466



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	8. Town Cir/Campus Pkwy
Scenario:	Existing Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
12:00 PM	1:00 PM	623	296	669	0

Warant 3, Peak Hour Met?
Yes

<u>**Warrant 3, Peak Hour**</u>

Part A

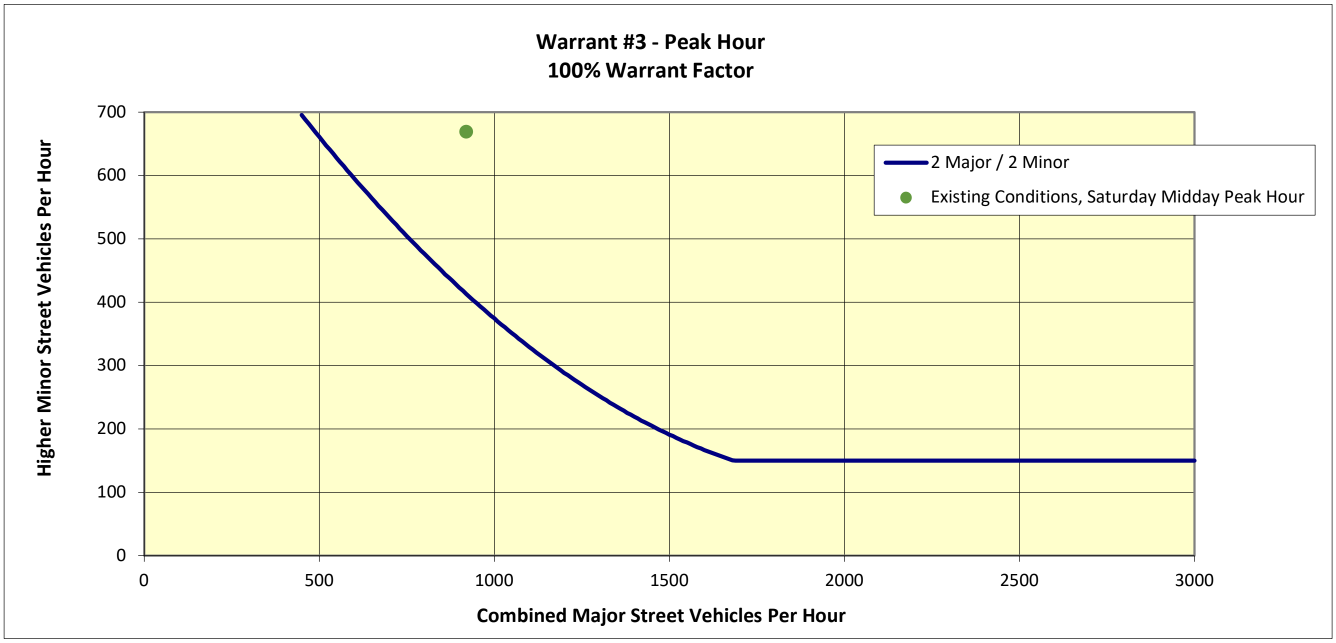
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	14.7	
Number Of Lanes On Minor Street Approach	4	0
Vehicle-Hours Of Stopped Delay On Minor Approach	2.73	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	669	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1588	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
919	669



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	8. Town Cir/Campus Pkwy
Scenario:	Year 2026 Background Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	162	55	88	0

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

(All parts 1, 2 and 3 below must be satisfied for the same one your)

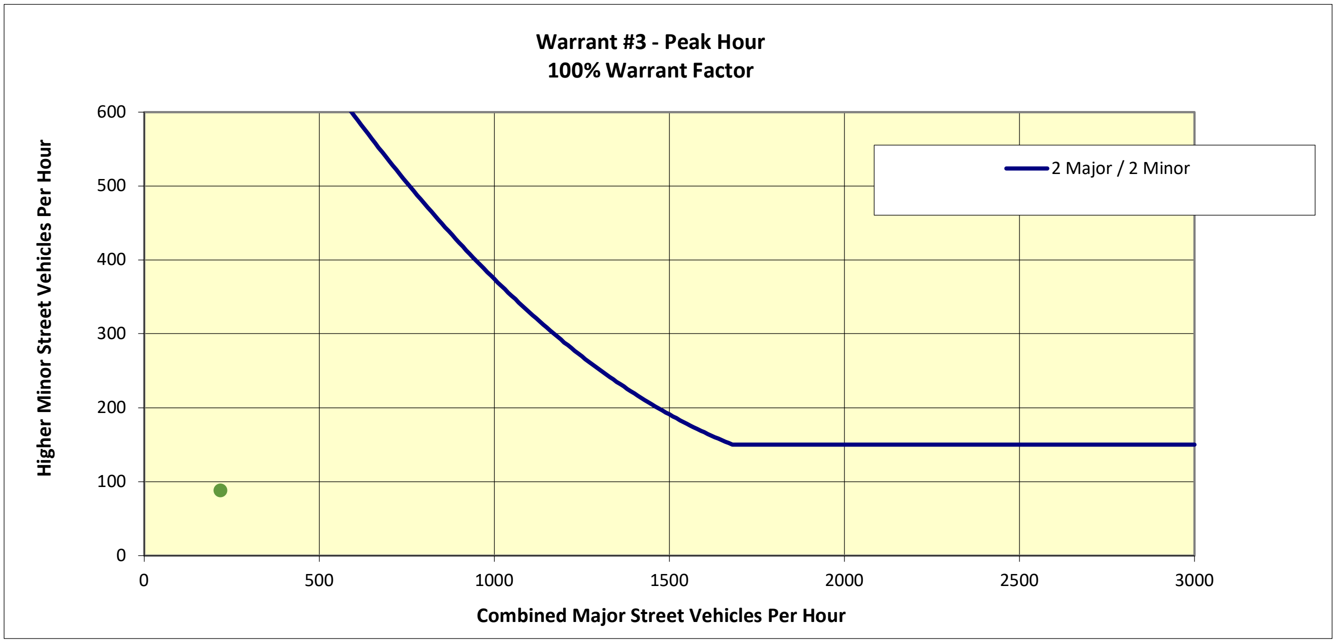
	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	6.9	
Number Of Lanes On Minor Street Approach	4	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.17	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	88	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	305	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
217	88



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	8. Town Cir/Campus Pkwy
Scenario:	Year 2026 Background Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
4:45 PM	5:45 PM	444	244	501	0

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

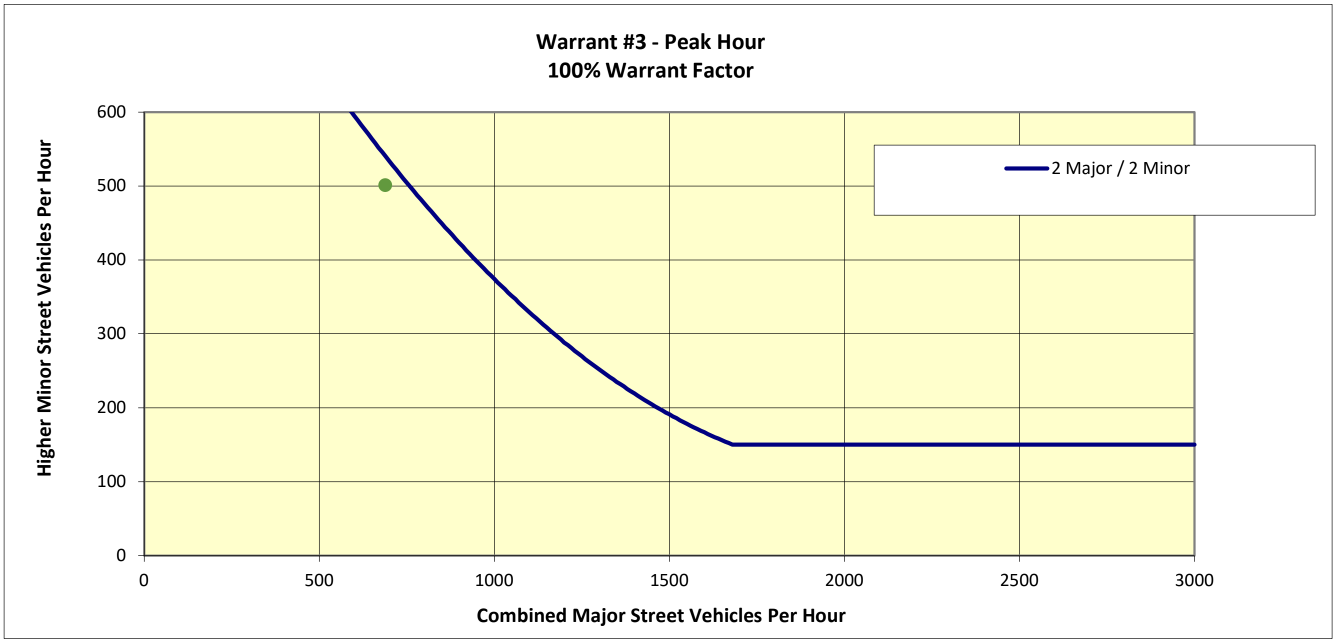
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	10.8	
Number Of Lanes On Minor Street Approach	4	0
Vehicle-Hours Of Stopped Delay On Minor Approach	1.50	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	501	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1189	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
688	501



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	8. Town Cir/Campus Pkwy
Scenario:	Year 2026 Background Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
12:00 PM	1:00 PM	669	319	719	0

Warrant 3, Peak Hour Met?
Yes

Warrant 3, Peak Hour

Part A

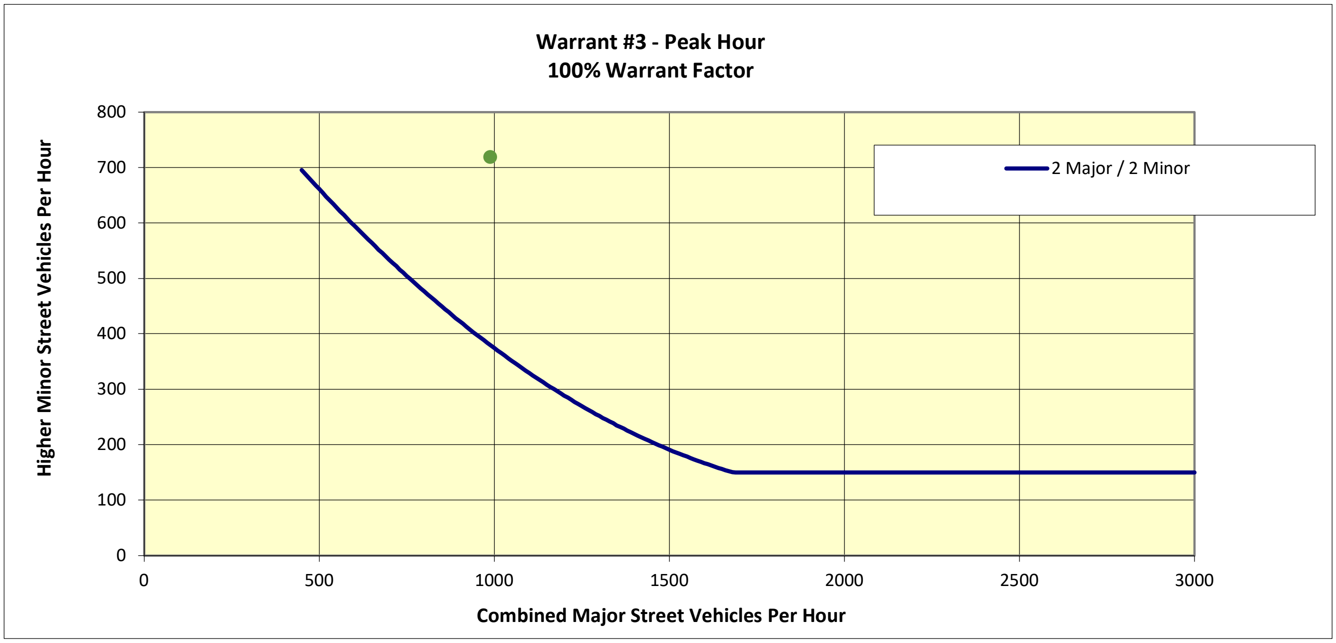
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	16.4	
Number Of Lanes On Minor Street Approach	4	0
Vehicle-Hours Of Stopped Delay On Minor Approach	3.28	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	719	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1707	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
988	719



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	8. Town Cir/Campus Pkwy
Scenario:	Year 2026 Total Traffic Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	202	94	126	0

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

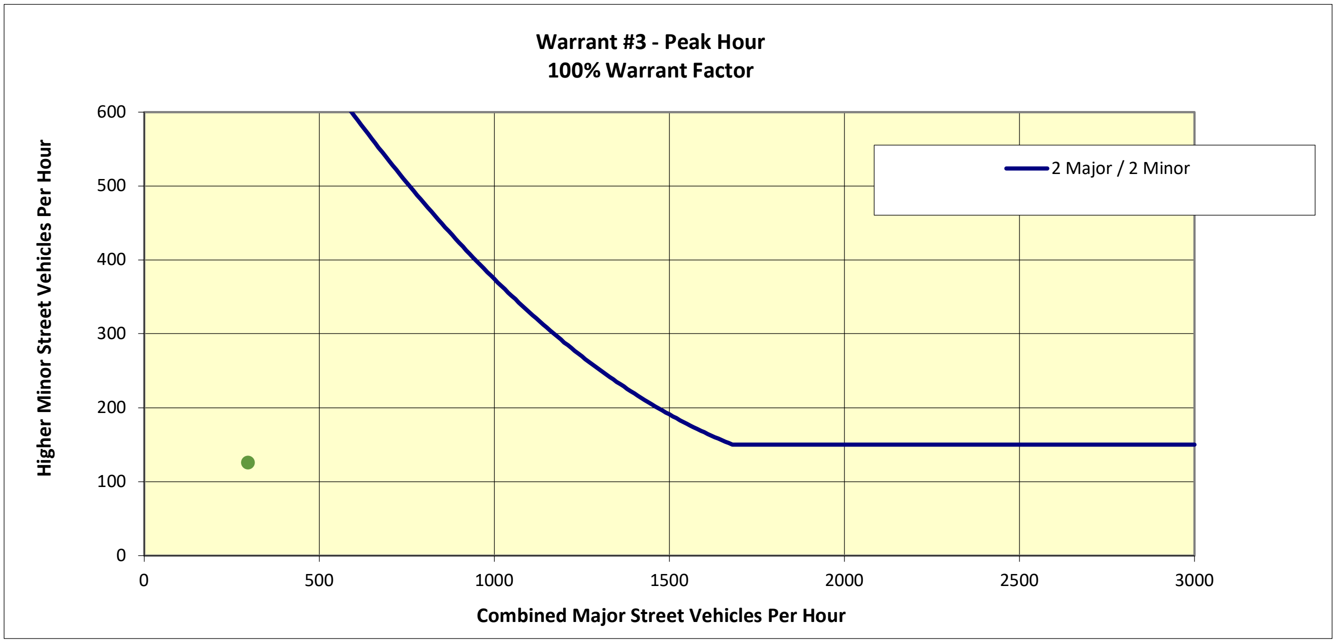
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	7.5	
Number Of Lanes On Minor Street Approach	4	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.26	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	126	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	422	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
296	126



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	8. Town Cir/Campus Pkwy
Scenario:	Year 2026 Total Traffic Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
4:45 PM	5:45 PM	474	270	566	0

Warrant 3, Peak Hour Met?
Yes

Warrant 3, Peak Hour

Part A

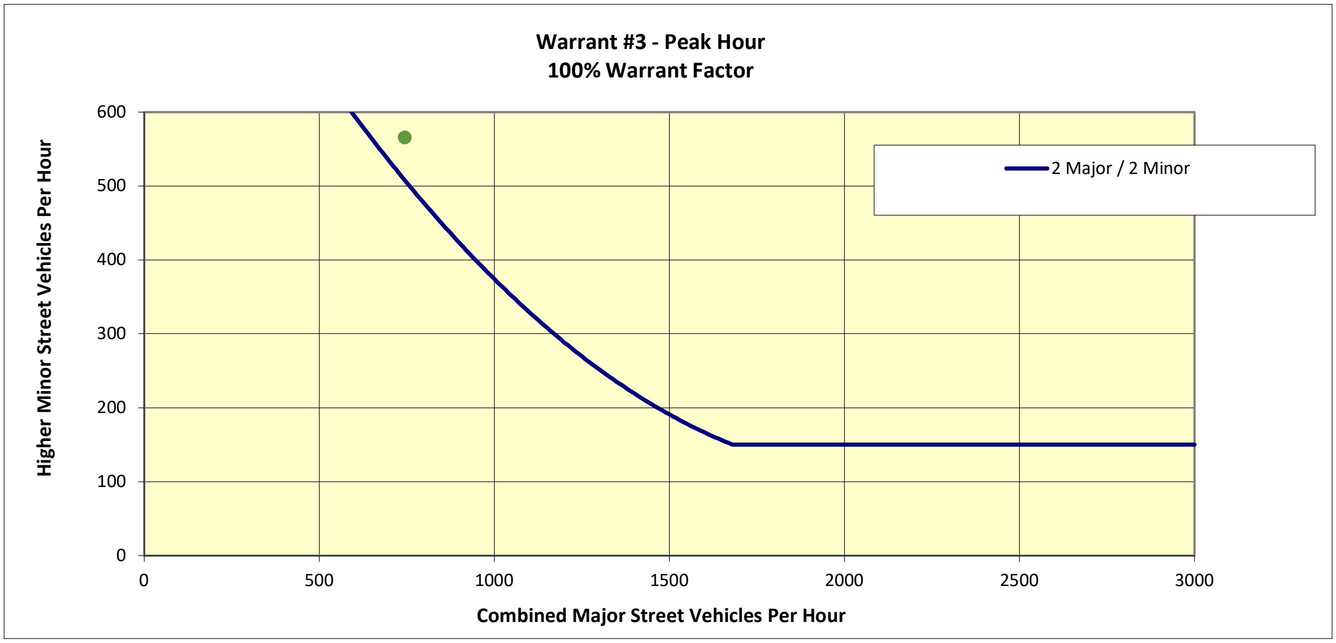
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	11.9	
Number Of Lanes On Minor Street Approach	4	0
Vehicle-Hours Of Stopped Delay On Minor Approach	1.87	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	566	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1310	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
744	566



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	8. Town Cir/Campus Pkwy
Scenario:	Year 2026 Total Traffic Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
12:00 PM	1:00 PM	700	349	781	0

Warrant 3, Peak Hour Met?
Yes

<u>Warrant 3, Peak Hour</u>

Part A

(All parts 1, 2 and 3 below must be satisfied for the same one your)

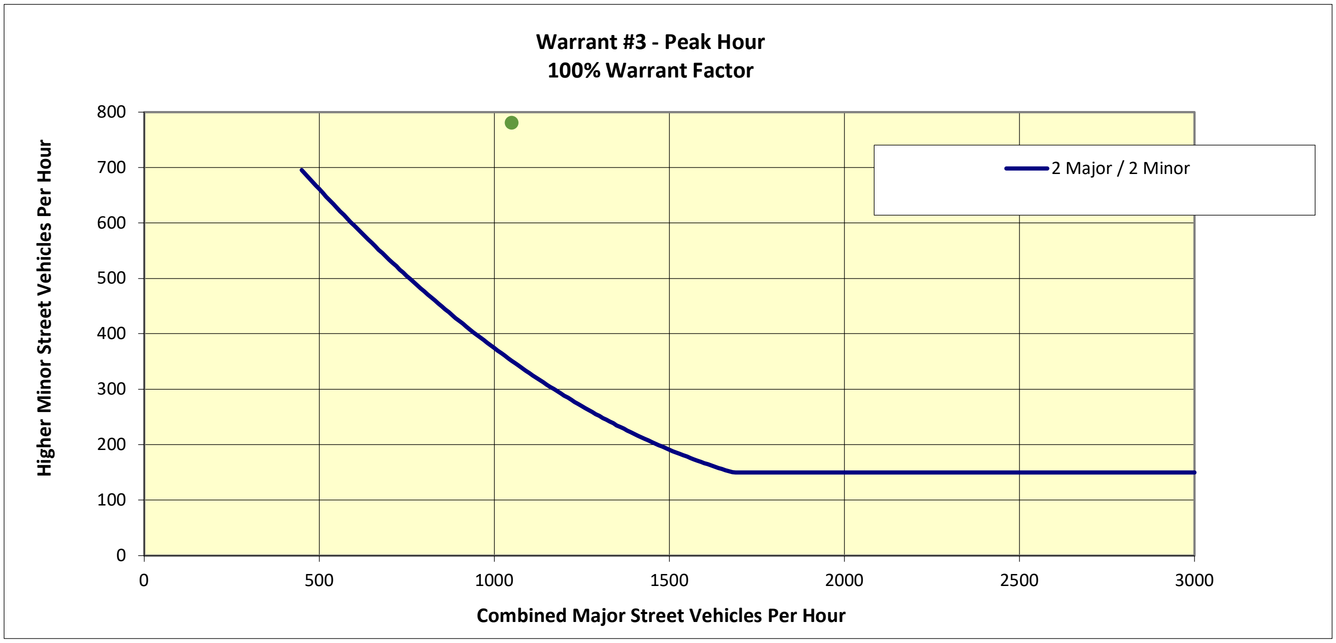
	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	18.8	
Number Of Lanes On Minor Street Approach	4	0
Vehicle-Hours Of Stopped Delay On Minor Approach	4.08	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	781	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1830	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1049	781



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	8. Town Cir/Campus Pkwy
Scenario:	Year 2040 Background Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	166	55	90	0

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

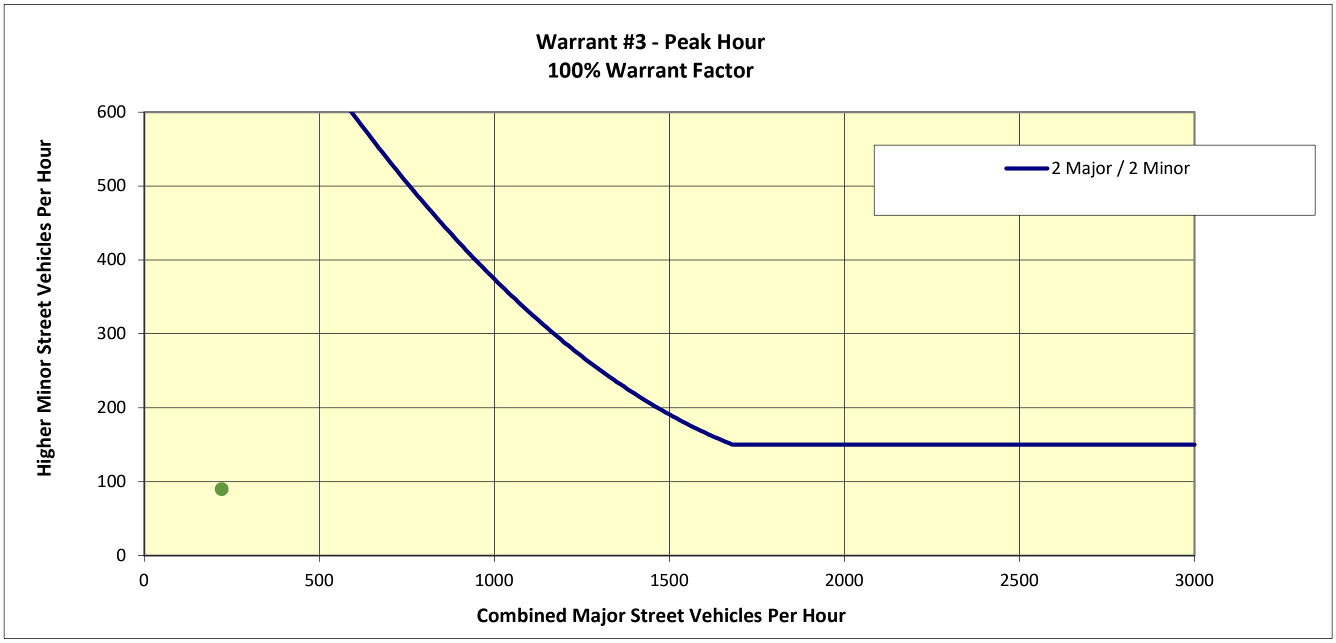
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	6.9	
Number Of Lanes On Minor Street Approach	4	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.17	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	90	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	311	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
221	90



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	8. Town Cir/Campus Pkwy
Scenario:	Year 2040 Background Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
4:45 PM	5:45 PM	454	250	513	0

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

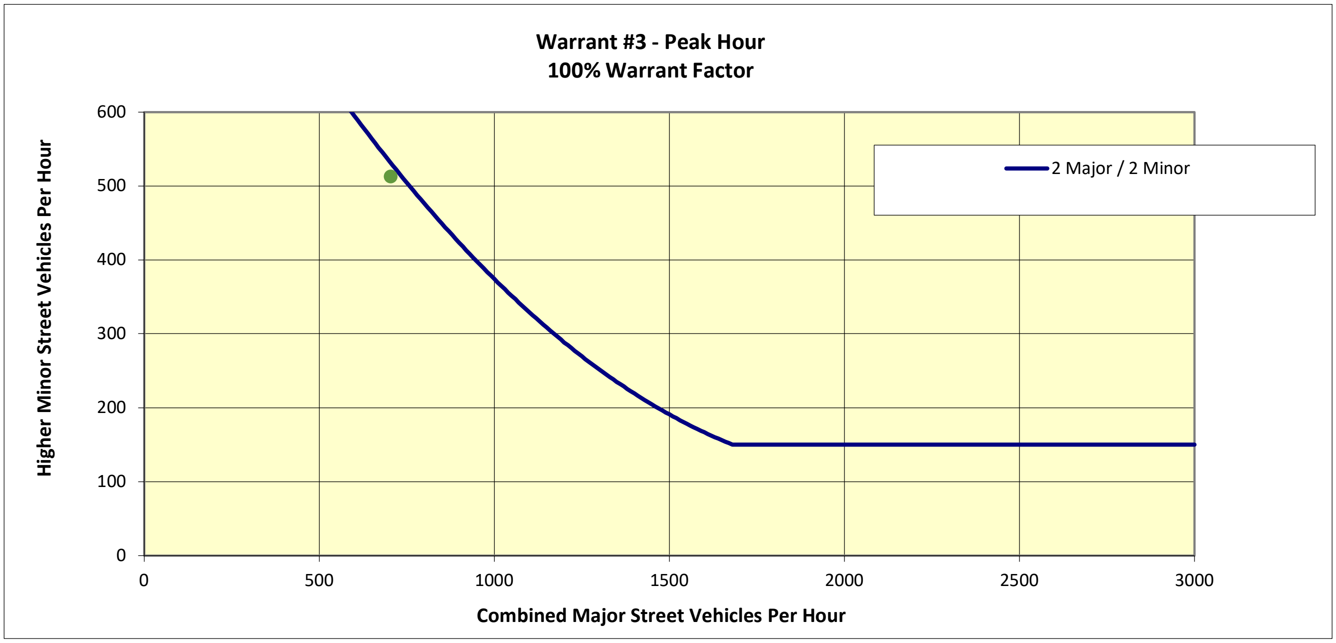
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	11.2	
Number Of Lanes On Minor Street Approach	4	0
Vehicle-Hours Of Stopped Delay On Minor Approach	1.60	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	513	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1217	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
704	513



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	8. Town Cir/Campus Pkwy
Scenario:	Year 2040 Background Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
12:00 PM	1:00 PM	685	326	736	0

Warrant 3, Peak Hour Met?
Yes

Warrant 3, Peak Hour

Part A

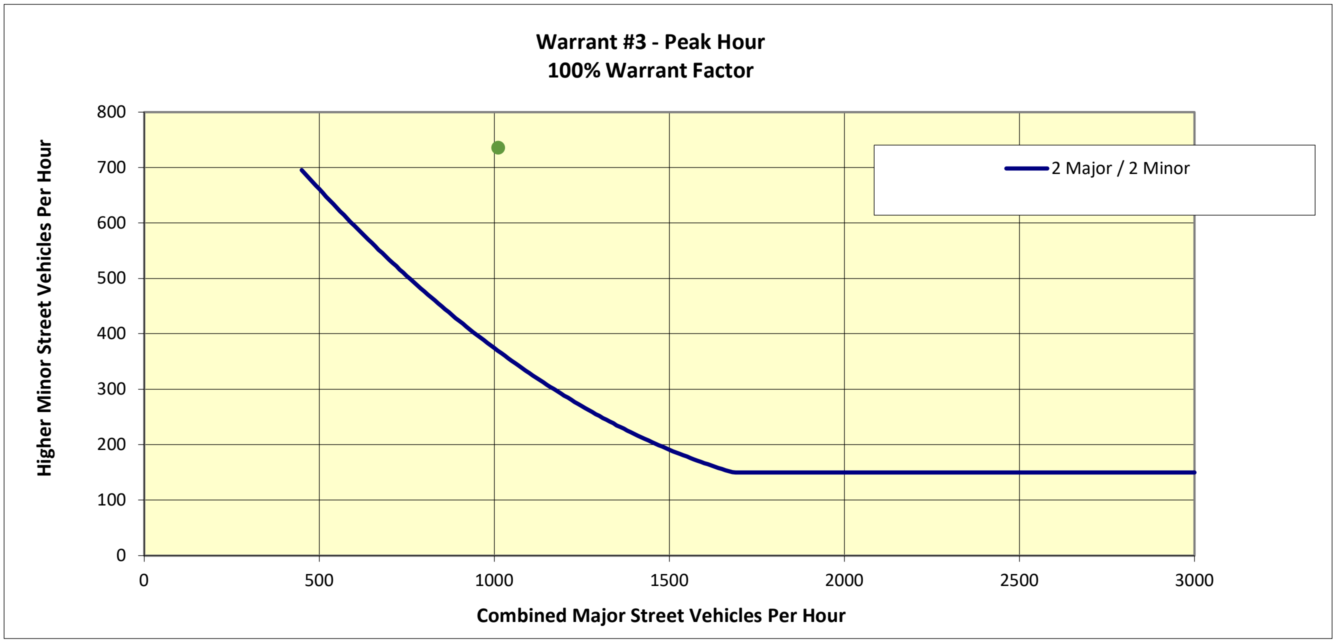
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	17.5	
Number Of Lanes On Minor Street Approach	4	0
Vehicle-Hours Of Stopped Delay On Minor Approach	3.58	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	736	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1747	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1011	736



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	8. Town Cir/Campus Pkwy
Scenario:	Year 2040 Total Traffic Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	205	95	135	0

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

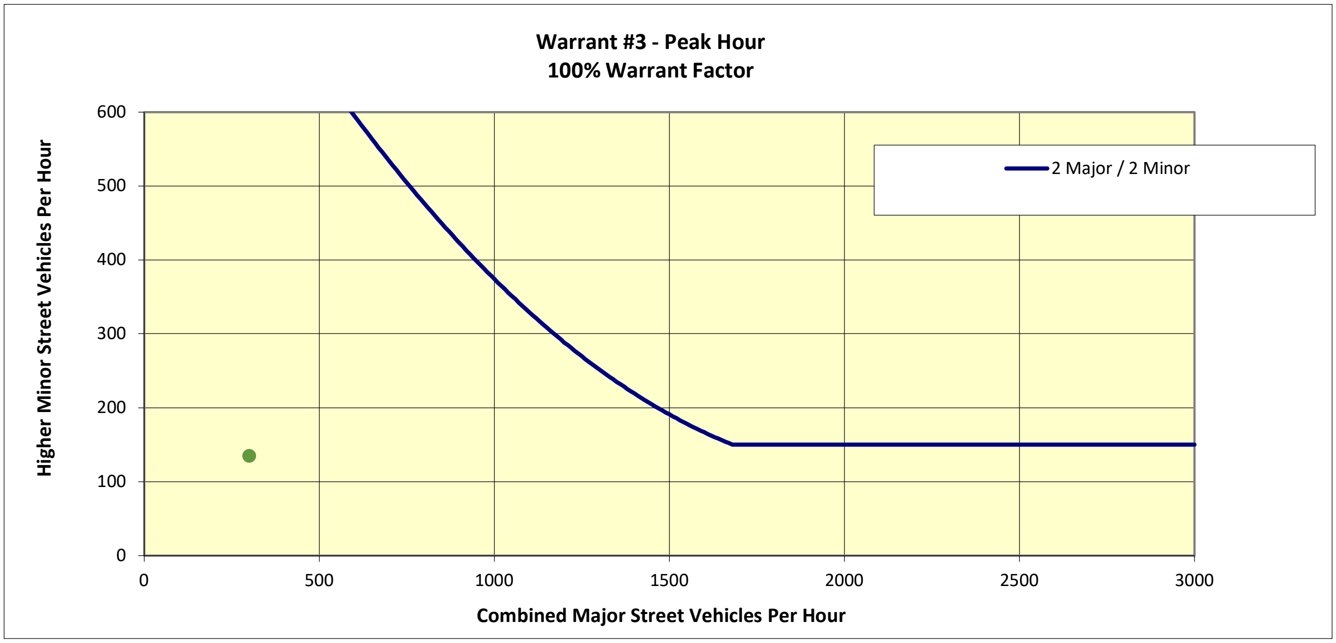
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	7.4	
Number Of Lanes On Minor Street Approach	4	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.28	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	135	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	435	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
300	135



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	8. Town Cir/Campus Pkwy
Scenario:	Year 2040 Total Traffic Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
4:45 PM	5:45 PM	485	276	578	0

Warrant 3, Peak Hour Met?
Yes

Warrant 3, Peak Hour

Part A

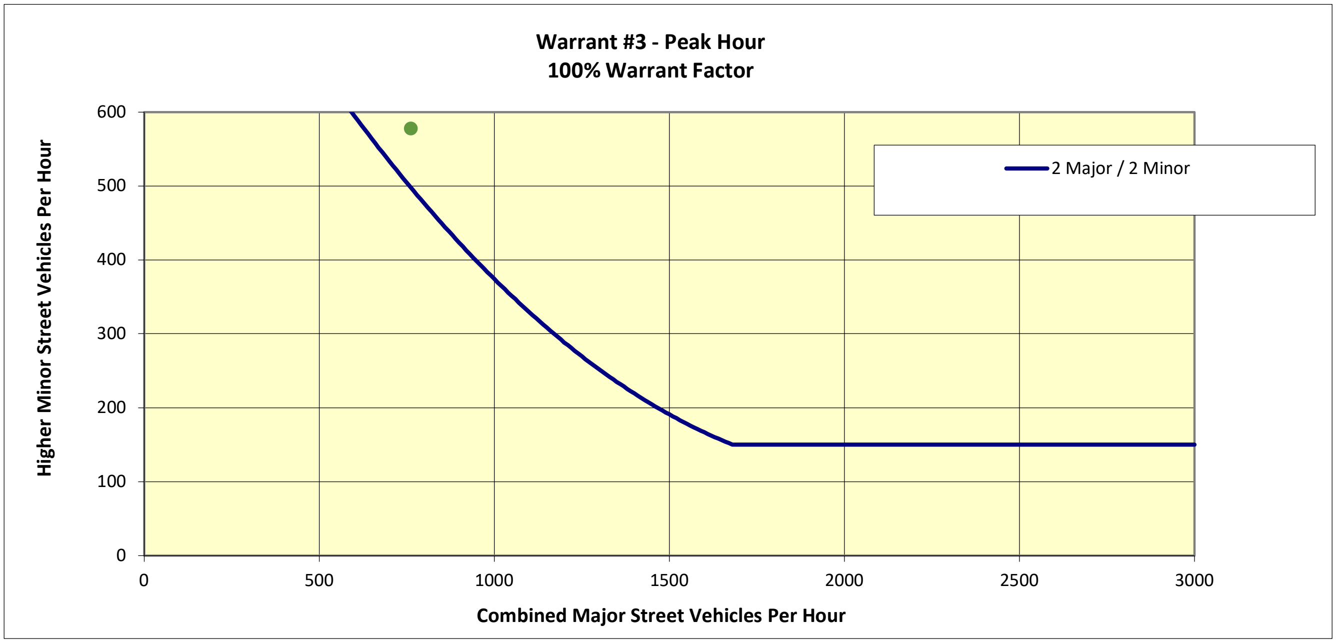
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	12.4	
Number Of Lanes On Minor Street Approach	4	0
Vehicle-Hours Of Stopped Delay On Minor Approach	1.99	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	578	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1339	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
761	578



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	8. Town Cir/Campus Pkwy
Scenario:	Year 2040 Total Traffic Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	NB	SB	EB	WB
12:00 PM	1:00 PM	715	357	798	0

Warrant 3, Peak Hour Met?
Yes

Warrant 3, Peak Hour

Part A

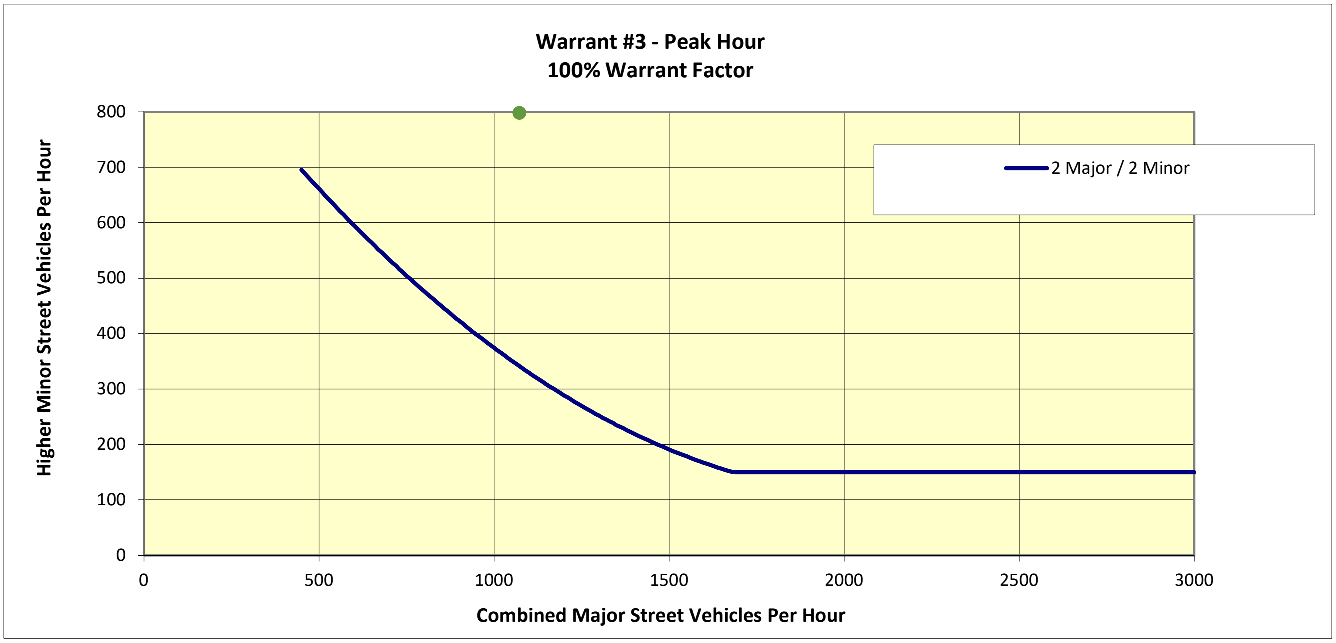
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	19.7	
Number Of Lanes On Minor Street Approach	4	0
Vehicle-Hours Of Stopped Delay On Minor Approach	4.37	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	798	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1870	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1072	798



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	9. Town Cir/Memorial Pkwy
Scenario:	Existing Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	158	0	82	121

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

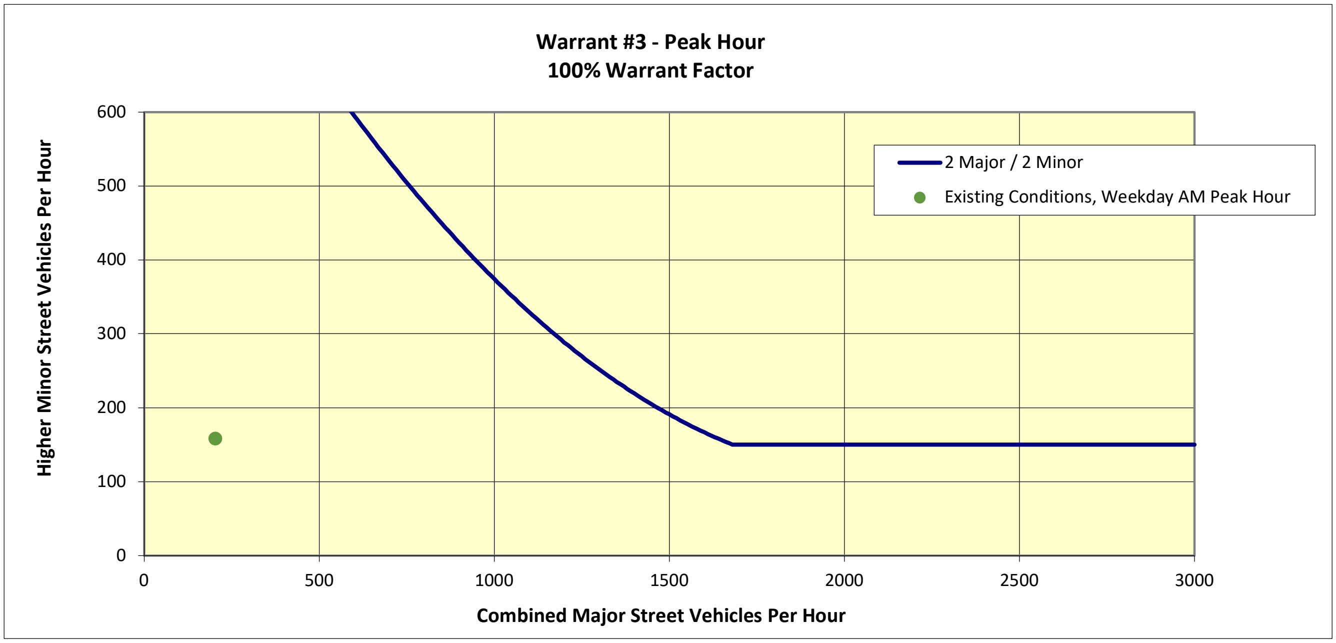
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	7.7	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.34	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	158	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	361	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
203	158



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	9. Town Cir/Memorial Pkwy
Scenario:	Existing Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
4:30 PM	5:30 PM	426	0	463	381

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

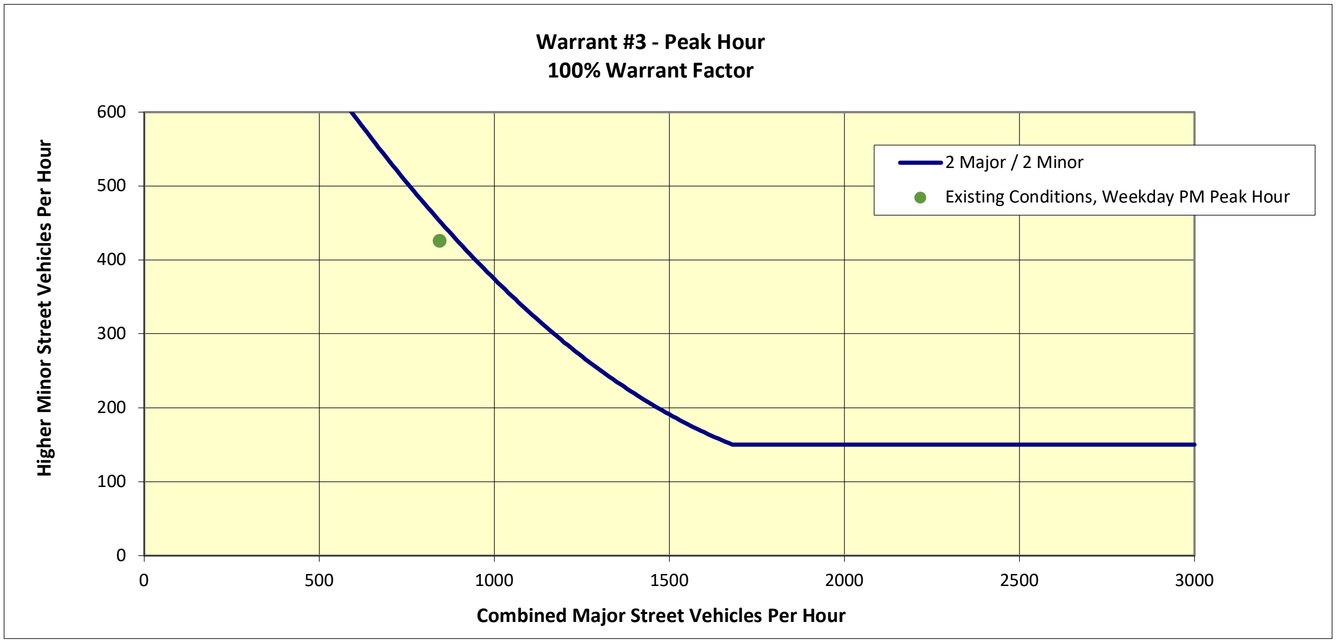
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	11.0	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	1.30	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	426	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1270	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
844	426



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	9. Town Cir/Memorial Pkwy
Scenario:	Existing Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
12:00 PM	1:00 PM	710	0	607	609

Warrant 3, Peak Hour Met?
Yes

Warrant 3, Peak Hour

Part A

(All parts 1, 2 and 3 below must be satisfied for the same one your)

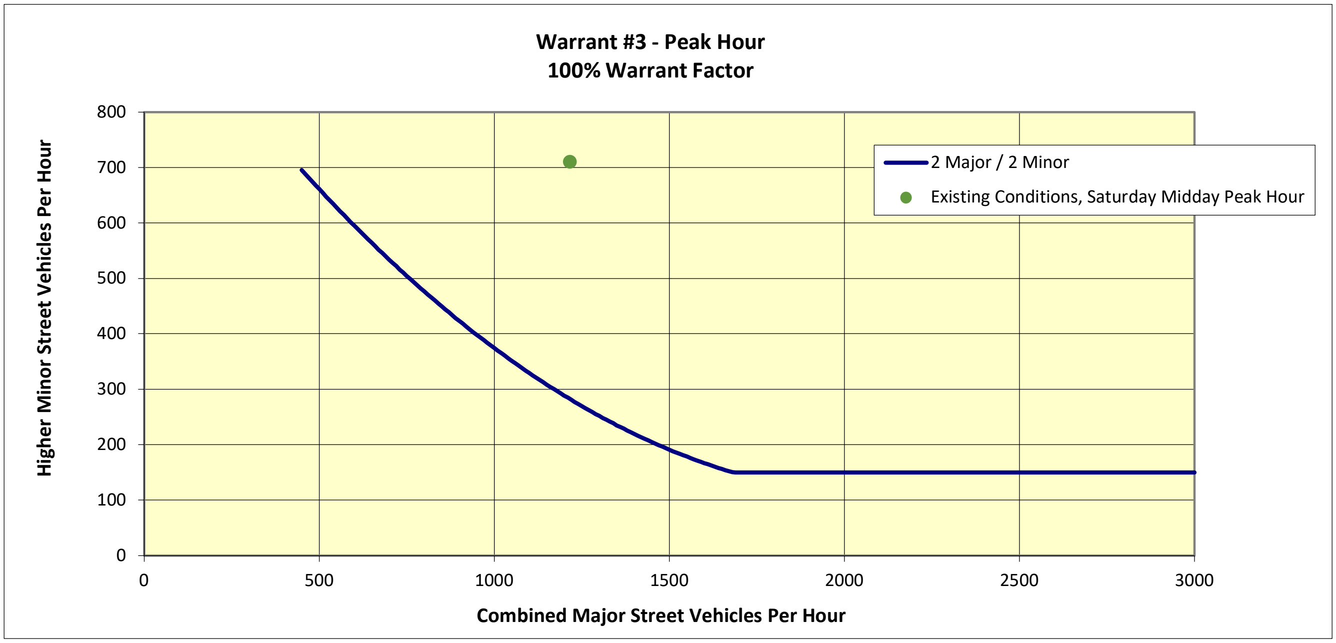
	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	16.4	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	3.23	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	710	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1926	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1216	710



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	9. Town Cir/Memorial Pkwy
Scenario:	Year 2026 Background Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	170	0	88	130

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

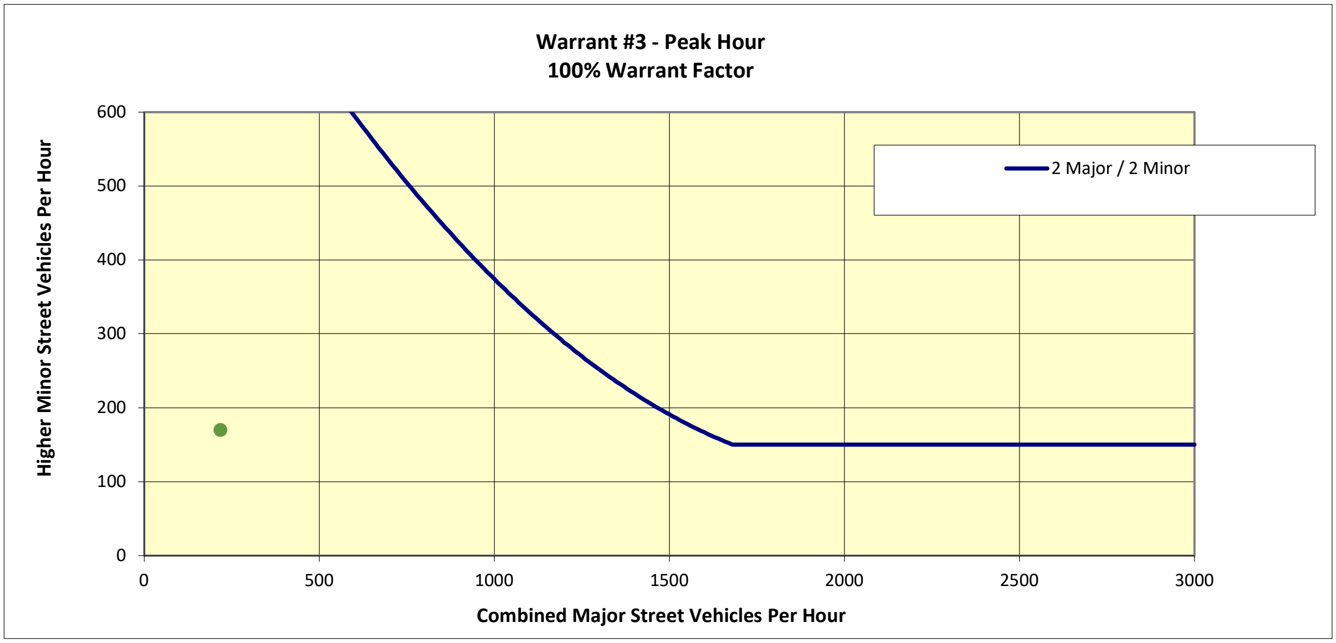
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	7.7	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.36	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	170	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	388	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
218	170



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	9. Town Cir/Memorial Pkwy
Scenario:	Year 2026 Background Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
4:30 PM	5:30 PM	458	0	498	410

Warrant 3, Peak Hour Met?
Yes

Warrant 3, Peak Hour

Part A

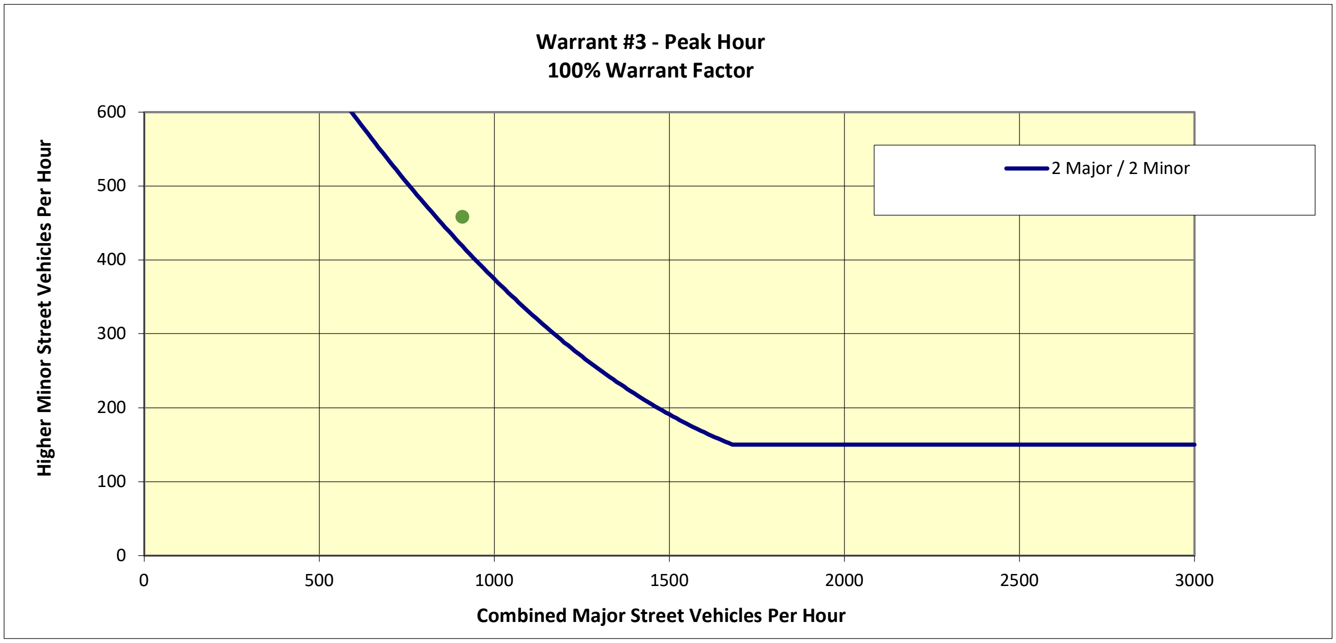
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	11.6	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	1.48	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	458	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1366	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
908	458



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	9. Town Cir/Memorial Pkwy
Scenario:	Year 2026 Background Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
12:00 PM	1:00 PM	764	0	652	654

Warrant 3, Peak Hour Met?
Yes

<u>Warrant 3, Peak Hour</u>

Part A

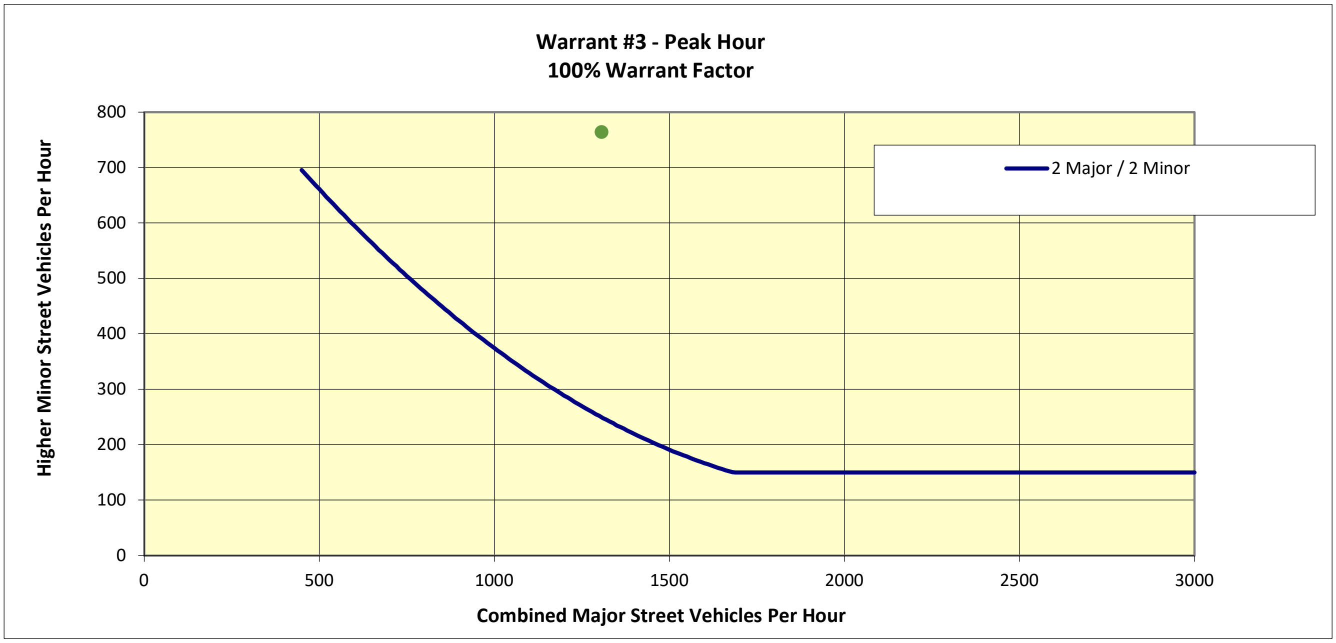
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	18.8	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	3.99	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	764	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	2070	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1306	764



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	9. Town Cir/Memorial Pkwy
Scenario:	Year 2026 Total Traffic Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	171	0	111	168

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

(All parts 1, 2 and 3 below must be satisfied for the same one your)

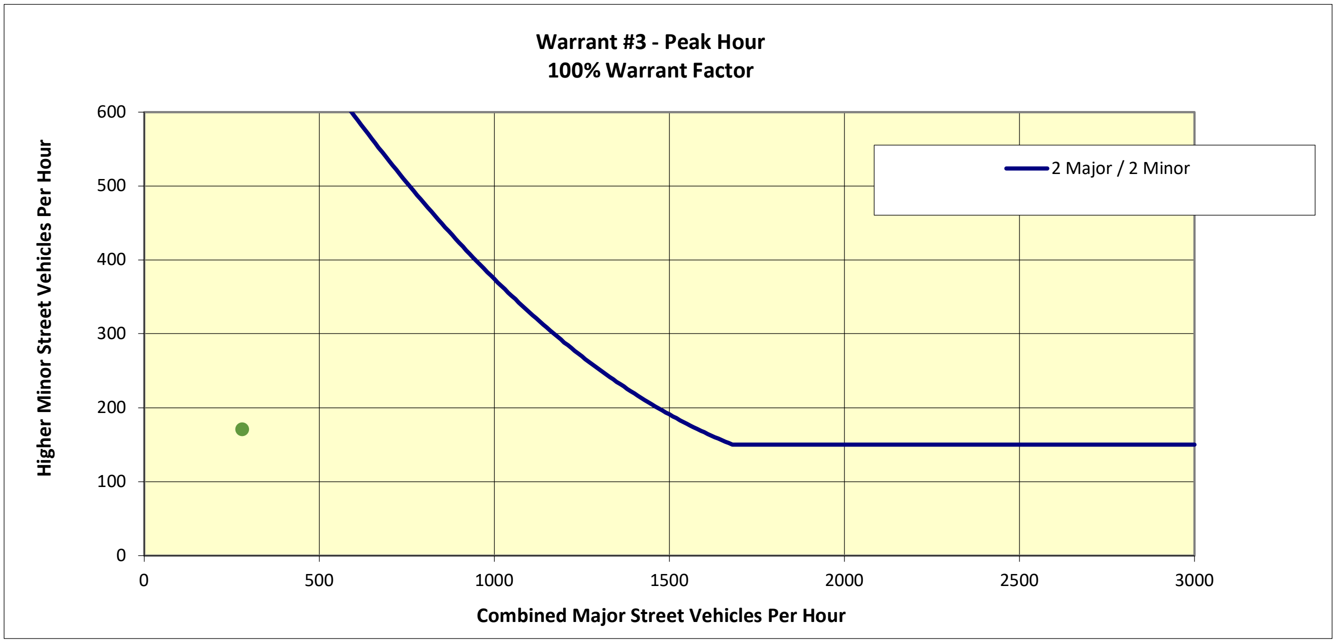
	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	7.9	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.38	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	171	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	450	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
279	171



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	9. Town Cir/Memorial Pkwy
Scenario:	Year 2026 Total Traffic Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
4:30 PM	5:30 PM	460	0	532	437

Warrant 3, Peak Hour Met?
Yes

Warrant 3, Peak Hour

Part A

(All parts 1, 2 and 3 below must be satisfied for the same one your)

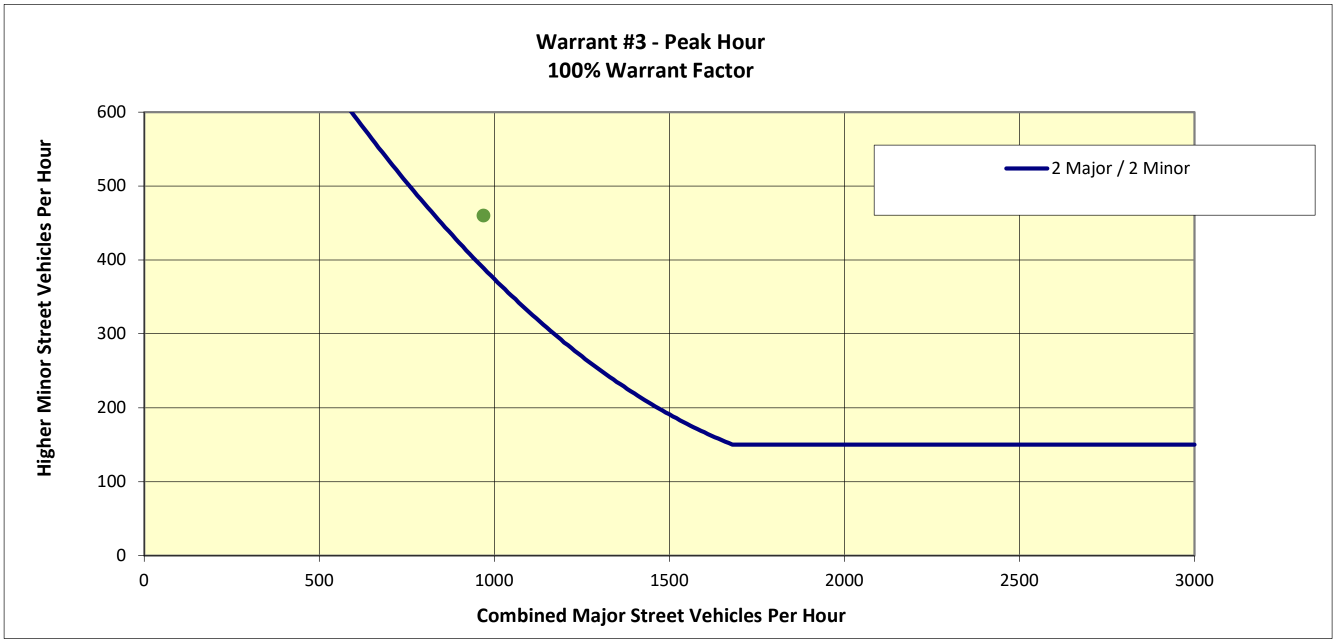
	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	11.9	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	1.52	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	460	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1429	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
969	460



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	9. Town Cir/Memorial Pkwy
Scenario:	Year 2026 Total Traffic Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
12:00 PM	1:00 PM	766	0	684	682

Warrant 3, Peak Hour Met?
Yes

Warrant 3, Peak Hour

Part A

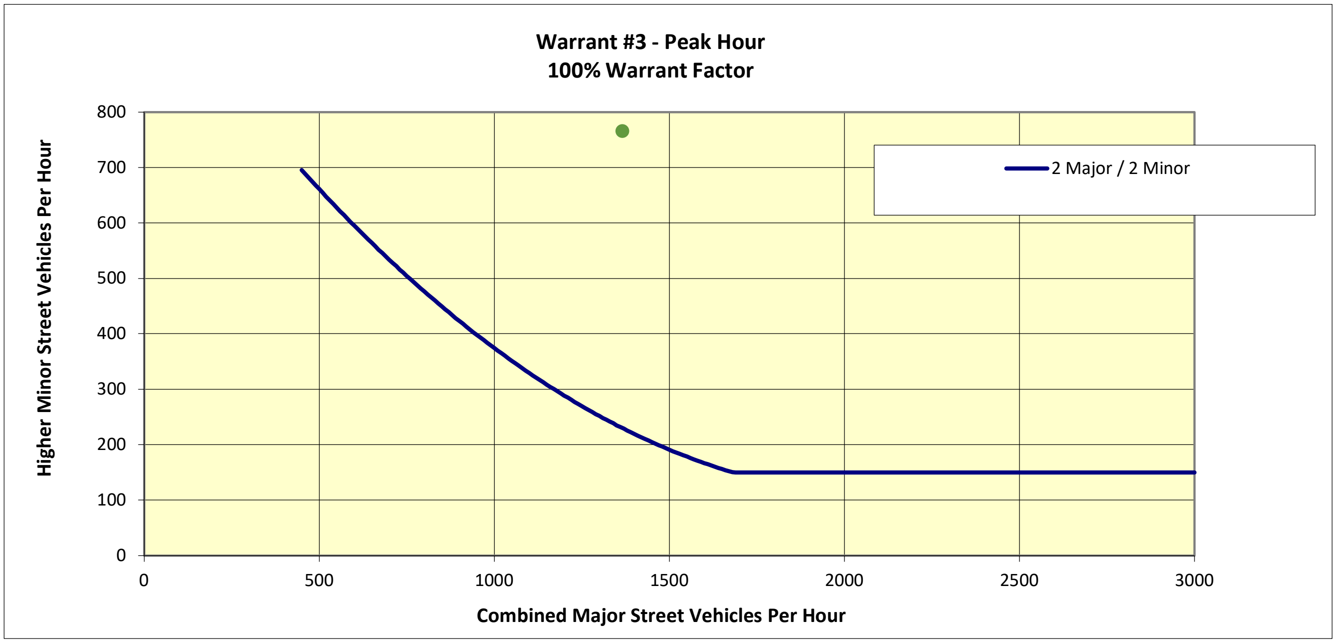
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	19.3	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	4.11	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	766	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	2132	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1366	766



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	9. Town Cir/Memorial Pkwy
Scenario:	Year 2040 Background Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	174	0	91	134

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

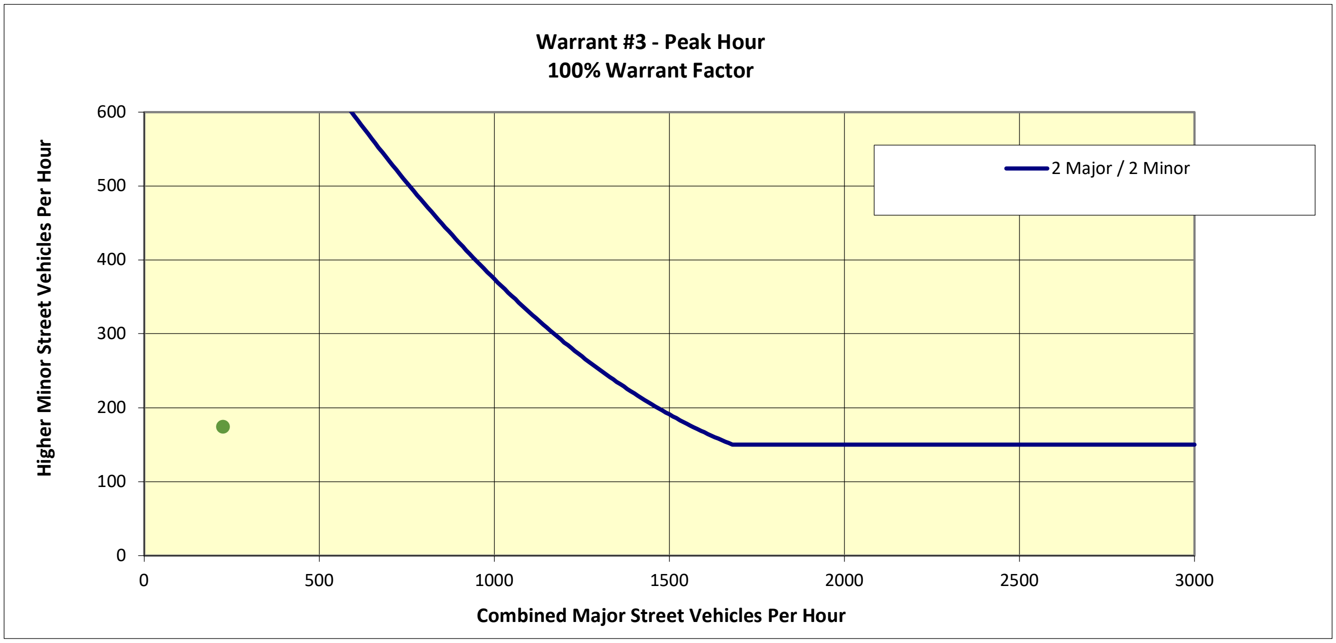
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	7.7	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.37	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	174	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	399	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
225	174



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	9. Town Cir/Memorial Pkwy
Scenario:	Year 2040 Background Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
4:30 PM	5:30 PM	469	0	510	534

Warrant 3, Peak Hour Met?
Yes

<u>Warrant 3, Peak Hour</u>

Part A

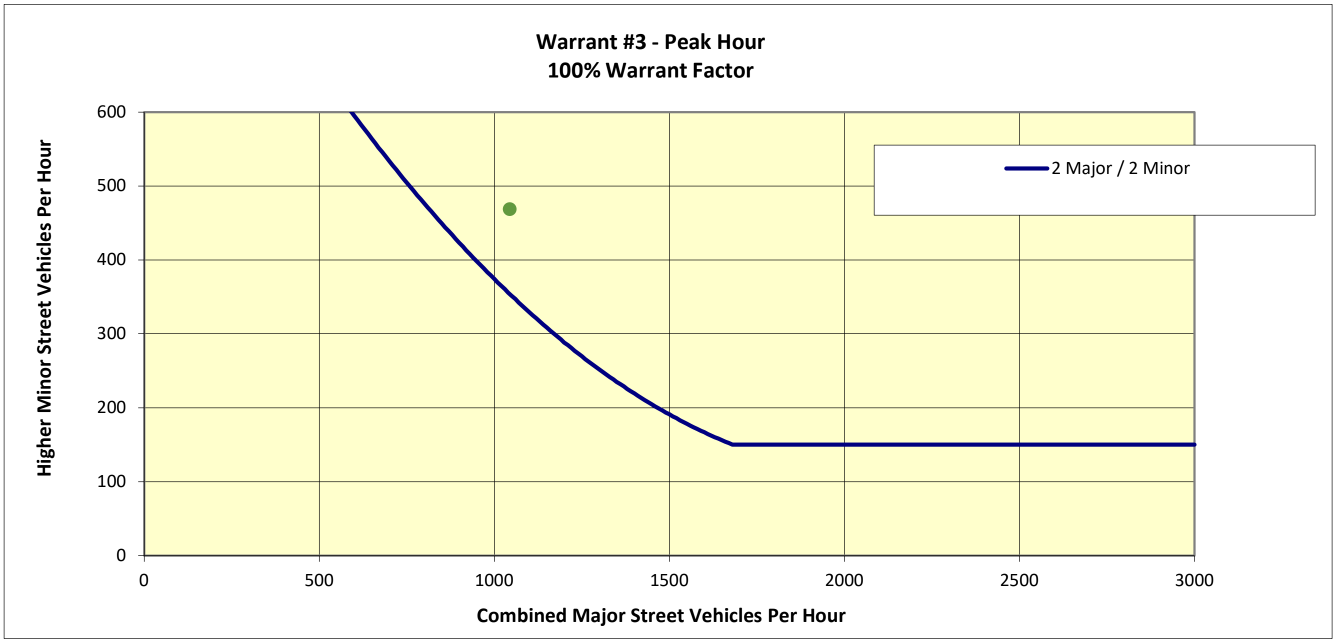
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	11.8	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	1.54	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	469	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1513	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1044	469



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	9. Town Cir/Memorial Pkwy
Scenario:	Year 2040 Background Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
12:00 PM	1:00 PM	781	0	667	669

Warrant 3, Peak Hour Met?
Yes

Warrant 3, Peak Hour

Part A

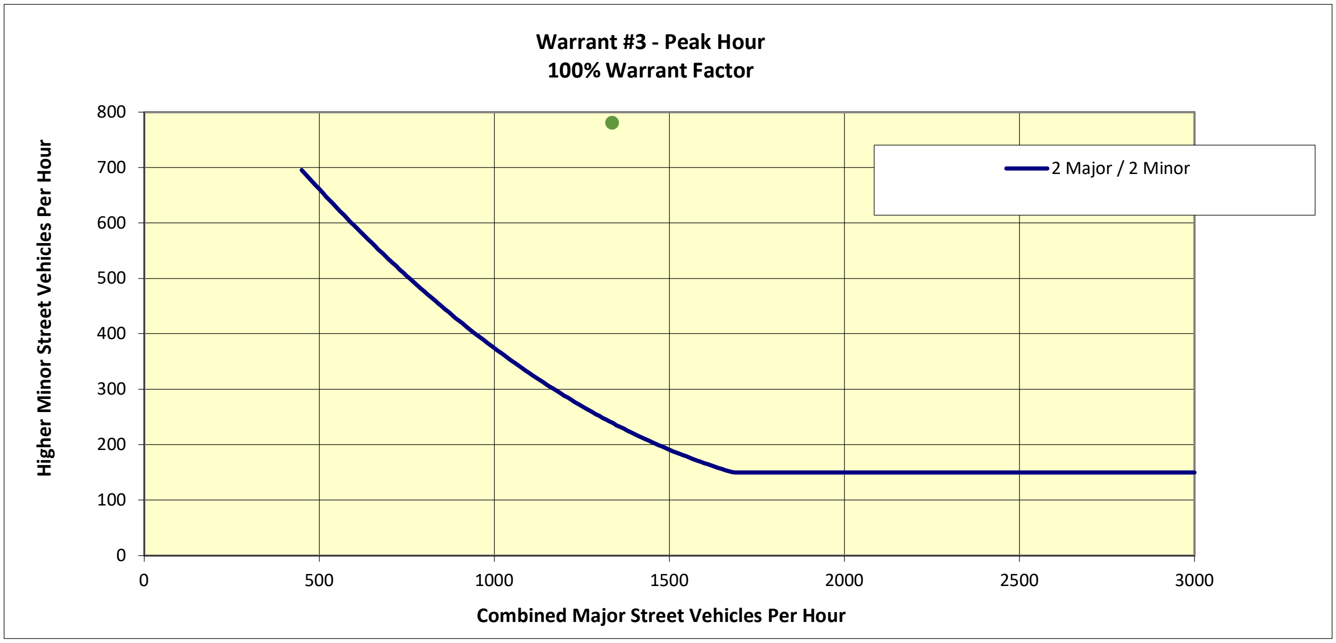
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	19.7	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	4.27	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	781	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	2117	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1336	781



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	9. Town Cir/Memorial Pkwy
Scenario:	Year 2040 Total Traffic Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	144	0	113	172

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

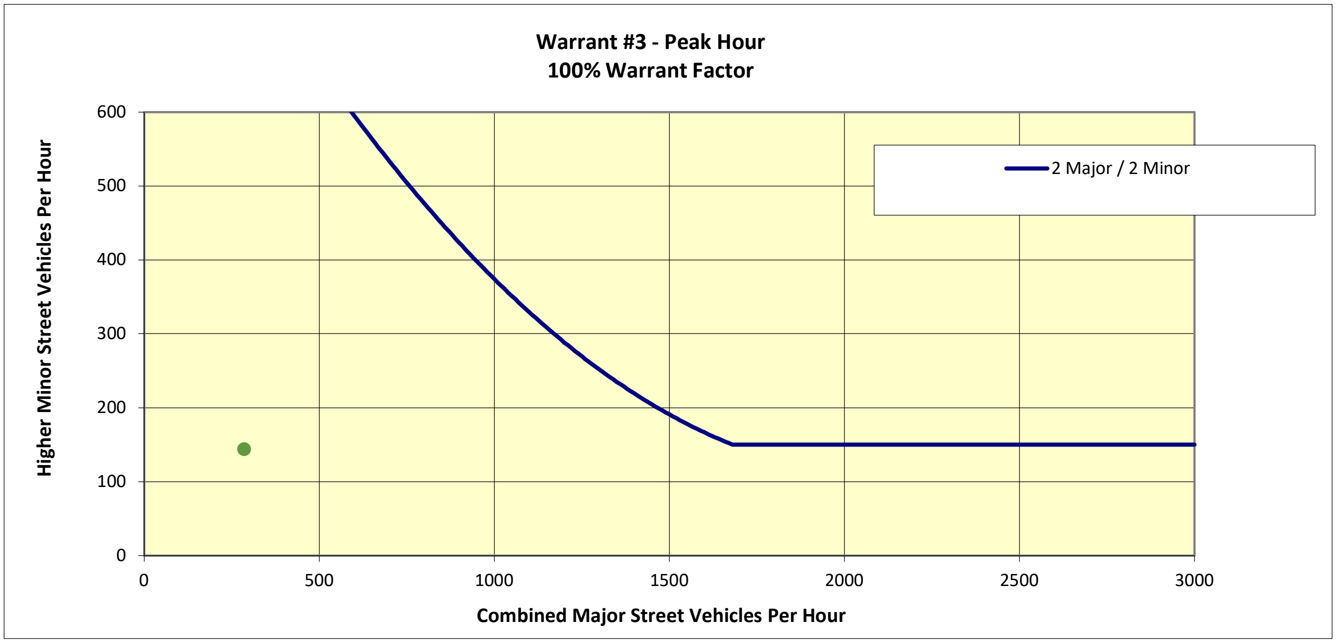
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	7.8	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.31	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	144	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	429	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
285	144



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	9. Town Cir/Memorial Pkwy
Scenario:	Year 2026 Total Traffic Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
4:30 PM	5:30 PM	471	0	543	446

Warrant 3, Peak Hour Met?
Yes

<u>Warrant 3, Peak Hour</u>

Part A

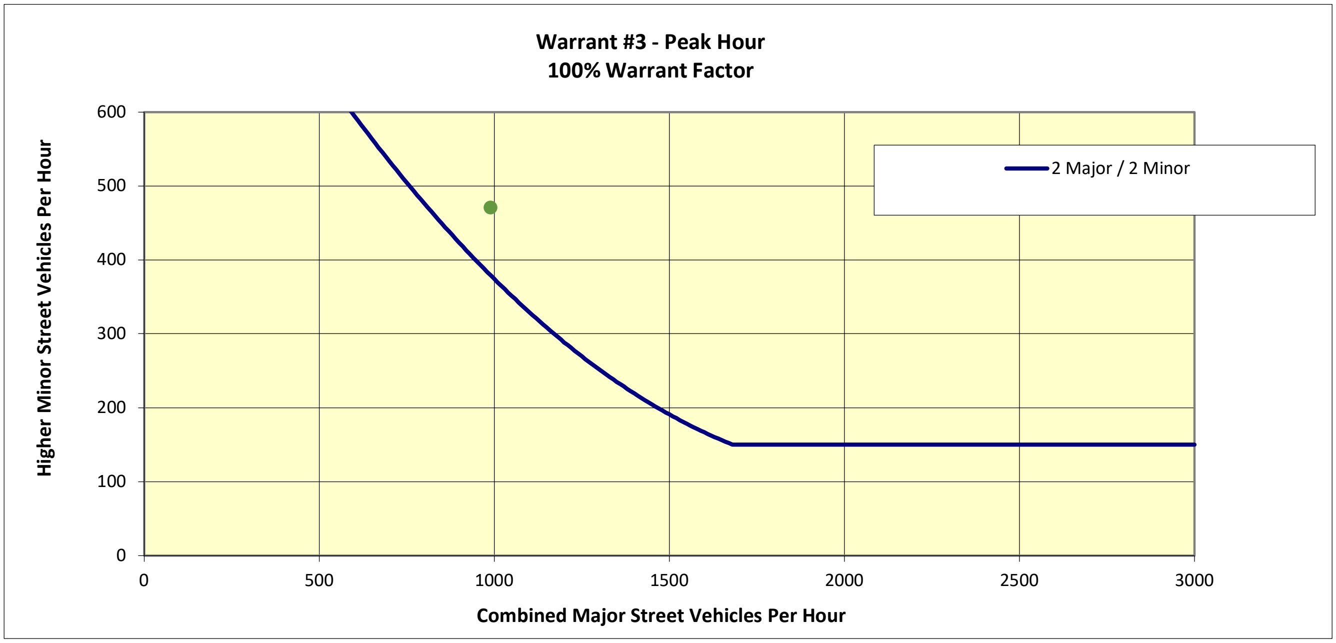
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	12.0	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	1.57	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	471	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1460	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
989	471



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/26/2022
Intersection:	9. Town Cir/Memorial Pkwy
Scenario:	Year 2026 Total Traffic Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
12:00 PM	1:00 PM	784	0	699	697

Warrant 3, Peak Hour Met?
Yes

Warrant 3, Peak Hour

Part A

(All parts 1, 2 and 3 below must be satisfied for the same one your)

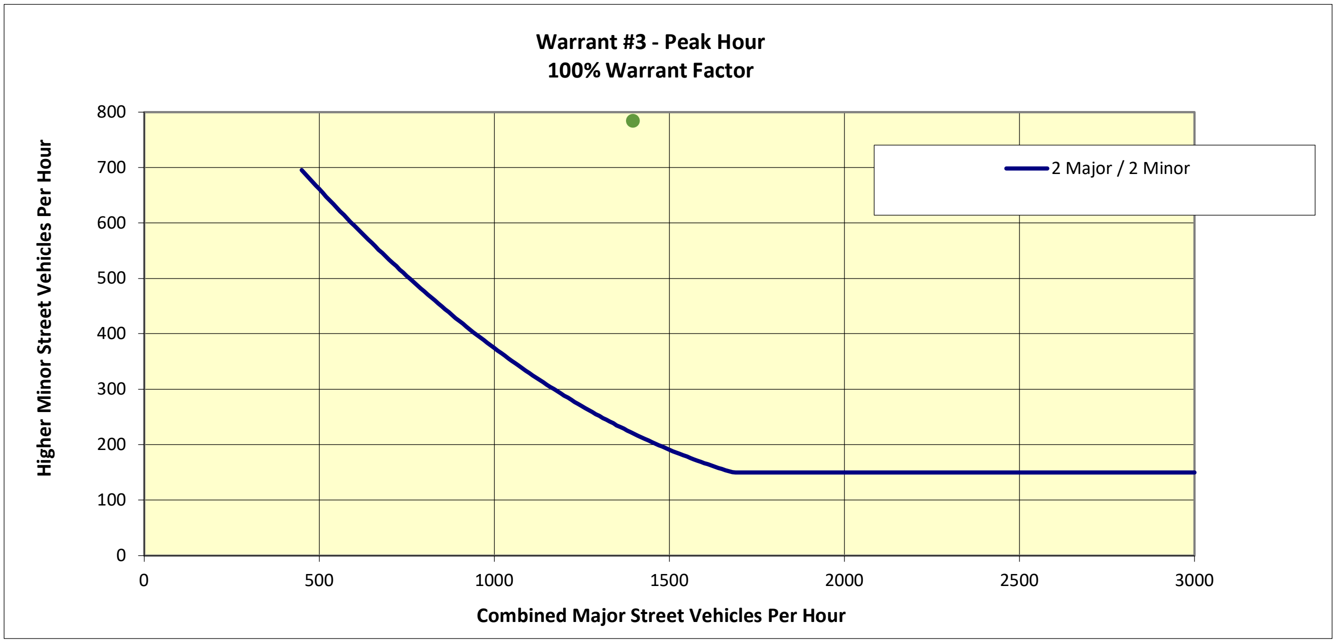
	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	20.0	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	4.36	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	784	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	2180	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1396	784



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	12. Town Cir/Heritage Way
Scenario:	Existing Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	61	0	82	119

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

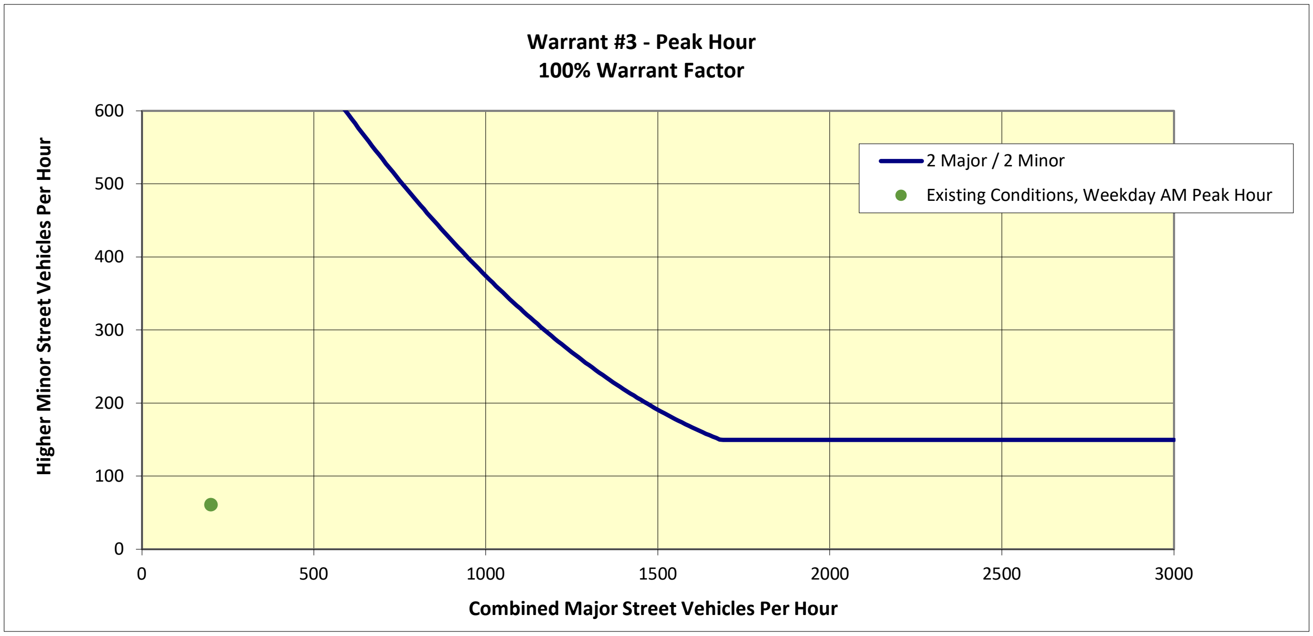
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	7.3	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.12	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	61	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	262	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
201	61



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	12. Town Cir/Heritage Way
Scenario:	Existing Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
5:00 PM	6:00 PM	169	0	416	262

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

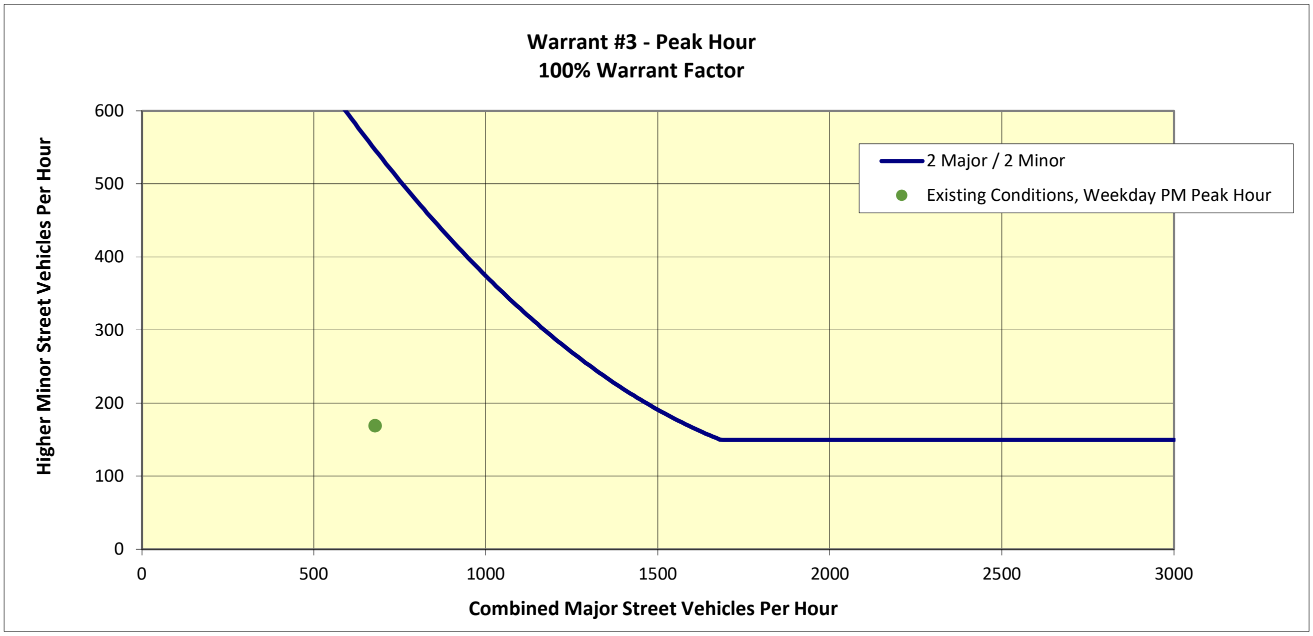
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	9.2	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.43	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	169	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	847	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
678	169



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	12. Town Cir/Heritage Way
Scenario:	Existing Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
12:00 PM	1:00 PM	268	0	509	521

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

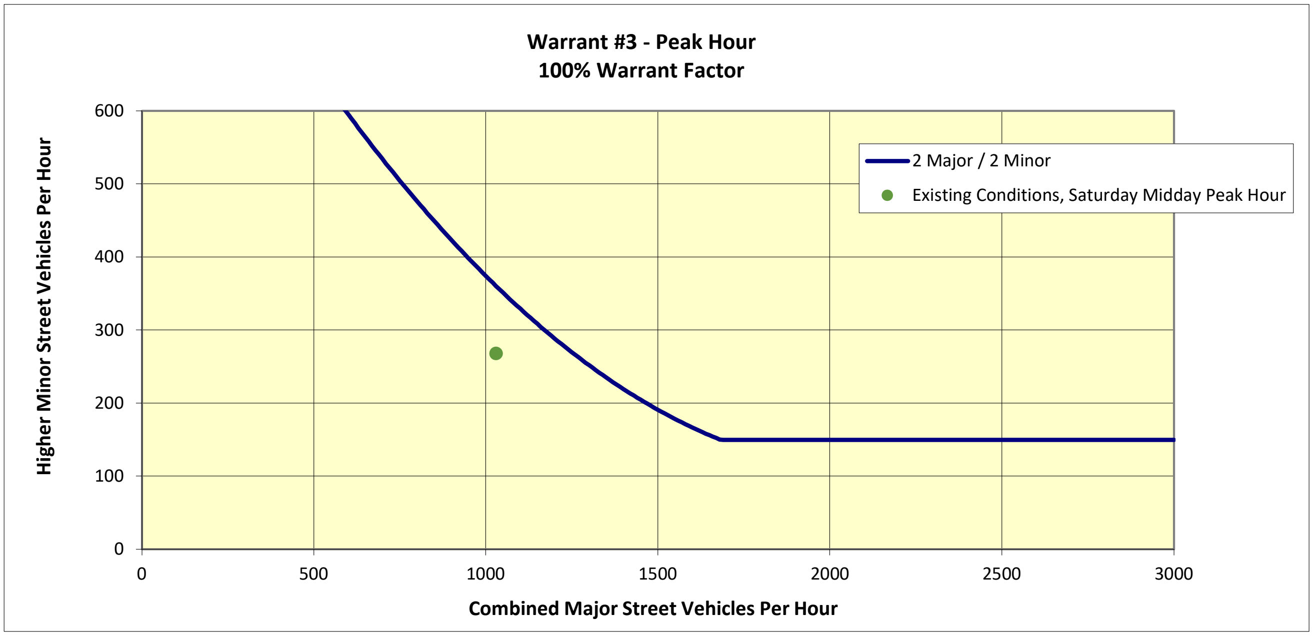
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	11.6	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.86	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	268	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1298	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1030	268



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	12. Town Cir/Heritage Way
Scenario:	Year 2026 Background Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	66	0	88	128

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

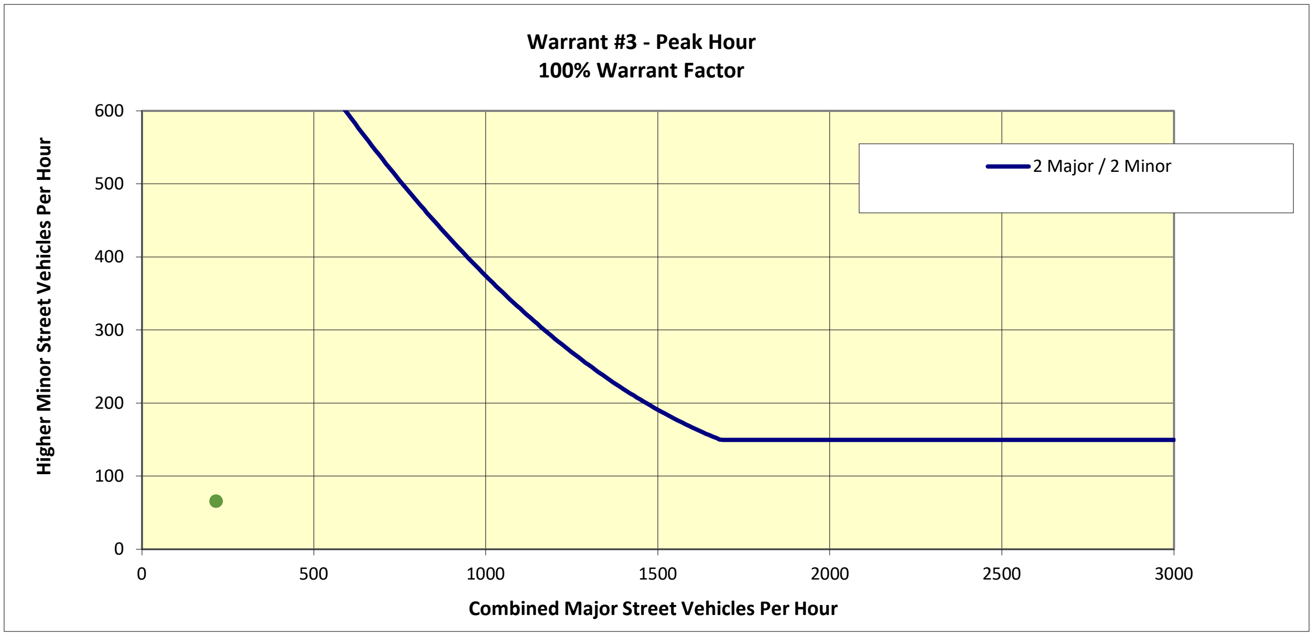
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	7.4	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.14	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	66	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	282	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
216	66



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	12. Town Cir/Heritage Way
Scenario:	Year 2026 Background Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
5:00 PM	6:00 PM	182	0	447	282

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

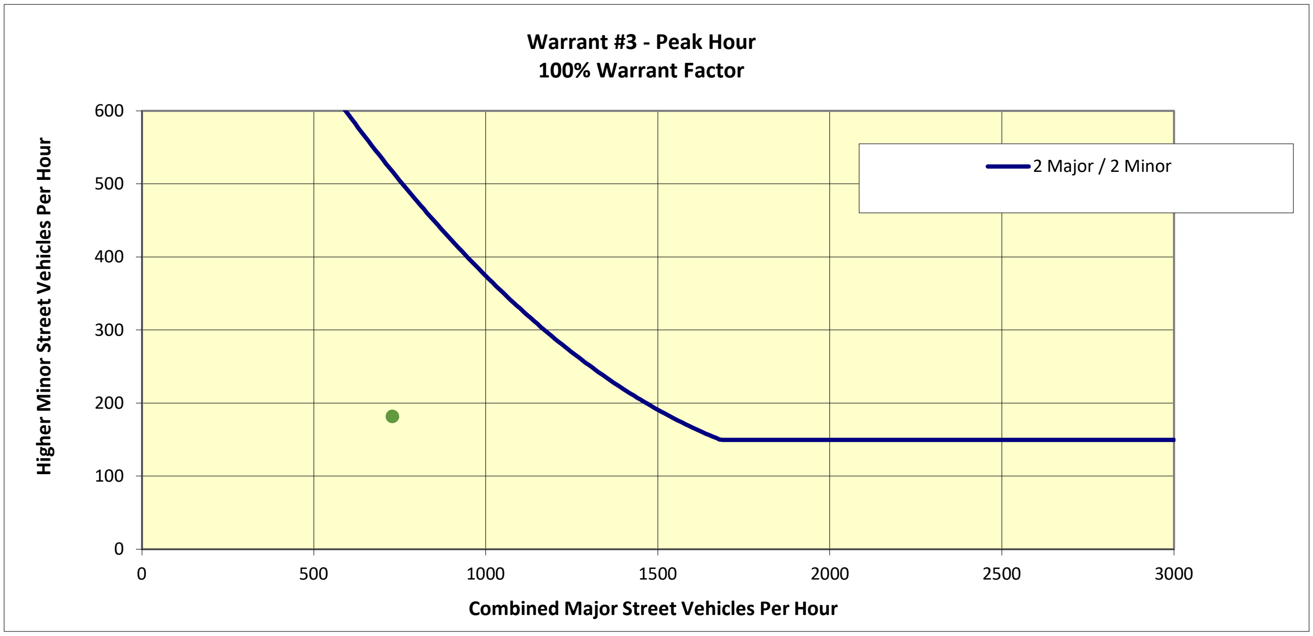
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	9.4	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.48	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	182	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	911	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
729	182



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	12. Town Cir/Heritage Way
Scenario:	Year 2026 Background Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
12:00 PM	1:00 PM	288	0	548	560

Warant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

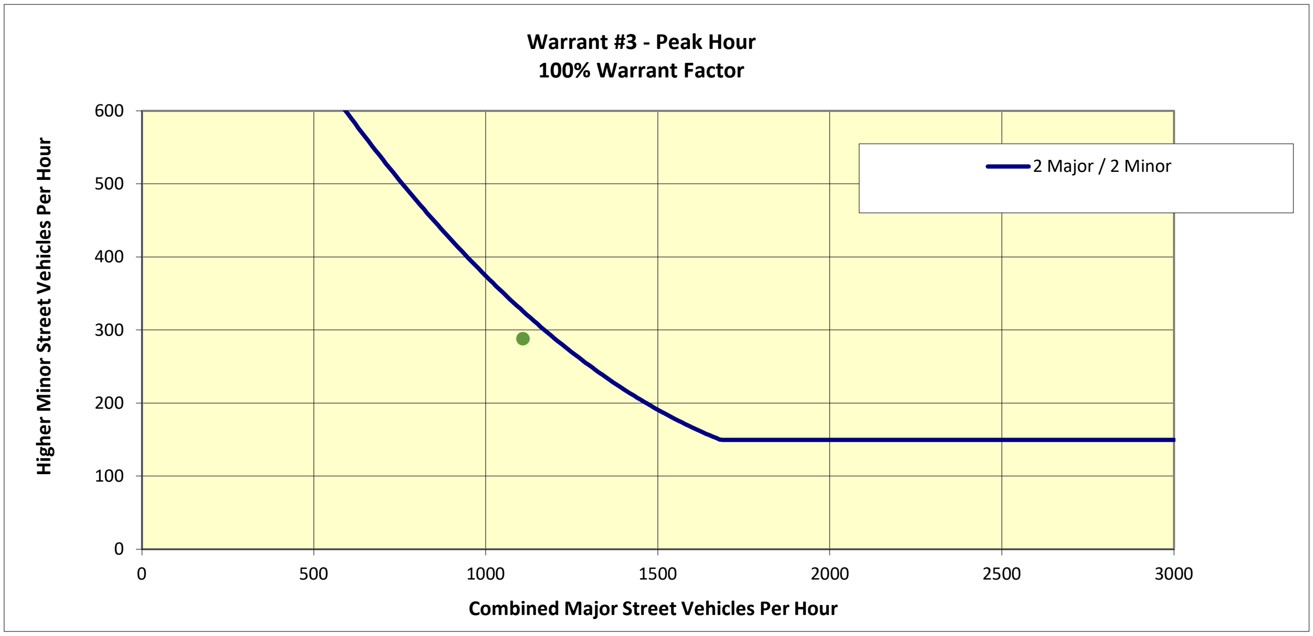
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	12.1	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.97	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	288	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1396	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1108	288



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	12. Town Cir/Heritage Way
Scenario:	Year 2026 Total Traffic Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	166	225	121	265

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

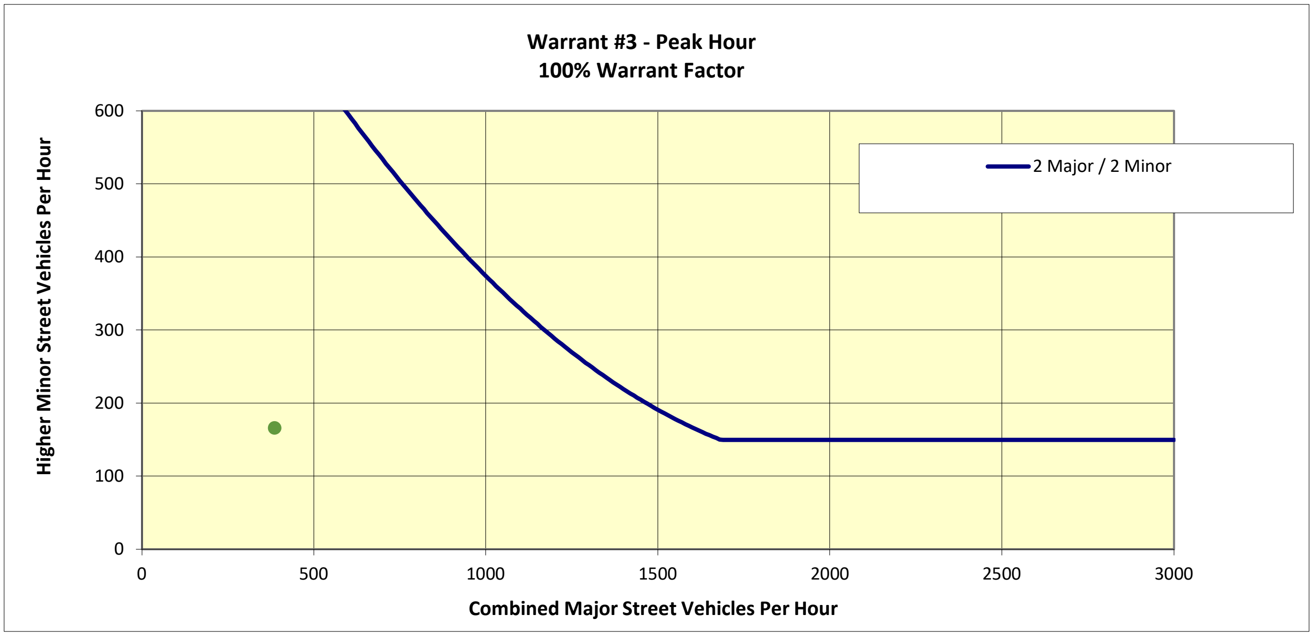
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	10.0	11.4
Number Of Lanes On Minor Street Approach	3	1
Vehicle-Hours Of Stopped Delay On Minor Approach	0.46	0.71
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	166	225
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	Yes
3. Total Entering Volume On All Approaches During Same Hour	777	
Number of Approaches to Intersection	4	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
386	166



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	12. Town Cir/Heritage Way
Scenario:	Year 2026 Total Traffic Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
5:00 PM	6:00 PM	341	218	420	456

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

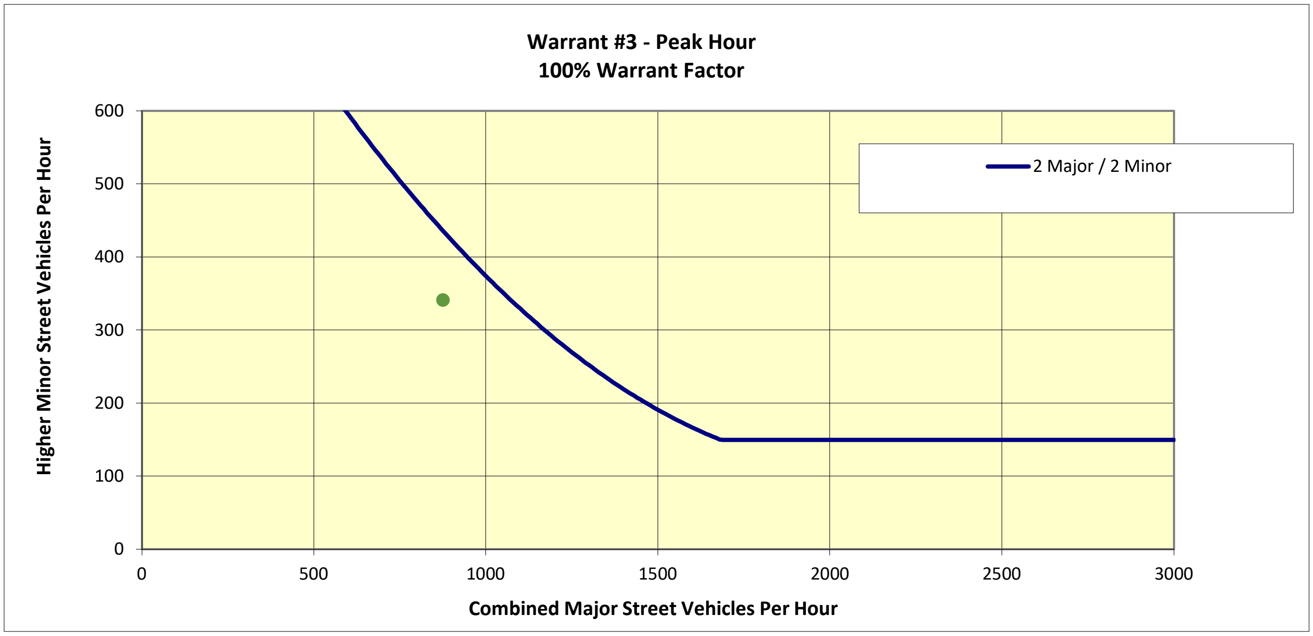
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	14.0	14.1
Number Of Lanes On Minor Street Approach	3	1
Vehicle-Hours Of Stopped Delay On Minor Approach	1.33	0.85
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	341	218
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	Yes
3. Total Entering Volume On All Approaches During Same Hour	1435	
Number of Approaches to Intersection	4	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
876	341



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	12. Town Cir/Heritage Way
Scenario:	Year 2026 Total Traffic Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
12:00 PM	1:00 PM	439	276	508	698

Warrant 3, Peak Hour Met?
Yes

Warrant 3, Peak Hour

Part A

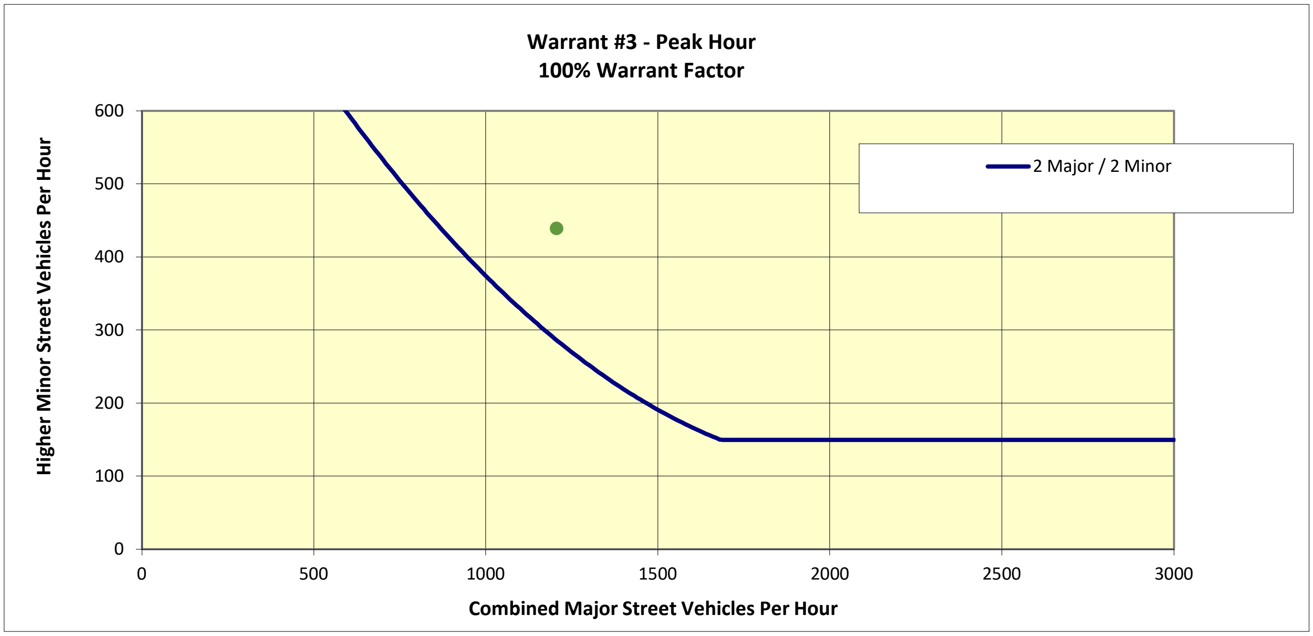
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	21.9	18.6
Number Of Lanes On Minor Street Approach	4	0
Vehicle-Hours Of Stopped Delay On Minor Approach	2.67	1.43
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	439	276
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1921	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1206	439



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	12. Town Cir/Heritage Way
Scenario:	Year 2040 Background Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	67	0	91	131

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

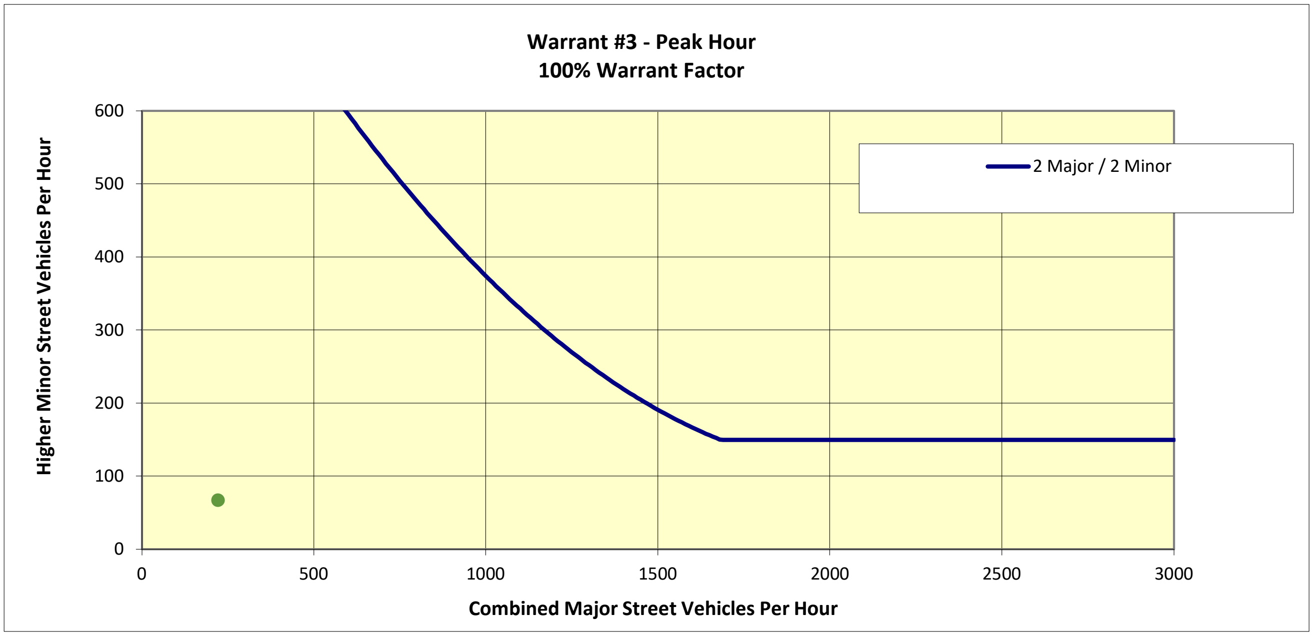
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	7.3	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.14	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	67	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	289	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
222	67



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	12. Town Cir/Heritage Way
Scenario:	Year 2040 Background Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
5:00 PM	6:00 PM	186	0	458	288

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

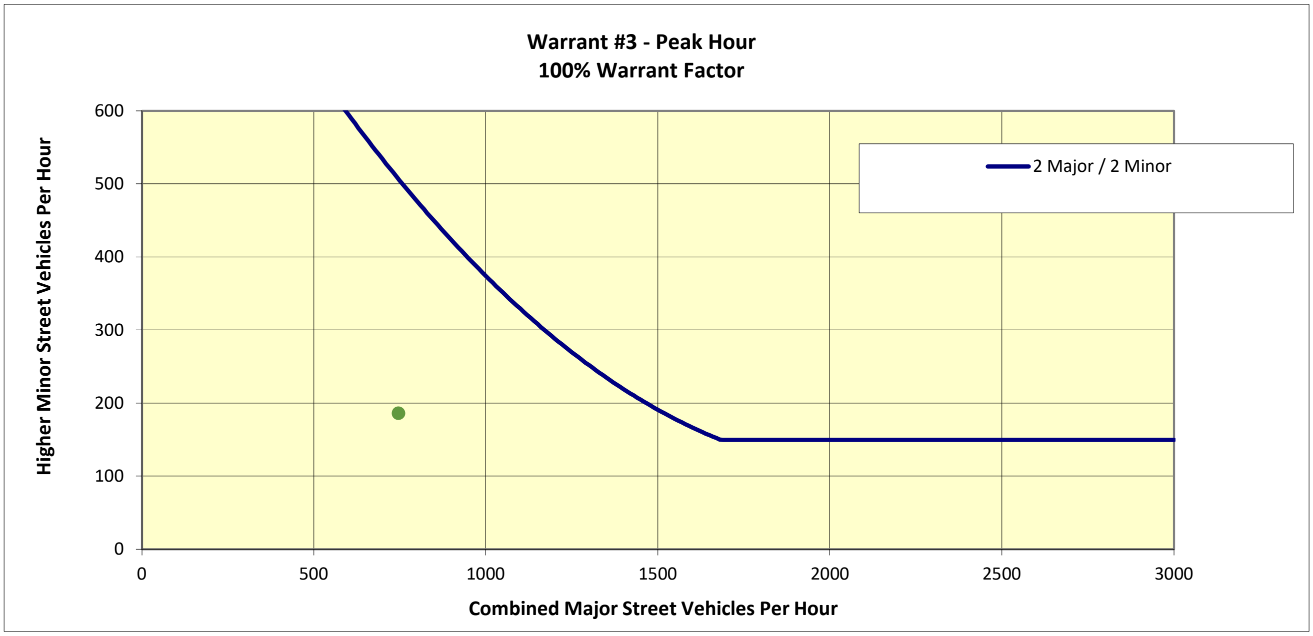
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	9.4	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.49	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	186	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	932	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
746	186



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	12. Town Cir/Heritage Way
Scenario:	Year 2040 Background Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
12:00 PM	1:00 PM	295	0	558	574

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

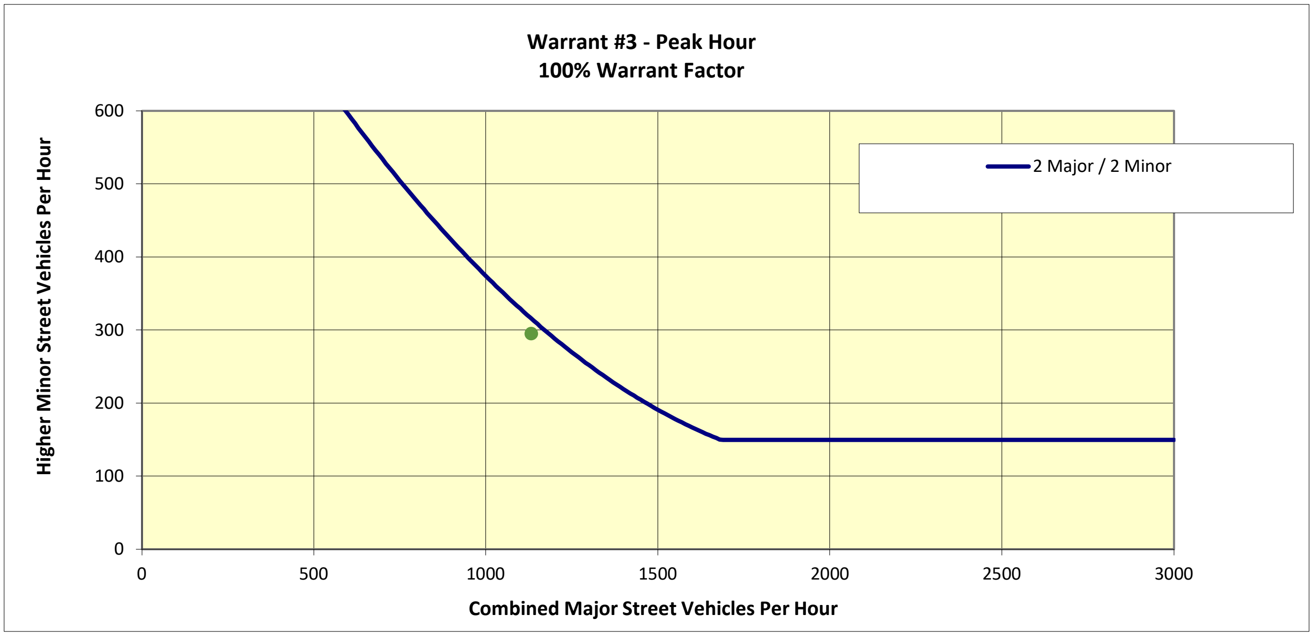
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	12.4	
Number Of Lanes On Minor Street Approach	3	0
Vehicle-Hours Of Stopped Delay On Minor Approach	1.02	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	295	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1427	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1132	295



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	12. Town Cir/Heritage Way
Scenario:	Year 2040 Total Traffic Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	167	226	123	268

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

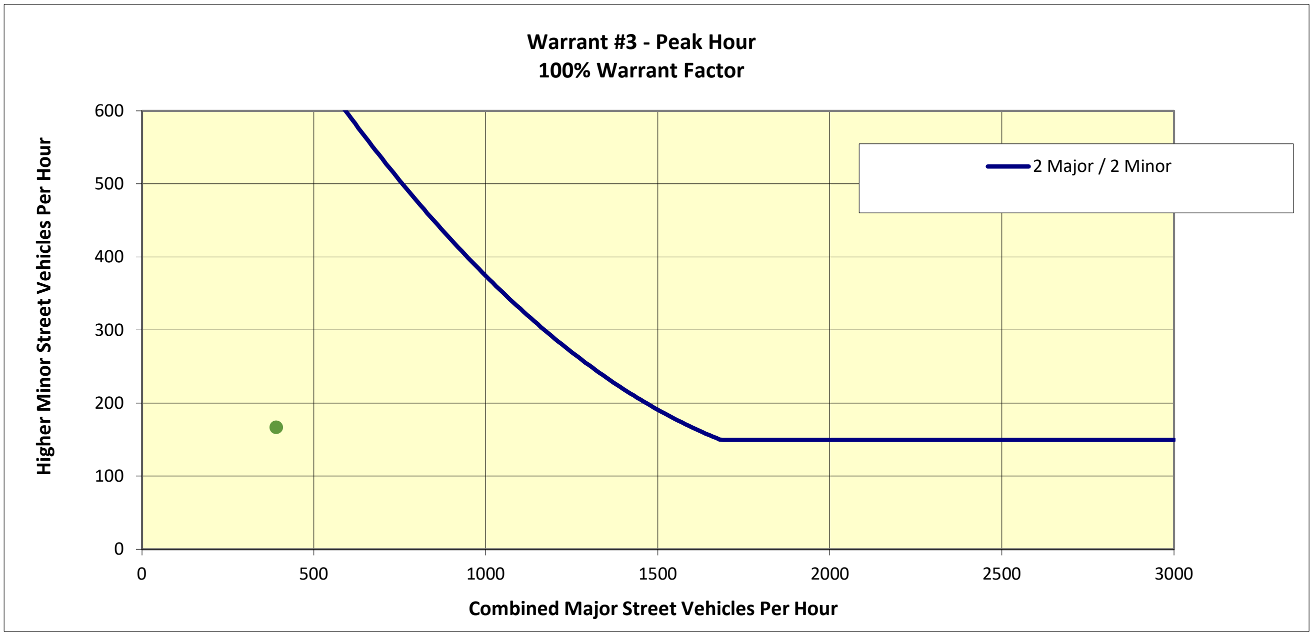
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	9.4	10.6
Number Of Lanes On Minor Street Approach	3	1
Vehicle-Hours Of Stopped Delay On Minor Approach	0.44	0.67
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	167	226
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	Yes
3. Total Entering Volume On All Approaches During Same Hour	784	
Number of Approaches to Intersection	4	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
391	167



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	12. Town Cir/Heritage Way
Scenario:	Year 2040 Total Traffic Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
5:00 PM	6:00 PM	345	246	429	462

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

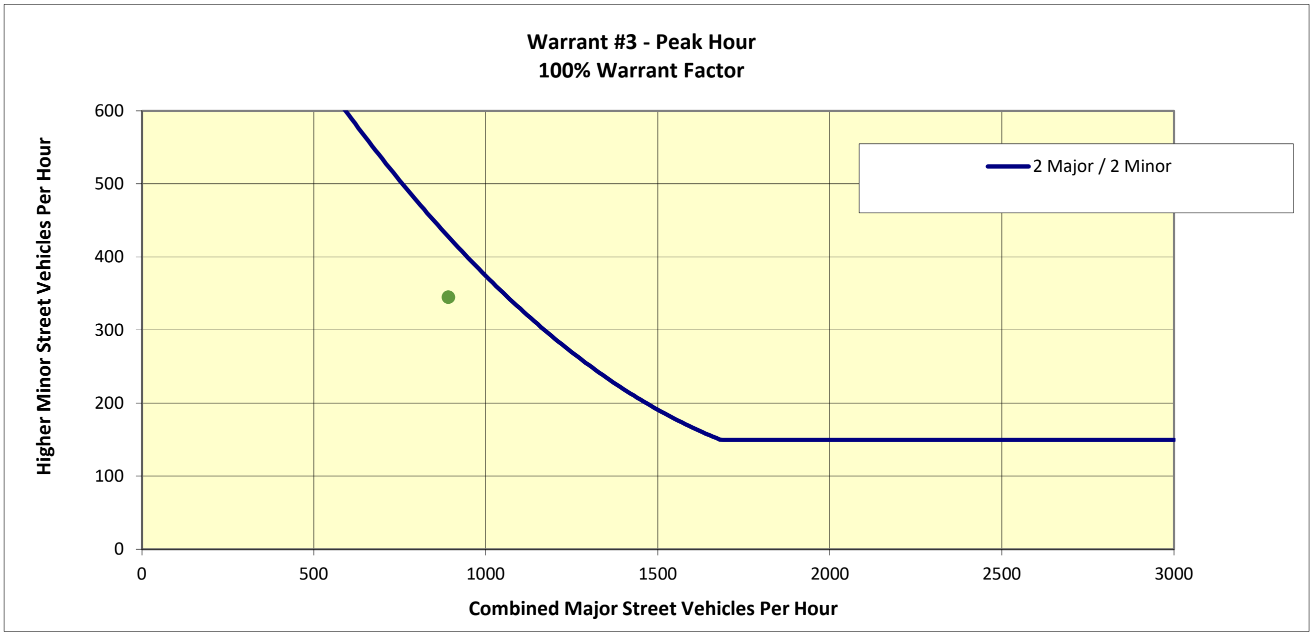
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	13.9	14.0
Number Of Lanes On Minor Street Approach	3	1
Vehicle-Hours Of Stopped Delay On Minor Approach	1.33	0.96
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	345	246
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	Yes
3. Total Entering Volume On All Approaches During Same Hour	1482	
Number of Approaches to Intersection	4	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
891	345



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	12. Town Cir/Heritage Way
Scenario:	Year 2040 Total Traffic Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	2	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
12:00 PM	1:00 PM	446	279	518	710

Warrant 3, Peak Hour Met?
Yes

<u>Warrant 3, Peak Hour</u>

Part A

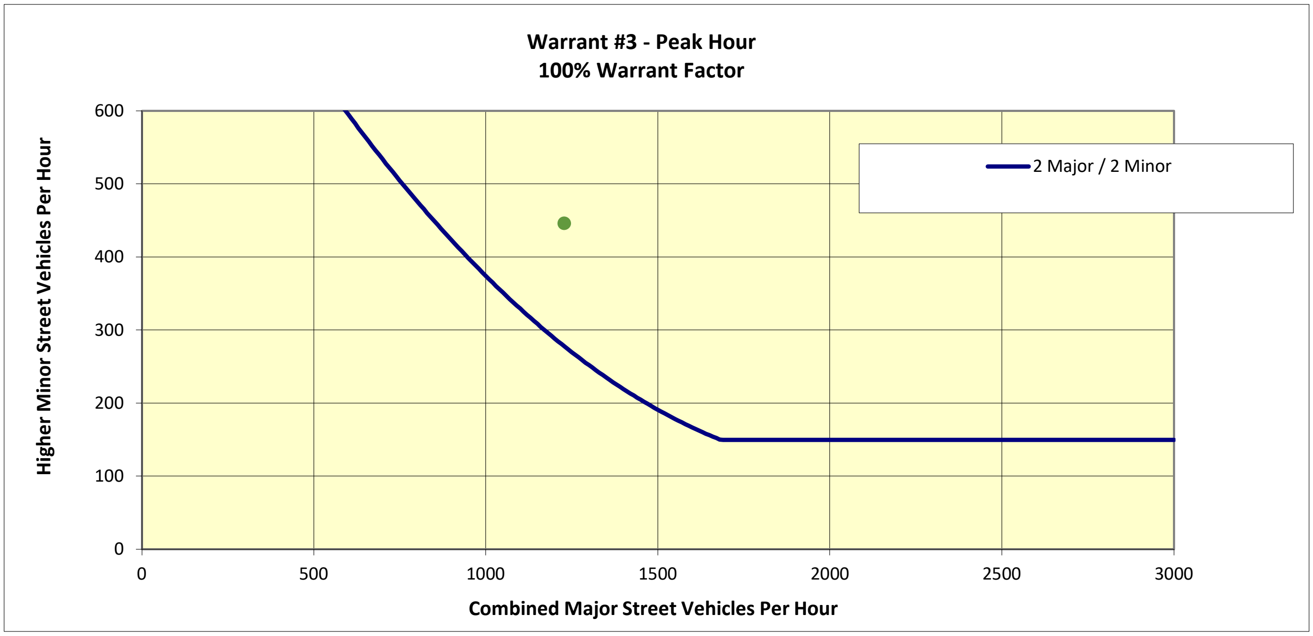
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	22.8	19.0
Number Of Lanes On Minor Street Approach	4	0
Vehicle-Hours Of Stopped Delay On Minor Approach	2.82	1.47
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	446	279
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1953	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1228	446



Is Warrant #3 met based on Condition B Criteria?
Yes

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	A. Town Circle/Access A
Scenario:	Year 2026 Total Traffic Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	70	0	55	74

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

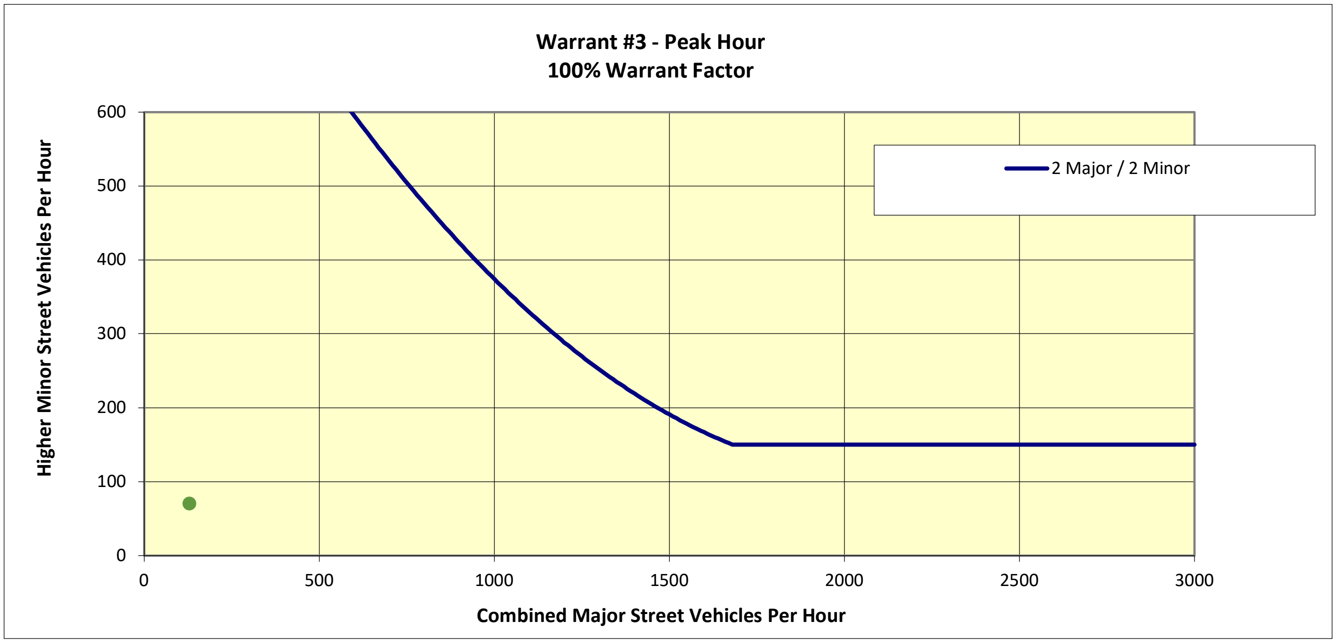
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	9.1	
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.18	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	70	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	199	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
129	70



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	A. Town Circle/Access A
Scenario:	Year 2026 Total Traffic Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	34	0	273	283

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

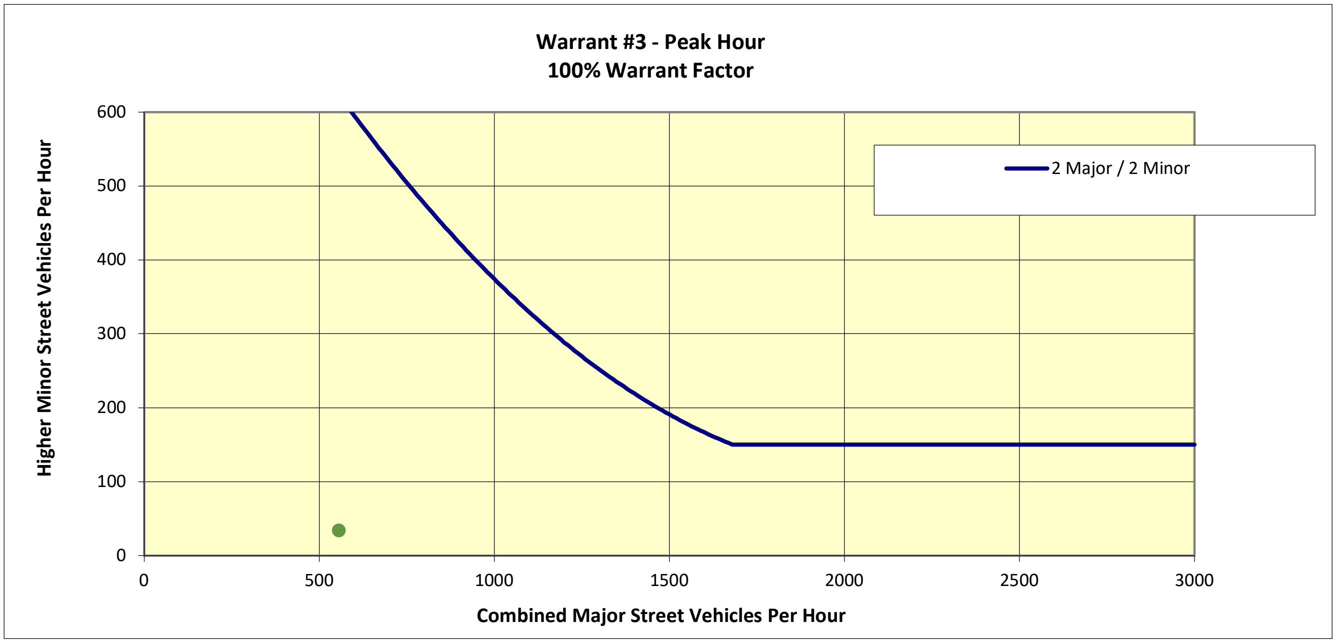
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	10.9	
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.10	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	34	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	590	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
556	34



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	A. Town Circle/Access A
Scenario:	Year 2026 Total Traffic Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	43	0	464	354

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

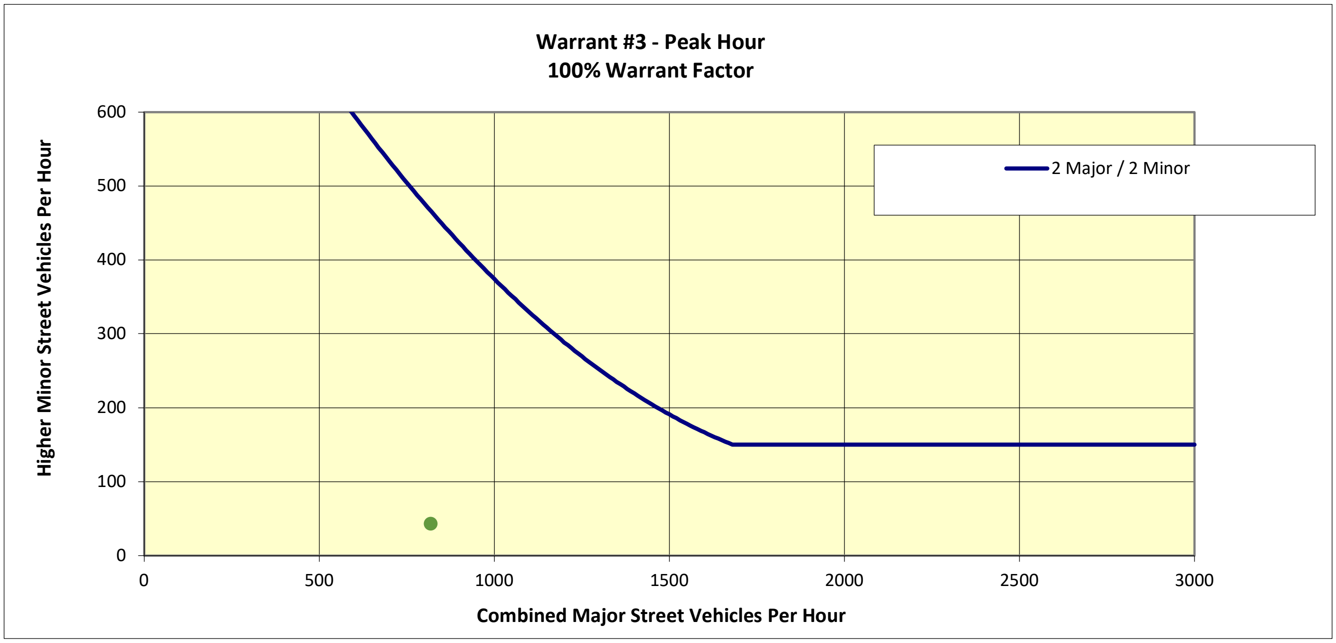
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	12.9	
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.15	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	43	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	861	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
818	43



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	A. Town Circle/Access A
Scenario:	Year 2040 Total Traffic Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	69	0	55	74

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

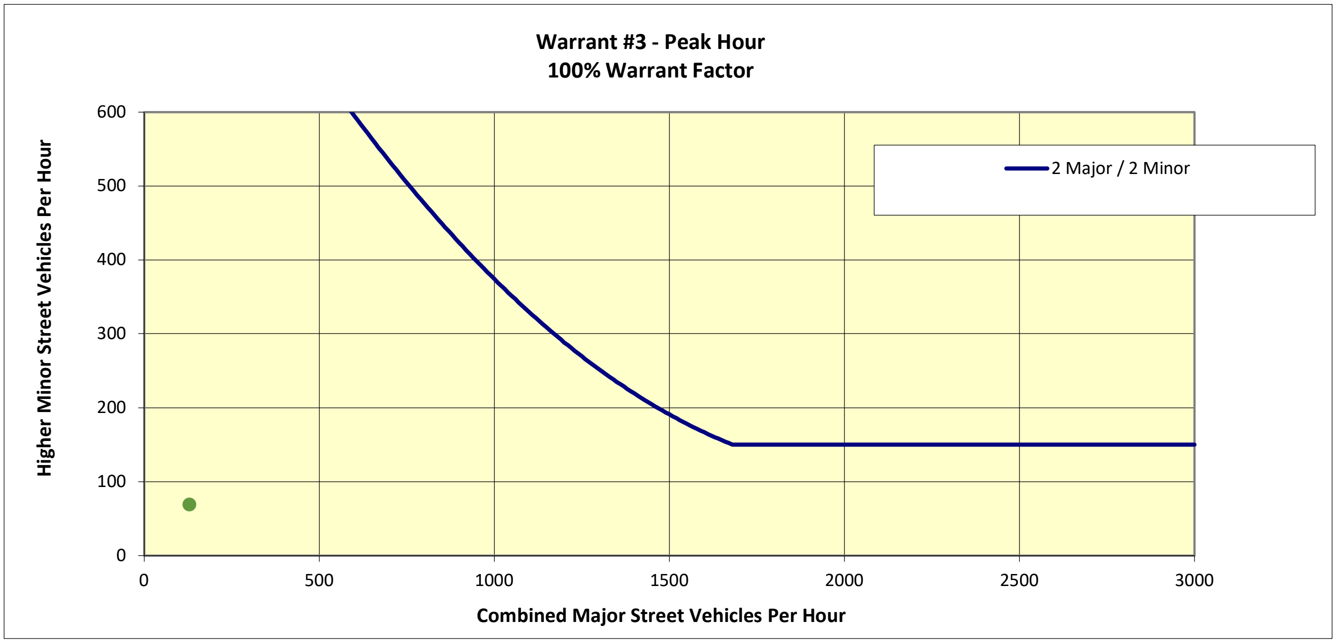
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	9.1	
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.17	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	69	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	198	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
129	69



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	A. Town Circle/Access A
Scenario:	Year 2040 Total Traffic Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	34	0	278	287

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

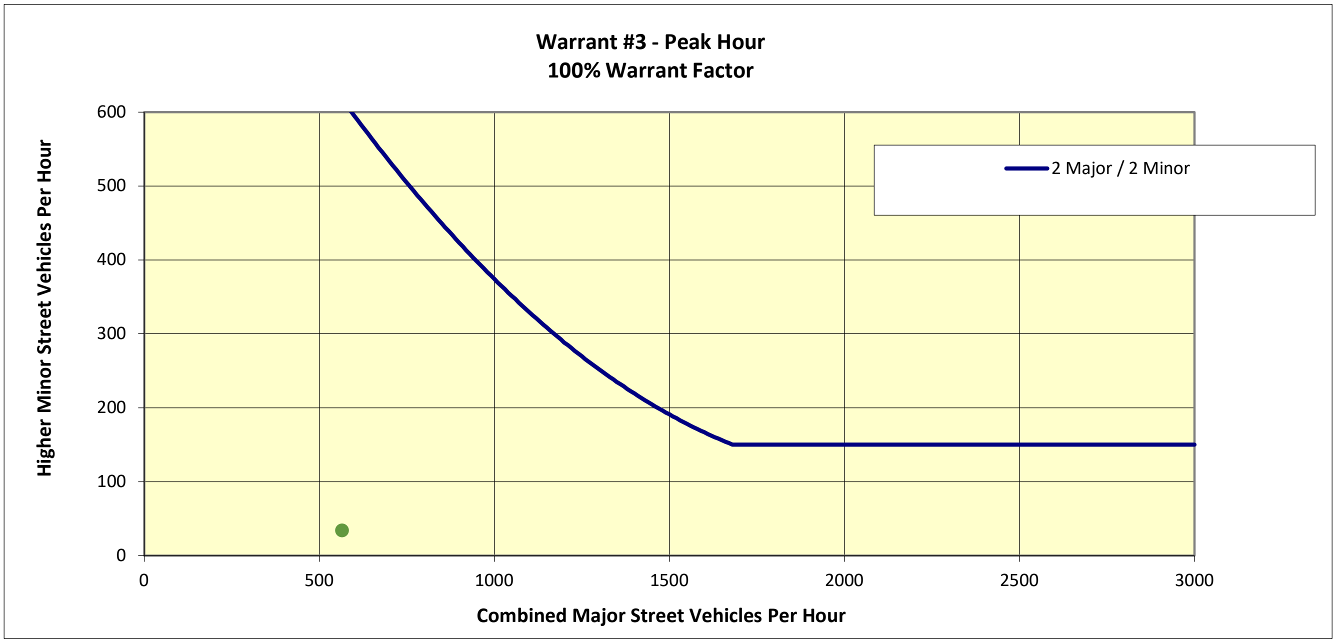
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	10.8	
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.10	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	34	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	599	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
565	34



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	A. Town Circle/Access A
Scenario:	Year 2040 Total Traffic Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	43	0	473	361

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

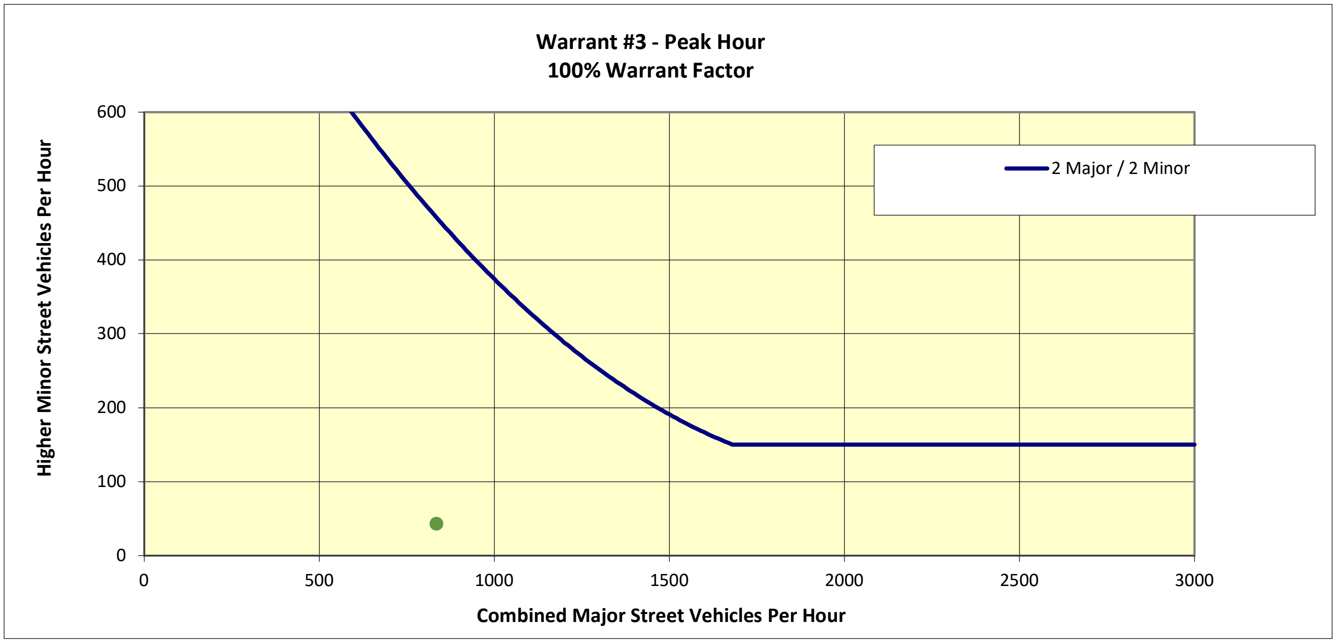
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	13.0	
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.16	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	43	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	877	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

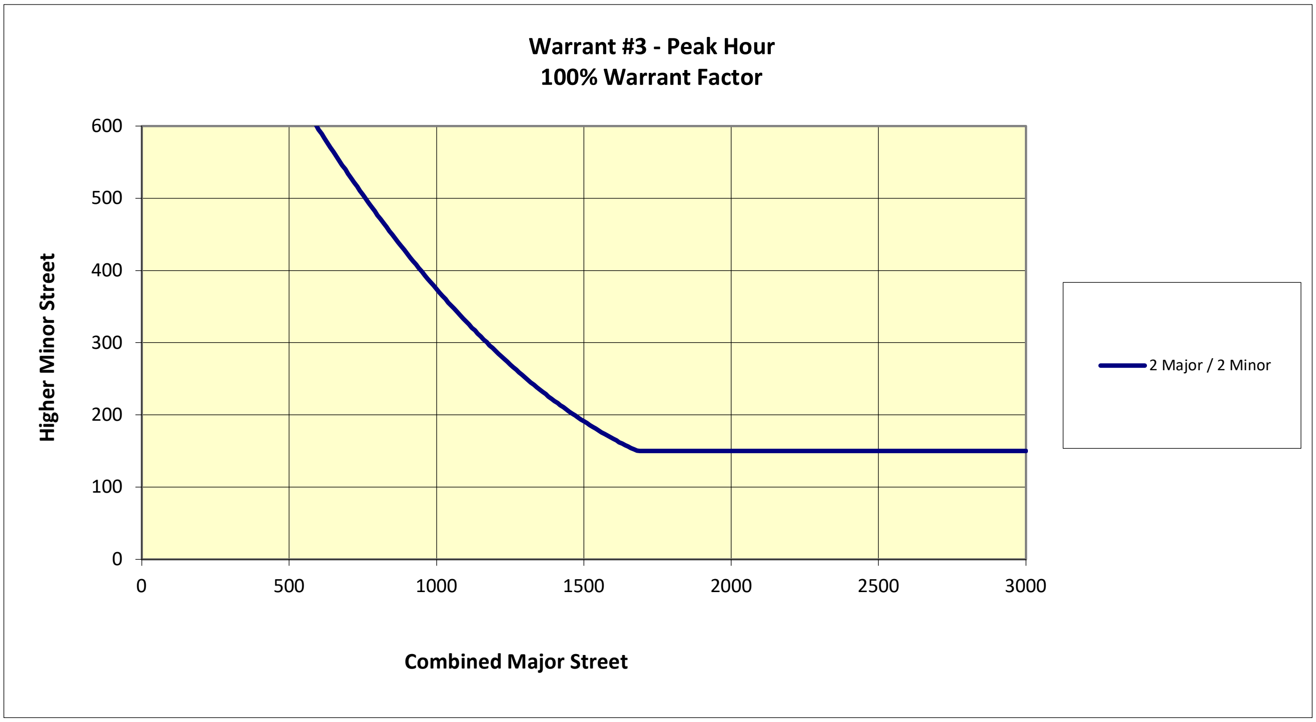
Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
834	43



Is Warrant #3 met based on Condition B Criteria?
No


Warrant #3 - Peak Hour
100% Warrant Factor
Higher Minor Street
600
500
400
300
200
100
0
0
500
1000
1500
2000
2500
3000
Combined Major Street
2 Major / 2 Minor

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	B. Town Circle/Access B
Scenario:	Year 2026 Total Traffic Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	12	0	80	111

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

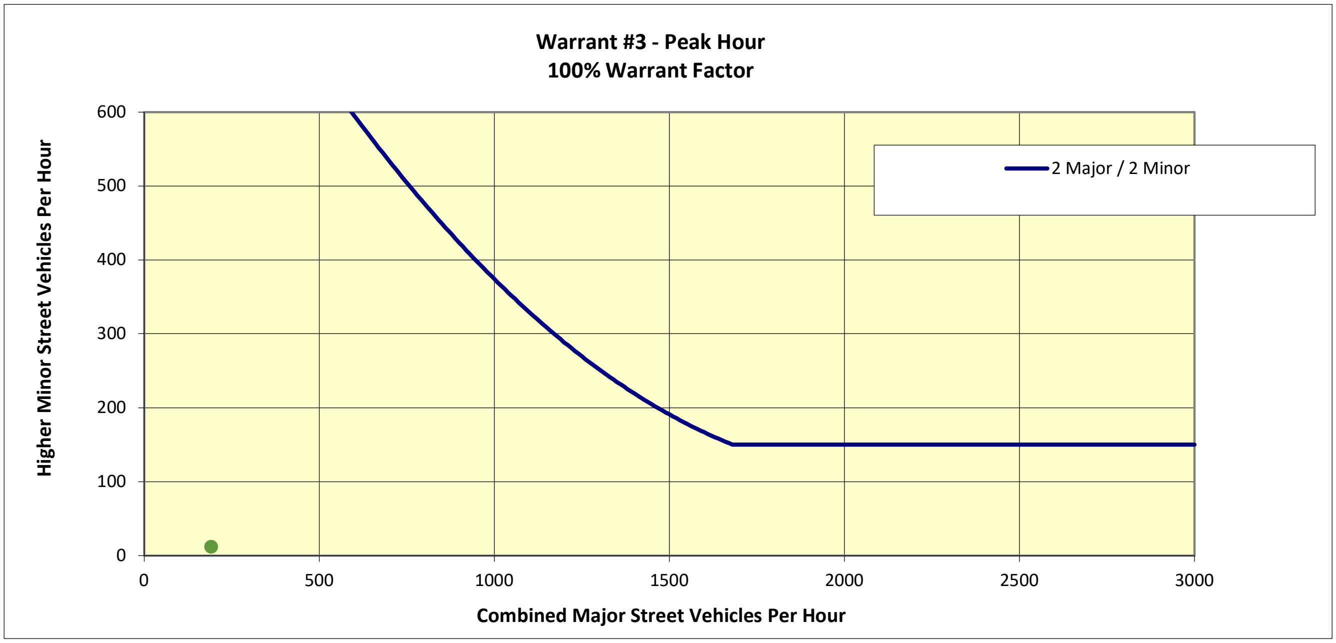
Part A

(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	9.1	
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.03	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	12	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	203	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B
The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
191	12



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	B. Town Circle/Access B
Scenario:	Year 2026 Total Traffic Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	18	0	278	281

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

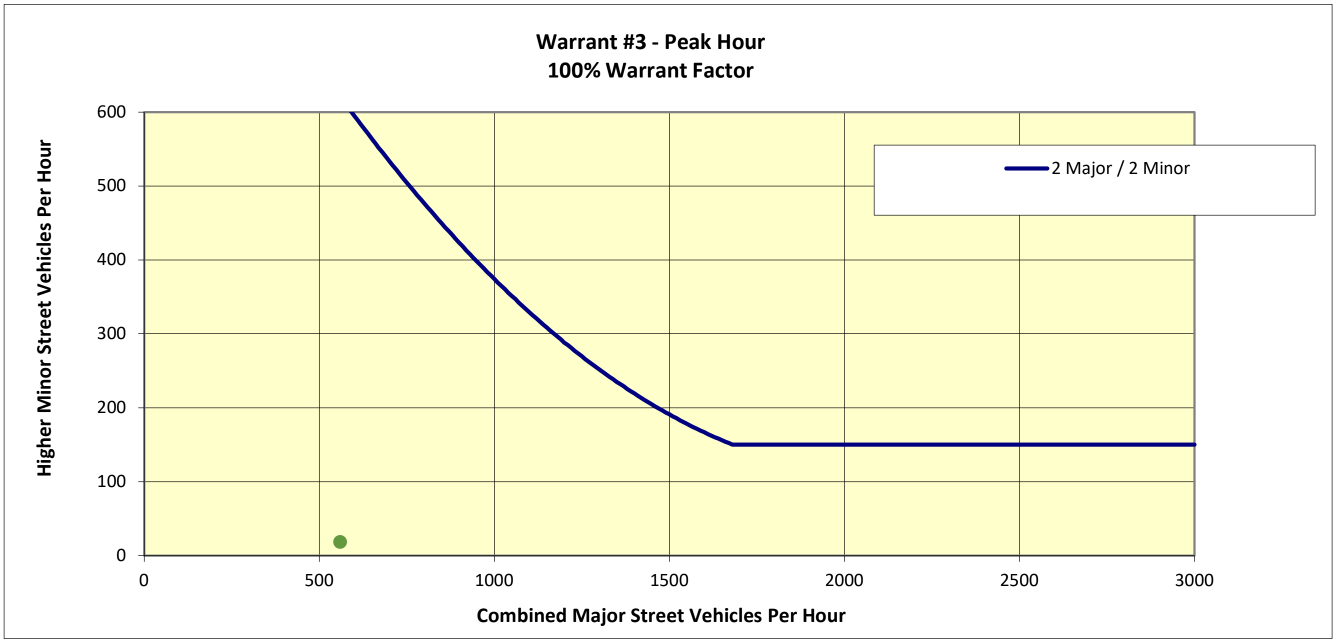
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	10.6	
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.05	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	18	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	577	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
559	18



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	B. Town Circle/Access B
Scenario:	Year 2026 Total Traffic Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	17	0	338	358

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

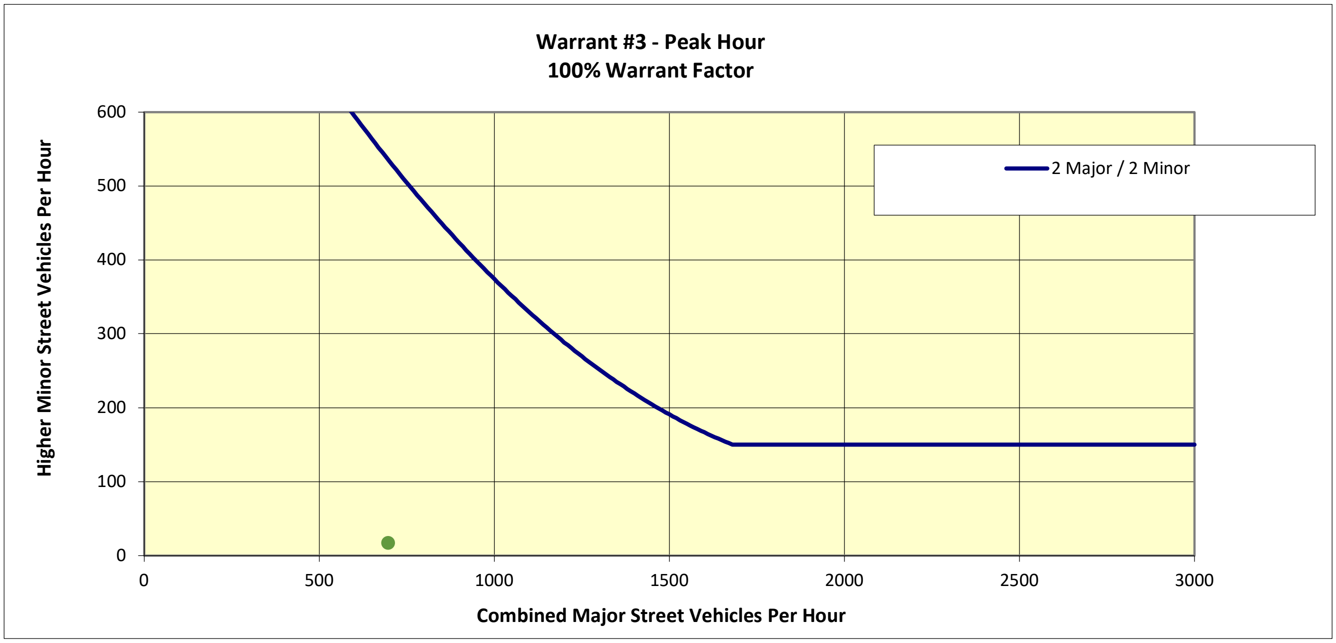
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	11.8	
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.06	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	17	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	713	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
696	17



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	B. Town Circle/Access B
Scenario:	Year 2040 Total Traffic Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	12	0	80	111

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

(All parts 1, 2 and 3 below must be satisfied for the same one your)

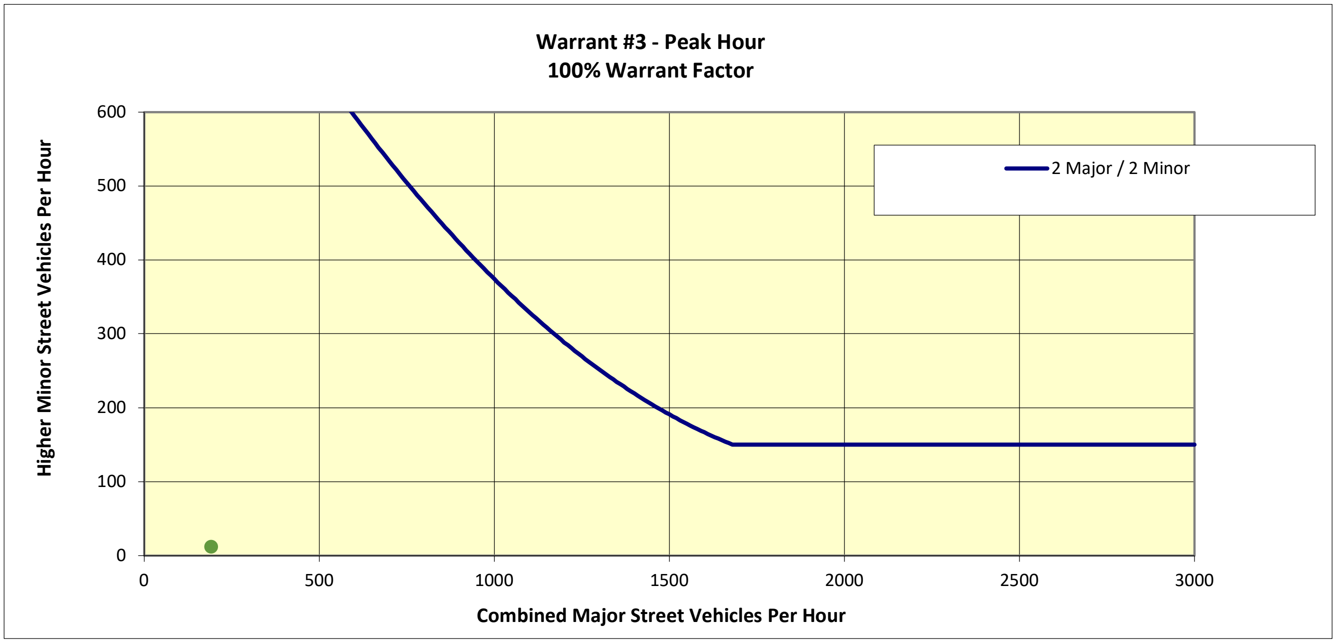
	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	9.1	
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.03	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	12	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	203	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
191	12



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	B. Town Circle/Access B
Scenario:	Year 2040 Total Traffic Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	18	0	283	286

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

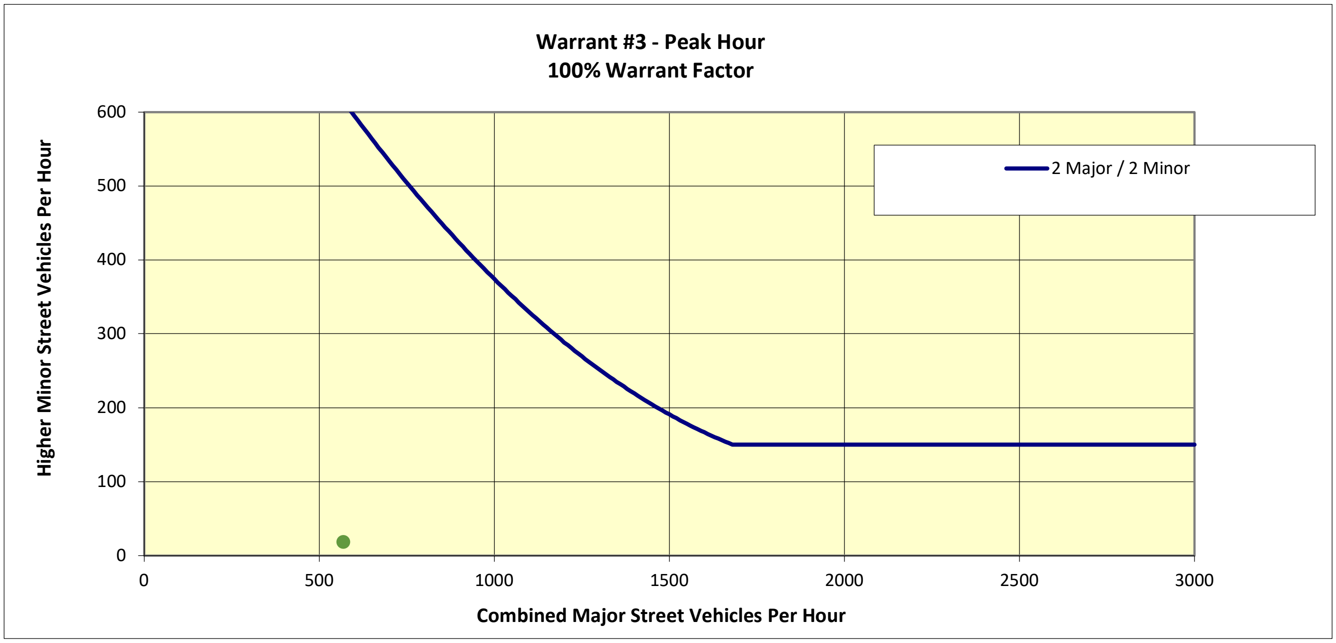
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	10.8	
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.05	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	18	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	587	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
569	18



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	B. Town Circle/Access B
Scenario:	Year 2040 Total Traffic Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	16	0	344	361
				365	

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

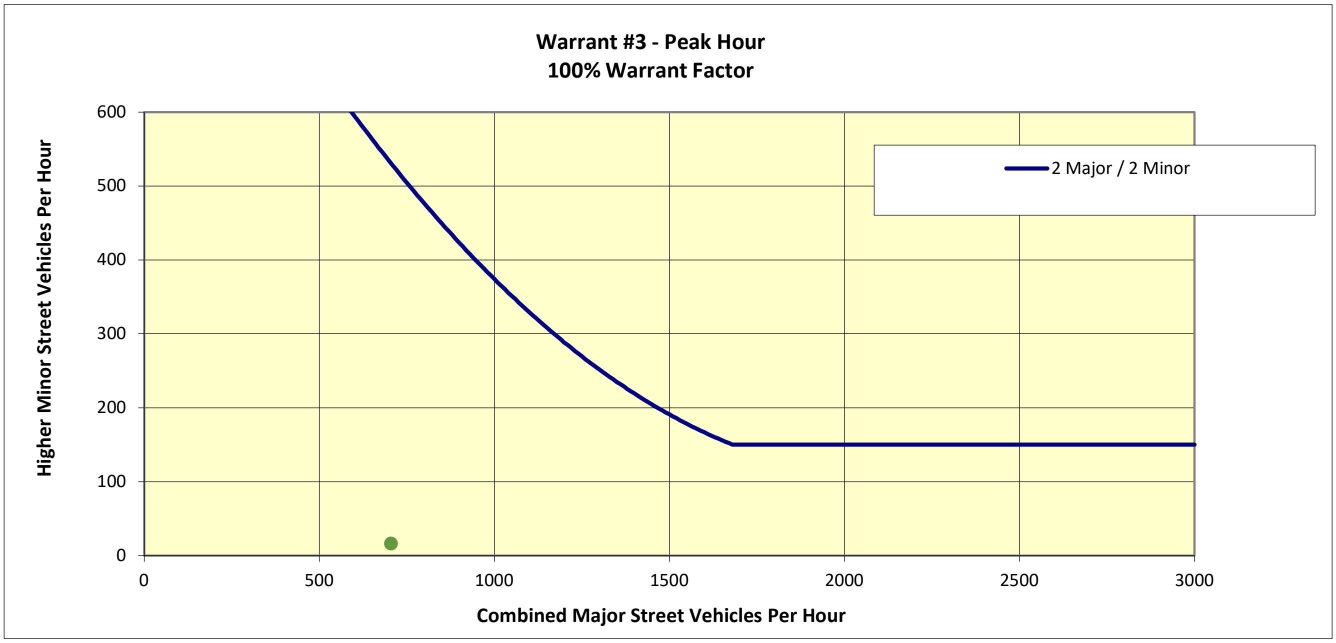
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	11.6	
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.05	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	16	0
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	721	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

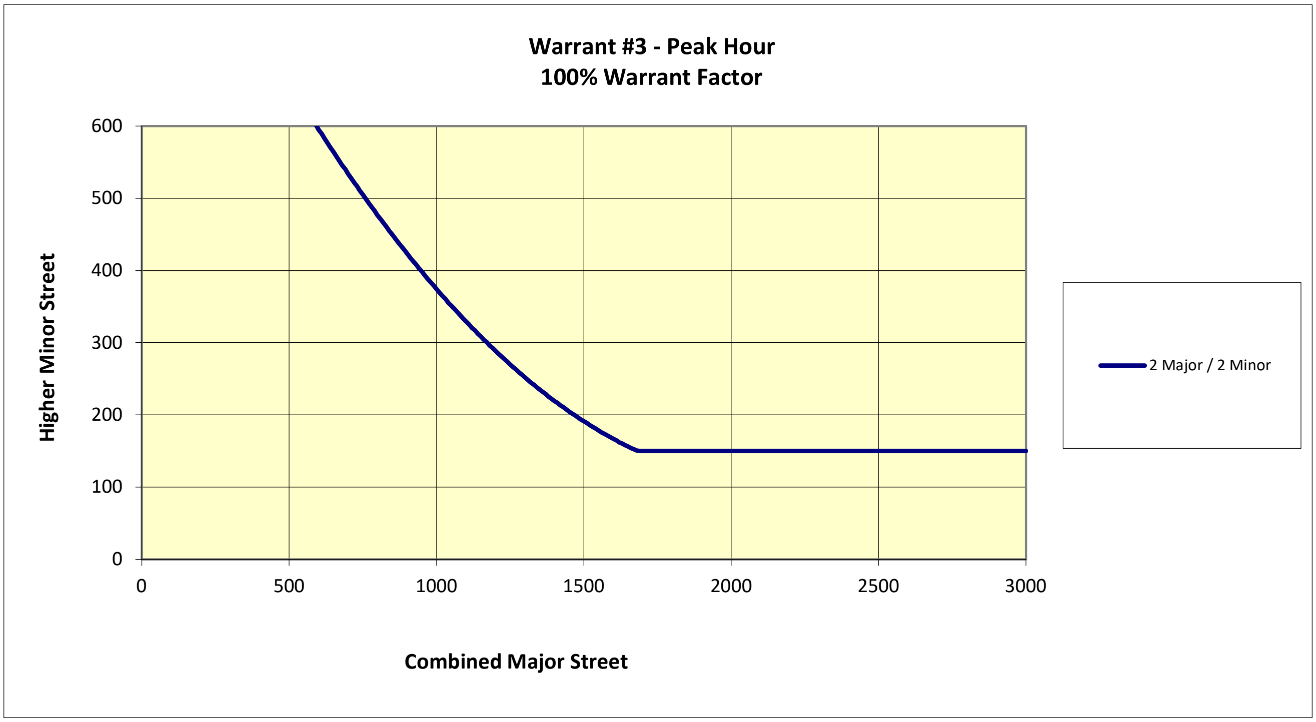
Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
705	16



Is Warrant #3 met based on Condition B Criteria?
No


Warrant #3 - Peak Hour
100% Warrant Factor
600
500
400
300
200
100
0
0
500
1000
1500
2000
2500
3000
Higher Minor Street
Combined Major Street
2 Major / 2 Minor

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	C. Town Circle/Access C
Scenario:	Year 2026 Total Traffic Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	142	79	17	0

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

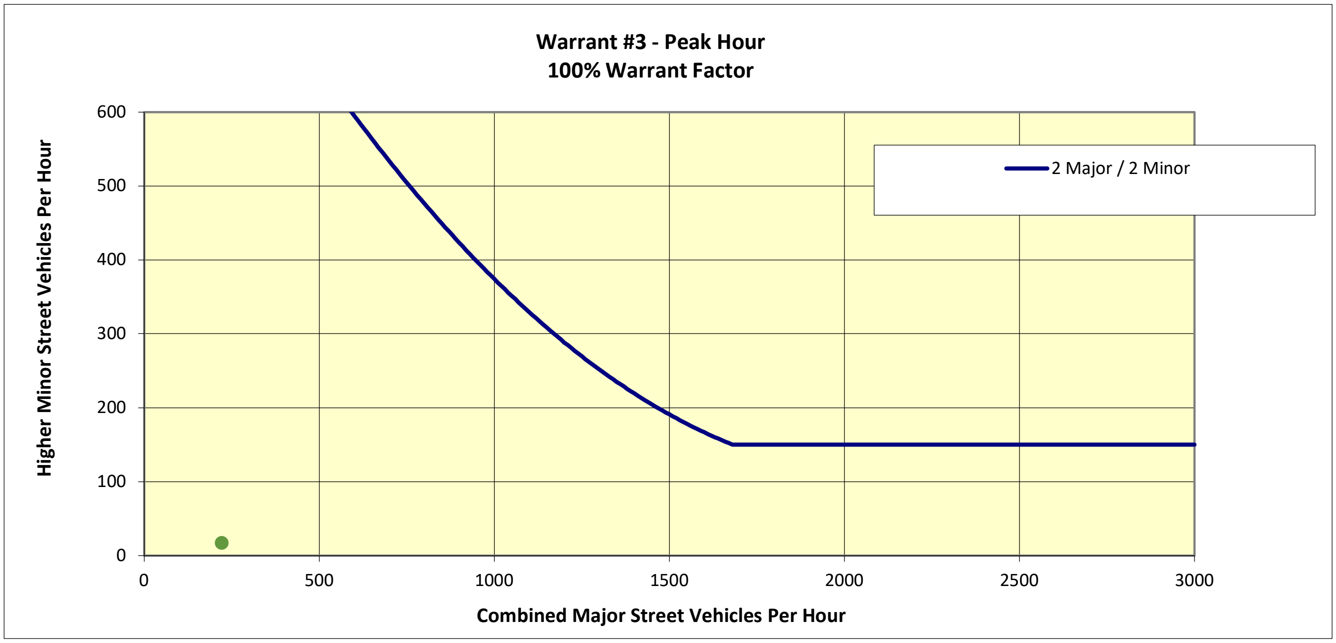
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	8.7	0.0
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.34	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	142	79
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	238	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
221	17



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	C. Town Circle/Access C
Scenario:	Year 2026 Total Traffic Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	302	280	32	0

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

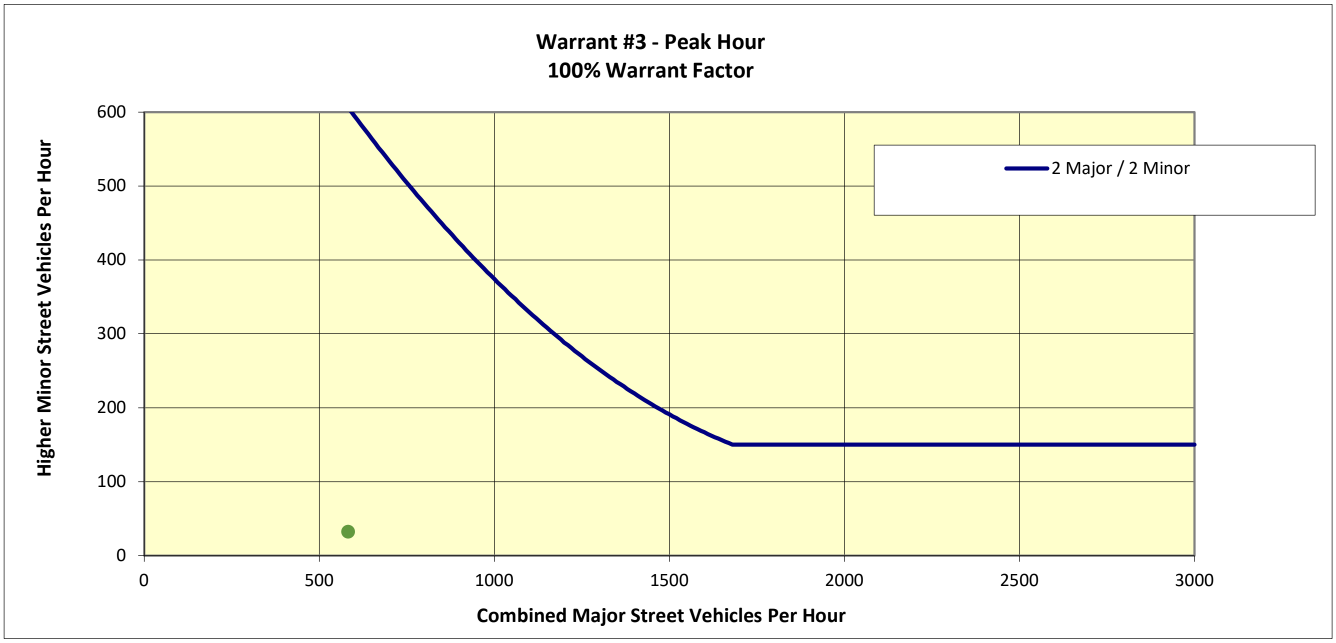
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	9.4	0.0
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.79	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	302	280
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	614	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
582	32



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	C. Town Circle/Access C
Scenario:	Year 2026 Total Traffic Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	385	335	23	0

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

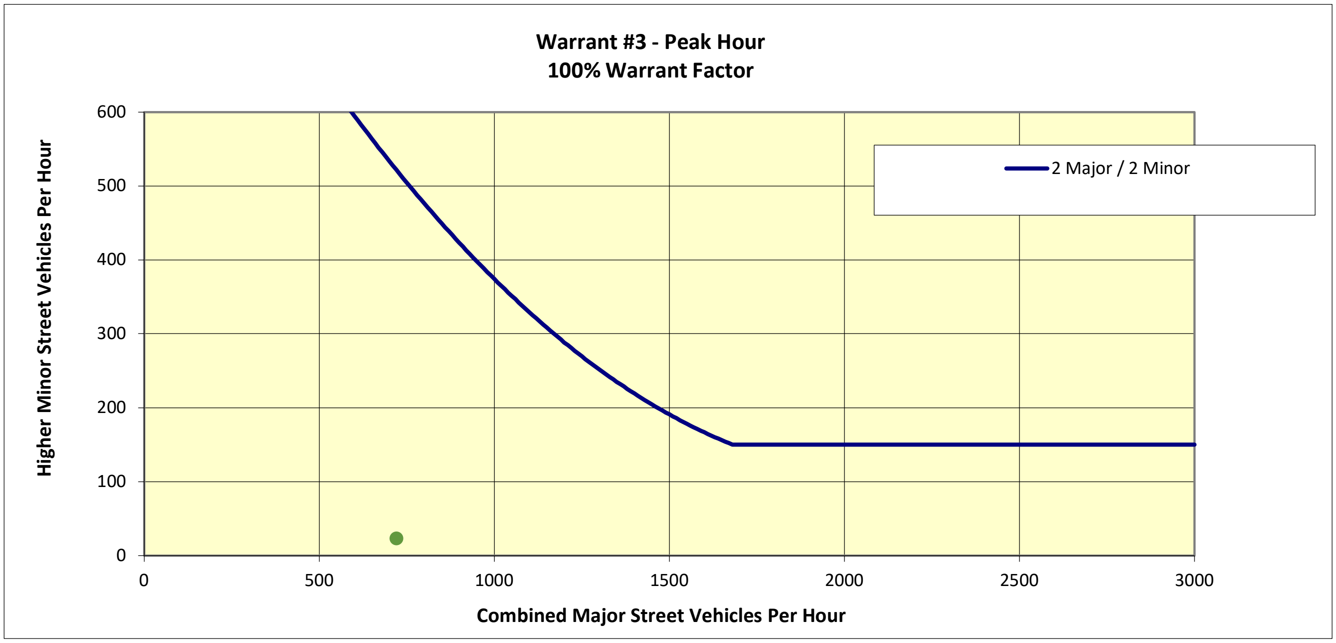
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	9.7	0.0
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	1.04	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	385	335
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	743	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
720	23



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	C. Town Circle/Access C
Scenario:	Year 2040 Total Traffic Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	144	79	17	0

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

(All parts 1, 2 and 3 below must be satisfied for the same one your)

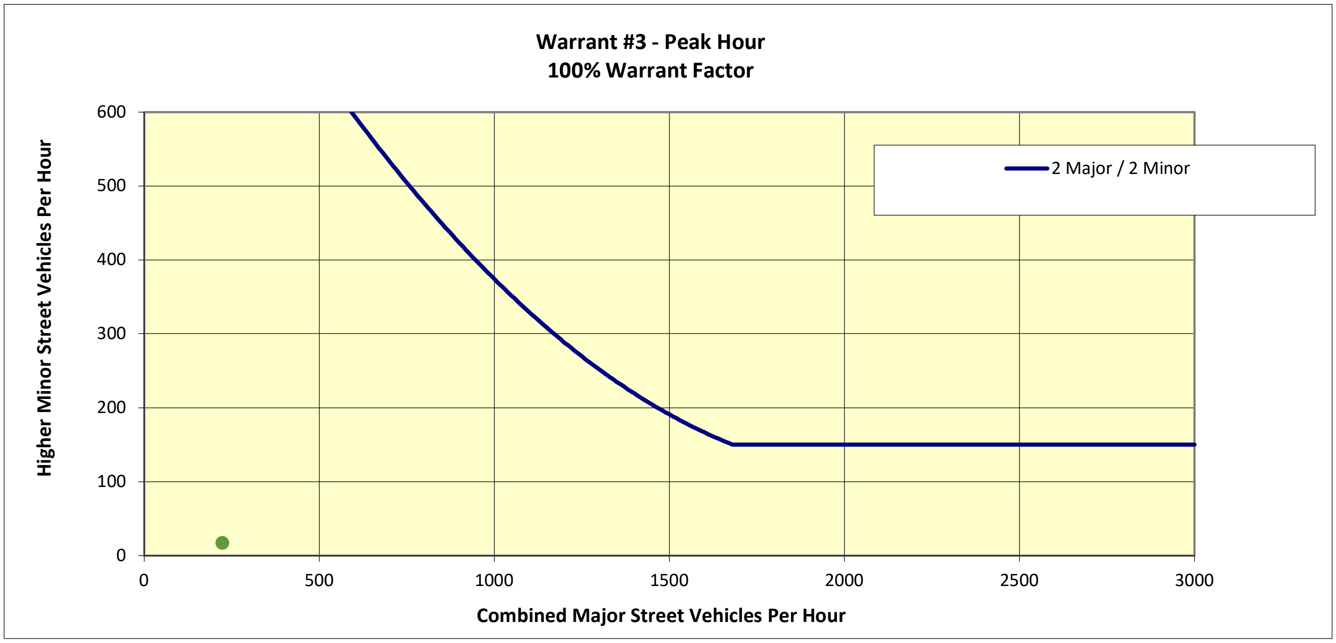
	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	8.6	0.0
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.34	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	144	79
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	240	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
223	17



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	C. Town Circle/Access C
Scenario:	Year 2026 Total Traffic Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	307	285	32	0

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

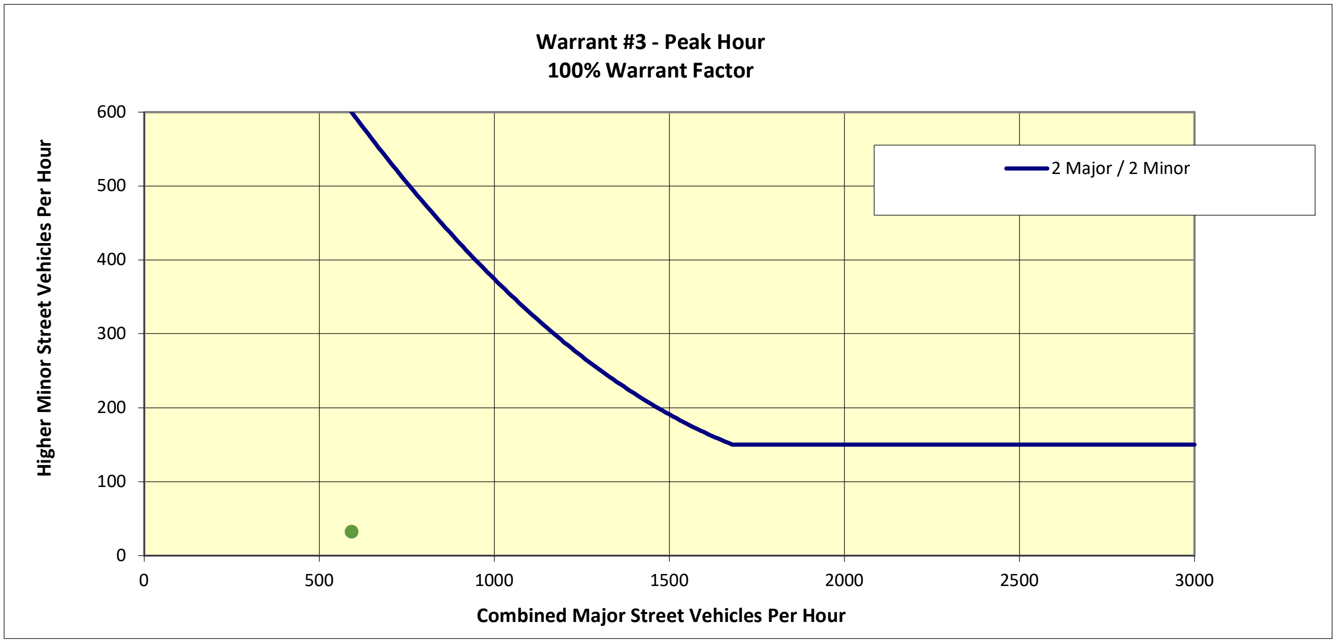
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	9.4	0.0
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.80	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	307	285
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	624	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
592	32



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	C. Town Circle/Access C
Scenario:	Year 2040 Total Traffic Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	392	342	23	0

Warrant 3, Peak Hour Met?
No

<u>**Warrant 3, Peak Hour**</u>

Part A

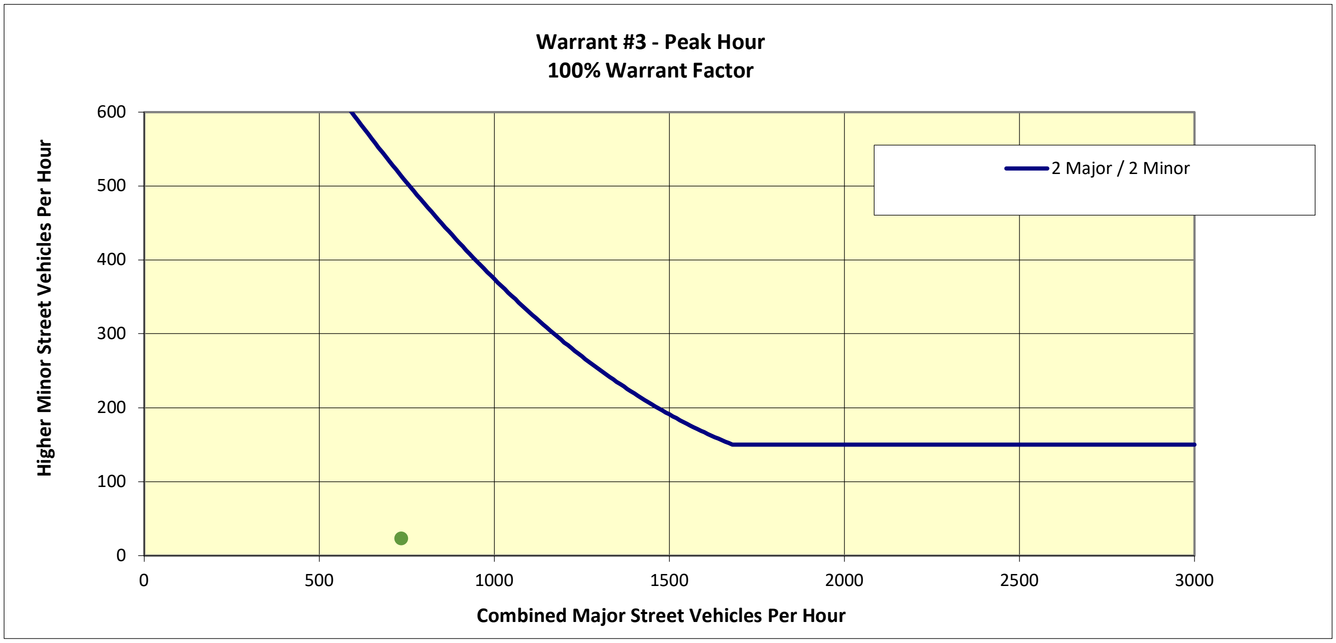
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	9.7	0.0
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	1.06	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	392	342
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	757	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

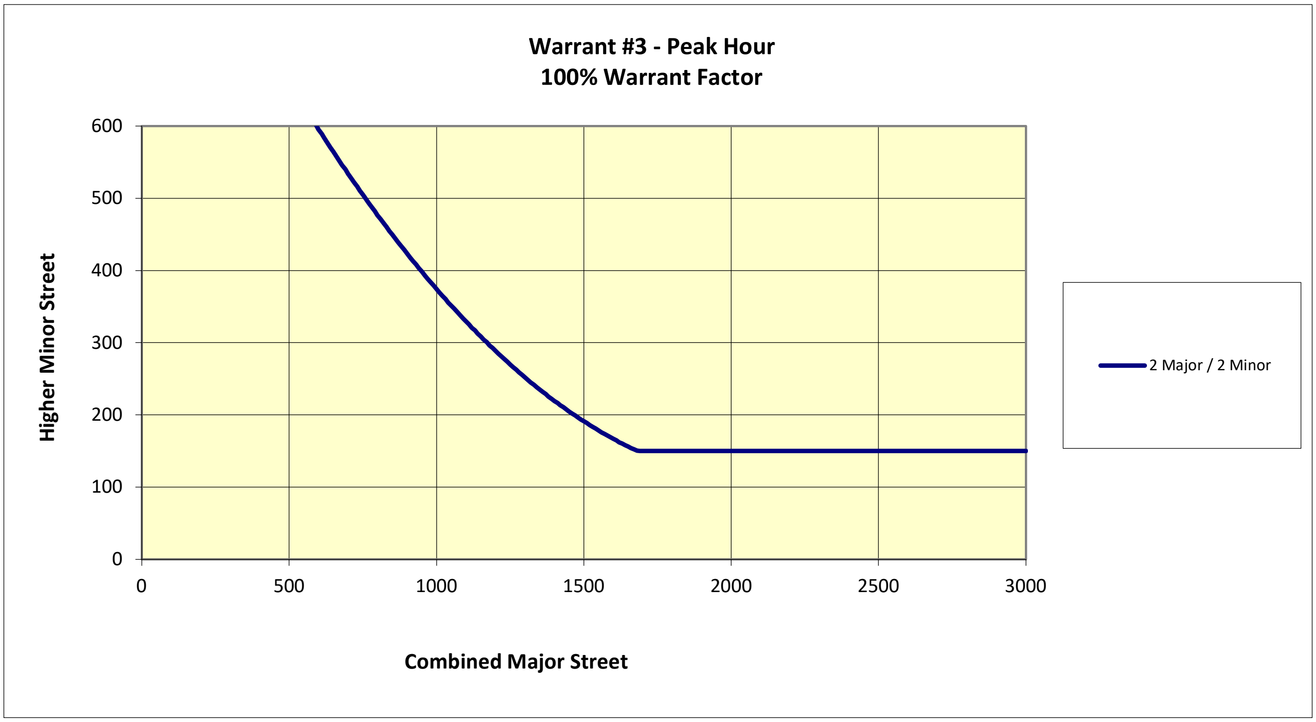
Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
734	23



Is Warrant #3 met based on Condition B Criteria?
No


Warrant #3 - Peak Hour
100% Warrant Factor
600
500
400
300
200
100
0
0
500
1000
1500
2000
2500
3000
Higher Minor Street
Combined Major Street
2 Major / 2 Minor

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	D. Town Circle/Access D
Scenario:	Year 2026 Total Traffic Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	280	204	161	0

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

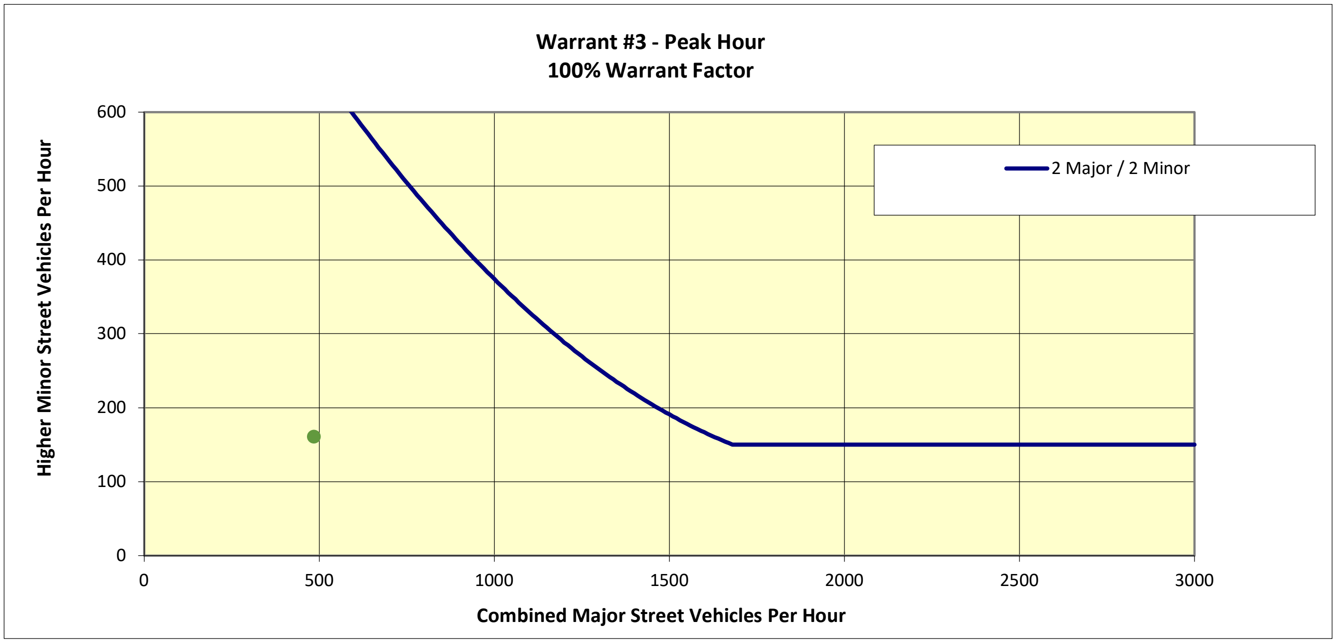
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	11.7	0.0
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.91	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	280	204
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	645	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
484	161



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	D. Town Circle/Access D
Scenario:	Year 2026 Total Traffic Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	446	476	93	0

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

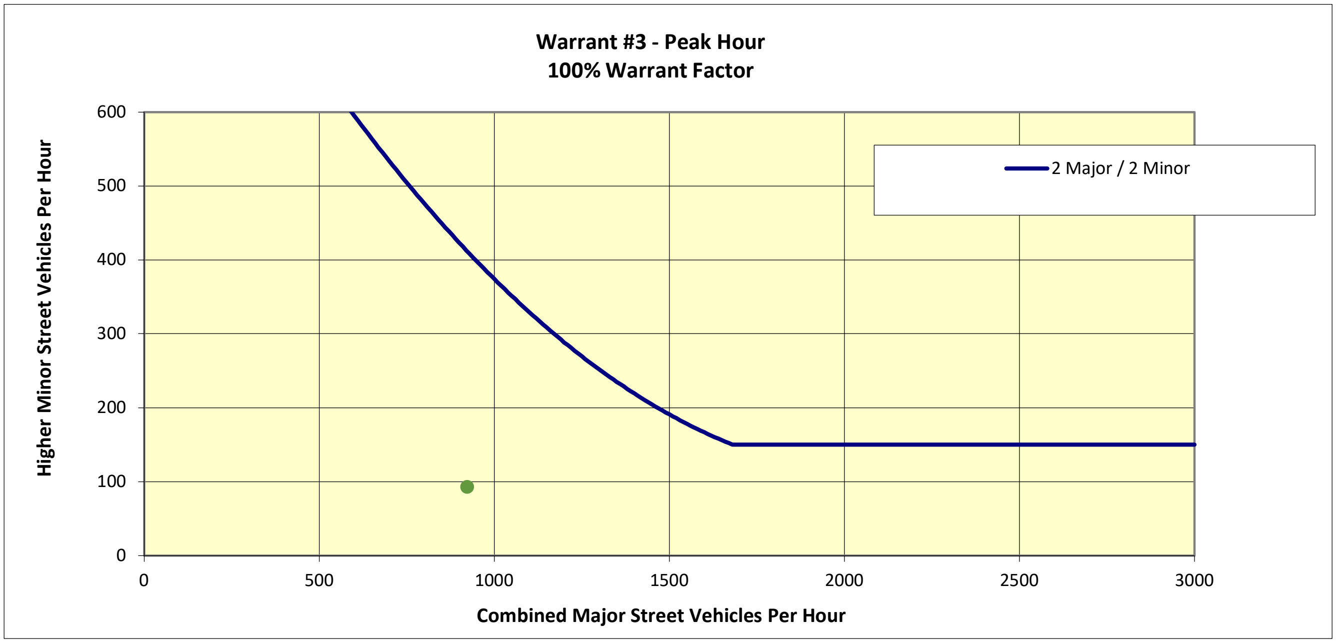
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	16.0	0.0
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	1.98	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	446	476
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1015	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
922	93



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	D. Town Circle/Access D
Scenario:	Year 2026 Total Traffic Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	527	664	117	0

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

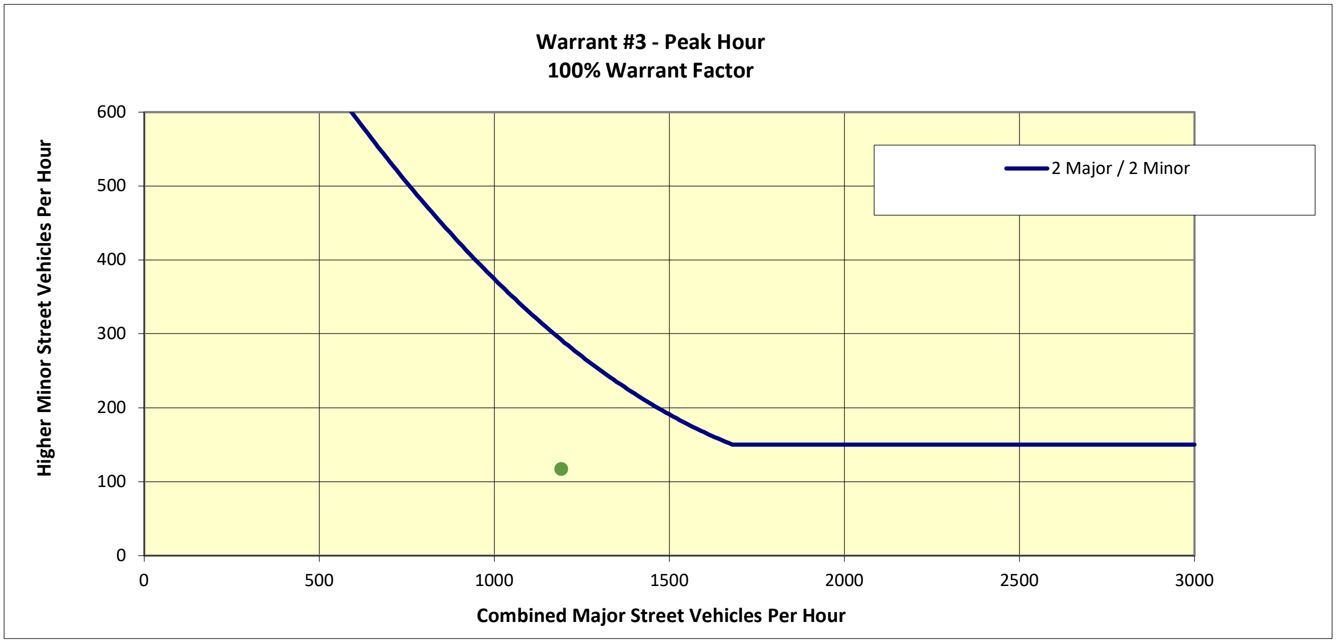
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	23.7	0.0
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	3.47	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	527	664
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1308	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1191	117



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	D. Town Circle/Access D
Scenario:	Year 2040 Total Traffic Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	282	207	161	0

Warant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

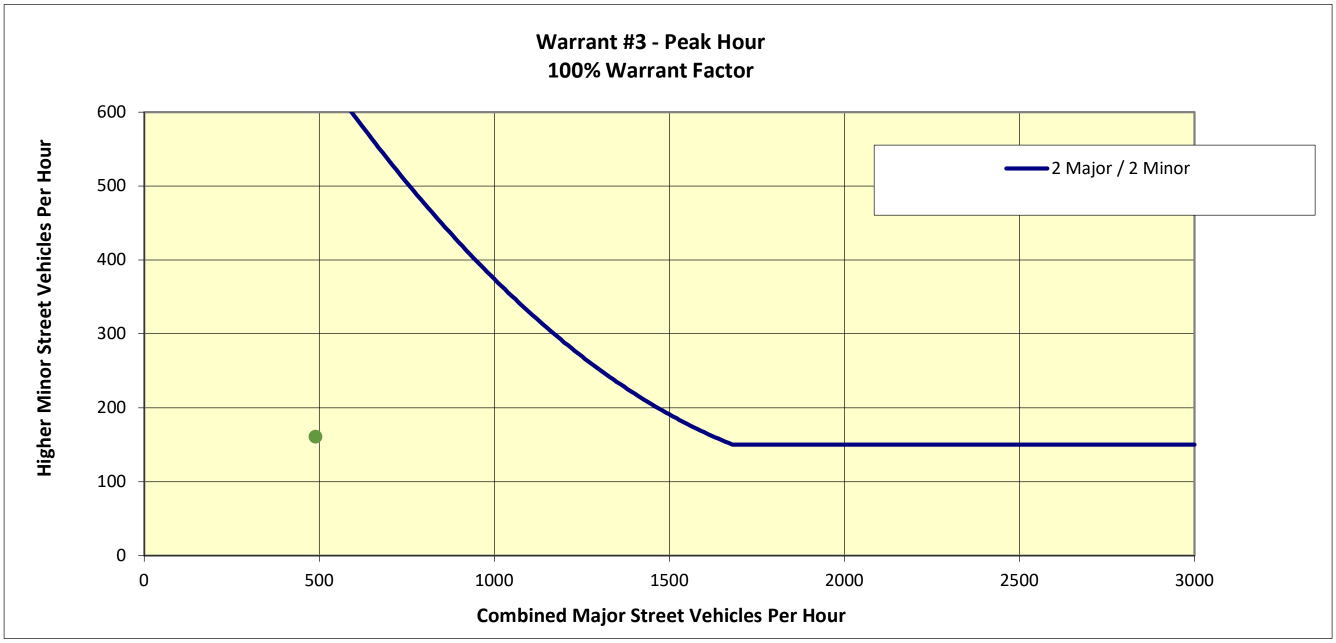
(All parts 1, 2 and 3 below must be satisfied for the same one your)	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	11.7	0.0
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	0.92	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	282	207
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	650	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
489	161



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	D. Town Circle/Access D
Scenario:	Year 2040 Total Traffic Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	453	481	93	0

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

(All parts 1, 2 and 3 below must be satisfied for the same one your)

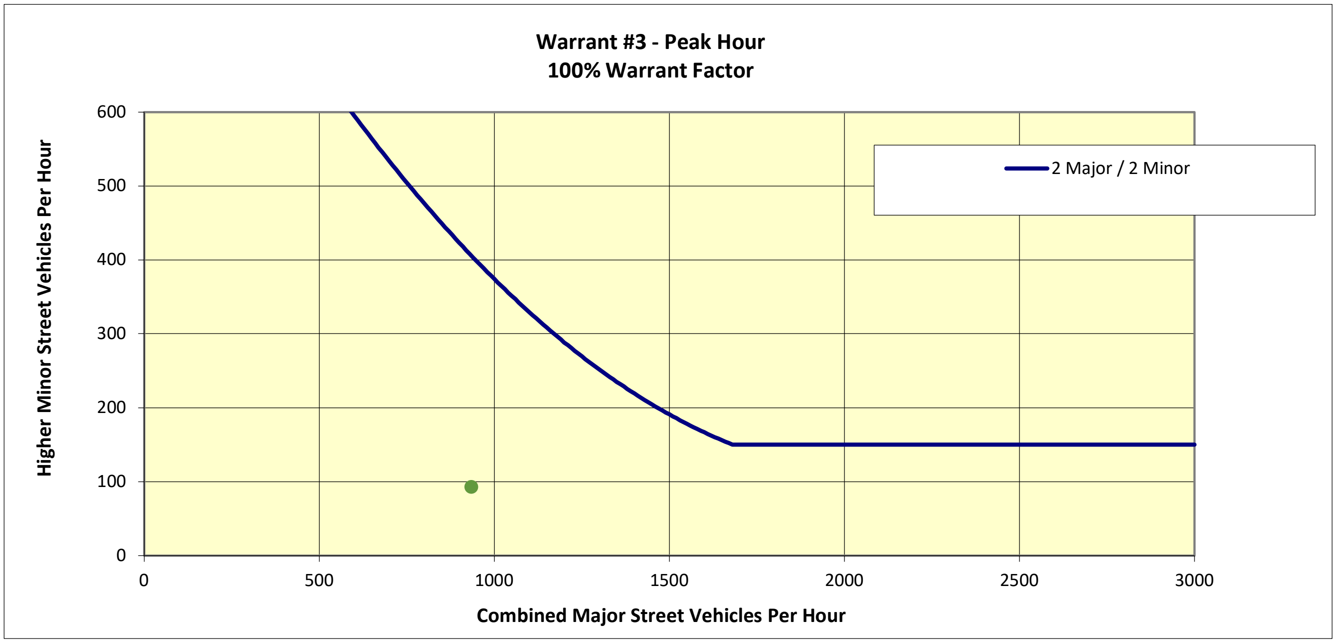
	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	16.2	0.0
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	2.04	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	453	481
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1027	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
934	93



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	3/27/2022
Intersection:	D. Town Circle/Access D
Scenario:	Year 2040 Total Traffic Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Major	
East-West Approach =	Minor	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	535	675	117	0

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

(All parts 1, 2 and 3 below must be satisfied for the same one your)

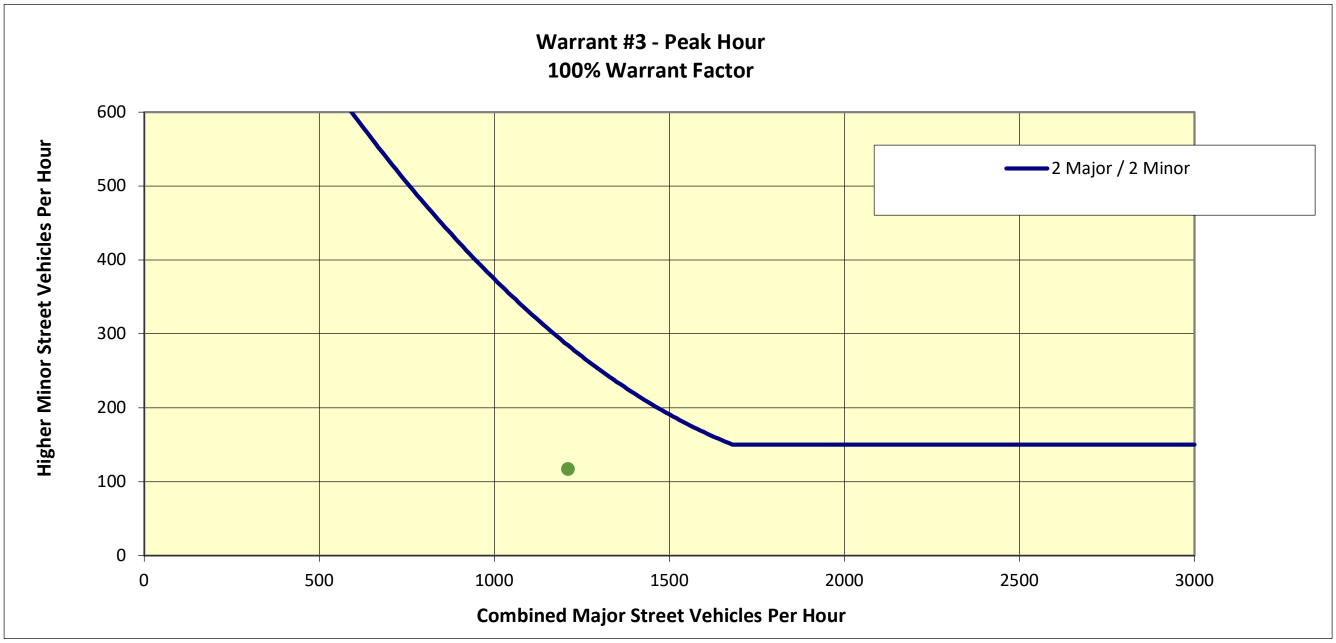
	EB	WB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	24.3	0.0
Number Of Lanes On Minor Street Approach	1	0
Vehicle-Hours Of Stopped Delay On Minor Approach	3.61	0.00
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	535	675
Volume on minor street approach equals or exceeds 150 vehicles per hour?	Yes	No
3. Total Entering Volume On All Approaches During Same Hour	1327	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

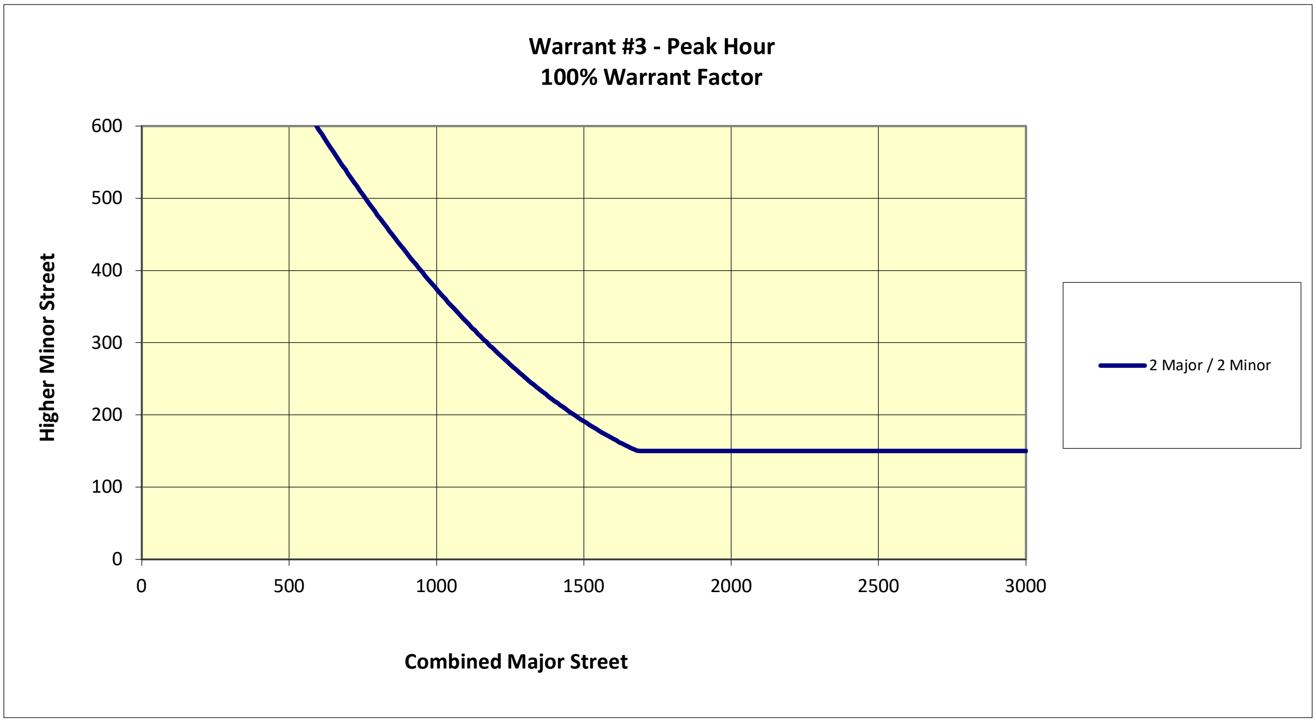
Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1210	117



Is Warrant #3 met based on Condition B Criteria?
No


Warrant #3 - Peak Hour
100% Warrant Factor
Higher Minor Street
Combined Major Street
2 Major / 2 Minor
0
100
200
300
400
500
600
0
500
1000
1500
2000
2500
3000

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	E. Town Circle/Access E
Scenario:	Year 2026 Total Traffic Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	0	34	108	169

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

(All parts 1, 2 and 3 below must be satisfied for the same one your)

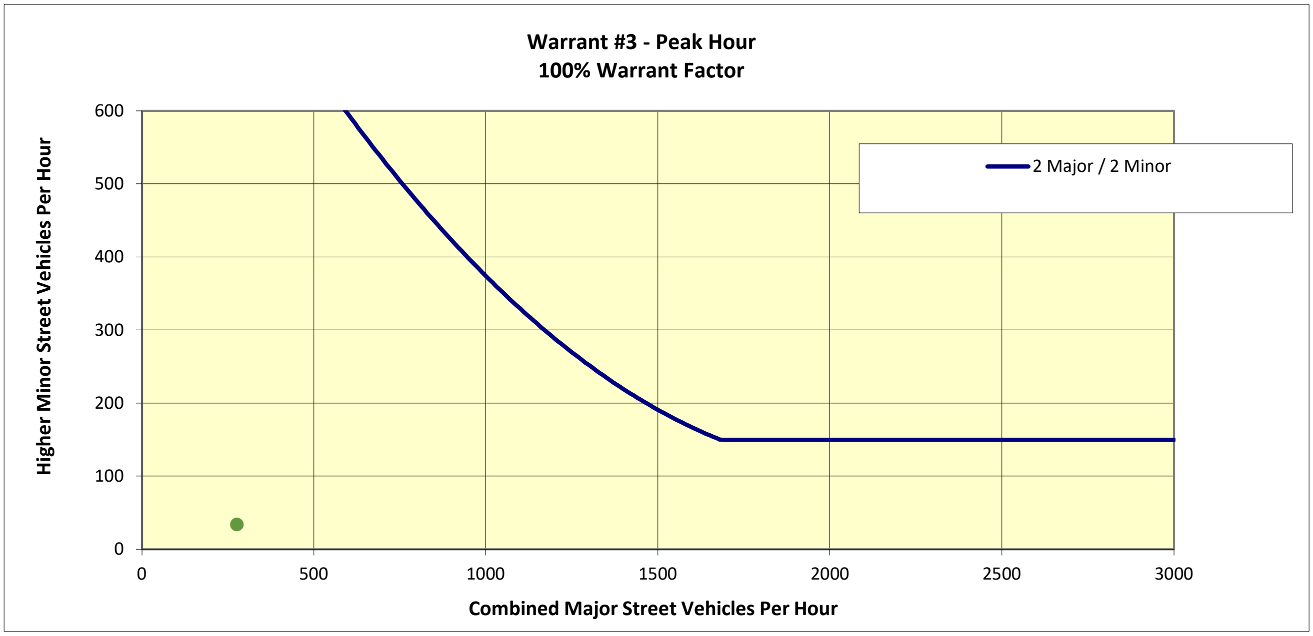
	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)		10.1
Number Of Lanes On Minor Street Approach	0	2
Vehicle-Hours Of Stopped Delay On Minor Approach	0.00	0.10
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	0	34
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	311	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
277	34



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	E. Town Circle/Access E
Scenario:	Year 2026 Total Traffic Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	0	58	408	320

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

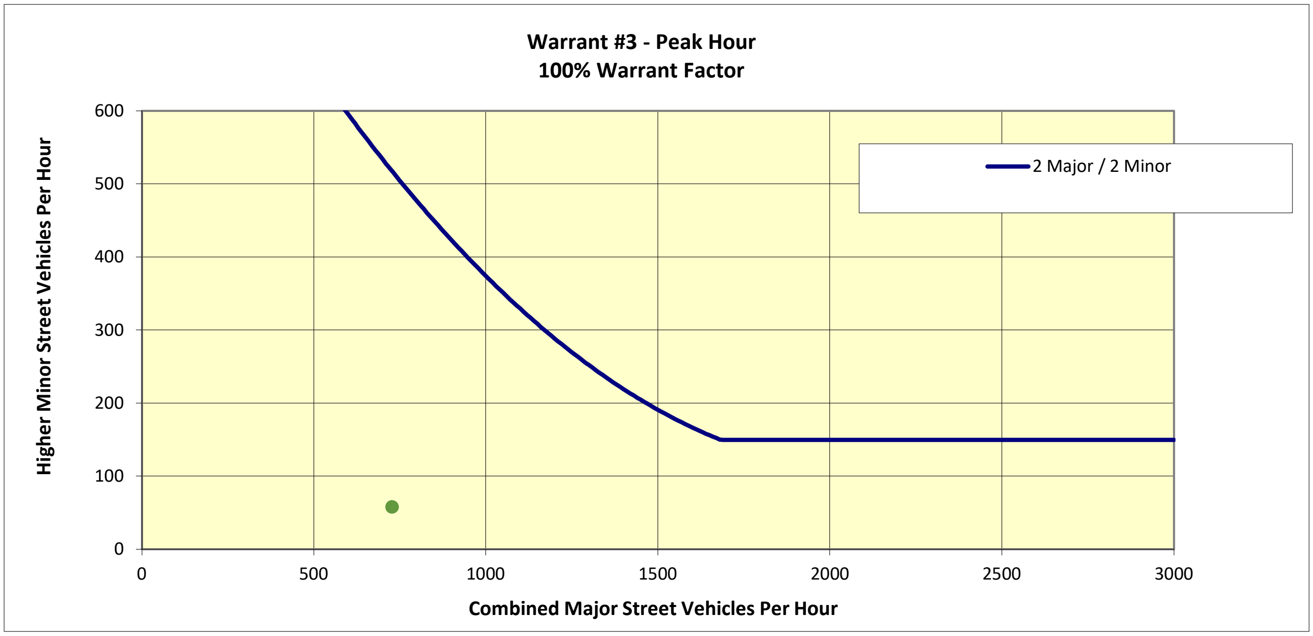
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	0.0	12.4
Number Of Lanes On Minor Street Approach	0	2
Vehicle-Hours Of Stopped Delay On Minor Approach	0.00	0.20
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	0	58
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	786	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
728	58



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	E. Town Circle/Access E
Scenario:	Year 2026 Total Traffic Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	0	78	494	617

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

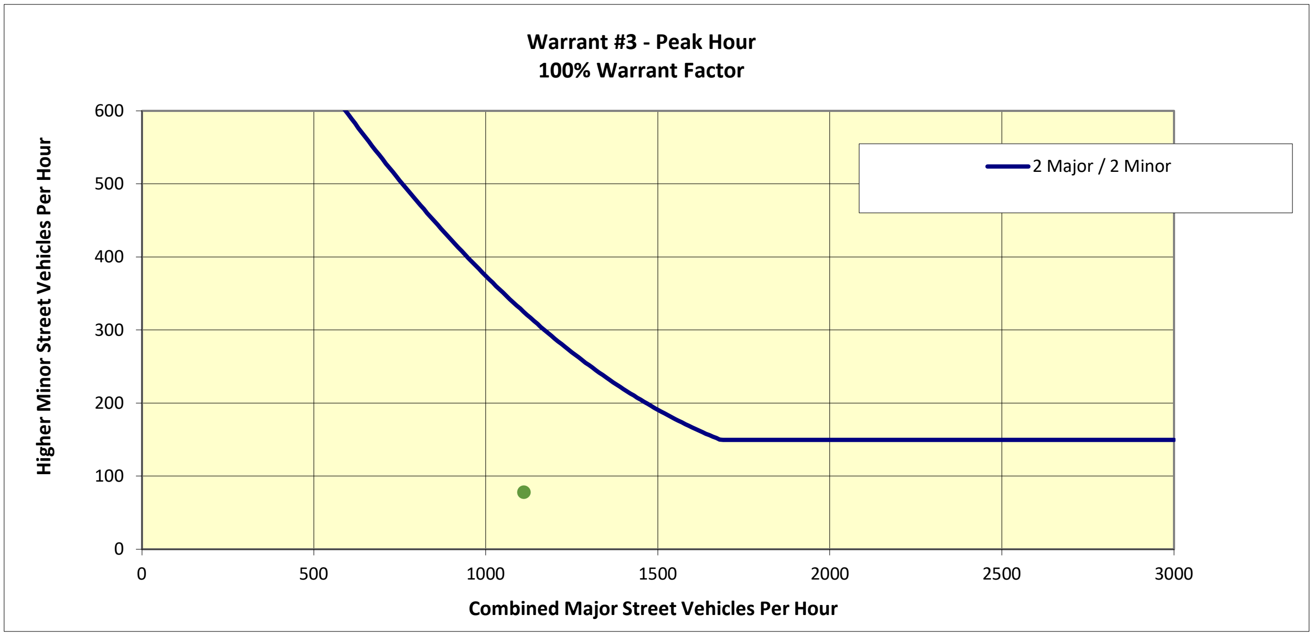
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	0.0	16.2
Number Of Lanes On Minor Street Approach	0	2
Vehicle-Hours Of Stopped Delay On Minor Approach	0.00	0.35
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	0	78
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	1189	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1111	78



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	E. Town Circle/Access E
Scenario:	Year 2040 Total Traffic Conditions, Weekday AM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	0	34	110	172

Warrant 3, Peak Hour Met?
No

Warrant 3, Peak Hour

Part A

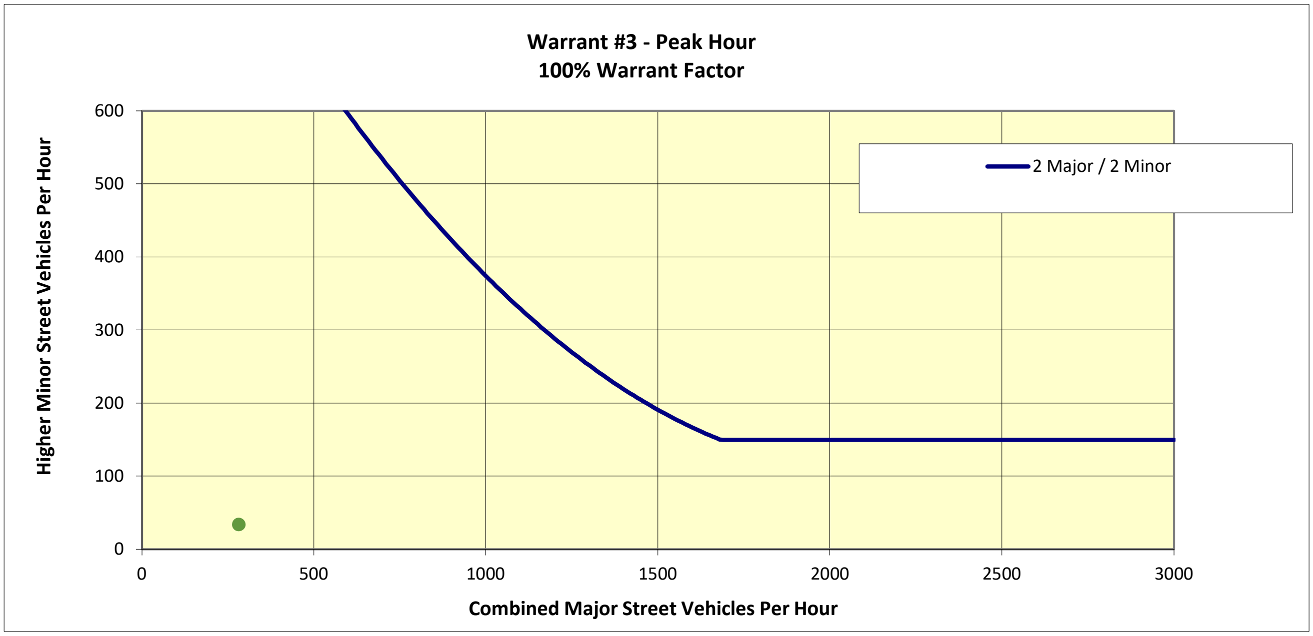
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	0.0	10.2
Number Of Lanes On Minor Street Approach	0	2
Vehicle-Hours Of Stopped Delay On Minor Approach	0.00	0.10
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	0	34
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	316	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	No	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
282	34



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment

Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	E. Town Circle/Access E
Scenario:	Year 2040 Total Traffic Conditions, Weekday PM Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	0	55	417	327

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

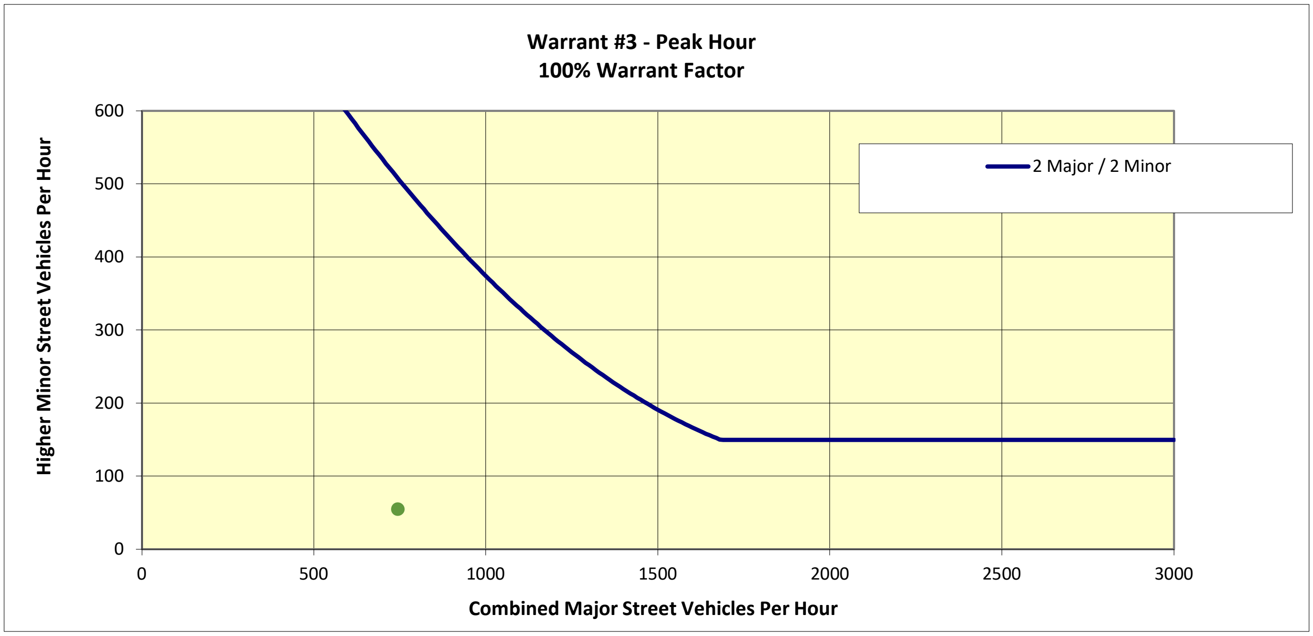
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	0.0	11.3
Number Of Lanes On Minor Street Approach	0	2
Vehicle-Hours Of Stopped Delay On Minor Approach	0.00	0.17
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	0	55
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	799	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
744	55



Is Warrant #3 met based on Condition B Criteria?
No

Signal Warrant Assessment
Based on the 2014 California Manual on Uniform Traffic Control Devices

Project #:	26887
Project Name:	Moreno Valley Mall Redevelopment TIA
Analyst:	KML
Date:	8/3/2022
Intersection:	E. Town Circle/Access E
Scenario:	Year 2040 Total Traffic Conditions, Saturday Midday Peak Hour

Volume Adjustment Factor =	1.0	
North-South Approach =	Minor	
East-West Approach =	Major	
Major Street Thru Lanes =	2	or more
Minor Street Thru Lanes =	1	or more
Speed > 40 mph?	No	
Population < 10,000?	No	
Warrant Factor	100%	
Peak Hour or Daily Count?	Peak Hour	

Traffic Volumes

Hour		Minor Street		Major Street	
Begin	End	NB	SB	EB	WB
8:00 AM	9:00 AM	0	80	504	631
				365	

Warrant 3, Peak Hour Met?
No

<u>Warrant 3, Peak Hour</u>

Part A

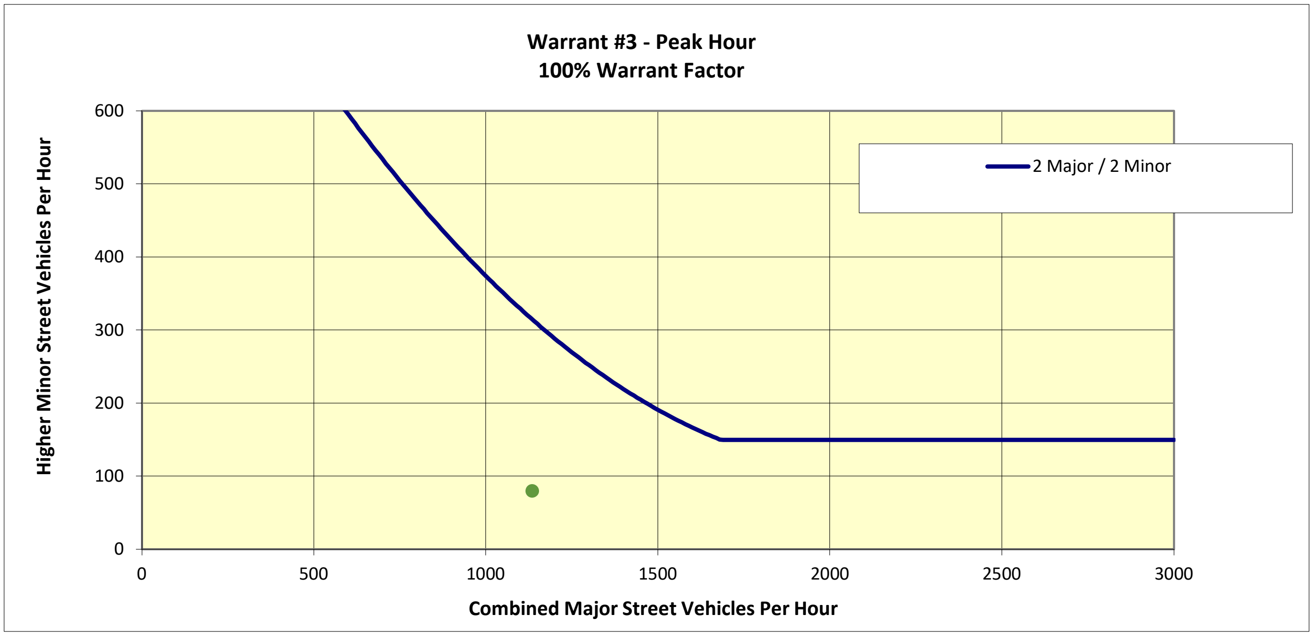
(All parts 1, 2 and 3 below must be satisfied for the same one your)	NB	SB
1. Total Stopped Delay Per Vehicle On Minor Approach (sec)	0.0	16.2
Number Of Lanes On Minor Street Approach	0	2
Vehicle-Hours Of Stopped Delay On Minor Approach	0.00	0.36
Total stopped time delay equals or exceeds 5 vehicle-hours?	No	No
2. Volume on Minor Street Approach During Same Hour	0	80
Volume on minor street approach equals or exceeds 150 vehicles per hour?	No	No
3. Total Entering Volume On All Approaches During Same Hour	1215	
Number of Approaches to Intersection	3	
Total entering volumes equals or exceeds 650 vehicles per hour?	Yes	

Is Warrant #3 met based on Condition A Criteria?
No

Part B

The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Major Street - Total of Both Approaches	Minor Street - Higer Volume Approach
1135	80



Is Warrant #3 met based on Condition B Criteria?
No

Appendix U

Intersection Operations Worksheets for Potential Improvements

1. I-215 RAMPS/EUCALYPTUS AVENUE

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	524	104	802	629	519	126	0	546	583	0	157
Future Volume (veh/h)	89	524	104	802	629	519	126	0	546	583	0	157
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1565	1565	1565	1565	1565	1565	1565	0	1565	1565	0	1565
Adj Flow Rate, veh/h	97	570	0	872	684	0	137	0	593	634	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	0	3	3	0	3
Cap, veh/h	119	799		925	1514		677	0	0	677	0	
Arrive On Green	0.08	0.27	0.00	0.32	0.51	0.00	0.23	0.00	0.00	0.23	0.00	0.00
Sat Flow, veh/h	1491	2974	1327	2892	2974	1327	2892	137		2892	634	
Grp Volume(v), veh/h	97	570	0	872	684	0	137	34.0		634	61.5	
Grp Sat Flow(s),veh/h/ln	1491	1487	1327	1446	1487	1327	1446	C		1446	E	
Q Serve(g_s), s	7.0	19.1	0.0	32.3	16.1	0.0	4.2			23.7		
Cycle Q Clear(g_c), s	7.0	19.1	0.0	32.3	16.1	0.0	4.2			23.7		
Prop In Lane	1.00		1.00	1.00		1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	119	799		925	1514		677			677		
V/C Ratio(X)	0.82	0.71		0.94	0.45		0.20			0.94		
Avail Cap(c_a), veh/h	339	799		960	1514		684			684		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00			1.00		
Upstream Filter(I)	1.00	1.00	0.00	0.32	0.32	0.00	1.00			1.00		
Uniform Delay (d), s/veh	49.8	36.4	0.0	36.4	17.2	0.0	33.9			41.3		
Incr Delay (d2), s/veh	12.7	5.4	0.0	6.9	0.3	0.0	0.1			20.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0		
%ile BackOfQ(50%),veh/ln	3.0	7.4	0.0	11.9	5.4	0.0	1.5			10.2		
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.6	41.8	0.0	43.4	17.5	0.0	34.0			61.5		
LnGrp LOS	E	D		D	B		C			E		
Approach Vol, veh/h		667	A		1556	A						
Approach Delay, s/veh		44.8			32.0							
Approach LOS		D			C							

Timer - Assigned Phs	1	2	3		5	6	7					
Phs Duration (G+Y+Rc), s	41.7	37.6	30.8		15.3	64.0	30.8					
Change Period (Y+Rc), s	6.5	8.0	5.0		6.5	8.0	5.0					
Max Green Setting (Gmax), s	36.5	28.0	26.0		25.0	39.5	26.0					
Max Q Clear Time (g_c+I1), s	34.3	21.1	6.2		9.0	18.1	25.7					
Green Ext Time (p_c), s	0.9	2.1	0.4		0.2	4.6	0.1					

Intersection Summary			
HCM 6th Ctrl Delay			41.2
HCM 6th LOS			D

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

2. VALLEY SPRINGS PARKWAY/EUCALYPTUS AVENUE

HCM 6th Signalized Intersection Summary
102: Old 215 Frontage Rd/Valley Springs Pkwy & Eucalyptus Ave

08/03/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	247	252	41	30	496	63	176	228	73	15	42	257
Future Volume (veh/h)	247	252	41	30	496	63	176	228	73	15	42	257
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	266	271	44	32	533	68	189	245	78	16	45	276
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	406	1266	565	62	859	383	240	658	204	35	263	700
Arrive On Green	0.11	0.34	0.34	0.04	0.24	0.24	0.14	0.25	0.25	0.02	0.14	0.14
Sat Flow, veh/h	3645	3749	1672	1767	3526	1572	1767	2647	823	1767	1856	2768
Grp Volume(v), veh/h	266	271	44	32	533	68	189	161	162	16	45	276
Grp Sat Flow(s),veh/h/ln	1823	1874	1672	1767	1763	1572	1767	1763	1707	1767	1856	1384
Q Serve(g_s), s	3.9	2.9	1.0	1.0	7.5	1.9	5.8	4.2	4.4	0.5	1.2	4.6
Cycle Q Clear(g_c), s	3.9	2.9	1.0	1.0	7.5	1.9	5.8	4.2	4.4	0.5	1.2	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	406	1266	565	62	859	383	240	438	424	35	263	700
V/C Ratio(X)	0.66	0.21	0.08	0.52	0.62	0.18	0.79	0.37	0.38	0.46	0.17	0.39
Avail Cap(c_a), veh/h	1303	2679	1195	631	2330	1039	947	945	915	631	995	1792
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	13.2	12.6	26.5	18.9	16.7	23.4	17.4	17.5	27.1	21.1	17.4
Incr Delay (d2), s/veh	0.7	0.1	0.1	2.5	0.7	0.2	2.2	0.5	0.6	3.5	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.1	0.3	0.4	2.9	0.6	2.2	1.5	1.5	0.2	0.5	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.5	13.3	12.7	29.0	19.6	17.0	25.6	17.9	18.0	30.6	21.4	17.7
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	C	B
Approach Vol, veh/h		581			633			512			337	
Approach Delay, s/veh		18.4			19.8			20.8			18.8	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	24.3	11.6	14.1	11.2	19.0	5.6	20.1
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	3.0	4.9	7.8	6.6	5.9	9.5	2.5	6.4
Green Ext Time (p_c), s	0.0	2.0	0.2	1.3	0.4	4.1	0.0	1.6

Intersection Summary	
HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	362	681	162	37	430	94	90	312	97	69	264	694
Future Volume (veh/h)	362	681	162	37	430	94	90	312	97	69	264	694
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	385	724	172	39	457	100	96	332	103	73	281	738
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	502	1227	545	66	752	334	124	762	233	123	543	1189
Arrive On Green	0.14	0.33	0.33	0.04	0.21	0.21	0.07	0.29	0.29	0.07	0.29	0.29
Sat Flow, veh/h	3645	3749	1664	1767	3526	1566	1767	2659	812	1767	1856	2762
Grp Volume(v), veh/h	385	724	172	39	457	100	96	218	217	73	281	738
Grp Sat Flow(s),veh/h/ln	1823	1874	1664	1767	1763	1566	1767	1763	1707	1767	1856	1381
Q Serve(g_s), s	7.3	11.6	5.6	1.6	8.4	3.9	3.8	7.3	7.5	2.9	9.1	15.0
Cycle Q Clear(g_c), s	7.3	11.6	5.6	1.6	8.4	3.9	3.8	7.3	7.5	2.9	9.1	15.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.48	1.00		1.00
Lane Grp Cap(c), veh/h	502	1227	545	66	752	334	124	505	490	123	543	1189
V/C Ratio(X)	0.77	0.59	0.32	0.59	0.61	0.30	0.77	0.43	0.44	0.60	0.52	0.62
Avail Cap(c_a), veh/h	1012	2081	924	491	1811	804	736	734	711	491	773	1531
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	20.2	18.2	34.1	25.6	23.8	32.9	20.9	21.0	32.5	21.2	16.0
Incr Delay (d2), s/veh	0.9	0.5	0.3	3.0	0.8	0.5	3.8	0.6	0.6	1.7	0.8	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	4.8	1.9	0.7	3.5	1.3	1.6	2.7	2.7	1.2	3.8	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	20.7	18.5	37.2	26.4	24.3	36.7	21.5	21.6	34.3	22.0	16.5
LnGrp LOS	C	C	B	D	C	C	D	C	C	C	C	B
Approach Vol, veh/h		1281			596			531			1092	
Approach Delay, s/veh		23.4			26.8			24.3			19.1	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.7	29.0	9.1	27.3	14.9	20.8	9.5	26.9				
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2				
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0				
Max Q Clear Time (g_c+I1), s	3.6	13.6	5.8	17.0	9.3	10.4	4.9	9.5				
Green Ext Time (p_c), s	0.0	6.2	0.1	4.1	0.6	3.6	0.1	2.2				
Intersection Summary												
HCM 6th Ctrl Delay			22.8									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
102: Old 215 Frontage Rd/Valley Springs Pkwy & Eucalyptus Ave

08/03/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	622	645	55	31	546	125	58	389	102	97	211	792
Future Volume (veh/h)	622	645	55	31	546	125	58	389	102	97	211	792
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	641	665	57	32	563	129	60	401	105	100	218	816
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	735	1523	679	55	789	352	80	690	179	128	524	1340
Arrive On Green	0.20	0.41	0.41	0.03	0.22	0.22	0.05	0.25	0.25	0.07	0.28	0.28
Sat Flow, veh/h	3645	3749	1672	1767	3526	1572	1767	2771	718	1767	1856	2768
Grp Volume(v), veh/h	641	665	57	32	563	129	60	254	252	100	218	816
Grp Sat Flow(s),veh/h/ln	1823	1874	1672	1767	1763	1572	1767	1763	1726	1767	1856	1384
Q Serve(g_s), s	14.2	10.7	1.7	1.5	12.3	5.8	2.8	10.5	10.7	4.6	8.0	18.0
Cycle Q Clear(g_c), s	14.2	10.7	1.7	1.5	12.3	5.8	2.8	10.5	10.7	4.6	8.0	18.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	735	1523	679	55	789	352	80	439	430	128	524	1340
V/C Ratio(X)	0.87	0.44	0.08	0.58	0.71	0.37	0.75	0.58	0.59	0.78	0.42	0.61
Avail Cap(c_a), veh/h	874	1797	801	424	1563	697	635	634	621	424	667	1553
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.3	17.9	15.2	39.9	29.9	27.4	39.4	27.5	27.6	38.0	24.3	15.7
Incr Delay (d2), s/veh	7.5	0.2	0.1	3.5	1.2	0.6	5.3	1.2	1.3	3.8	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	4.4	0.6	0.7	5.2	2.1	1.3	4.2	4.2	2.1	3.4	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.8	18.1	15.3	43.4	31.1	28.0	44.7	28.7	28.9	41.8	24.9	16.3
LnGrp LOS	D	B	B	D	C	C	D	C	C	D	C	B
Approach Vol, veh/h		1363			724			566			1134	
Approach Delay, s/veh		28.2			31.1			30.5			20.2	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	39.3	7.8	29.8	21.8	24.1	10.6	27.0				
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2				
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0				
Max Q Clear Time (g_c+I1), s	3.5	12.7	4.8	20.0	16.2	14.3	6.6	12.7				
Green Ext Time (p_c), s	0.0	5.2	0.1	3.6	0.6	4.4	0.1	2.4				
Intersection Summary												
HCM 6th Ctrl Delay			26.7									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	659	332	74	37	567	135	203	292	83	47	65	406
Future Volume (veh/h)	659	332	74	37	567	135	203	292	83	47	65	406
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	709	357	80	40	610	145	218	314	89	51	70	437
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	789	1610	718	63	836	373	257	712	199	72	302	1050
Arrive On Green	0.22	0.43	0.43	0.04	0.24	0.24	0.15	0.26	0.26	0.04	0.16	0.16
Sat Flow, veh/h	3645	3749	1672	1767	3526	1572	1767	2723	759	1767	1856	2768
Grp Volume(v), veh/h	709	357	80	40	610	145	218	201	202	51	70	437
Grp Sat Flow(s),veh/h/ln	1823	1874	1672	1767	1763	1572	1767	1763	1719	1767	1856	1384
Q Serve(g_s), s	16.4	5.2	2.5	1.9	13.8	6.7	10.4	8.2	8.5	2.5	2.8	10.1
Cycle Q Clear(g_c), s	16.4	5.2	2.5	1.9	13.8	6.7	10.4	8.2	8.5	2.5	2.8	10.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	789	1610	718	63	836	373	257	461	450	72	302	1050
V/C Ratio(X)	0.90	0.22	0.11	0.63	0.73	0.39	0.85	0.44	0.45	0.71	0.23	0.42
Avail Cap(c_a), veh/h	843	1733	773	408	1507	672	613	611	596	408	643	1559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.0	15.6	14.8	41.2	30.4	27.7	36.0	26.6	26.7	41.0	31.5	19.8
Incr Delay (d2), s/veh	11.4	0.1	0.1	3.9	1.2	0.7	3.0	0.7	0.7	4.7	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	2.2	0.8	0.9	5.8	2.4	4.4	3.3	3.3	1.1	1.3	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.4	15.6	14.9	45.0	31.7	28.4	39.1	27.3	27.4	45.7	31.9	20.1
LnGrp LOS	D	B	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1146			795			621			558	
Approach Delay, s/veh		33.4			31.8			31.5			23.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	42.6	16.6	20.3	23.7	25.9	8.0	28.8
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	3.9	7.2	12.4	12.1	18.4	15.8	4.5	10.5
Green Ext Time (p_c), s	0.0	2.8	0.2	2.0	0.4	4.7	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	30.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	605	781	188	46	544	144	122	362	107	156	343	1241
Future Volume (veh/h)	605	781	188	46	544	144	122	362	107	156	343	1241
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	644	831	200	49	579	153	130	385	114	166	365	1320
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	703	1469	653	65	797	354	160	710	208	199	540	1337
Arrive On Green	0.19	0.39	0.39	0.04	0.23	0.23	0.09	0.26	0.26	0.11	0.29	0.29
Sat Flow, veh/h	3645	3749	1666	1767	3526	1566	1767	2688	786	1767	1856	2762
Grp Volume(v), veh/h	644	831	200	49	579	153	130	251	248	166	365	1320
Grp Sat Flow(s),veh/h/ln	1823	1874	1666	1767	1763	1566	1767	1763	1712	1767	1856	1381
Q Serve(g_s), s	17.9	17.9	8.6	2.8	15.7	8.6	7.4	12.6	12.9	9.5	17.9	30.0
Cycle Q Clear(g_c), s	17.9	17.9	8.6	2.8	15.7	8.6	7.4	12.6	12.9	9.5	17.9	30.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	703	1469	653	65	797	354	160	465	452	199	540	1337
V/C Ratio(X)	0.92	0.57	0.31	0.76	0.73	0.43	0.81	0.54	0.55	0.83	0.68	0.99
Avail Cap(c_a), veh/h	707	1469	653	343	1264	562	514	513	498	343	540	1337
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	24.5	21.7	49.2	37.0	34.2	46.0	32.6	32.7	44.8	32.3	26.3
Incr Delay (d2), s/veh	16.3	0.5	0.3	6.6	1.3	0.8	3.7	1.0	1.0	3.5	3.4	21.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	7.9	3.1	1.4	6.8	3.2	3.3	5.2	5.1	4.3	8.3	17.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.1	25.0	21.9	55.9	38.3	35.1	49.7	33.6	33.7	48.3	35.7	47.9
LnGrp LOS	E	C	C	E	D	D	D	C	C	D	D	D
Approach Vol, veh/h		1675			781			629			1851	
Approach Delay, s/veh		37.0			38.7			37.0			45.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	45.8	13.4	36.2	24.9	28.7	16.1	33.4
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	4.8	19.9	9.4	32.0	19.9	17.7	11.5	14.9
Green Ext Time (p_c), s	0.0	6.7	0.1	0.0	0.0	4.4	0.1	2.3

Intersection Summary	
HCM 6th Ctrl Delay	40.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1033	765	69	38	646	213	92	464	113	178	269	1177
Future Volume (veh/h)	1033	765	69	38	646	213	92	464	113	178	269	1177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	1065	789	71	39	666	220	95	478	116	184	277	1213
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	710	1560	696	58	861	384	121	657	159	216	542	1347
Arrive On Green	0.19	0.42	0.42	0.03	0.24	0.24	0.07	0.23	0.23	0.12	0.29	0.29
Sat Flow, veh/h	3645	3749	1672	1767	3526	1572	1767	2817	679	1767	1856	2768
Grp Volume(v), veh/h	1065	789	71	39	666	220	95	298	296	184	277	1213
Grp Sat Flow(s),veh/h/ln	1823	1874	1672	1767	1763	1572	1767	1763	1733	1767	1856	1384
Q Serve(g_s), s	20.0	16.0	2.7	2.2	18.1	12.6	5.4	16.0	16.2	10.5	12.8	30.0
Cycle Q Clear(g_c), s	20.0	16.0	2.7	2.2	18.1	12.6	5.4	16.0	16.2	10.5	12.8	30.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	710	1560	696	58	861	384	121	411	404	216	542	1347
V/C Ratio(X)	1.50	0.51	0.10	0.68	0.77	0.57	0.79	0.72	0.73	0.85	0.51	0.90
Avail Cap(c_a), veh/h	710	1560	696	344	1270	566	516	515	506	344	542	1347
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.4	22.2	18.3	49.1	36.2	34.1	47.1	36.3	36.4	44.2	30.3	24.1
Incr Delay (d2), s/veh	232.7	0.3	0.1	5.0	1.8	1.3	4.2	3.8	4.1	6.3	0.8	8.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	31.8	6.9	1.0	1.1	7.9	4.7	2.4	6.9	6.9	4.9	5.7	13.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	274.1	22.4	18.4	54.2	37.9	35.4	51.3	40.1	40.5	50.5	31.1	32.7
LnGrp LOS	F	C	B	D	D	D	D	D	D	D	C	C
Approach Vol, veh/h		1925			925			689			1674	
Approach Delay, s/veh		161.5			38.0			41.8			34.4	
Approach LOS		F			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	48.1	11.0	36.2	25.0	30.5	17.1	30.2
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	4.2	18.0	7.4	32.0	22.0	20.1	12.5	18.2
Green Ext Time (p_c), s	0.0	6.0	0.1	0.0	0.0	5.0	0.1	2.5

Intersection Summary		
HCM 6th Ctrl Delay		82.9
HCM 6th LOS		F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	659	376	74	37	646	135	203	292	83	47	65	406
Future Volume (veh/h)	659	376	74	37	646	135	203	292	83	47	65	406
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	709	404	80	40	695	145	218	314	89	51	70	437
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	776	1679	749	61	913	407	255	708	197	70	298	1034
Arrive On Green	0.21	0.45	0.45	0.03	0.26	0.26	0.14	0.26	0.26	0.04	0.16	0.16
Sat Flow, veh/h	3645	3749	1672	1767	3526	1572	1767	2723	759	1767	1856	2768
Grp Volume(v), veh/h	709	404	80	40	695	145	218	201	202	51	70	437
Grp Sat Flow(s),veh/h/ln	1823	1874	1672	1767	1763	1572	1767	1763	1719	1767	1856	1384
Q Serve(g_s), s	17.5	6.2	2.6	2.1	16.8	6.9	11.1	8.8	9.1	2.6	3.0	10.8
Cycle Q Clear(g_c), s	17.5	6.2	2.6	2.1	16.8	6.9	11.1	8.8	9.1	2.6	3.0	10.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	776	1679	749	61	913	407	255	458	447	70	298	1034
V/C Ratio(X)	0.91	0.24	0.11	0.65	0.76	0.36	0.86	0.44	0.45	0.73	0.23	0.42
Avail Cap(c_a), veh/h	790	1679	749	383	1413	630	574	573	559	383	603	1489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.5	15.8	14.8	44.0	31.6	27.9	38.6	28.5	28.6	43.8	33.8	21.5
Incr Delay (d2), s/veh	14.5	0.1	0.1	4.3	1.3	0.5	3.2	0.7	0.7	5.4	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	2.6	0.9	1.0	7.1	2.5	4.7	3.5	3.6	1.2	1.4	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	15.8	14.8	48.3	32.9	28.4	41.8	29.2	29.3	49.2	34.2	21.8
LnGrp LOS	D	B	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1193			880			621			558	
Approach Delay, s/veh		36.1			32.9			33.7			25.8	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	46.8	17.3	21.0	24.7	29.3	8.1	30.2
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	4.1	8.2	13.1	12.8	19.5	18.8	4.6	11.1
Green Ext Time (p_c), s	0.0	3.2	0.2	2.0	0.1	5.1	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
102: Old 215 Frontage Rd/Valley Springs Pkwy & Eucalyptus Ave

08/03/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	605	851	188	46	603	144	122	362	107	156	343	1241
Future Volume (veh/h)	605	851	188	46	603	144	122	362	107	156	343	1241
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	644	905	200	49	641	153	130	385	114	166	365	1320
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	690	1515	673	64	851	378	160	692	202	198	527	1308
Arrive On Green	0.19	0.40	0.40	0.04	0.24	0.24	0.09	0.26	0.26	0.11	0.28	0.28
Sat Flow, veh/h	3645	3749	1666	1767	3526	1567	1767	2688	786	1767	1856	2762
Grp Volume(v), veh/h	644	905	200	49	641	153	130	251	248	166	365	1320
Grp Sat Flow(s),veh/h/ln	1823	1874	1666	1767	1763	1567	1767	1763	1712	1767	1856	1381
Q Serve(g_s), s	18.4	20.0	8.6	2.9	17.8	8.7	7.6	13.0	13.3	9.7	18.5	30.0
Cycle Q Clear(g_c), s	18.4	20.0	8.6	2.9	17.8	8.7	7.6	13.0	13.3	9.7	18.5	30.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	690	1515	673	64	851	378	160	454	441	198	527	1308
V/C Ratio(X)	0.93	0.60	0.30	0.77	0.75	0.40	0.81	0.55	0.56	0.84	0.69	1.01
Avail Cap(c_a), veh/h	690	1515	673	334	1234	549	502	500	486	334	527	1308
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.2	24.7	21.3	50.5	37.2	33.7	47.2	34.0	34.1	46.0	33.7	27.8
Incr Delay (d2), s/veh	19.5	0.6	0.2	7.0	1.6	0.7	3.8	1.1	1.2	3.6	3.9	27.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.0	8.8	3.2	1.4	7.8	3.2	3.4	5.4	5.4	4.4	8.7	19.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.6	25.4	21.6	57.5	38.7	34.4	51.0	35.0	35.3	49.5	37.6	55.0
LnGrp LOS	E	C	C	E	D	C	D	D	D	D	D	F
Approach Vol, veh/h		1749			843			629			1851	
Approach Delay, s/veh		38.3			39.0			38.4			51.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.8	48.1	13.6	36.2	25.0	30.9	16.4	33.4
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	4.9	22.0	9.6	32.0	20.4	19.8	11.7	15.3
Green Ext Time (p_c), s	0.0	6.9	0.1	0.0	0.0	4.6	0.1	2.3

Intersection Summary	
HCM 6th Ctrl Delay	43.1
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1033	832	69	38	708	213	92	464	113	178	269	1177
Future Volume (veh/h)	1033	832	69	38	708	213	92	464	113	178	269	1177
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	1065	858	71	39	730	220	95	478	116	184	277	1213
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	693	1605	716	57	919	410	121	639	154	215	529	1315
Arrive On Green	0.19	0.43	0.43	0.03	0.26	0.26	0.07	0.23	0.23	0.12	0.29	0.29
Sat Flow, veh/h	3645	3749	1672	1767	3526	1572	1767	2817	679	1767	1856	2768
Grp Volume(v), veh/h	1065	858	71	39	730	220	95	298	296	184	277	1213
Grp Sat Flow(s),veh/h/ln	1823	1874	1672	1767	1763	1572	1767	1763	1733	1767	1856	1384
Q Serve(g_s), s	20.0	17.9	2.7	2.3	20.3	12.7	5.6	16.6	16.8	10.7	13.2	30.0
Cycle Q Clear(g_c), s	20.0	17.9	2.7	2.3	20.3	12.7	5.6	16.6	16.8	10.7	13.2	30.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.39	1.00		1.00
Lane Grp Cap(c), veh/h	693	1605	716	57	919	410	121	400	393	215	529	1315
V/C Ratio(X)	1.54	0.53	0.10	0.68	0.79	0.54	0.79	0.75	0.75	0.85	0.52	0.92
Avail Cap(c_a), veh/h	693	1605	716	336	1240	553	504	503	494	336	529	1315
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	22.3	18.0	50.4	36.3	33.4	48.3	37.9	37.9	45.3	31.6	25.8
Incr Delay (d2), s/veh	249.0	0.3	0.1	5.3	2.6	1.1	4.2	4.6	5.0	7.4	0.9	10.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	32.8	7.8	1.0	1.1	9.0	4.7	2.5	7.2	7.3	5.1	5.9	14.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	291.6	22.7	18.0	55.6	38.9	34.5	52.5	42.4	42.9	52.7	32.6	36.7
LnGrp LOS	F	C	B	E	D	C	D	D	D	D	C	D
Approach Vol, veh/h		1994			989			689			1674	
Approach Delay, s/veh		166.1			38.6			44.0			37.8	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.4	50.4	11.2	36.2	25.0	32.8	17.3	30.1
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	20.0	40.0	30.0	* 30	20.0	37.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	4.3	19.9	7.6	32.0	22.0	22.3	12.7	18.8
Green Ext Time (p_c), s	0.0	6.4	0.1	0.0	0.0	5.1	0.1	2.4

Intersection Summary	
HCM 6th Ctrl Delay	86.6
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	665	650	163	110	1037	136	409	298	98	48	66	413
Future Volume (veh/h)	665	650	163	110	1037	136	409	298	98	48	66	413
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	700	684	172	116	1092	143	431	314	103	51	69	435
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	724	1956	607	142	1197	371	424	926	298	66	286	977
Arrive On Green	0.20	0.36	0.36	0.08	0.24	0.24	0.24	0.35	0.35	0.04	0.15	0.15
Sat Flow, veh/h	3645	5386	1672	1767	5066	1572	1767	2622	845	1767	1856	2768
Grp Volume(v), veh/h	700	684	172	116	1092	143	431	209	208	51	69	435
Grp Sat Flow(s),veh/h/ln	1823	1795	1672	1767	1689	1572	1767	1763	1704	1767	1856	1384
Q Serve(g_s), s	23.0	11.2	8.8	7.8	25.3	9.2	29.0	10.5	10.8	3.5	3.9	14.6
Cycle Q Clear(g_c), s	23.0	11.2	8.8	7.8	25.3	9.2	29.0	10.5	10.8	3.5	3.9	14.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	724	1956	607	142	1197	371	424	623	602	66	286	977
V/C Ratio(X)	0.97	0.35	0.28	0.82	0.91	0.38	1.02	0.34	0.35	0.78	0.24	0.45
Avail Cap(c_a), veh/h	724	1956	607	244	1216	378	424	800	773	140	568	1398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.0	28.1	27.3	54.7	44.9	38.8	45.9	28.7	28.8	57.7	44.8	30.0
Incr Delay (d2), s/veh	25.1	0.1	0.3	4.4	10.4	0.7	47.7	0.3	0.3	7.2	0.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.9	4.8	3.4	3.6	11.7	3.5	17.7	4.3	4.3	1.7	1.8	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.1	28.2	27.6	59.1	55.3	39.4	93.6	29.0	29.1	64.9	45.3	30.3
LnGrp LOS	E	C	C	E	E	D	F	C	C	E	D	C
Approach Vol, veh/h		1556			1351			848			555	
Approach Delay, s/veh		48.3			54.0			61.8			35.3	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	49.3	33.0	24.8	29.0	33.9	9.0	48.9
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	16.7	37.3	29.0	* 37	24.0	29.0	9.6	54.8
Max Q Clear Time (g_c+I1), s	9.8	13.2	31.0	16.6	25.0	27.3	5.5	12.8
Green Ext Time (p_c), s	0.1	5.7	0.0	2.1	0.0	1.2	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	51.1
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	614	1449	400	69	564	146	240	369	234	158	350	1258
Future Volume (veh/h)	614	1449	400	69	564	146	240	369	234	158	350	1258
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	646	1525	421	73	594	154	253	388	246	166	368	1324
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	638	1942	600	92	1166	360	242	678	424	191	559	1316
Arrive On Green	0.17	0.36	0.36	0.05	0.23	0.23	0.14	0.33	0.33	0.11	0.30	0.30
Sat Flow, veh/h	3645	5386	1665	1767	5066	1566	1767	2080	1301	1767	1856	2762
Grp Volume(v), veh/h	646	1525	421	73	594	154	253	328	306	166	368	1324
Grp Sat Flow(s),veh/h/ln	1823	1795	1665	1767	1689	1566	1767	1763	1618	1767	1856	1381
Q Serve(g_s), s	23.0	33.2	28.4	5.4	13.4	11.0	18.0	20.3	20.6	12.2	22.7	39.6
Cycle Q Clear(g_c), s	23.0	33.2	28.4	5.4	13.4	11.0	18.0	20.3	20.6	12.2	22.7	39.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		1.00
Lane Grp Cap(c), veh/h	638	1942	600	92	1166	360	242	575	528	191	559	1316
V/C Ratio(X)	1.01	0.79	0.70	0.79	0.51	0.43	1.05	0.57	0.58	0.87	0.66	1.01
Avail Cap(c_a), veh/h	638	2192	678	120	1480	458	242	575	528	242	559	1316
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	37.5	36.0	61.6	44.1	43.2	56.7	36.7	36.8	57.7	40.0	34.4
Incr Delay (d2), s/veh	38.9	1.7	2.8	17.6	0.3	0.8	70.3	1.4	1.6	19.6	2.8	26.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.0	14.8	11.5	2.9	5.7	4.2	12.5	8.6	8.1	6.4	10.7	24.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.1	39.2	38.8	79.2	44.5	44.0	127.0	38.0	38.4	77.3	42.9	60.7
LnGrp LOS	F	D	D	E	D	D	F	D	D	E	D	F
Approach Vol, veh/h		2592			821			887			1858	
Approach Delay, s/veh		52.6			47.5			63.5			58.6	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.9	52.8	22.0	45.8	28.0	35.7	18.7	49.1
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	8.9	53.5	18.0	* 40	23.0	38.4	18.0	38.0
Max Q Clear Time (g_c+I1), s	7.4	35.2	20.0	41.6	25.0	15.4	14.2	22.6
Green Ext Time (p_c), s	0.0	12.2	0.0	0.0	0.0	4.8	0.1	3.1

Intersection Summary	
HCM 6th Ctrl Delay	55.3
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1049	1397	141	58	671	216	167	474	246	180	274	1197
Future Volume (veh/h)	1049	1397	141	58	671	216	167	474	246	180	274	1197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	1081	1440	145	60	692	223	172	489	254	186	282	1234
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	869	2132	662	77	978	303	197	695	359	162	544	1472
Arrive On Green	0.24	0.40	0.40	0.04	0.19	0.19	0.11	0.31	0.31	0.09	0.29	0.29
Sat Flow, veh/h	3645	5386	1672	1767	5066	1572	1767	2248	1162	1767	1856	2768
Grp Volume(v), veh/h	1081	1440	145	60	692	223	172	383	360	186	282	1234
Grp Sat Flow(s),veh/h/ln	1823	1795	1672	1767	1689	1572	1767	1763	1646	1767	1856	1384
Q Serve(g_s), s	30.0	27.7	7.2	4.2	16.1	16.8	12.1	24.1	24.3	11.5	15.9	36.9
Cycle Q Clear(g_c), s	30.0	27.7	7.2	4.2	16.1	16.8	12.1	24.1	24.3	11.5	15.9	36.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		1.00
Lane Grp Cap(c), veh/h	869	2132	662	77	978	303	197	545	509	162	544	1472
V/C Ratio(X)	1.24	0.68	0.22	0.78	0.71	0.73	0.87	0.70	0.71	1.15	0.52	0.84
Avail Cap(c_a), veh/h	869	2505	778	146	1526	474	199	545	509	162	544	1472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	31.3	25.1	59.6	47.4	47.7	55.0	38.3	38.4	57.1	37.0	24.9
Incr Delay (d2), s/veh	119.3	0.6	0.2	6.2	1.0	3.5	30.6	4.0	4.4	117.3	0.9	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	27.9	12.0	2.8	2.0	6.9	6.6	6.9	10.6	10.0	10.4	7.3	14.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	167.2	31.9	25.3	65.8	48.4	51.2	85.6	42.4	42.8	174.5	37.9	29.3
LnGrp LOS	F	C	C	E	D	D	F	D	D	F	D	C
Approach Vol, veh/h		2666			975			915			1702	
Approach Delay, s/veh		86.4			50.1			50.7			46.6	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	55.2	18.0	43.1	35.0	29.7	16.0	45.1
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	10.4	58.5	14.2	* 37	30.0	37.9	11.5	38.0
Max Q Clear Time (g_c+I1), s	6.2	29.7	14.1	38.9	32.0	18.8	13.5	26.3
Green Ext Time (p_c), s	0.0	13.8	0.0	0.0	0.0	5.5	0.0	3.3

Intersection Summary			
HCM 6th Ctrl Delay			64.7
HCM 6th LOS			E

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	665	694	163	110	1116	136	409	298	98	48	66	413
Future Volume (veh/h)	665	694	163	110	1116	136	409	298	98	48	66	413
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	700	731	172	116	1175	143	431	314	103	51	69	435
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	664	1985	616	142	1308	406	410	911	294	66	291	939
Arrive On Green	0.18	0.37	0.37	0.08	0.26	0.26	0.23	0.35	0.35	0.04	0.16	0.16
Sat Flow, veh/h	3645	5386	1672	1767	5066	1572	1767	2622	845	1767	1856	2768
Grp Volume(v), veh/h	700	731	172	116	1175	143	431	209	208	51	69	435
Grp Sat Flow(s),veh/h/ln	1823	1795	1672	1767	1689	1572	1767	1763	1704	1767	1856	1384
Q Serve(g_s), s	22.0	12.0	8.7	7.8	27.0	9.0	28.0	10.6	10.9	3.5	3.9	14.9
Cycle Q Clear(g_c), s	22.0	12.0	8.7	7.8	27.0	9.0	28.0	10.6	10.9	3.5	3.9	14.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	664	1985	616	142	1308	406	410	613	592	66	291	939
V/C Ratio(X)	1.05	0.37	0.28	0.82	0.90	0.35	1.05	0.34	0.35	0.78	0.24	0.46
Avail Cap(c_a), veh/h	664	1985	616	245	1343	417	410	786	759	141	569	1353
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.4	27.8	26.8	54.7	43.2	36.5	46.4	29.1	29.3	57.6	44.6	31.3
Incr Delay (d2), s/veh	49.9	0.1	0.2	4.4	8.3	0.5	58.6	0.3	0.4	7.2	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.6	5.2	3.4	3.6	12.2	3.4	18.4	4.3	4.3	1.7	1.8	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.2	28.0	27.1	59.0	51.5	37.1	104.9	29.5	29.6	64.8	45.0	31.6
LnGrp LOS	F	C	C	E	D	D	F	C	C	E	D	C
Approach Vol, veh/h		1603			1434			848			555	
Approach Delay, s/veh		59.0			50.7			67.9			36.3	
Approach LOS		E			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	49.9	32.0	25.1	27.0	36.6	9.0	48.2
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	16.7	38.3	28.0	* 37	22.0	32.0	9.6	53.8
Max Q Clear Time (g_c+I1), s	9.8	14.0	30.0	16.9	24.0	29.0	5.5	12.9
Green Ext Time (p_c), s	0.1	6.1	0.0	2.1	0.0	2.1	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	55.2
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	614	1519	400	69	623	146	240	369	234	158	350	1258
Future Volume (veh/h)	614	1519	400	69	623	146	240	369	234	158	350	1258
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	646	1599	421	73	656	154	253	388	246	166	368	1324
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	628	1964	607	92	1201	371	251	675	423	191	546	1289
Arrive On Green	0.17	0.36	0.36	0.05	0.24	0.24	0.14	0.32	0.32	0.11	0.29	0.29
Sat Flow, veh/h	3645	5386	1665	1767	5066	1567	1767	2080	1301	1767	1856	2762
Grp Volume(v), veh/h	646	1599	421	73	656	154	253	328	306	166	368	1324
Grp Sat Flow(s),veh/h/ln	1823	1795	1665	1767	1689	1567	1767	1763	1618	1767	1856	1381
Q Serve(g_s), s	23.0	35.8	28.7	5.5	15.2	11.1	19.0	20.6	21.0	12.4	23.3	39.3
Cycle Q Clear(g_c), s	23.0	35.8	28.7	5.5	15.2	11.1	19.0	20.6	21.0	12.4	23.3	39.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		1.00
Lane Grp Cap(c), veh/h	628	1964	607	92	1201	371	251	572	526	191	546	1289
V/C Ratio(X)	1.03	0.81	0.69	0.79	0.55	0.41	1.01	0.57	0.58	0.87	0.67	1.03
Avail Cap(c_a), veh/h	628	2129	658	118	1430	442	251	572	526	238	546	1289
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	38.3	36.1	62.6	44.7	43.1	57.3	37.4	37.5	58.6	41.5	35.6
Incr Delay (d2), s/veh	43.6	2.4	2.9	18.7	0.4	0.7	58.4	1.4	1.6	20.6	3.3	32.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.3	16.1	11.6	2.9	6.4	4.3	12.3	8.8	8.3	6.6	11.1	25.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.9	40.7	38.9	81.2	45.0	43.8	115.7	38.8	39.2	79.3	44.8	67.8
LnGrp LOS	F	D	D	F	D	D	F	D	D	E	D	F
Approach Vol, veh/h		2666			883			887			1858	
Approach Delay, s/veh		54.5			47.8			60.9			64.3	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	54.1	23.0	45.5	28.0	37.1	18.9	49.6
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	8.9	52.8	19.0	* 39	23.0	37.7	18.0	38.7
Max Q Clear Time (g_c+I1), s	7.5	37.8	21.0	41.3	25.0	17.2	14.4	23.0
Green Ext Time (p_c), s	0.0	10.9	0.0	0.0	0.0	5.1	0.1	3.1

Intersection Summary	
HCM 6th Ctrl Delay	57.4
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1049	1465	141	58	733	216	167	474	246	180	274	1197
Future Volume (veh/h)	1049	1465	141	58	733	216	167	474	246	180	274	1197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1973	1973	1973	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	1081	1510	145	60	756	223	172	489	254	186	282	1234
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	859	2163	671	77	1022	317	197	690	356	160	538	1454
Arrive On Green	0.24	0.40	0.40	0.04	0.20	0.20	0.11	0.31	0.31	0.09	0.29	0.29
Sat Flow, veh/h	3645	5386	1672	1767	5066	1572	1767	2248	1162	1767	1856	2768
Grp Volume(v), veh/h	1081	1510	145	60	756	223	172	383	360	186	282	1234
Grp Sat Flow(s),veh/h/ln	1823	1795	1672	1767	1689	1572	1767	1763	1646	1767	1856	1384
Q Serve(g_s), s	30.0	29.7	7.2	4.3	17.8	16.8	12.2	24.5	24.7	11.5	16.2	36.9
Cycle Q Clear(g_c), s	30.0	29.7	7.2	4.3	17.8	16.8	12.2	24.5	24.7	11.5	16.2	36.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		1.00
Lane Grp Cap(c), veh/h	859	2163	671	77	1022	317	197	541	505	160	538	1454
V/C Ratio(X)	1.26	0.70	0.22	0.78	0.74	0.70	0.87	0.71	0.71	1.17	0.52	0.85
Avail Cap(c_a), veh/h	859	2474	768	144	1508	468	197	541	505	160	538	1454
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	31.7	25.0	60.3	47.7	47.3	55.7	39.1	39.2	57.9	37.9	25.9
Incr Delay (d2), s/veh	125.9	0.7	0.2	6.3	1.1	2.8	31.4	4.2	4.7	122.7	0.9	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.6	12.9	2.8	2.1	7.6	6.6	7.0	10.8	10.2	10.5	7.5	15.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	174.6	32.4	25.1	66.6	48.8	50.1	87.1	43.3	43.8	180.7	38.8	30.8
LnGrp LOS	F	C	C	E	D	D	F	D	D	F	D	C
Approach Vol, veh/h		2736			1039			915			1702	
Approach Delay, s/veh		88.2			50.1			51.8			48.5	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	56.5	18.2	43.1	35.0	31.1	16.0	45.3
Change Period (Y+Rc), s	4.0	5.4	4.0	* 6.2	5.0	5.4	4.5	6.2
Max Green Setting (Gmax), s	10.4	58.5	14.2	* 37	30.0	37.9	11.5	38.0
Max Q Clear Time (g_c+I1), s	6.3	31.7	14.2	38.9	32.0	19.8	13.5	26.7
Green Ext Time (p_c), s	0.0	14.0	0.0	0.0	0.0	5.8	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	66.2
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

5. DAY STREET/CANYON SPRINGS PARKWAY

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	575	152	234	33	77	244	173	972	80	194	891	570
Future Volume (veh/h)	575	152	234	33	77	244	173	972	80	194	891	570
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	599	158	244	34	80	254	180	1012	83	202	928	594
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	687	646	546	58	322	498	214	1377	113	239	1533	837
Arrive On Green	0.20	0.35	0.35	0.03	0.16	0.16	0.12	0.29	0.29	0.14	0.30	0.30
Sat Flow, veh/h	3428	1856	1570	1879	1973	1666	1767	4772	391	1767	5066	2768
Grp Volume(v), veh/h	599	158	244	34	80	254	180	716	379	202	928	594
Grp Sat Flow(s),veh/h/ln	1714	1856	1570	1879	1973	1666	1767	1689	1785	1767	1689	1384
Q Serve(g_s), s	16.3	5.9	11.6	1.7	3.4	12.2	9.6	18.5	18.5	10.8	15.1	18.4
Cycle Q Clear(g_c), s	16.3	5.9	11.6	1.7	3.4	12.2	9.6	18.5	18.5	10.8	15.1	18.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	687	646	546	58	322	498	214	974	515	239	1533	837
V/C Ratio(X)	0.87	0.24	0.45	0.58	0.25	0.51	0.84	0.73	0.74	0.84	0.61	0.71
Avail Cap(c_a), veh/h	1067	646	546	585	614	745	458	1401	741	550	2101	1148
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.3	22.4	24.3	46.1	35.2	28.0	41.4	31.0	31.0	40.7	28.7	29.9
Incr Delay (d2), s/veh	3.3	0.2	0.6	3.4	0.4	0.8	3.4	1.2	2.3	6.0	0.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	2.5	4.3	0.9	1.7	4.9	4.2	7.3	7.9	4.9	5.9	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.6	22.6	24.8	49.5	35.6	28.8	44.8	32.2	33.2	46.7	29.1	31.1
LnGrp LOS	D	C	C	D	D	C	D	C	C	D	C	C
Approach Vol, veh/h		1001			368			1275			1724	
Approach Delay, s/veh		33.9			32.2			34.3			31.9	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.6	33.2	7.0	38.7	16.2	34.6	24.8	20.8
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	30.0	40.0	30.0	30.0	25.0	40.0	30.0	* 30
Max Q Clear Time (g_c+I1), s	12.8	20.5	3.7	13.6	11.6	20.4	18.3	14.2
Green Ext Time (p_c), s	0.3	6.9	0.0	1.5	0.2	8.8	1.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	632	201	292	73	120	293	253	1133	109	253	995	754
Future Volume (veh/h)	632	201	292	73	120	293	253	1133	109	253	995	754
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	652	207	301	75	124	302	261	1168	112	261	1026	777
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	706	639	538	97	353	568	285	1400	134	288	1516	826
Arrive On Green	0.21	0.34	0.34	0.05	0.18	0.18	0.16	0.30	0.30	0.16	0.30	0.30
Sat Flow, veh/h	3428	1856	1562	1879	1973	1650	1767	4699	450	1767	5066	2762
Grp Volume(v), veh/h	652	207	301	75	124	302	261	839	441	261	1026	777
Grp Sat Flow(s),veh/h/ln	1714	1856	1562	1879	1973	1650	1767	1689	1773	1767	1689	1381
Q Serve(g_s), s	24.8	10.9	20.8	5.2	7.3	19.6	19.3	30.8	30.8	19.3	23.6	36.4
Cycle Q Clear(g_c), s	24.8	10.9	20.8	5.2	7.3	19.6	19.3	30.8	30.8	19.3	23.6	36.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	706	639	538	97	353	568	285	1006	528	288	1516	826
V/C Ratio(X)	0.92	0.32	0.56	0.77	0.35	0.53	0.91	0.83	0.83	0.91	0.68	0.94
Avail Cap(c_a), veh/h	775	639	538	425	446	645	333	1018	534	399	1527	832
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.7	32.1	35.3	62.2	47.7	35.2	54.7	43.5	43.5	54.6	40.9	45.3
Incr Delay (d2), s/veh	15.2	0.3	1.3	4.8	0.6	0.8	24.8	6.0	10.9	17.9	1.2	18.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.0	5.0	8.1	2.6	3.7	8.0	10.4	13.4	14.8	9.9	9.8	14.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.9	32.4	36.6	67.0	48.3	36.0	79.5	49.6	54.5	72.4	42.1	63.6
LnGrp LOS	E	C	D	E	D	D	E	D	D	E	D	E
Approach Vol, veh/h		1160			501			1541			2064	
Approach Delay, s/veh		52.9			43.7			56.0			54.0	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.1	44.9	10.9	50.8	25.9	45.1	32.8	28.9
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	30.0	40.0	30.0	30.0	25.0	40.0	30.0	* 30
Max Q Clear Time (g_c+I1), s	21.3	32.8	7.2	22.8	21.3	38.4	26.8	21.6
Green Ext Time (p_c), s	0.4	4.3	0.1	1.3	0.1	1.3	0.6	1.2

Intersection Summary	
HCM 6th Ctrl Delay	53.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	628	163	252	35	83	262	187	1402	86	209	1120	622
Future Volume (veh/h)	628	163	252	35	83	262	187	1402	86	209	1120	622
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	654	170	262	36	86	273	195	1460	90	218	1167	648
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	716	661	560	54	324	508	223	1564	96	247	1696	926
Arrive On Green	0.21	0.36	0.36	0.03	0.16	0.16	0.13	0.32	0.32	0.14	0.33	0.33
Sat Flow, veh/h	3428	1856	1570	1879	1973	1666	1767	4878	301	1767	5066	2768
Grp Volume(v), veh/h	654	170	262	36	86	273	195	1011	539	218	1167	648
Grp Sat Flow(s),veh/h/ln	1714	1856	1570	1879	1973	1666	1767	1689	1801	1767	1689	1384
Q Serve(g_s), s	23.0	8.0	15.9	2.3	4.7	16.8	13.4	35.8	35.8	14.9	24.5	25.1
Cycle Q Clear(g_c), s	23.0	8.0	15.9	2.3	4.7	16.8	13.4	35.8	35.8	14.9	24.5	25.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	716	661	560	54	324	508	223	1083	578	247	1696	926
V/C Ratio(X)	0.91	0.26	0.47	0.67	0.27	0.54	0.88	0.93	0.93	0.88	0.69	0.70
Avail Cap(c_a), veh/h	834	661	560	457	480	639	358	1096	585	430	1696	926
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	28.1	30.6	59.3	45.0	35.7	52.9	40.6	40.6	52.0	35.4	35.6
Incr Delay (d2), s/veh	12.2	0.2	0.6	5.2	0.4	0.9	8.1	14.0	22.1	8.1	1.2	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	3.6	6.1	1.2	2.4	7.0	6.3	16.5	18.9	7.1	10.0	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.9	28.3	31.2	64.5	45.4	36.6	61.0	54.6	62.7	60.1	36.6	38.0
LnGrp LOS	E	C	C	E	D	D	E	D	E	E	D	D
Approach Vol, veh/h		1086			395			1745			2033	
Approach Delay, s/veh		48.0			41.0			57.8			39.6	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.8	44.9	7.5	49.0	20.0	46.7	31.2	25.3
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	30.0	40.0	30.0	30.0	25.0	40.0	30.0	* 30
Max Q Clear Time (g_c+I1), s	16.9	37.8	4.3	17.9	15.4	27.1	25.0	18.8
Green Ext Time (p_c), s	0.3	1.8	0.0	1.5	0.2	8.2	0.8	1.1

Intersection Summary	
HCM 6th Ctrl Delay	47.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	696	216	314	78	129	315	273	1454	117	271	1337	830
Future Volume (veh/h)	696	216	314	78	129	315	273	1454	117	271	1337	830
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	718	223	324	80	133	325	281	1499	121	279	1378	856
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	732	657	553	102	364	591	303	1359	110	304	1444	787
Arrive On Green	0.21	0.35	0.35	0.05	0.18	0.18	0.17	0.28	0.28	0.17	0.29	0.29
Sat Flow, veh/h	3428	1856	1562	1879	1973	1650	1767	4776	385	1767	5066	2762
Grp Volume(v), veh/h	718	223	324	80	133	325	281	1060	560	279	1378	856
Grp Sat Flow(s),veh/h/ln	1714	1856	1562	1879	1973	1650	1767	1689	1785	1767	1689	1381
Q Serve(g_s), s	29.3	12.4	23.8	5.9	8.3	22.2	22.0	40.0	40.0	21.8	37.6	40.1
Cycle Q Clear(g_c), s	29.3	12.4	23.8	5.9	8.3	22.2	22.0	40.0	40.0	21.8	37.6	40.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	732	657	553	102	364	591	303	961	508	304	1444	787
V/C Ratio(X)	0.98	0.34	0.59	0.78	0.37	0.55	0.93	1.10	1.10	0.92	0.95	1.09
Avail Cap(c_a), veh/h	732	657	553	401	421	639	314	961	508	377	1444	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	33.3	37.0	65.6	50.1	36.3	57.4	50.3	50.3	57.2	49.3	50.2
Incr Delay (d2), s/veh	28.4	0.3	1.6	4.9	0.6	0.8	31.4	61.4	71.2	23.2	14.3	58.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.4	5.7	9.4	3.0	4.2	9.1	12.3	24.7	27.5	11.6	17.4	20.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.4	33.6	38.6	70.5	50.7	37.1	88.8	111.6	121.4	80.4	63.6	108.7
LnGrp LOS	F	C	D	E	D	D	F	F	F	F	E	F
Approach Vol, veh/h		1265			538			1901			2513	
Approach Delay, s/veh		63.2			45.5			111.1			80.8	
Approach LOS		E			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.6	45.4	11.6	54.9	28.6	45.5	35.5	31.0
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	30.0	40.0	30.0	30.0	25.0	40.0	30.0	* 30
Max Q Clear Time (g_c+I1), s	23.8	42.0	7.9	25.8	24.0	42.1	31.3	24.2
Green Ext Time (p_c), s	0.3	0.0	0.1	1.0	0.0	0.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	83.4
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	628	163	252	35	83	262	187	1443	86	209	1171	622
Future Volume (veh/h)	628	163	252	35	83	262	187	1443	86	209	1171	622
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	654	170	262	36	86	273	195	1503	90	218	1220	648
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	715	661	559	54	324	507	222	1573	94	247	1702	930
Arrive On Green	0.21	0.36	0.36	0.03	0.16	0.16	0.13	0.32	0.32	0.14	0.34	0.34
Sat Flow, veh/h	3428	1856	1570	1879	1973	1666	1767	4887	293	1767	5066	2768
Grp Volume(v), veh/h	654	170	262	36	86	273	195	1038	555	218	1220	648
Grp Sat Flow(s),veh/h/ln	1714	1856	1570	1879	1973	1666	1767	1689	1803	1767	1689	1384
Q Serve(g_s), s	23.1	8.0	16.0	2.4	4.7	16.9	13.4	37.3	37.3	15.0	26.1	25.2
Cycle Q Clear(g_c), s	23.1	8.0	16.0	2.4	4.7	16.9	13.4	37.3	37.3	15.0	26.1	25.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	715	661	559	54	324	507	222	1087	580	247	1702	930
V/C Ratio(X)	0.91	0.26	0.47	0.67	0.27	0.54	0.88	0.96	0.96	0.88	0.72	0.70
Avail Cap(c_a), veh/h	830	661	559	455	478	637	357	1090	582	428	1702	930
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.9	28.3	30.8	59.6	45.3	35.9	53.2	41.1	41.1	52.3	36.0	35.7
Incr Delay (d2), s/veh	12.4	0.2	0.6	5.2	0.4	0.9	8.3	17.5	26.5	8.3	1.5	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	3.6	6.1	1.2	2.4	7.0	6.4	17.6	20.3	7.1	10.7	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.3	28.5	31.4	64.8	45.7	36.8	61.6	58.6	67.7	60.6	37.5	38.0
LnGrp LOS	E	C	C	E	D	D	E	E	E	E	D	D
Approach Vol, veh/h		1086			395			1788			2086	
Approach Delay, s/veh		48.4			41.3			61.8			40.0	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.8	45.3	7.6	49.2	20.1	47.0	31.4	25.4
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	30.0	40.0	30.0	30.0	25.0	40.0	30.0	* 30
Max Q Clear Time (g_c+I1), s	17.0	39.3	4.4	18.0	15.4	28.1	25.1	18.9
Green Ext Time (p_c), s	0.3	0.6	0.0	1.5	0.2	7.9	0.7	1.1

Intersection Summary	
HCM 6th Ctrl Delay	49.1
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	696	216	314	78	129	315	273	1499	117	271	1386	830
Future Volume (veh/h)	696	216	314	78	129	315	273	1499	117	271	1386	830
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	718	223	324	80	133	325	281	1545	121	279	1429	856
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	732	657	553	102	364	591	303	1363	107	304	1444	787
Arrive On Green	0.21	0.35	0.35	0.05	0.18	0.18	0.17	0.28	0.28	0.17	0.29	0.29
Sat Flow, veh/h	3428	1856	1562	1879	1973	1650	1767	4789	375	1767	5066	2762
Grp Volume(v), veh/h	718	223	324	80	133	325	281	1089	577	279	1429	856
Grp Sat Flow(s),veh/h/ln	1714	1856	1562	1879	1973	1650	1767	1689	1787	1767	1689	1381
Q Serve(g_s), s	29.3	12.4	23.8	5.9	8.3	22.2	22.0	40.0	40.0	21.8	39.5	40.1
Cycle Q Clear(g_c), s	29.3	12.4	23.8	5.9	8.3	22.2	22.0	40.0	40.0	21.8	39.5	40.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	732	657	553	102	364	591	303	961	508	304	1444	787
V/C Ratio(X)	0.98	0.34	0.59	0.78	0.37	0.55	0.93	1.13	1.13	0.92	0.99	1.09
Avail Cap(c_a), veh/h	732	657	553	401	421	639	314	961	508	377	1444	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	33.3	37.0	65.6	50.1	36.3	57.4	50.3	50.3	57.2	50.0	50.2
Incr Delay (d2), s/veh	28.4	0.3	1.6	4.9	0.6	0.8	31.4	73.1	82.4	23.2	21.1	58.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.4	5.7	9.4	3.0	4.2	9.1	12.3	26.3	29.1	11.6	19.1	20.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.4	33.6	38.6	70.5	50.7	37.1	88.8	123.4	132.7	80.4	71.2	108.7
LnGrp LOS	F	C	D	E	D	D	F	F	F	F	E	F
Approach Vol, veh/h		1265			538			1947			2564	
Approach Delay, s/veh		63.2			45.5			121.1			84.7	
Approach LOS		E			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	28.6	45.4	11.6	54.9	28.6	45.5	35.5	31.0
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	30.0	40.0	30.0	30.0	25.0	40.0	30.0	* 30
Max Q Clear Time (g_c+I1), s	23.8	42.0	7.9	25.8	24.0	42.1	31.3	24.2
Green Ext Time (p_c), s	0.3	0.0	0.1	1.0	0.0	0.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	88.3
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	642	167	257	36	85	268	191	1831	88	213	1962	637
Future Volume (veh/h)	642	167	257	36	85	268	191	1831	88	213	1962	637
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	669	174	268	38	89	279	199	1907	92	222	2044	664
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	565	600	507	54	346	478	183	1937	93	197	2020	1104
Arrive On Green	0.16	0.32	0.32	0.03	0.18	0.18	0.10	0.39	0.39	0.11	0.40	0.40
Sat Flow, veh/h	3428	1856	1570	1879	1973	1666	1767	4951	238	1767	5066	2768
Grp Volume(v), veh/h	669	174	268	38	89	279	199	1299	700	222	2044	664
Grp Sat Flow(s),veh/h/ln	1714	1856	1570	1879	1973	1666	1767	1689	1813	1767	1689	1384
Q Serve(g_s), s	21.5	9.1	18.2	2.6	5.1	18.7	13.5	49.7	49.9	14.5	52.0	24.7
Cycle Q Clear(g_c), s	21.5	9.1	18.2	2.6	5.1	18.7	13.5	49.7	49.9	14.5	52.0	24.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	565	600	507	54	346	478	183	1321	709	197	2020	1104
V/C Ratio(X)	1.18	0.29	0.53	0.71	0.26	0.58	1.09	0.98	0.99	1.13	1.01	0.60
Avail Cap(c_a), veh/h	565	807	683	127	651	735	183	1321	709	197	2020	1104
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	32.9	36.0	62.8	46.4	39.8	58.4	39.3	39.4	57.9	39.2	31.0
Incr Delay (d2), s/veh	99.6	0.3	0.9	6.1	0.4	1.1	91.9	20.9	30.4	103.4	23.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.0	4.2	7.1	1.3	2.6	7.8	10.6	23.6	27.3	12.0	24.9	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	154.0	33.2	36.9	68.9	46.8	41.0	150.3	60.1	69.8	161.3	62.2	31.9
LnGrp LOS	F	C	D	E	D	D	F	E	E	F	F	C
Approach Vol, veh/h		1111			406			2198			2930	
Approach Delay, s/veh		106.8			44.9			71.4			62.8	
Approach LOS		F			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	56.4	7.7	47.3	18.0	57.4	27.0	28.0
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	14.5	51.0	8.8	56.7	13.5	52.0	21.5	* 43
Max Q Clear Time (g_c+I1), s	16.5	51.9	4.6	20.2	15.5	54.0	23.5	20.7
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	0.0	0.0	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	71.9
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	711	221	321	80	132	322	279	1955	120	278	2278	849
Future Volume (veh/h)	711	221	321	80	132	322	279	1955	120	278	2278	849
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	733	228	331	82	136	332	288	2015	124	287	2348	875
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	489	579	487	104	422	543	200	1855	114	200	1926	1051
Arrive On Green	0.14	0.31	0.31	0.06	0.21	0.21	0.11	0.38	0.38	0.11	0.38	0.38
Sat Flow, veh/h	3428	1856	1560	1879	1973	1653	1767	4879	299	1767	5066	2763
Grp Volume(v), veh/h	733	228	331	82	136	332	288	1392	747	287	2348	875
Grp Sat Flow(s),veh/h/ln	1714	1856	1560	1879	1973	1653	1767	1689	1801	1767	1689	1382
Q Serve(g_s), s	19.5	13.2	25.3	5.9	8.0	23.1	15.5	52.0	52.0	15.5	52.0	39.3
Cycle Q Clear(g_c), s	19.5	13.2	25.3	5.9	8.0	23.1	15.5	52.0	52.0	15.5	52.0	39.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	489	579	487	104	422	543	200	1284	685	200	1926	1051
V/C Ratio(X)	1.50	0.39	0.68	0.79	0.32	0.61	1.44	1.08	1.09	1.43	1.22	0.83
Avail Cap(c_a), veh/h	489	663	558	201	620	709	200	1284	685	200	1926	1051
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.6	36.9	41.1	63.8	45.4	38.7	60.6	42.4	42.4	60.6	42.4	38.4
Incr Delay (d2), s/veh	235.4	0.4	2.8	4.9	0.4	1.1	223.2	51.2	61.8	221.1	103.5	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.4	6.1	10.1	3.0	4.0	9.6	19.3	30.1	34.1	19.2	39.4	14.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	294.0	37.3	43.9	68.7	45.8	39.8	283.8	93.6	104.2	281.7	145.9	44.3
LnGrp LOS	F	D	D	E	D	D	F	F	F	F	F	D
Approach Vol, veh/h		1292			550			2427			3510	
Approach Delay, s/veh		184.6			45.6			119.4			131.7	
Approach LOS		F			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.0	57.4	11.6	47.8	20.0	57.4	25.0	34.4
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	15.5	52.0	14.6	48.9	15.5	52.0	19.5	* 43
Max Q Clear Time (g_c+I1), s	17.5	54.0	7.9	27.3	17.5	54.0	21.5	25.1
Green Ext Time (p_c), s	0.0	0.0	0.0	2.4	0.0	0.0	0.0	1.8

Intersection Summary		
HCM 6th Ctrl Delay		130.6
HCM 6th LOS		F

Notes

User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	642	167	257	36	85	268	191	1873	88	213	2013	637
Future Volume (veh/h)	642	167	257	36	85	268	191	1873	88	213	2013	637
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	669	174	268	38	89	279	199	1951	92	222	2097	664
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	565	600	507	54	346	478	169	1939	91	197	2059	1125
Arrive On Green	0.16	0.32	0.32	0.03	0.18	0.18	0.10	0.39	0.39	0.11	0.41	0.41
Sat Flow, veh/h	3428	1856	1570	1879	1973	1666	1767	4957	233	1767	5066	2768
Grp Volume(v), veh/h	669	174	268	38	89	279	199	1328	715	222	2097	664
Grp Sat Flow(s),veh/h/ln	1714	1856	1570	1879	1973	1666	1767	1689	1814	1767	1689	1384
Q Serve(g_s), s	21.5	9.1	18.2	2.6	5.1	18.7	12.5	51.0	51.0	14.5	53.0	24.4
Cycle Q Clear(g_c), s	21.5	9.1	18.2	2.6	5.1	18.7	12.5	51.0	51.0	14.5	53.0	24.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	565	600	507	54	346	478	169	1321	709	197	2059	1125
V/C Ratio(X)	1.18	0.29	0.53	0.71	0.26	0.58	1.17	1.01	1.01	1.13	1.02	0.59
Avail Cap(c_a), veh/h	565	807	683	127	651	735	169	1321	709	197	2059	1125
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	32.9	36.0	62.8	46.4	39.8	58.9	39.7	39.7	57.9	38.7	30.2
Incr Delay (d2), s/veh	99.6	0.3	0.9	6.1	0.4	1.1	123.9	26.0	35.9	103.4	24.6	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.0	4.2	7.1	1.3	2.6	7.8	11.3	25.1	28.9	12.0	25.7	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	154.0	33.2	36.9	68.9	46.8	41.0	182.9	65.7	75.6	161.3	63.3	31.0
LnGrp LOS	F	C	D	E	D	D	F	F	F	F	F	C
Approach Vol, veh/h		1111			406			2242			2983	
Approach Delay, s/veh		106.8			44.9			79.3			63.4	
Approach LOS		F			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	56.4	7.7	47.3	17.0	58.4	27.0	28.0
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1
Max Green Setting (Gmax), s	14.5	51.0	8.8	56.7	12.5	53.0	21.5	* 43
Max Q Clear Time (g_c+I1), s	16.5	53.0	4.6	20.2	14.5	55.0	23.5	20.7
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	0.0	0.0	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	74.7
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
105: Day St & Canyon Springs Pkwy

04/15/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	711	221	321	80	132	322	279	1999	120	278	2326	849
Future Volume (veh/h)	711	221	321	80	132	322	279	1999	120	278	2326	849
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	733	228	331	82	136	332	288	2061	124	287	2398	875
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	407	560	471	106	447	529	163	1868	112	163	1937	1057
Arrive On Green	0.12	0.30	0.30	0.06	0.23	0.23	0.09	0.38	0.38	0.09	0.38	0.38
Sat Flow, veh/h	3428	1856	1560	1879	1973	1654	1767	4887	293	1767	5066	2763
Grp Volume(v), veh/h	733	228	331	82	136	332	288	1421	764	287	2398	875
Grp Sat Flow(s),veh/h/ln	1714	1856	1560	1879	1973	1654	1767	1689	1802	1767	1689	1382
Q Serve(g_s), s	13.5	11.1	21.4	4.9	6.5	19.5	10.5	43.5	43.5	10.5	43.5	32.6
Cycle Q Clear(g_c), s	13.5	11.1	21.4	4.9	6.5	19.5	10.5	43.5	43.5	10.5	43.5	32.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	407	560	471	106	447	529	163	1291	689	163	1937	1057
V/C Ratio(X)	1.80	0.41	0.70	0.77	0.30	0.63	1.77	1.10	1.11	1.76	1.24	0.83
Avail Cap(c_a), veh/h	407	734	617	206	746	780	163	1291	689	163	1937	1057
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.1	31.6	35.2	53.0	36.6	33.0	51.6	35.1	35.1	51.6	35.1	31.8
Incr Delay (d2), s/veh	370.5	0.5	2.4	4.5	0.4	1.2	368.4	57.3	68.0	365.7	111.7	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.6	5.0	8.4	2.4	3.2	7.9	21.2	27.2	31.1	21.1	36.9	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	420.6	32.1	37.6	57.4	36.9	34.3	420.0	92.4	103.1	417.3	146.9	37.3
LnGrp LOS	F	C	D	E	D	C	F	F	F	F	F	D
Approach Vol, veh/h		1292			550			2473			3560	
Approach Delay, s/veh		253.9			38.4			133.9			141.8	
Approach LOS		F			D			F			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	48.9	10.4	39.4	15.0	48.9	19.0	30.9				
Change Period (Y+Rc), s	4.5	5.4	4.0	5.1	4.5	5.4	5.5	* 5.1				
Max Green Setting (Gmax), s	10.5	43.5	12.5	45.0	10.5	43.5	13.5	* 43				
Max Q Clear Time (g_c+I1), s	12.5	45.5	6.9	23.4	12.5	45.5	15.5	21.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.4	0.0	0.0	0.0	1.9				

Intersection Summary		
HCM 6th Ctrl Delay		150.5
HCM 6th LOS		F

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

6. DAY STREET/CAMPUS PARKWAY

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	193	141	179	81	268	280	254	773	108	310	766	50
Future Volume (veh/h)	193	141	179	81	268	280	254	773	108	310	766	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	203	148	188	85	282	295	267	814	114	326	806	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	301	194	246	113	828	576	369	1270	177	431	1559	620
Arrive On Green	0.09	0.26	0.26	0.06	0.22	0.22	0.11	0.28	0.28	0.13	0.31	0.31
Sat Flow, veh/h	3428	739	939	1879	3749	1656	3428	4492	625	3428	5066	1568
Grp Volume(v), veh/h	203	0	336	85	282	295	267	611	317	326	806	53
Grp Sat Flow(s),veh/h/ln	1714	0	1678	1879	1874	1656	1714	1689	1741	1714	1689	1568
Q Serve(g_s), s	4.2	0.0	13.4	3.2	4.6	10.3	5.5	11.5	11.6	6.7	9.5	1.5
Cycle Q Clear(g_c), s	4.2	0.0	13.4	3.2	4.6	10.3	5.5	11.5	11.6	6.7	9.5	1.5
Prop In Lane	1.00		0.56	1.00		1.00	1.00		0.36	1.00		1.00
Lane Grp Cap(c), veh/h	301	0	440	113	828	576	369	955	492	431	1559	620
V/C Ratio(X)	0.68	0.00	0.76	0.75	0.34	0.51	0.72	0.64	0.64	0.76	0.52	0.09
Avail Cap(c_a), veh/h	946	0	694	519	1552	896	946	1864	961	946	2796	1003
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	0.0	24.6	33.5	23.8	18.8	31.3	22.8	22.8	30.6	20.7	13.7
Incr Delay (d2), s/veh	1.0	0.0	2.8	3.8	0.2	0.7	1.0	0.7	1.4	1.0	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	5.4	1.5	2.0	3.8	2.2	4.2	4.5	2.6	3.4	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	0.0	27.4	37.3	24.0	19.5	32.3	23.5	24.2	31.6	20.9	13.8
LnGrp LOS	C	A	C	D	C	B	C	C	C	C	C	B
Approach Vol, veh/h		539			662			1195			1185	
Approach Delay, s/veh		29.5			23.7			25.6			23.5	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.1	25.9	8.8	23.6	12.3	27.7	11.9	20.6
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	8.7	13.6	5.2	15.4	7.5	11.5	6.2	12.3
Green Ext Time (p_c), s	0.5	6.3	0.1	1.8	0.4	6.0	0.3	2.7

Intersection Summary	
HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	214	185	113	346	341	343	918	193	453	855	78
Future Volume (veh/h)	197	214	185	113	346	341	343	918	193	453	855	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	214	233	201	123	376	371	373	998	210	492	929	85
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	282	248	214	154	982	704	442	1272	267	556	1730	664
Arrive On Green	0.08	0.27	0.27	0.08	0.26	0.26	0.13	0.30	0.30	0.16	0.34	0.34
Sat Flow, veh/h	3428	915	789	1879	3749	1655	3428	4189	880	3428	5066	1566
Grp Volume(v), veh/h	214	0	434	123	376	371	373	804	404	492	929	85
Grp Sat Flow(s),veh/h/ln	1714	0	1704	1879	1874	1655	1714	1689	1692	1714	1689	1566
Q Serve(g_s), s	6.6	0.0	26.8	6.9	8.9	17.9	11.5	23.5	23.5	15.1	15.9	3.6
Cycle Q Clear(g_c), s	6.6	0.0	26.8	6.9	8.9	17.9	11.5	23.5	23.5	15.1	15.9	3.6
Prop In Lane	1.00		0.46	1.00		1.00	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	282	0	463	154	982	704	442	1025	514	556	1730	664
V/C Ratio(X)	0.76	0.00	0.94	0.80	0.38	0.53	0.84	0.78	0.79	0.89	0.54	0.13
Avail Cap(c_a), veh/h	636	0	474	349	1043	732	636	1253	628	636	1880	710
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	0.0	38.4	48.6	32.6	23.0	45.9	34.3	34.3	44.2	28.6	18.9
Incr Delay (d2), s/veh	1.6	0.0	26.2	3.6	0.2	0.6	4.9	2.7	5.4	11.8	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	14.4	3.4	4.0	7.0	5.1	9.6	10.1	7.2	6.3	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	0.0	64.6	52.3	32.9	23.7	50.8	37.0	39.7	56.0	28.9	19.0
LnGrp LOS	D	A	E	D	C	C	D	D	D	E	C	B
Approach Vol, veh/h		648			870			1581			1506	
Approach Delay, s/veh		59.8			31.7			41.0			37.2	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.5	38.1	13.3	33.9	18.4	42.2	14.4	32.8
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	17.1	25.5	8.9	28.8	13.5	17.9	8.6	19.9
Green Ext Time (p_c), s	0.3	6.7	0.1	0.3	0.4	6.7	0.3	2.8

Intersection Summary	
HCM 6th Ctrl Delay	40.6
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	165	198	87	295	301	280	1178	117	333	974	67
Future Volume (veh/h)	219	165	198	87	295	301	280	1178	117	333	974	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	231	174	208	92	311	317	295	1240	123	351	1025	71
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	309	199	238	120	835	579	374	1611	160	431	1853	716
Arrive On Green	0.09	0.26	0.26	0.06	0.22	0.22	0.11	0.34	0.34	0.13	0.37	0.37
Sat Flow, veh/h	3428	766	916	1879	3749	1656	3428	4683	464	3428	5066	1569
Grp Volume(v), veh/h	231	0	382	92	311	317	295	894	469	351	1025	71
Grp Sat Flow(s),veh/h/ln	1714	0	1682	1879	1874	1656	1714	1689	1770	1714	1689	1569
Q Serve(g_s), s	6.2	0.0	20.5	4.5	6.6	14.5	7.9	22.3	22.3	9.4	15.2	2.4
Cycle Q Clear(g_c), s	6.2	0.0	20.5	4.5	6.6	14.5	7.9	22.3	22.3	9.4	15.2	2.4
Prop In Lane	1.00		0.54	1.00		1.00	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	309	0	437	120	835	579	374	1162	609	431	1853	716
V/C Ratio(X)	0.75	0.00	0.87	0.77	0.37	0.55	0.79	0.77	0.77	0.81	0.55	0.10
Avail Cap(c_a), veh/h	727	0	535	398	1192	737	727	1432	751	727	2148	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	0.0	33.5	43.5	31.1	24.8	41.0	27.6	27.6	40.2	23.8	14.6
Incr Delay (d2), s/veh	1.4	0.0	12.9	3.8	0.3	0.8	1.4	2.1	3.9	1.4	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	9.7	2.2	3.0	5.7	3.3	8.7	9.5	3.9	5.7	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	0.0	46.4	47.3	31.3	25.6	42.4	29.7	31.5	41.6	24.0	14.7
LnGrp LOS	D	A	D	D	C	C	D	C	C	D	C	B
Approach Vol, veh/h		613			720			1658			1447	
Approach Delay, s/veh		45.2			30.8			32.5			27.8	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.9	37.9	10.5	29.1	14.8	39.9	14.0	25.6				
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6				
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	20.0	30.0				
Max Q Clear Time (g_c+I1), s	11.4	24.3	6.5	22.5	9.9	17.2	8.2	16.5				
Green Ext Time (p_c), s	0.5	7.9	0.1	1.4	0.4	7.5	0.3	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			32.5									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	239	203	122	383	367	381	1217	208	487	1165	106
Future Volume (veh/h)	220	239	203	122	383	367	381	1217	208	487	1165	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	239	260	221	133	416	399	414	1323	226	529	1266	115
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	301	232	197	162	907	681	473	1436	245	576	1844	708
Arrive On Green	0.09	0.25	0.25	0.09	0.24	0.24	0.14	0.33	0.33	0.17	0.36	0.36
Sat Flow, veh/h	3428	921	783	1879	3749	1653	3428	4352	743	3428	5066	1566
Grp Volume(v), veh/h	239	0	481	133	416	399	414	1027	522	529	1266	115
Grp Sat Flow(s),veh/h/ln	1714	0	1705	1879	1874	1653	1714	1689	1718	1714	1689	1566
Q Serve(g_s), s	8.1	0.0	30.0	8.3	11.3	22.3	14.1	34.8	34.9	18.1	25.2	5.2
Cycle Q Clear(g_c), s	8.1	0.0	30.0	8.3	11.3	22.3	14.1	34.8	34.9	18.1	25.2	5.2
Prop In Lane	1.00		0.46	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	301	0	430	162	907	681	473	1114	567	576	1844	708
V/C Ratio(X)	0.79	0.00	1.12	0.82	0.46	0.59	0.87	0.92	0.92	0.92	0.69	0.16
Avail Cap(c_a), veh/h	576	0	430	316	945	697	576	1135	577	576	1844	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.2	0.0	44.5	53.5	38.5	27.3	50.3	38.4	38.4	48.7	32.1	19.3
Incr Delay (d2), s/veh	1.8	0.0	80.3	3.9	0.4	1.2	10.7	12.0	20.2	19.5	1.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	22.1	4.1	5.2	9.0	6.6	15.7	17.3	9.1	10.1	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.1	0.0	124.8	57.4	38.8	28.5	61.0	50.4	58.6	68.3	33.2	19.4
LnGrp LOS	E	A	F	E	D	C	E	D	E	E	C	B
Approach Vol, veh/h		720			948			1963			1910	
Approach Delay, s/veh		101.6			37.1			54.8			42.1	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	44.7	14.8	34.6	20.9	48.7	16.0	33.4
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	20.1	36.9	10.3	32.0	16.1	27.2	10.1	24.3
Green Ext Time (p_c), s	0.0	2.4	0.1	0.0	0.3	7.0	0.3	2.1

Intersection Summary	
HCM 6th Ctrl Delay	53.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	165	198	97	295	343	280	1178	132	384	974	67
Future Volume (veh/h)	219	165	198	97	295	343	280	1178	132	384	974	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	231	174	208	102	311	361	295	1240	139	404	1025	71
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	305	197	236	131	857	612	370	1563	175	479	1900	728
Arrive On Green	0.09	0.26	0.26	0.07	0.23	0.23	0.11	0.34	0.34	0.14	0.38	0.38
Sat Flow, veh/h	3428	766	916	1879	3749	1657	3428	4620	518	3428	5066	1569
Grp Volume(v), veh/h	231	0	382	102	311	361	295	906	473	404	1025	71
Grp Sat Flow(s),veh/h/ln	1714	0	1682	1879	1874	1657	1714	1689	1761	1714	1689	1569
Q Serve(g_s), s	6.6	0.0	21.9	5.3	7.0	17.6	8.4	24.3	24.3	11.5	15.9	2.5
Cycle Q Clear(g_c), s	6.6	0.0	21.9	5.3	7.0	17.6	8.4	24.3	24.3	11.5	15.9	2.5
Prop In Lane	1.00		0.54	1.00		1.00	1.00		0.29	1.00		1.00
Lane Grp Cap(c), veh/h	305	0	433	131	857	612	370	1142	596	479	1900	728
V/C Ratio(X)	0.76	0.00	0.88	0.78	0.36	0.59	0.80	0.79	0.79	0.84	0.54	0.10
Avail Cap(c_a), veh/h	685	0	504	375	1123	730	685	1349	703	685	2023	766
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.6	0.0	35.7	45.8	32.5	25.6	43.6	30.0	30.0	42.0	24.5	15.1
Incr Delay (d2), s/veh	1.5	0.0	15.0	3.7	0.3	0.9	1.5	2.9	5.3	4.7	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	10.6	2.6	3.2	6.9	3.5	9.8	10.6	5.0	6.1	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	0.0	50.7	49.5	32.8	26.5	45.1	32.8	35.3	46.7	24.8	15.1
LnGrp LOS	D	A	D	D	C	C	D	C	D	D	C	B
Approach Vol, veh/h		613			774			1674			1500	
Approach Delay, s/veh		49.0			32.0			35.7			30.2	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.0	39.3	11.5	30.4	15.3	43.0	14.4	27.5
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	13.5	26.3	7.3	23.9	10.4	17.9	8.6	19.6
Green Ext Time (p_c), s	0.5	7.3	0.1	1.2	0.4	7.4	0.3	2.5

Intersection Summary	
HCM 6th Ctrl Delay	35.1
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	239	203	134	383	412	381	1217	222	535	1165	106
Future Volume (veh/h)	220	239	203	134	383	412	381	1217	222	535	1165	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	239	260	221	146	416	448	414	1323	241	582	1266	115
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	300	230	195	175	925	686	473	1416	258	570	1831	704
Arrive On Green	0.09	0.25	0.25	0.09	0.25	0.25	0.14	0.33	0.33	0.17	0.36	0.36
Sat Flow, veh/h	3428	921	783	1879	3749	1654	3428	4304	784	3428	5066	1566
Grp Volume(v), veh/h	239	0	481	146	416	448	414	1038	526	582	1266	115
Grp Sat Flow(s),veh/h/ln	1714	0	1704	1879	1874	1654	1714	1689	1710	1714	1689	1566
Q Serve(g_s), s	8.2	0.0	30.0	9.2	11.3	26.2	14.2	35.8	35.8	20.0	25.6	5.3
Cycle Q Clear(g_c), s	8.2	0.0	30.0	9.2	11.3	26.2	14.2	35.8	35.8	20.0	25.6	5.3
Prop In Lane	1.00		0.46	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	300	0	425	175	925	686	473	1111	563	570	1831	704
V/C Ratio(X)	0.80	0.00	1.13	0.83	0.45	0.65	0.88	0.93	0.93	1.02	0.69	0.16
Avail Cap(c_a), veh/h	570	0	425	312	935	690	570	1123	569	570	1831	704
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	0.0	45.1	53.6	38.4	28.4	50.8	39.1	39.1	50.1	32.7	19.7
Incr Delay (d2), s/veh	1.8	0.0	84.6	3.9	0.3	2.2	11.1	13.9	22.8	43.1	1.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	22.6	4.5	5.3	10.7	6.7	16.5	18.1	11.8	10.3	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	0.0	129.8	57.5	38.7	30.6	62.0	53.0	61.9	93.2	33.8	19.8
LnGrp LOS	E	A	F	E	D	C	E	D	E	F	C	B
Approach Vol, veh/h		720			1010			1978			1963	
Approach Delay, s/veh		105.2			37.8			57.2			50.6	
Approach LOS		F			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	45.0	15.7	34.6	21.1	48.9	16.0	34.3
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	20.0	40.0	20.0	30.0	20.0	40.0	20.0	30.0
Max Q Clear Time (g_c+I1), s	22.0	37.8	11.2	32.0	16.2	27.6	10.2	28.2
Green Ext Time (p_c), s	0.0	1.7	0.1	0.0	0.3	6.9	0.3	0.8

Intersection Summary	
HCM 6th Ctrl Delay	57.6
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	180	263	89	302	308	282	1647	120	341	1850	68
Future Volume (veh/h)	224	180	263	89	302	308	282	1647	120	341	1850	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	236	189	277	94	318	324	297	1734	126	359	1947	72
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	257	207	304	119	1072	652	316	1762	128	364	1943	720
Arrive On Green	0.08	0.31	0.31	0.06	0.29	0.29	0.09	0.37	0.37	0.11	0.38	0.38
Sat Flow, veh/h	3428	677	992	1879	3749	1660	3428	4819	350	3428	5066	1569
Grp Volume(v), veh/h	236	0	466	94	318	324	297	1214	646	359	1947	72
Grp Sat Flow(s),veh/h/ln	1714	0	1669	1879	1874	1660	1714	1689	1792	1714	1689	1569
Q Serve(g_s), s	8.4	0.0	32.9	6.0	8.1	18.1	10.6	43.6	43.8	12.8	47.0	3.2
Cycle Q Clear(g_c), s	8.4	0.0	32.9	6.0	8.1	18.1	10.6	43.6	43.8	12.8	47.0	3.2
Prop In Lane	1.00		0.59	1.00		1.00	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	257	0	511	119	1072	652	316	1235	655	364	1943	720
V/C Ratio(X)	0.92	0.00	0.91	0.79	0.30	0.50	0.94	0.98	0.99	0.99	1.00	0.10
Avail Cap(c_a), veh/h	257	0	590	152	1315	760	316	1235	655	364	1943	720
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	0.0	40.9	56.6	34.1	28.1	55.3	38.5	38.6	54.7	37.8	18.8
Incr Delay (d2), s/veh	34.2	0.0	17.1	15.0	0.2	0.6	34.6	21.6	31.5	43.5	20.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	15.8	3.4	3.7	7.3	6.0	21.0	24.2	7.6	22.3	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.5	0.0	58.1	71.6	34.3	28.7	89.9	60.1	70.1	98.2	58.7	18.9
LnGrp LOS	F	A	E	E	C	C	F	E	E	F	F	B
Approach Vol, veh/h		702			736			2157			2378	
Approach Delay, s/veh		69.0			36.6			67.2			63.5	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	50.2	12.2	42.1	15.8	52.4	14.7	39.6
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	13.0	44.8	9.9	43.3	11.3	47.0	9.2	43.0
Max Q Clear Time (g_c+I1), s	14.8	45.8	8.0	34.9	12.6	49.0	10.4	20.1
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	0.0	0.0	0.0	3.3

Intersection Summary	
HCM 6th Ctrl Delay	62.2
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	262	270	125	392	375	384	1774	213	498	2143	108
Future Volume (veh/h)	224	262	270	125	392	375	384	1774	213	498	2143	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	236	276	284	132	413	395	404	1867	224	524	2256	114
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	197	281	289	108	1235	713	276	1634	195	342	1921	684
Arrive On Green	0.06	0.34	0.34	0.06	0.33	0.33	0.08	0.36	0.36	0.10	0.38	0.38
Sat Flow, veh/h	3428	834	859	1879	3749	1658	3428	4586	546	3428	5066	1566
Grp Volume(v), veh/h	236	0	560	132	413	395	404	1371	720	524	2256	114
Grp Sat Flow(s),veh/h/ln	1714	0	1693	1879	1874	1658	1714	1689	1755	1714	1689	1566
Q Serve(g_s), s	7.5	0.0	42.8	7.5	10.8	23.3	10.5	46.5	46.5	13.0	49.5	5.8
Cycle Q Clear(g_c), s	7.5	0.0	42.8	7.5	10.8	23.3	10.5	46.5	46.5	13.0	49.5	5.8
Prop In Lane	1.00		0.51	1.00		1.00	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	197	0	571	108	1235	713	276	1203	625	342	1921	684
V/C Ratio(X)	1.20	0.00	0.98	1.22	0.33	0.55	1.46	1.14	1.15	1.53	1.17	0.17
Avail Cap(c_a), veh/h	197	0	571	108	1235	713	276	1203	625	342	1921	684
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.5	0.0	42.8	61.5	33.0	27.9	60.0	42.0	42.0	58.8	40.5	22.3
Incr Delay (d2), s/veh	127.6	0.0	32.8	158.1	0.2	0.9	227.9	73.3	85.5	254.7	84.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	22.9	8.3	5.0	9.4	13.2	30.9	34.3	17.6	34.8	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	189.1	0.0	75.6	219.6	33.1	28.9	287.9	115.3	127.5	313.5	124.7	22.4
LnGrp LOS	F	A	E	F	C	C	F	F	F	F	F	C
Approach Vol, veh/h		796			940			2495			2894	
Approach Delay, s/veh		109.2			57.5			146.8			154.9	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	51.9	12.0	48.6	15.0	54.9	13.0	47.6
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	13.0	46.5	7.5	44.0	10.5	49.5	7.5	43.0
Max Q Clear Time (g_c+I1), s	15.0	48.5	9.5	44.8	12.5	51.5	9.5	25.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	134.1
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	180	263	99	302	350	282	1647	134	392	1850	68
Future Volume (veh/h)	224	180	263	99	302	350	282	1647	134	392	1850	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	236	189	277	104	318	368	297	1734	141	413	1947	72
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	234	207	303	129	1116	669	289	1744	141	358	1972	718
Arrive On Green	0.07	0.31	0.31	0.07	0.30	0.30	0.08	0.37	0.37	0.10	0.39	0.39
Sat Flow, veh/h	3428	677	992	1879	3749	1660	3428	4774	387	3428	5066	1569
Grp Volume(v), veh/h	236	0	466	104	318	368	297	1225	650	413	1947	72
Grp Sat Flow(s),veh/h/ln	1714	0	1669	1879	1874	1660	1714	1689	1785	1714	1689	1569
Q Serve(g_s), s	8.5	0.0	33.5	6.8	8.1	21.2	10.5	45.0	45.3	13.0	47.5	3.3
Cycle Q Clear(g_c), s	8.5	0.0	33.5	6.8	8.1	21.2	10.5	45.0	45.3	13.0	47.5	3.3
Prop In Lane	1.00		0.59	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	234	0	509	129	1116	669	289	1233	652	358	1972	718
V/C Ratio(X)	1.01	0.00	0.91	0.81	0.28	0.55	1.03	0.99	1.00	1.15	0.99	0.10
Avail Cap(c_a), veh/h	234	0	587	131	1294	747	289	1233	652	358	1972	718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.0	0.0	41.7	57.2	33.6	28.6	57.0	39.4	39.5	55.8	37.7	19.2
Incr Delay (d2), s/veh	61.2	0.0	17.6	27.3	0.1	0.7	60.3	24.0	34.4	96.6	17.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	0.0	16.2	4.2	3.7	8.5	6.9	22.0	25.3	10.3	21.9	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	119.2	0.0	59.3	84.5	33.7	29.3	117.4	63.4	73.8	152.4	55.0	19.3
LnGrp LOS	F	A	E	F	C	C	F	E	E	F	E	B
Approach Vol, veh/h		702			790			2172			2432	
Approach Delay, s/veh		79.5			38.4			73.9			70.5	
Approach LOS		E			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	50.9	13.1	42.6	15.0	53.9	14.0	41.7
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	13.0	45.5	8.7	43.8	10.5	48.5	8.5	43.0
Max Q Clear Time (g_c+I1), s	15.0	47.3	8.8	35.5	12.5	49.5	10.5	23.2
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	0.0	0.0	0.0	3.4

Intersection Summary		
HCM 6th Ctrl Delay		68.6
HCM 6th LOS		E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	262	270	137	392	420	384	1774	226	546	2143	108
Future Volume (veh/h)	224	262	270	137	392	420	384	1774	226	546	2143	108
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1973	1973	1973	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	236	276	284	144	413	442	404	1867	238	575	2256	114
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	171	275	283	108	1235	713	276	1656	209	342	1960	684
Arrive On Green	0.05	0.33	0.33	0.06	0.33	0.33	0.08	0.36	0.36	0.10	0.39	0.39
Sat Flow, veh/h	3428	834	858	1879	3749	1658	3428	4551	575	3428	5066	1566
Grp Volume(v), veh/h	236	0	560	144	413	442	404	1381	724	575	2256	114
Grp Sat Flow(s),veh/h/ln	1714	0	1693	1879	1874	1658	1714	1689	1749	1714	1689	1566
Q Serve(g_s), s	6.5	0.0	43.0	7.5	10.8	27.1	10.5	47.5	47.5	13.0	50.5	5.8
Cycle Q Clear(g_c), s	6.5	0.0	43.0	7.5	10.8	27.1	10.5	47.5	47.5	13.0	50.5	5.8
Prop In Lane	1.00		0.51	1.00		1.00	1.00		0.33	1.00		1.00
Lane Grp Cap(c), veh/h	171	0	558	108	1235	713	276	1229	637	342	1960	684
V/C Ratio(X)	1.38	0.00	1.00	1.33	0.33	0.62	1.46	1.12	1.14	1.68	1.15	0.17
Avail Cap(c_a), veh/h	171	0	558	108	1235	713	276	1229	637	342	1960	684
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.0	0.0	43.8	61.5	33.0	29.0	60.0	41.5	41.5	58.8	40.0	22.3
Incr Delay (d2), s/veh	204.1	0.0	39.1	200.1	0.2	1.6	227.9	66.8	79.6	320.1	74.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	0.0	23.9	9.6	5.0	11.0	13.2	30.5	33.8	20.7	33.6	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	266.1	0.0	82.9	261.6	33.1	30.6	287.9	108.3	121.1	378.9	114.3	22.4
LnGrp LOS	F	A	F	F	C	C	F	F	F	F	F	C
Approach Vol, veh/h		796			999			2509			2945	
Approach Delay, s/veh		137.2			65.0			140.9			162.4	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	52.9	12.0	47.6	15.0	55.9	12.0	47.6
Change Period (Y+Rc), s	5.0	5.4	4.5	4.6	4.5	5.4	5.5	4.6
Max Green Setting (Gmax), s	13.0	47.5	7.5	43.0	10.5	50.5	6.5	43.0
Max Q Clear Time (g_c+I1), s	15.0	49.5	9.5	45.0	12.5	52.5	8.5	29.1
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8

Intersection Summary	
HCM 6th Ctrl Delay	138.8
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

7. DAY STREET/EUCALYPTUS AVENUE

HCM 6th Signalized Intersection Summary
107: Day St & Eucalyptus Ave

04/15/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	344	245	169	117	848	217	453	1158	48	217	1322	284
Future Volume (veh/h)	344	245	169	117	848	217	453	1158	48	217	1322	284
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	362	258	178	123	893	228	477	1219	51	228	1392	299
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	238	881	407	146	1058	326	315	1320	719	244	1179	737
Arrive On Green	0.13	0.26	0.26	0.08	0.21	0.21	0.18	0.37	0.37	0.14	0.33	0.33
Sat Flow, veh/h	1767	3377	1562	1767	5066	1559	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	362	258	178	123	893	228	477	1219	51	228	1392	299
Grp Sat Flow(s),veh/h/ln	1767	1689	1562	1767	1689	1559	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	18.5	8.4	13.1	9.4	23.3	18.6	24.5	45.5	2.5	17.6	46.0	17.1
Cycle Q Clear(g_c), s	18.5	8.4	13.1	9.4	23.3	18.6	24.5	45.5	2.5	17.6	46.0	17.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	238	881	407	146	1058	326	315	1320	719	244	1179	737
V/C Ratio(X)	1.52	0.29	0.44	0.84	0.84	0.70	1.52	0.92	0.07	0.93	1.18	0.41
Avail Cap(c_a), veh/h	238	884	409	173	1142	351	315	1320	719	244	1179	737
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.5	40.7	42.4	62.2	52.2	50.4	56.5	41.1	20.9	58.6	45.8	23.9
Incr Delay (d2), s/veh	255.6	0.2	0.7	23.1	5.6	5.6	247.6	11.0	0.0	39.4	90.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.1	3.5	5.1	5.2	10.3	7.7	32.5	21.4	0.9	10.4	34.3	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	315.1	40.9	43.1	85.3	57.9	56.0	304.1	52.1	21.0	98.0	136.0	24.3
LnGrp LOS	F	D	D	F	E	E	F	D	C	F	F	C
Approach Vol, veh/h		798			1244			1747			1919	
Approach Delay, s/veh		165.8			60.2			120.0			114.1	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.5	56.9	15.9	41.3	29.0	51.4	23.0	34.1
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	19.0	51.5	13.5	36.0	24.5	46.0	18.5	31.0
Max Q Clear Time (g_c+I1), s	19.6	47.5	11.4	15.1	26.5	48.0	20.5	25.3
Green Ext Time (p_c), s	0.0	2.8	0.0	2.7	0.0	0.0	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	111.4
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	573	1019	256	188	404	181	112	936	120	307	1435	283
Future Volume (veh/h)	573	1019	256	188	404	181	112	936	120	307	1435	283
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	597	1061	267	196	421	189	117	975	125	320	1495	295
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	416	1198	301	221	947	289	99	1054	662	231	1317	953
Arrive On Green	0.24	0.30	0.30	0.12	0.19	0.19	0.06	0.30	0.30	0.13	0.37	0.37
Sat Flow, veh/h	1767	4025	1012	1767	5066	1545	1767	3526	1557	1767	3526	1560
Grp Volume(v), veh/h	597	890	438	196	421	189	117	975	125	320	1495	295
Grp Sat Flow(s),veh/h/ln	1767	1689	1660	1767	1689	1545	1767	1763	1557	1767	1763	1560
Q Serve(g_s), s	31.5	33.6	33.7	14.6	9.9	15.2	7.5	35.9	6.7	17.5	50.0	12.2
Cycle Q Clear(g_c), s	31.5	33.6	33.7	14.6	9.9	15.2	7.5	35.9	6.7	17.5	50.0	12.2
Prop In Lane	1.00		0.61	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	416	1005	494	221	947	289	99	1054	662	231	1317	953
V/C Ratio(X)	1.44	0.89	0.89	0.89	0.44	0.65	1.18	0.93	0.19	1.38	1.13	0.31
Avail Cap(c_a), veh/h	416	1060	521	271	1173	358	99	1054	662	231	1317	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.2	44.8	44.8	57.6	48.2	50.4	63.2	45.5	24.2	58.2	41.9	12.6
Incr Delay (d2), s/veh	209.2	8.9	16.2	22.2	0.3	3.0	147.2	13.4	0.1	197.7	70.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	37.9	15.1	15.9	7.9	4.2	6.1	7.4	17.4	2.5	20.4	33.9	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	260.3	53.7	61.0	79.9	48.6	53.4	210.4	58.8	24.3	255.8	112.5	12.8
LnGrp LOS	F	D	E	E	D	D	F	E	C	F	F	B
Approach Vol, veh/h		1925			806			1217			2110	
Approach Delay, s/veh		119.5			57.3			69.8			120.3	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	45.4	21.2	45.2	12.0	55.4	36.0	30.4
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	17.5	40.0	20.5	42.0	7.5	50.0	31.5	31.0
Max Q Clear Time (g_c+I1), s	19.5	37.9	16.6	35.7	9.5	52.0	33.5	17.2
Green Ext Time (p_c), s	0.0	1.4	0.1	4.1	0.0	0.0	0.0	2.9

Intersection Summary		
HCM 6th Ctrl Delay		101.5
HCM 6th LOS		F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	809	900	167	180	542	259	173	1012	140	263	1125	297
Future Volume (veh/h)	809	900	167	180	542	259	173	1012	140	263	1125	297
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	852	947	176	189	571	273	182	1065	147	277	1184	313
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	461	1462	271	214	1017	316	123	1036	652	175	1140	918
Arrive On Green	0.26	0.34	0.34	0.12	0.20	0.20	0.07	0.29	0.29	0.10	0.32	0.32
Sat Flow, veh/h	1767	4294	795	1767	5066	1572	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	852	744	379	189	571	273	182	1065	147	277	1184	313
Grp Sat Flow(s),veh/h/ln	1767	1689	1712	1767	1689	1572	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	35.5	25.4	25.5	14.3	13.8	22.9	9.5	40.0	8.2	13.5	44.0	14.1
Cycle Q Clear(g_c), s	35.5	25.4	25.5	14.3	13.8	22.9	9.5	40.0	8.2	13.5	44.0	14.1
Prop In Lane	1.00		0.46	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	461	1150	583	214	1017	316	123	1036	652	175	1140	918
V/C Ratio(X)	1.85	0.65	0.65	0.88	0.56	0.86	1.48	1.03	0.23	1.58	1.04	0.34
Avail Cap(c_a), veh/h	461	1150	583	319	1154	358	123	1036	652	175	1140	918
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.3	38.0	38.0	58.9	49.0	52.6	63.3	48.1	25.7	61.3	46.1	14.7
Incr Delay (d2), s/veh	390.2	1.3	2.5	12.8	0.5	17.7	252.4	35.3	0.2	286.7	37.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	65.4	10.6	11.0	7.1	5.9	10.5	12.9	22.4	3.1	19.9	24.6	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	440.5	39.2	40.6	71.7	49.5	70.4	315.8	83.4	25.9	348.0	83.4	14.9
LnGrp LOS	F	D	D	E	D	E	F	F	C	F	F	B
Approach Vol, veh/h		1975			1033			1394			1774	
Approach Delay, s/veh		212.6			59.1			107.7			112.6	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	45.4	21.0	51.7	14.0	49.4	40.0	32.7
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	13.5	40.0	24.6	41.9	9.5	44.0	35.5	31.0
Max Q Clear Time (g_c+I1), s	15.5	42.0	16.3	27.5	11.5	46.0	37.5	24.9
Green Ext Time (p_c), s	0.0	0.0	0.2	6.4	0.0	0.0	0.0	2.5

Intersection Summary	
HCM 6th Ctrl Delay	134.5
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	350	283	169	139	915	217	453	1160	61	217	1326	296
Future Volume (veh/h)	350	283	169	139	915	217	453	1160	61	217	1326	296
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	368	298	178	146	963	228	477	1221	64	228	1396	312
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	249	879	406	169	1091	336	312	1307	734	231	1144	731
Arrive On Green	0.14	0.26	0.26	0.10	0.22	0.22	0.18	0.37	0.37	0.13	0.32	0.32
Sat Flow, veh/h	1767	3377	1562	1767	5066	1559	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	368	298	178	146	963	228	477	1221	64	228	1396	312
Grp Sat Flow(s),veh/h/ln	1767	1689	1562	1767	1689	1559	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	19.5	9.9	13.2	11.3	25.5	18.6	24.5	46.2	3.1	17.9	45.0	18.4
Cycle Q Clear(g_c), s	19.5	9.9	13.2	11.3	25.5	18.6	24.5	46.2	3.1	17.9	45.0	18.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	249	879	406	169	1091	336	312	1307	734	231	1144	731
V/C Ratio(X)	1.48	0.34	0.44	0.86	0.88	0.68	1.53	0.93	0.09	0.99	1.22	0.43
Avail Cap(c_a), veh/h	249	879	406	199	1132	349	312	1307	734	231	1144	731
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.6	41.6	42.8	61.8	52.7	50.0	57.1	42.0	20.6	60.2	46.8	24.7
Incr Delay (d2), s/veh	236.8	0.2	0.7	24.4	8.2	5.0	253.1	12.4	0.1	55.7	107.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.0	4.2	5.2	6.2	11.6	7.7	32.8	22.0	1.2	11.5	36.2	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	296.3	41.8	43.6	86.2	60.9	55.0	310.2	54.4	20.6	115.9	154.0	25.1
LnGrp LOS	F	D	D	F	E	E	F	D	C	F	F	C
Approach Vol, veh/h		844			1337			1762			1936	
Approach Delay, s/veh		153.2			62.7			122.4			128.7	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.6	56.8	17.8	41.5	29.0	50.4	24.0	35.3
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	18.1	51.4	15.6	34.9	24.5	45.0	19.5	31.0
Max Q Clear Time (g_c+I1), s	19.9	48.2	13.3	15.2	26.5	47.0	21.5	27.5
Green Ext Time (p_c), s	0.0	2.2	0.0	2.9	0.0	0.0	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	115.3
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	584	1078	256	205	455	181	112	940	140	307	1437	291
Future Volume (veh/h)	584	1078	256	205	455	181	112	940	140	307	1437	291
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	608	1123	267	214	474	189	117	979	146	320	1497	303
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	404	1246	296	237	1069	327	96	1023	662	224	1278	925
Arrive On Green	0.23	0.31	0.31	0.13	0.21	0.21	0.05	0.29	0.29	0.13	0.36	0.36
Sat Flow, veh/h	1767	4077	969	1767	5066	1548	1767	3526	1556	1767	3526	1559
Grp Volume(v), veh/h	608	930	460	214	474	189	117	979	146	320	1497	303
Grp Sat Flow(s),veh/h/ln	1767	1689	1669	1767	1689	1548	1767	1763	1556	1767	1763	1559
Q Serve(g_s), s	31.5	36.4	36.4	16.5	11.2	15.1	7.5	37.6	8.2	17.5	50.0	13.6
Cycle Q Clear(g_c), s	31.5	36.4	36.4	16.5	11.2	15.1	7.5	37.6	8.2	17.5	50.0	13.6
Prop In Lane	1.00		0.58	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	404	1032	510	237	1069	327	96	1023	662	224	1278	925
V/C Ratio(X)	1.51	0.90	0.90	0.90	0.44	0.58	1.22	0.96	0.22	1.43	1.17	0.33
Avail Cap(c_a), veh/h	404	1072	530	240	1139	348	96	1023	662	224	1278	925
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.2	45.9	45.9	58.9	47.3	48.9	65.2	48.1	25.3	60.2	44.0	14.3
Incr Delay (d2), s/veh	240.4	10.2	18.1	32.8	0.3	2.1	161.4	18.7	0.2	216.1	85.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	40.8	16.5	17.5	9.5	4.8	6.0	7.7	19.0	3.1	21.2	36.4	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	293.6	56.1	64.0	91.7	47.6	51.0	226.6	66.8	25.4	276.3	129.7	14.5
LnGrp LOS	F	E	E	F	D	D	F	E	C	F	F	B
Approach Vol, veh/h		1998			877			1242			2120	
Approach Delay, s/veh		130.2			59.1			77.0			135.3	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.0	45.4	23.0	47.6	12.0	55.4	36.0	34.5
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	17.5	40.0	18.7	43.8	7.5	50.0	31.5	31.0
Max Q Clear Time (g_c+I1), s	19.5	39.6	18.5	38.4	9.5	52.0	33.5	17.1
Green Ext Time (p_c), s	0.0	0.2	0.0	3.7	0.0	0.0	0.0	3.2

Intersection Summary	
HCM 6th Ctrl Delay	111.4
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	819	958	167	198	595	259	173	1015	160	263	1128	306
Future Volume (veh/h)	819	958	167	198	595	259	173	1015	160	263	1128	306
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	862	1008	176	208	626	273	182	1068	168	277	1187	322
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	3	3	3	3	3	3	3	3	3	3	3
Cap, veh/h	460	1436	250	232	1022	317	123	1061	679	162	1138	917
Arrive On Green	0.26	0.33	0.33	0.13	0.20	0.20	0.07	0.30	0.30	0.09	0.32	0.32
Sat Flow, veh/h	1767	4340	756	1767	5066	1572	1767	3526	1572	1767	3526	1572
Grp Volume(v), veh/h	862	784	400	208	626	273	182	1068	168	277	1187	322
Grp Sat Flow(s),veh/h/ln	1767	1689	1719	1767	1689	1572	1767	1763	1572	1767	1763	1572
Q Serve(g_s), s	35.5	27.6	27.7	15.8	15.3	22.9	9.5	41.0	9.3	12.5	44.0	14.6
Cycle Q Clear(g_c), s	35.5	27.6	27.7	15.8	15.3	22.9	9.5	41.0	9.3	12.5	44.0	14.6
Prop In Lane	1.00		0.44	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	460	1118	569	232	1022	317	123	1061	679	162	1138	917
V/C Ratio(X)	1.87	0.70	0.70	0.90	0.61	0.86	1.48	1.01	0.25	1.71	1.04	0.35
Avail Cap(c_a), veh/h	460	1120	570	276	1152	358	123	1061	679	162	1138	917
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.4	39.7	39.8	58.3	49.5	52.5	63.4	47.6	24.6	61.9	46.1	14.9
Incr Delay (d2), s/veh	401.0	2.0	3.9	24.2	0.8	17.3	253.3	29.4	0.2	343.9	38.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	66.7	11.6	12.2	8.6	6.5	10.5	12.9	22.0	3.5	21.0	24.8	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	451.4	41.7	43.6	82.5	50.3	69.8	316.7	77.0	24.8	405.8	84.7	15.1
LnGrp LOS	F	D	D	F	D	E	F	F	C	F	F	B
Approach Vol, veh/h		2046			1107			1418			1786	
Approach Delay, s/veh		214.7			61.2			101.6			122.0	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	46.4	22.4	50.5	14.0	49.4	40.0	32.9
Change Period (Y+Rc), s	4.5	5.4	4.5	5.4	4.5	5.4	4.5	5.4
Max Green Setting (Gmax), s	12.5	41.0	21.3	45.2	9.5	44.0	35.5	31.0
Max Q Clear Time (g_c+I1), s	14.5	43.0	17.8	29.7	11.5	46.0	37.5	24.9
Green Ext Time (p_c), s	0.0	0.0	0.1	7.0	0.0	0.0	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	136.7
HCM 6th LOS	F

Notes

User approved pedestrian interval to be less than phase max green.

16. FREDERICK STREET/SR-60 EB OFF-RAMP – SUNNYMEAD BOULEVARD

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	469	205	476	429	0	448	0	1134	410	148	989	0
Future Volume (veh/h)	469	205	476	429	0	448	0	1134	410	148	989	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	479	209	486	438	0	457	0	1157	418	151	1009	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	721	390	580	0	0	0	0	2945	912	172	2507	0
Arrive On Green	0.21	0.21	0.21	0.00	0.00	0.00	0.00	0.58	0.58	0.19	1.00	0.00
Sat Flow, veh/h	3428	1856	2756		0		0	5233	1568	1767	3618	0
Grp Volume(v), veh/h	479	209	486		0.0		0	1157	418	151	1009	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1378				0	1689	1568	1767	1763	0
Q Serve(g_s), s	18.0	14.0	23.7				0.0	17.3	21.3	11.6	0.0	0.0
Cycle Q Clear(g_c), s	18.0	14.0	23.7				0.0	17.3	21.3	11.6	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	721	390	580				0	2945	912	172	2507	0
V/C Ratio(X)	0.66	0.54	0.84				0.00	0.39	0.46	0.88	0.40	0.00
Avail Cap(c_a), veh/h	1077	583	866				0	2945	912	215	2507	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.89	0.89	0.95	0.95	0.00
Uniform Delay (d), s/veh	50.7	49.2	53.0				0.0	15.9	16.7	55.6	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.4	3.0				0.0	0.4	1.5	22.8	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	6.6	8.4				0.0	6.5	7.7	5.7	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.1	49.6	56.0				0.0	16.2	18.2	78.4	0.5	0.0
LnGrp LOS	D	D	E				A	B	B	E	A	A
Approach Vol, veh/h		1174						1575			1160	
Approach Delay, s/veh		52.9						16.8			10.6	
Approach LOS		D						B			B	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	18.1	86.9		35.0		105.0						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	17.0	31.0		44.0		60.0						
Max Q Clear Time (g_c+I1), s	13.6	23.3		25.7		2.0						
Green Ext Time (p_c), s	0.1	3.8		2.9		8.7						
Intersection Summary												
HCM 6th Ctrl Delay			25.8									
HCM 6th LOS			C									

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	504	221	512	461	0	482	0	1260	441	159	1109	0
Future Volume (veh/h)	504	221	512	461	0	482	0	1260	441	159	1109	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	514	226	522	470	0	492	0	1286	450	162	1132	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	766	415	616	0	0	0	0	2849	882	183	2461	0
Arrive On Green	0.22	0.22	0.22	0.00	0.00	0.00	0.00	0.56	0.56	0.21	1.00	0.00
Sat Flow, veh/h	3428	1856	2756		0		0	5233	1568	1767	3618	0
Grp Volume(v), veh/h	514	226	522		0.0		0	1286	450	162	1132	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1378				0	1689	1568	1767	1763	0
Q Serve(g_s), s	19.2	15.1	25.4				0.0	20.8	24.7	12.5	0.0	0.0
Cycle Q Clear(g_c), s	19.2	15.1	25.4				0.0	20.8	24.7	12.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	766	415	616				0	2849	882	183	2461	0
V/C Ratio(X)	0.67	0.55	0.85				0.00	0.45	0.51	0.89	0.46	0.00
Avail Cap(c_a), veh/h	1077	583	866				0	2849	882	215	2461	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.86	0.86	0.93	0.93	0.00
Uniform Delay (d), s/veh	49.7	48.1	52.1				0.0	18.0	18.8	54.7	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.4	4.1				0.0	0.4	1.8	25.9	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	7.1	9.1				0.0	8.0	9.1	6.2	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	48.5	56.2				0.0	18.4	20.6	80.6	0.6	0.0
LnGrp LOS	D	D	E				A	B	C	F	A	A
Approach Vol, veh/h		1262						1736			1294	
Approach Delay, s/veh		52.3						19.0			10.6	
Approach LOS		D						B			B	
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	19.0	84.2		36.8		103.2						
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5						
Max Green Setting (Gmax), s	17.0	31.0		44.0		60.0						
Max Q Clear Time (g_c+I1), s	14.5	26.7		27.4		2.0						
Green Ext Time (p_c), s	0.1	2.7		3.1		10.3						
Intersection Summary												
HCM 6th Ctrl Delay			26.3									
HCM 6th LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	504	221	610	475	0	482	0	1452	453	159	1221	0
Future Volume (veh/h)	504	221	610	475	0	482	0	1452	453	159	1221	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	514	226	622	485	0	492	0	1482	462	162	1246	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	878	475	707	0	0	0	0	2683	830	183	2345	0
Arrive On Green	0.26	0.26	0.26	0.00	0.00	0.00	0.00	0.53	0.53	0.21	1.00	0.00
Sat Flow, veh/h	3428	1856	2758		0		0	5233	1568	1767	3618	0
Grp Volume(v), veh/h	514	226	622		0.0		0	1482	462	162	1246	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1379				0	1689	1568	1767	1763	0
Q Serve(g_s), s	18.4	14.4	30.3				0.0	27.2	27.5	12.5	0.0	0.0
Cycle Q Clear(g_c), s	18.4	14.4	30.3				0.0	27.2	27.5	12.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	878	475	707				0	2683	830	183	2345	0
V/C Ratio(X)	0.59	0.48	0.88				0.00	0.55	0.56	0.89	0.53	0.00
Avail Cap(c_a), veh/h	1077	583	867				0	2683	830	215	2345	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.78	0.78	0.91	0.91	0.00
Uniform Delay (d), s/veh	45.6	44.1	50.0				0.0	21.9	22.0	54.7	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.3	7.9				0.0	0.6	2.1	25.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	6.7	11.2				0.0	10.6	10.3	6.2	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.8	44.4	57.9				0.0	22.5	24.1	80.2	0.8	0.0
LnGrp LOS	D	D	E				A	C	C	F	A	A
Approach Vol, veh/h		1362						1944			1408	
Approach Delay, s/veh		51.1						22.9			9.9	
Approach LOS		D						C			A	

Timer - Assigned Phs	1	2	4	6
Phs Duration (G+Y+Rc), s	19.0	79.6	41.4	98.6
Change Period (Y+Rc), s	4.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	17.0	31.0	44.0	60.0
Max Q Clear Time (g_c+I1), s	14.5	29.5	32.3	2.0
Green Ext Time (p_c), s	0.1	1.1	3.0	12.1

Intersection Summary	
HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	516	350	524	647	0	809	0	1295	929	338	1134	0
Future Volume (veh/h)	516	350	524	647	0	809	0	1295	929	338	1134	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	527	357	535	660	0	826	0	1321	948	345	1157	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	792	429	637	0	0	0	0	2846	881	170	2434	0
Arrive On Green	0.23	0.23	0.23	0.00	0.00	0.00	0.00	0.56	0.56	0.19	1.00	0.00
Sat Flow, veh/h	3428	1856	2757		0		0	5233	1568	1767	3618	0
Grp Volume(v), veh/h	527	357	535		0.0		0	1321	948	345	1157	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1378				0	1689	1568	1767	1763	0
Q Serve(g_s), s	19.6	25.6	25.9				0.0	21.6	78.6	13.5	0.0	0.0
Cycle Q Clear(g_c), s	19.6	25.6	25.9				0.0	21.6	78.6	13.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	792	429	637				0	2846	881	170	2434	0
V/C Ratio(X)	0.67	0.83	0.84				0.00	0.46	1.08	2.02	0.48	0.00
Avail Cap(c_a), veh/h	1077	583	866				0	2846	881	170	2434	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.81	0.81	0.93	0.93	0.00
Uniform Delay (d), s/veh	48.9	51.2	51.4				0.0	18.2	30.7	56.5	0.0	0.0
Incr Delay (d2), s/veh	0.4	5.6	4.2				0.0	0.4	50.2	479.7	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	12.6	9.3				0.0	8.3	39.8	28.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.3	56.8	55.5				0.0	18.6	80.8	536.2	0.6	0.0
LnGrp LOS	D	E	E				A	B	F	F	A	A
Approach Vol, veh/h		1419						2269			1502	
Approach Delay, s/veh		53.5						44.6			123.6	
Approach LOS		D						D			F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	18.0	84.1		37.9		102.1
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	13.5	35.0		44.0		53.0
Max Q Clear Time (g_c+I1), s	15.5	80.6		27.9		2.0
Green Ext Time (p_c), s	0.0	0.0		3.7		10.6

Intersection Summary			
HCM 6th Ctrl Delay			69.9
HCM 6th LOS			E

Notes

User approved pedestrian interval to be less than phase max green.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	516	350	622	660	0	809	0	1487	941	338	1245	0
Future Volume (veh/h)	516	350	622	660	0	809	0	1487	941	338	1245	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1856	0	1856	0	1856	1856	1856	1856	0
Adj Flow Rate, veh/h	527	357	635	673	0	826	0	1517	960	345	1270	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	3	3	0	3	0	3	3	3	3	0
Cap, veh/h	903	489	726	0	0	0	0	2718	841	158	2320	0
Arrive On Green	0.26	0.26	0.26	0.00	0.00	0.00	0.00	0.54	0.54	0.18	1.00	0.00
Sat Flow, veh/h	3428	1856	2758		0		0	5233	1568	1767	3618	0
Grp Volume(v), veh/h	527	357	635		0.0		0	1517	960	345	1270	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1379				0	1689	1568	1767	1763	0
Q Serve(g_s), s	18.7	24.6	30.8				0.0	27.7	75.1	12.5	0.0	0.0
Cycle Q Clear(g_c), s	18.7	24.6	30.8				0.0	27.7	75.1	12.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	903	489	726				0	2718	841	158	2320	0
V/C Ratio(X)	0.58	0.73	0.87				0.00	0.56	1.14	2.19	0.55	0.00
Avail Cap(c_a), veh/h	1090	590	877				0	2718	841	158	2320	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.75	0.75	0.91	0.91	0.00
Uniform Delay (d), s/veh	44.9	47.0	49.3				0.0	21.5	32.4	57.5	0.0	0.0
Incr Delay (d2), s/veh	0.2	2.7	7.5				0.0	0.6	74.4	552.4	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	11.8	11.4				0.0	10.8	44.1	29.2	0.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	49.7	56.8				0.0	22.1	106.9	609.9	0.9	0.0
LnGrp LOS	D	D	E				A	C	F	F	A	A
Approach Vol, veh/h		1519						2477			1615	
Approach Delay, s/veh		51.1						54.9			131.0	
Approach LOS		D						D			F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	17.0	80.6		42.4		97.6
Change Period (Y+Rc), s	4.5	5.5		5.5		5.5
Max Green Setting (Gmax), s	12.5	36.5		44.5		53.5
Max Q Clear Time (g_c+I1), s	14.5	77.1		32.8		2.0
Green Ext Time (p_c), s	0.0	0.0		3.6		12.3

Intersection Summary	
HCM 6th Ctrl Delay	75.8
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Appendix V

Trip Generation Internal Capture and Modeling Inputs

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Moreno Valley Redevelopment TIA	**Organization:**	Kittelson & Assoc
Project Location:	Moreno Valley, CA	**Performed By:**	KML
Scenario Description:	Total Traffic (includes existing retail)	**Date:**	
Analysis Year:	2026/2040	**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				779	482	297
Restaurant				0		
Cinema/Entertainment				0	0	0
Residential				603	138	465
Hotel				124	69	55
All Other Land Uses[2]				0		
				1,506	689	817

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.00	0%	0%	1.00	0%	0%
Retail	1.00	0%	0%	1.00	0%	0%
Restaurant	1.00	0%	0%	1.00	0%	0%
Cinema/Entertainment	1.00	0%	0%	1.00	0%	0%
Residential	1.00	0%	0%	1.00	0%	0%
Hotel	1.00	0%	0%	1.00	0%	0%
All Other Land Uses[2]	1.00	0%	0%	1.00	0%	0%

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	3	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	5	0	0		0
Hotel	0	8	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	1,506	689	817
Internal Capture Percentage	2%	2%	2%
External Vehicle-Trips[5]	1,474	673	801
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	3%	1%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	2%	1%
Hotel	0%	15%

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Moreno Valley Revelopment TIA	**Organization:**	Kittelson & Assoc
Project Location:	Moreno Valley, CA	**Performed By:**	KML
Scenario Description:	Total Traffic (includes existing retail)	**Date:**	
Analysis Year:	2026/2040	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				3,170	1,521	1,649
Restaurant				0		
Cinema/Entertainment				421	396	25
Residential				634	387	247
Hotel				159	81	78
All Other Land Uses[2]				0		
				4,384	2,385	1,999

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.00	0%	0%	1.00	0%	0%
Retail	1.00	0%	0%	1.00	0%	0%
Restaurant	1.00	0%	0%	1.00	0%	0%
Cinema/Entertainment	1.00	0%	0%	1.00	0%	0%
Residential	1.00	0%	0%	1.00	0%	0%
Hotel	1.00	0%	0%	1.00	0%	0%
All Other Land Uses[2]	1.00	0%	0%	1.00	0%	0%

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		200	100		1500	
Retail					1500	
Restaurant					1500	
Cinema/Entertainment						
Residential		1500	1500			
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	66	178	14
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	5	0		2	1
Residential	0	63	0	0		7
Hotel	0	12	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	4,384	2,385	1,999
Internal Capture Percentage	16%	15%	17%
External Vehicle-Trips[5]	3,688	2,037	1,651
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	5%	16%
Restaurant	N/A	N/A
Cinema/Entertainment	17%	32%
Residential	47%	28%
Hotel	27%	15%

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.
[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).
[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be
[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.
[6]Person-Trips
*Indicates computation that has been rounded to the nearest whole number.
Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Appendix W

VMT Analysis Model Results Summary

Step 1 - Allocate 2012 Existing Land Uses

2012 - Existing						
			SEQ_	HH	TOT_EMP	RET_EMP
%HH	%EMP	2012	3685	513	2812	1621
0%	**38%**	*Mall - Retail*	**3685**		**1069**	**616**
0%	3%	*External - Retail*	4927		84	49
0%	15%	*External - Retail*	4928		422	243
100%	0%	*External - Residential*	4929	513	0	0
0%	10%	*External - Retail*	4930		281	162
0%	18%	*External - Retail*	4931		506	292
0%	7%	*External - Retail*	4932		197	113
0%	**0%**	*Mall - Retail*	**4933**		**0**	**0**
0%	**8%**	*Mall - Retail*	**4934**		**225**	**130**
0%	**0%**	*Mall - Retail*	**4935**		**0**	**0**
0%	**1%**	*Mall - Retail*	**4936**		**28**	**16**
100%	**100%**					
MALL TAZ SUM					1322	762

Step 2 - Revise 2040 General Plan with Mall Build HH & EMP Allocations

Households obtained from MV Mall_TIA Scoping document showing parcel for HH development.

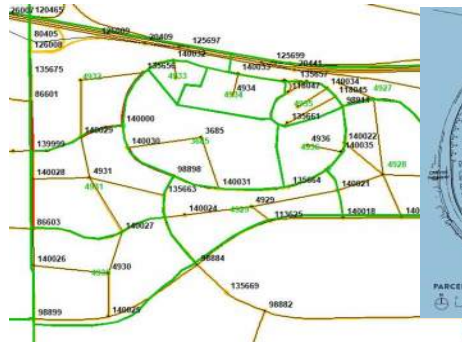
Project Household Location

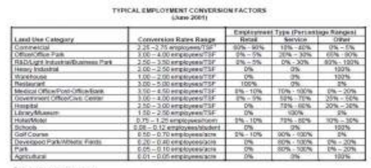
Parcels	17,18	596	Zone 4936
Parcels	15	216	Zone 4936
Parcels	11,12	565	Zone 4936
Parcels	1,2	250	Zone 4933
	Total	1627	

2040 - Build (Modified General Plan with Mall BUILD)							
			SEQ_	HH	TOT_EMP	RET_EMP	
	External E	2040 Build	3685	2140	4075	2332	
		Mall - Retail	**3685**		**1093**	**640**	24
	10%	*External - Retail Growth*	4927		169	117	68
	30%	*External - Retail Growth*	4928		677	447	204
		External - Residential	4929	513	**0**	0	0 *Existing Remains, Built out*
	25%	*External - Retail Growth*	4930		494	332	170
	10%	*External - Retail Growth*	4931		591	360	68
	25%	*External - Retail Growth*	4932		410	283	170
		Mall - Mixed-Use	**4933**	**250**	**0**	**0**	0
		Mall - Retail	**4934**		**249**	**154**	24
		Hotel-Office	**4935**		**383**	**0**	0
		Mall - Residential	**4936**	**1377**	**9**	**0**	-16 *Remove S*
0%	**100%**						
MALL TAZ SUM				1627	1734	794	
Project Increase				**1627**	**412**	**32**	
Check Project				**1627**	**412**	**29**	
Goal from Current City General Plan				**2140**	**4074**	**2332**	*Note: Adjust Housing Goal from GP to Project total housing + Existing 513 Homes.*
Current External Commercial					1490	859	
External Commercial Growth					850	679	
Mall % of overall					43%	34%	
Difference between 2040 Build and 2012 Existing				1627	1263	711	

Project # of employees

60000	TSF of Office	
16000	TSF of Retail (Demolish 16 TSF of Sears Tire Center), Zone 4936	
40000	TSF of Retail (Add 40 TSF plaza-level retail), Zone 3685 and 4933	
270	Hotel Rooms	
180	office employees	Zone 4935
-19	Retail employees	Zone 4936
48	Retail employees	1/2 in Zone 4934, 1/2 in Zone 3685
203	Hotel Employees	Zone 4935
412	Total employees	




TYPICAL EMPLOYMENT CONVERSION FACTORS
(June 2001)

Land Use Category	Conversion Rates Range	Employment Type (Percentage Ranges) Retail	Service	Other
Commercial	2.25 – 2.75 employees/TSF[1]	[illegible]	[illegible]	0% – 5%
Office/Office Park	3.00 – 4.00 employees/TSF	[illegible]	[illegible]	[illegible]
R&D/Light Industrial/Business Park	2.50 – 3.50 employees/TSF	[illegible]	[illegible]	[illegible]
Heavy Industrial	2.00 – 2.50 employees/TSF	0%	0%	100%
Warehouse	1.00 – 2.00 employees/TSF	0%	0%	100%
Restaurant	3.00 – 5.00 employees/TSF	100%	0%	0%
Medical Office/Post Office/Bank	3.50 – 4.50 employees/TSF	[illegible]	[illegible]	[illegible]
Government Office/Civic Center	3.00 – 4.00 employees/TSF	[illegible]	[illegible]	[illegible]
Hospital	2.50 – 3.00 employees/TSF	0%	[illegible]	[illegible]
Library/Museum	1.50 – 2.50 employees/TSF	0%	100%	0%
Hotel/Motel	0.75 – 1.25 employees/room	[illegible]	[illegible]	[illegible]
Schools	0.08 – 0.12 employees/student	0%	0%	100%
Golf Course	0.50 – 0.70 employees/acre	[illegible]	[illegible]	0%
Developed Park/Athletic Fields	0.20 – 0.40 employees/acre	0%	[illegible]	[illegible]
Park	0.05 – 0.10 employees/acre	0%	[illegible]	[illegible]
Agricultural	0.01 – 0.05 employees/acre	0%	0%	100%

[1] Thousands of Square Feet

Step 3 - Return Mall Area Development to Existing to compute 2040 No Build

2040 - No Build (General Plan with Mall same as Existing)										
			SEQ_	HH	TOT_EMP	RET_EMP	1262	450		
%HH	%EMP	2040 No Build	3685	513	3663	2300.21	851	679	411	-229
0%	**26%**	*Mall - Retail*	**3685**	0	1069	616	0	0		
0%	3%		4927	0	169	117	85	68		
0%	16%		4928	0	677	447	255	204		
100%	0%	*External - Residential*	4929	513	0	0	0	0		
0%	17%		4930	0	494	332	213	170		
0%	16%		4931	0	591	360	85	68		
0%	7%		4932	0	410	283	213	170		
0%	**3%**	*Mall - Retail*	**4933**	0	0	0	0	0		
0%	**12%**	*Mall - Retail*	**4934**	0	225	130	0	0		
0%	**0%**	*Mall - Retail*	**4935**	0	0	0	0	0		
0%	**0%**	*Mall - Retail*	**4936**	0	28	16	0	0		
100%	**100%**									
MALL TAZ SUM				0	1322	762				
Mall % of overall					36%	33%				
Difference between 2040 No Build and 2040 Build				-1627	-412	-32				
Project Increase				**0**	**0**	**0**				
Check Project				**1627**	**412**	**29**				

WRCOG VMT Screening Tool (fehrandpeers.com)

22500 Town Cir, Moreno Valley, CA 92553

APN:291590023; TAZ:3,685
Within a Transit Priority Area (TPA)?
No (Fail)

Within a low VMT generating TAZ based on Total VMT?
No (Fail)
Jurisdictional average 2012 daily total VMT per service population = 24.49
Project TAZ 2012 daily total VMT per service population = 60.38

Within a low VMT generating TAZ based on Residential Home-Based VMT?
No (Fail)
Jurisdictional average 2012 daily residential home-based VMT per capita = 12.79
Project TAZ 2012 daily residential home-based VMT per capita = 13.71

Within a low VMT generating TAZ based on Home-Based Work VMT?
No (Fail)
Jurisdictional average 2012 daily home-based work VMT per worker = 11.01
Project TAZ 2012 daily home-based work VMT per worker = 11.31

Notes:

- TPA designation is based on October 2018 conditions.
- Screening results are based on location of parcel centroids. If results are desired considering the full parcel, please refer to the associated map layers to visually review parcel and TAZ boundary relationship.
- If VMT screening is desired for current baseline conditions, contact WRCOG for 2012 and 2040 VMT data. Interpolated VMT results can be obtained using the complete data set.
- VMT results do not account for full length of trips that occur beyond the SCAG region.