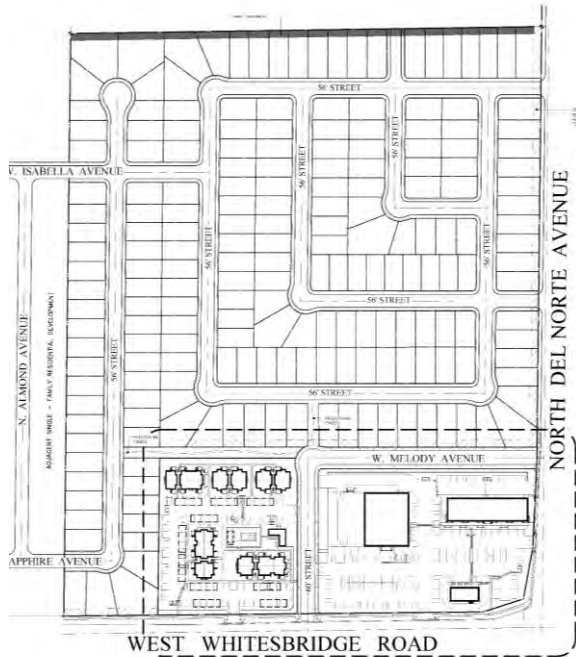




FINAL ENVIRONMENTAL
IMPACT REPORT
(STATE CLEARINGHOUSE
#2024031008)

Del Norte Estates

December 2024

PREPARED FOR:

City of Kerman
850 S. Madera Ave.
Kerman, CA 93630

PREPARED BY:



Crawford & Bowen Planning, Inc.
113 N. Church Street, Suite 302
Visalia, CA 93291

Final Environmental Impact Report
Del Norte Estates

State Clearinghouse #2024031008

Prepared for:

City of Kerman
850 S. Madera Ave.
Kerman, CA 93630
(559) 846-6199

Contact: Community Development Director

Prepared by:



Crawford & Bowen Planning, Inc.
113 N. Church Street, Suite 310
Visalia, CA 93291
(559) 840-4414

Contact: Travis Crawford, AICP

December 2024

TABLE OF CONTENTS

CHAPTER ONE - Introduction.....	1
Introduction.....	1
Summary of Project Description.....	2
CEQA Evaluation Background	3
CEQA Requirements	4
Use of the Final EIR	4
CHAPTER TWO – Comments and Responses	6
Introduction.....	6
Comment Letters	7
CHAPTER THREE – Errata / Text Changes to the DEIR	18
CHAPTER FOUR – Mitigation Monitoring and Reporting Program.....	26

CHAPTER ONE - Introduction

Introduction

As defined by Section 15050 of the California Environmental Quality Act (CEQA) Guidelines, the City of Kerman (City) is the Lead Agency for the preparation of the Environmental Impact Report (EIR) for the Del Norte Estates Project (Project or proposed Project, State Clearinghouse No. 2024031008). The Final EIR presents the environmental information and analyses that have been prepared for the proposed Project, including comments received addressing the adequacy of the Draft EIR, and responses to those comments. In addition to the responses to comments, clarifications, corrections, or minor revisions have been made to the Draft EIR. The Final EIR, which includes the responses to comments, the Draft EIR, and the Mitigation, Monitoring, and Reporting Program, will be used by the Kerman Planning Commission and the City Council in the decision-making process for the proposed Project.

This Final EIR is an informational document intended to disclose to the decision makers of the City, and the public, the environmental consequences of approving and implementing the Project or one of the alternatives to the proposed Project, which are described in the Draft EIR. All written comments received during the public review period (September 11, 2024 through December 9, 2024) of the Draft EIR are addressed in this Final EIR.

The responses in the Final EIR clarify, correct, and/or amplify text in the Draft EIR. Also included in the Final EIR are minor text changes made at the initiative of the City (the Lead Agency) and in response to comments (see the “Errata” section in Chapter Three of this Final EIR). Additions to the Draft EIR text are shown with underline and text removed from the Draft EIR is shown with ~~striketrough~~. The revisions, as outlined below, fall within the scope of the original project analysis included in the Draft EIR and do not result in an increase to any identified impacts or produce any new impacts. No new significant environmental impact would result from the changes or from a new mitigation measure proposed to be implemented. Therefore, no significant revisions have been made which would require recirculation of the Draft EIR pursuant to CEQA Guidelines Section 15088.5 (Recirculation of an EIR Prior to Certification). The Final EIR was prepared in accordance with the California Environmental Quality Act (CEQA) (California Public Resources Code Sections 21000-21177).

Summary of Project Description

The proposed Project consists of entitlement and development of 48 acres of land with up to 200 single-family dwelling units, 100 multi-family dwelling units, a 15,000 square foot retail plaza, and two 3,500 square foot fast-food restaurants with drive-throughs. The proposed Project is proposing a General Plan Amendment, Rezone, Cancellation of a Williamson Act Contract, and Tentative Subdivision Map to accommodate the Project. The Project site and a 23 acre parcel to the east are proposed to be annexed into the City of Kerman.

Project Location and Setting

The proposed Project would be located on approximately 48 acres at the northwest corner of West Whitesbridge Road (Highway 180) and North Del Norte Avenue in Kerman, California. The proposed site is currently in the unincorporated area of Fresno County and borders the City of Kerman on the west and south. The site is comprised of two adjacent parcels: APN 02012029S of approximately 24.24 acres and APN 02012030S of approximately 24.14 acres. The parcels are outside the City of Kerman limits, but within the City's Sphere of Influence. The Project site and the adjacent 23-acre parcel to the east are proposed to be annexed into the City of Kerman. The Project site is located in an area with a mix of urban and rural residential, and agricultural areas. Residential subdivisions are located to the west and south of the site, agricultural land to the east and north, and rural residences to the east. The Project site itself consists of an almond orchard, a disked field, and a small residential area and has been used for agricultural purposes since at least 1998. The additional annexation area to the east of the Project site consists of orchard land.

Project Objectives

In accordance with CEQA Guidelines Section 15124(b), the following are the City of Kerman's Project objectives:

- To provide a mixed-use development at pricing appropriate for the market, in a growing area of the City of Kerman that satisfies the City of Kerman's policies, regulations and expectations as defined in the City's General Plan, Zoning Ordinance and other applicable plans, documents, and programs adopted by the City.
- To provide a variety of housing opportunities with a range of densities, styles, sizes and values that will be designed to satisfy existing and future demand for quality housing in the area.
- To provide a residential development that assists the City in meeting its General Plan and Housing Element requirements and objectives.

- To promote efficient use and accessibility of commercial development by focusing such uses along key locations and transportation corridors, such as State highway 180.

CEQA Evaluation Background

Initial Study / Notice of Preparation

In accordance with CEQA, the City of Kerman circulated a Notice of Preparation (NOP) of a Draft EIR for the proposed Project from March 27, 2024 through April 29, 2024 to trustee and responsible agencies, the State Clearinghouse (SCH #2024031008), and the public.

Two agency comments on the NOP related to the EIR analysis were presented or submitted during the public review period. The letters are summarized as follows:

1. **California Department of Fish & Wildlife:** Provided regulatory and animal/plant species information about the specific site.
2. **Native American Heritage Commission:** Provided regulations pertaining to AB 52 and SB 18 regarding tribal consultation and cultural review.

These comment letters were identified and incorporated into the Draft EIR. In addition, pursuant to Section 15206 of the State CEQA Guidelines, the lead agency is required to conduct at least one scoping meeting for all projects of statewide, regional, or area-wide significance. The scoping meeting is for jurisdictional agencies and interested persons or groups to provide comments regarding (but not limited to) the range of actions, alternatives, mitigation measures, and environmental effects to be analyzed to be analyzed in the Draft EIR. The City of Kerman hosted a scoping meeting on April 3, 2024, which was during the 30-day public review period of the NOP.

Draft EIR

The Draft EIR was properly noticed and circulated for public review and comment for 45 days, from September 11, 2024 through December 9, 2024. The Notice of Availability was published in the newspaper. The Draft EIR and Appendices were sent to the State Clearinghouse for distribution and notices were mailed to adjacent landowners, local agencies and other interested individuals. The City received two comment letters on the Draft EIR. In addition, the City provided additional input on the Draft EIR traffic study via email. The comment letters and email

are reproduced in their entirety in Chapter Two of this Final EIR and responses are shown after each letter or email.

These comments and responses that make up the Final EIR, in combination with the Draft EIR and Appendices, constitute the EIR that will be considered for certification by the decision makers of the City of Kerman.

CEQA Requirements

Under CEQA, the Lead Agency must prepare and certify a Final EIR prior to a proposed project being approved. The contents of a Final EIR are specified in Section 15132 of the CEQA Guidelines, which states that a Final EIR must consist of the following:

1. The Draft EIR or a revision of the Draft EIR.
2. Comments and recommendations received on the Draft EIR either verbatim or in summary.
3. A list of persons, organizations, and public agencies commenting on the Draft EIR.
4. The responses of the Lead Agency to significant environmental points raised in the review and consultation process.
5. Any other information added by the Lead Agency.

The Lead Agency must provide each public agency that commented on the Draft EIR with a copy of the Lead Agency's response to such comments a minimum of 10 days before certifying the Final EIR.

Use of the Final EIR

The Final EIR allows the public and the City an opportunity to review revisions to the Draft EIR and the responses to comments received during the Draft EIR's public review period. The Final EIR serves as the environmental document to inform the City of the environmental consequences of the proposed Project, either in whole or in part, or one of the alternatives to the Project discussed in the Draft EIR.

As required by Section 15090(a)(1)-(3) of the CEQA Guidelines, a Lead Agency, in certifying a Final EIR, must make the following three determinations:

1. The Final EIR has been completed in compliance with CEQA.

2. The Final EIR was presented to the decision-making body of the Lead Agency, and the decision-making body reviewed and considered the information in the Final EIR prior to approving the project.
3. The Final EIR reflects the Lead Agency's independent judgement and analysis.

As required by Section 15091 of the CEQA Guidelines, a public agency cannot approve or carry out a project for which an EIR has been certified that identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings (Findings of Fact) for each of those significant effects, accompanied by a brief explanation of the rationale to reach findings supported by substantial evidence in the record. The possible findings are as follows:

1. Changes or alterations have been required in or incorporated into the project that avoid or substantially lessen the significant environmental effect as identified in the Final EIR.
2. Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.
3. Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

Additionally, pursuant to Section 15093(b) of the CEQA Guidelines, when a Lead Agency approves a project that would result in significant unavoidable impacts that are disclosed in the Final EIR, the agency must state in writing the reasons supporting the approval. The Statement of Overriding Considerations must be supported by substantial evidence in the Lead Agency's administrative record. The Findings of Fact (Section 15091) and Statement of Overriding Considerations (Section 15093(b)) have been provided to the City for consideration.

If the City approves the proposed Project, and as part of that action adopts mitigation measures, the City will also adopt a Mitigation Monitoring and Reporting Program (see Public Resources Code Section 21081.6).

CHAPTER TWO – Comments and Responses

Introduction

This chapter of the Final EIR contains a copy of each of the written comments received from the public and other agencies with jurisdiction over the proposed Project, followed by responses to each comment. Each letter is numbered (e.g. Letter 1, Letter 2) and is bracketed to delineate individual comments within each letter.

A total of two comment letters and one email (both correspondence types are referred to as “Comment Letters”) were received from the following agencies:

Comment Letter 1

Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826-3200
September 30, 2024

Comment Letter 2

City of Kerman
Community Development Department
850 S. Madera Ave.
Kerman, CA 93630
October 4, 2024

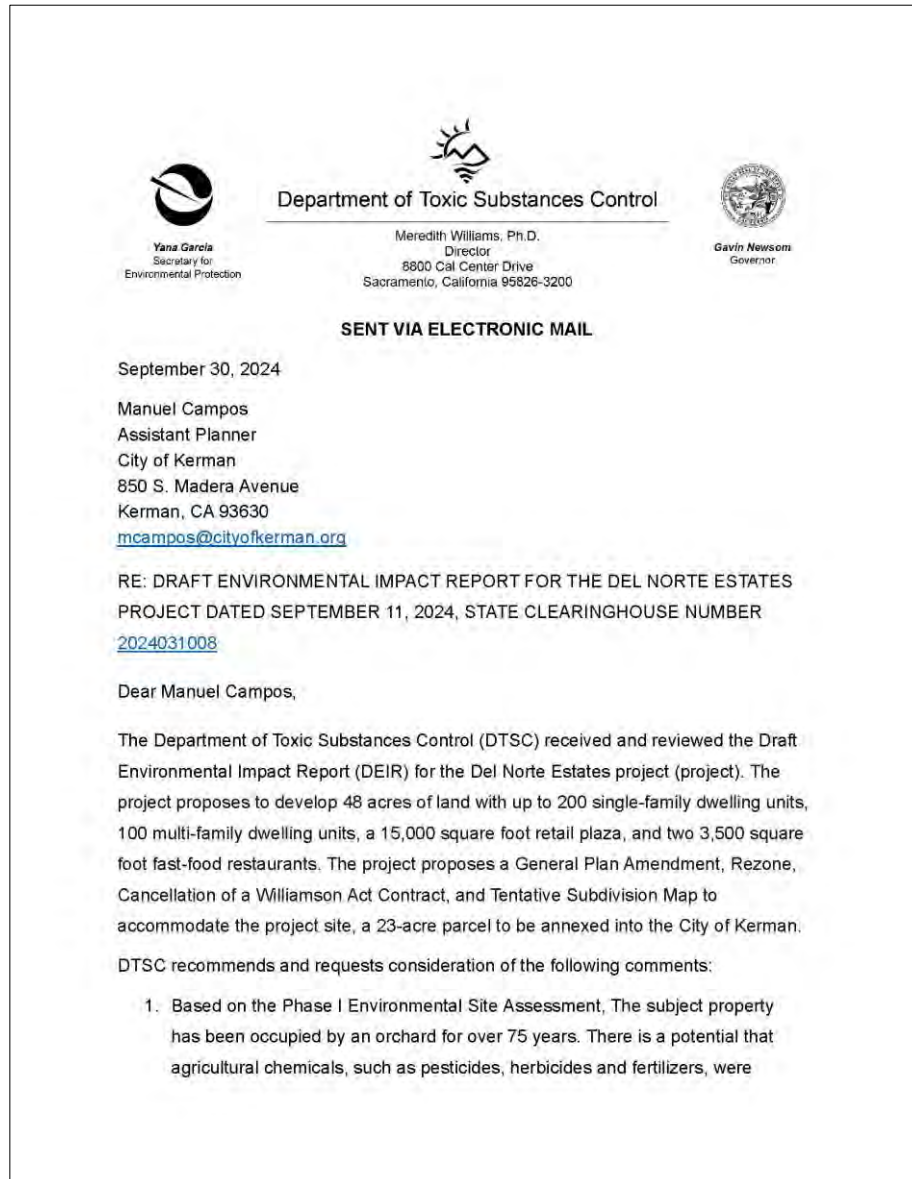
Comment Letter 3

California Department of Transportation
District 6 Office
1352 W. Olive Avenue
Fresno, CA 93778-2616
October 29, 2024

Comment Letters

Comment Letter 1

Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826-3200
September 30, 2024



Letter 1, page 1

Letter 1, page 2

Manuel Campos
September 30, 2024
Page 2

used onsite and that the subject property has been impacted by the use of such agricultural chemicals. Based on the proposed redevelopment which includes residential use, the orchard represents a Recognized Environmental Concern, therefore, when agricultural crops and/or land uses are proposed or rezoned for residential use, a number of contaminants of concern (COCs) can be present. The Lead Agency shall identify the amounts of Pesticides and Organochlorine Pesticides (OCPs) historically used on the property. If present, OCPs requiring further analysis are dichloro-diphenyl-trichloroethane, toxaphene, and dieldrin. Additionally, any level of arsenic present would require further analysis and sampling and must meet [HHRA NOTE NUMBER 3, DTSC-SLs](#) approved thresholds. If they are not, remedial action must take place to mitigate them below those thresholds.

2. Although Mitigation Measure HAZ-1 states, "Evidence of compliance shall be submitted to the City of Kerman Community Development Department", the City of Kerman Community Development Department is not recognized as a [self-certified local agency](#). Therefore, the City of Kerman is recommended to enter into a voluntary agreement to address contamination at brownfields and other types of properties or receive oversight from a [self-certified local agency](#), DTSC or Regional Water Quality Control Board. If entering into one of DTSC's voluntary agreements, please note that DTSC uses a single standard Request for Lead Agency Oversight Application for all agreement types. Please apply for DTSC oversight using this link: [Request for Agency Oversight Application](#). Submittal of the online application includes an agreement to pay costs incurred during agreement preparation. If you have any questions about the application portal, please contact your [Regional Brownfield Coordinator](#).
3. Additional COCs may be found in mixing, loading, and storage areas, drainage ditches, farmhouses, or any other outbuildings and should be sampled and analyzed. If smudge pots had been routinely utilized, additional

Letter 1, page 3

Manuel Campos
September 30, 2024
Page 3

sampling for Polycyclic Aromatic Hydrocarbons and/or Total Petroleum Hydrocarbons may be required.

4. DTSC recommends that all imported soil and fill material should be tested to assess any contaminants of concern meet screening levels as outlined in the [Preliminary Endangerment Assessment \(PEA\) Guidance Manual](#). Additionally, DTSC advises referencing the [DTSC Information Advisory Clean Imported Fill Material Fact Sheet](#) if importing fill is necessary. To minimize the possibility of introducing contaminated soil and fill material there should be documentation of the origins of the soil or fill material and, if applicable, sampling be conducted to ensure that the imported soil and fill material are suitable for the intended land use. The soil sampling should include analysis based on the source of the fill and knowledge of the prior land use. Additional information can be found by visiting [DTSC's Human and Ecological Risk Office \(HERO\) webpage](#).
5. If buildings or other structures are to be demolished on any project sites included in the proposed project, surveys should be conducted for the presence of lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk. Removal, demolition, and disposal of any of the above-mentioned chemicals should be conducted in compliance with California environmental regulations and policies. In addition, sampling near current and/or former buildings should be conducted in accordance with [DTSC's PEA Guidance Manual](#).

DTSC appreciates the opportunity to comment on the DEIR for the Del Norte Estates project. Thank you for your assistance in protecting California's people and environment from the harmful effects of toxic substances. If you have any questions or would like any clarification on DTSC's comments, please respond to this letter or via [email](#) for additional guidance.

Letter 1, page 4

Manuel Campos
September 30, 2024
Page 4

Sincerely,

Dave Kereazis

Dave Kereazis
Associate Environmental Planner
HWMP-Permitting Division – CEQA Unit
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

cc: (via email)

Governor's Office of Planning and
Research State Clearinghouse
State.Clearinghouse@opr.ca.gov

Tamara Purvis
Associate Environmental Planner
HWMP - Permitting Division – CEQA Unit
Department of Toxic Substances Control
Tamara.Purvis@dtsc.ca.gov

Scott Wiley
Associate Governmental Program Analyst
HWMP - Permitting Division – CEQA Unit
Department of Toxic Substances Control
Scott.Wiley@dtsc.ca.gov

Response to Comment Letter 1:

Comment 1: Based on the Phase I Environmental Site Assessment, The subject property has been occupied by an orchard for over 75 years. There is a potential that agricultural chemicals, such as pesticides, herbicides and fertilizers, were used onsite and that the subject property has been impacted by the use of such agricultural chemicals. Based on the proposed redevelopment which includes residential use, the orchard represents a Recognized Environmental Concern, therefore, when agricultural crops and/or land uses are proposed or rezoned for residential use, a number of contaminants of concern (COCs) can be present. The Lead Agency shall identify the amounts of Pesticides and Organochlorine Pesticides (OCPs) historically used on the property. If present, OCPs requiring further analysis are dichloro-diphenyl-trichloroethane, toxaphene, and dieldrin. Additionally, any level of arsenic present would require further analysis and sampling and must meet HHRA NOTE NUMBER 3, DTSC-SLs approved thresholds. If they are not, remedial action must take place to mitigate them below those thresholds.

Response to Comment 1: As described in Section 3.9 of the Draft EIR and in mitigation measure HAZ – 1, the project Applicant will be required to conduct a subsurface investigation of the Project site to evaluate for potential residual concentrations of agricultural chemicals on the site. The additional evaluation will be conducted pursuant to DTSC requirements and established thresholds.

Comment 2: Although Mitigation Measure HAZ-1 states, “Evidence of compliance shall be submitted to the City of Kerman Community Development Department”, the City of Kerman Community Development Department is not recognized as a self-certified local agency. Therefore, the City of Kerman is recommended to enter into a voluntary agreement to address contamination at brownfields and other types of properties or receive oversight from a self-certified local agency, DTSC or Regional Water Quality Control Board. If entering into one of DTSC’s voluntary agreements, please note that DTSC uses a single standard Request for Lead Agency Oversight Application for all agreement types. Please apply for DTSC oversight using this link: [Request for Agency Oversight Application](#). Submittal of the online application includes an agreement to pay costs incurred during agreement preparation. If you have any questions about the application portal, please contact your Regional Brownfield Coordinator.

Response to Comment 2: The City will consider entering into a voluntary reporting agreement. If the results of the additional evaluation of the site (Per mitigation measure HAZ – 1) exceed established thresholds for agricultural or other chemicals, the City will require remedial action in accordance with current rules, regulations and guidelines.

Comment 3: Additional COCs may be found in mixing, loading, and storage areas, drainage ditches, farmhouses, or any other outbuildings and should be sampled and analyzed. If smudge pots had been routinely utilized, additional sampling for Polycyclic Aromatic Hydrocarbons and/or Total Petroleum Hydrocarbons may be required.

Response to Comment 3: As described in Section 3.9 of the Draft EIR and in mitigation measure HAZ – 1, the project Applicant will be required to conduct a subsurface investigation of the Project site to evaluate for potential residual concentrations of agricultural chemicals on the site. This includes mixing, loading, storage areas, drainage ditches, farmhouses and other outbuildings on the site. The additional evaluation will be conducted pursuant to DTSC requirements and established thresholds.

Comment 4: DTSC recommends that all imported soil and fill material should be tested to assess any contaminants of concern meet screening levels as outlined in the Preliminary Endangerment Assessment (PEA) Guidance Manual. Additionally, DTSC advises referencing the DTSC Information Advisory Clean Imported Fill Material Fact Sheet if importing fill is necessary. To minimize the possibility of introducing contaminated soil and fill material there should be documentation of the origins of the soil or fill material and, if applicable, sampling be conducted to ensure that the imported soil and fill material are suitable for the intended land use. The soil sampling should include analysis based on the source of the fill and knowledge of the prior land use. Additional information can be found by visiting DTSC’s Human and Ecological Risk Office (HERO) webpage.

Response to Comment 4: It is unknown if imported soil and fill material will be utilized for the Project. However, the project Applicant will be required to test any imported soil and fill material pursuant to existing rules and regulations.

Comment 5: If buildings or other structures are to be demolished on any project sites included in the proposed project, surveys should be conducted for the presence of lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk. Removal, demolition, and disposal of any of the above-mentioned chemicals should be conducted in compliance with California environmental regulations and policies. In addition, sampling near current and/or former buildings should be conducted in accordance with DTSC’s PEA Guidance Manual.

Response to Comment 5: The project Applicant will be required to conduct surveys for lead-based paints or products, mercury, asbestos containing materials, and polychlorinated biphenyl caulk pursuant to existing rules and regulations.

Comment Letter 2

City of Kerman

Community Development Department

850 S. Madera Ave.

Kerman, CA 93630

October 4, 2024

From: [Jerry Jones](#)
To: [Tom Navarro](#); [Travis Crawford](#)
Cc: [Jesus Gonzalez](#); [Manuel Campos](#)
Subject: Del Norte Estates TIS
Date: Friday, October 4, 2024 10:27:11 AM
Attachments: [FW Traffic Impact Scope in Kerman CA.mxd](#)
[image001.png](#)
[TIS - 1st Submittal Review_CE 2024-10-02_11.pdf](#)

Good Morning Tom & Travis,

The City Engineer received the TIS Scoping Letter for Del Norte Estates and made comments back in February, see attached. Apparently, the May 2024 TIS was not transmitted to the City Engineer for comments. After our 9/18 status meeting with the Del Norte Estates Team, in which the TIS was discussed, the City Engineer requested a copy and reviewed and has provided comments, see attached. I have reviewed the comments and all appear to be valid and appropriate, some are even in relation to comments made on the Scoping Letter that were not addressed by the consultant in the submitted TIS.

It looks like the most significant of the comments are as follows:

1. Exclusion of the Near Term + Pending/Approved Projects Scenario
2. Exclusion of Queuing Analysis (which was a point of emphasis for Caltrans during our meeting yesterday for the intersection of Del Norte & Whitesbridge)
3. Exclusion of analysis of the intersection of Whitesbridge and Siskiyou

I believe some of the comments may even be duplicated by Caltrans after their review. Considering that the DEIR is now being circulated for public comment, what is the best route to have the TIS comments addressed? Should we approach the comments as a "comment letter" from the City Engineer to be responded to upon the close of the public review period? Please advise. Obviously the goal is to not have to re-circulate the DEIR.

Thanks,

Jerry Jones, PE | Community Development Director
 City of Kerman | Community Development Department
 p. (559) 846.6121 | m. (559) 755.2008
 850 S. Madera Ave. Kerman, CA 93630
jjones@cityofkerman.org
www.cityofkerman.net

Response to Comment Letter 2:**Comment 1:**

It looks like the most significant of the comments are as follows:

1. Exclusion of the Near Term + Pending/Approved Projects Scenario
2. Exclusion of Queuing Analysis (which was a point of emphasis for Caltrans during our meeting yesterday for the intersection of Del Norte & Whitesbridge)
3. Exclusion of analysis of the intersection of Whitesbridge and Siskiyou

Response to Comment 1: The project Traffic Impact Study has been updated to include an analysis scenario of Near Term + Pending/Approved Projects; addition of queuing analysis; and addition of the analysis of the intersection of Whitesbridge and Siskiyou Avenues. The updated Traffic Impact Study determined that these additional changes did not result in any new impacts or mitigation measures. Please refer to Chapter 3 – Errata Section as well as the updated Traffic Impact Study attached hereto as Appendix A.

Comment Letter 3

California Department of Transportation

District 6 Office

1352 W. Olive Avenue

Fresno, CA 93778-2616

October 29, 2024

CALIFORNIA STATE TRANSPORTATION AGENCY

GAVIN NEWSOM, GOVERNOR

California Department of Transportation

DISTRICT 6 OFFICE

1352 WEST OLIVE AVENUE | P.O. BOX 12616 | FRESNO, CA 93778-2616
(559) 981-7284 | FAX (559) 488-4195 | TTY 711
www.dot.ca.gov



October 29, 2024

FRE-180-42.118

Del Norte Estates Project

Traffic Impact Study (TIS)

GTS #: <https://ld-igr-gts.dot.ca.gov/district/6/report/32006>

SENT VIA EMAIL

Mr. Manuel Campos, Assistant Planner
City of Kerman
850 S. Madera Avenue
Kerman, CA 93630

Dear Mr. Campos:

Caltrans has completed the review of the Traffic Impact Study (TIS) for revised Tentative Subdivision Map No. 6473 proposing to construct 200 single-family residential units.

The project site is located on the northwest corner of State Route (SR) 180 (West Whitesbridge Avenue) and Del Norte Avenue, in Kerman, CA 93630.

The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. The Local Development Review (LDR) process reviews land use projects and plans through the lenses of our mission and state planning priorities of infill, conservation, and travel-efficient development. To ensure a safe and efficient transportation system, we encourage early consultation and coordination with local jurisdictions and project proponents on all development projects that utilize the multimodal transportation network.

Caltrans provides the following comments consistent with the State's smart mobility goals that support a vibrant economy and sustainable communities:

It is recommended that the scope of the traffic study include the State Route 180 / project entrance intersection. Left-turn vehicle movements from the project entrance would be prohibited.

"Provide a safe and reliable transportation network that serves all people and respects the environment."

Letter 3, page 2

Mr. Manuel Campos- FRE-180-42.118-Del Norte Estates Project
October 29, 2024
Page 2

If you have any other questions, please call or email: Keyomi Jones, Associate
Transportation Planner at (559) 981-7284 or keyomi.jones@dot.ca.gov.

Sincerely,

Mr. Dave Padilla, Branch Chief,
Transportation Planning – North

"Provide a safe and reliable transportation network that serves all people and respects the environment"

Comment 1: It is recommended that the scope of the traffic study include State Route 180 / project entrance intersection. Left-turn vehicle movements from the project entrance would be prohibited.

Response to Comment 1: An updated Traffic Impact Study has been prepared which included a State Route 180 / project entrance intersection. Please refer to Chapter 3 – Errata Section as well as the updated Traffic Impact Study attached hereto as Appendix A.

CHAPTER THREE – Errata / Text Changes to the DEIR

Revisions and clarifications to the Draft EIR (“Errata”) made in response to comments and information received on the Draft EIR are indicated by ~~strikeout~~ text (e.g. ~~strikeout~~), indicating deletions, and underline text (e.g. underline), indicating additions.

The revisions, as outlined below, fall within the scope of the original project analysis included in the Draft EIR and do not result in an increase to any identified impacts or produce any new impacts. No new significant environmental impact would result from the changes and no new mitigation measures are proposed to be implemented. Therefore, no significant revisions have been made which would require recirculation of the Draft EIR pursuant to CEQA Guidelines Section 15088.5 (Recirculation of an EIR Prior to Certification).

The following are the revisions and clarifications made to the Draft EIR:

Draft EIR Pages 3.17-8 and 9:

Study Intersections:

- Siskiyou Avenue & Nielsen Avenue
- Del Norte Avenue & Nielsen Avenue
- Madera Avenue & Nielsen Avenue
- Siskiyou Avenue and Whitesbridge Avenue
- Del Norte Avenue & Whitesbridge Avenue
- Madera Avenue & Whitesbridge Avenue
- Vineland Avenue & Whitesbridge Ave
- Del Norte Avenue & Kearney Boulevard
- Madera Avenue & Kearney Boulevard
- Vineland Avenue & Kearney Boulevard

Traffic counts were conducted between the hours 6:00 to 8:00 AM and 4:00 to 6:00 PM. AM Peak Hour was determined to be 7:00 to 8:00 AM and 4:30 to 5:30 PM.

Analysis Scenarios

A capacity analysis of the study intersections was conducted using Synchro software from Trafficware. The following scenarios were analyzed:

- Existing (2024)
- Existing (2024) + Project
- Near Term (2029)
- Near Term (2029) + Project
- Future (2044)
- Future (2044) + Project

Draft EIR Page 3.17-11:

Table 3.17-2
PM Intersection Level of Service

#	Intersection	Control Type	2024	2024+ Project	2029	2029+ Project	2044	2044+ Project
1	Siskiyou Ave & Nielsen Ave	EB WB	A (9.1) A (9.8)	A (9.3) A (9.9)	A (9.1) A (9.9)	A (9.3) A (9.9)	A (9.2) A (10.1)	A (9.4) B (10.1)
2	Del Norte & Nielsen Ave	EB WB	A (9.3) A (9.4)	A (9.2) A (9.6)	A (9.3) A (9.5)	A (9.2) A (9.6)	A (9.3) A (9.6)	A (9.3) A (9.8)
3	Madera Ave & Nielsen Ave	EB	B (10.8)	B (14.6)	B (10.9)	C (15.0)	B (13.3)	C (20.2)
4	Siskiyou Ave & Whitesbridge Ave	Signal	C (24.4)	C (28.6)	C (24.3)	C (28.6)	C (25.5)	C (31.4)
5	Del Norte Ave & Whitesbridge Ave	Signal	B (17.7)	C (23.8)	B (17.6)	C (23.8)	B (19.2)	C (26.7)
6	Madera Ave & Whitesbridge Ave	Signal	D (49.8)	D (50.5)	D (50.2)	D (52.8)	D (54.3)	D (54.9)
7	Vineland Ave & Whitesbridge Ave	Signal	B (16.3)	B (18.8)	B (16.4)	B (18.9)	B (18.7)	C (22.3)
8	Del Norte Ave & Kearney Blvd	AWSC	B (11.3)	B (11.9)	B (11.6)	B (12.2)	C (19.8)	C (21.8)
9	Madera Ave & Kearney Blvd	Signal	D (39.7)	D (42.1)	D (39.8)	D (42.3)	D (41.8)	D (42.5)
10	Vineland Ave & Kearney Blvd	AWSC	B (11.1)	B (13.4)	B (11.4)	B (14.0)	C (18.2)	C (25.0)
12	Project Entrance & Whitesbridge Ave	SB	-	(16.2)	-	C (16.7)	-	C (24.8)

Intersections 6 & 9 operate at LOS D prior to the addition of project traffic. Therefore, the project does not degrade the intersection.

Table 3.17-3
AM Intersection Level of Service

#	Intersection	Control Type	2024	2024+ Project	2029	2029+ Project	2044	2044+ Project
1	Siskiyou Ave & Nielsen Ave	EB WB	A (8.9) A (0)	A (9.4) B (10.2)	A (8.9) A (0)	A (9.4) B (10.2)	A (8.9) A (0)	A (9.3) B (10.3)
2	Del Norte & Nielsen Ave	EB WB	A (0) A (0)	A (8.5) A (9.4)	A (0) A (0)	A (8.5) A (9.4)	A (0) A (0)	A (8.5) A (9.5)
3	Madera Ave & Nielsen Ave	EB	B (10.3)	B (13.2)	B (10.4)	B (13.5)	B (12.1)	C (17.5)
4	Siskiyou Ave & Whitesbridge Ave	Signal	C (34.2)	C (34.8)	D (37.7)	D (39.0)	D (38.8)	D (42.6)
5	Del Norte Ave & Whitesbridge Ave	Signal	B (19.1)	C (24.5)	C (23.4)	C (24.5)	C (30.5)	C (31.7)
6	Madera Ave & Whitesbridge Ave	Signal	D (38.4)	D (41.6)	D (42.3)	D (43.0)	D (49.4)	D (49.7)
7	Vineland Ave & Whitesbridge Ave	Signal	B (16.7)	B (18.1)	B (16.7)	B (18.2)	C (26.4)	C (28.8)
8	Del Norte Ave & Kearney Blvd	AWSC	B (11.2)	B (12.3)	B (11.6)	B (12.7)	C (22.9)	D (28.4)
9	Madera Ave & Kearney Blvd	Signal	C (24.5)	C (24.8)	C (26.5)	C (27.3)	C (29.3)	C (30.3)
10	Vineland Ave & Kearney Blvd	AWSC	B (12.9)	C (18.0)	B (13.6)	C (19.6)	B (13.9)	C (17.6)
12	Project Entrance & Whitesbridge Ave	SB	-	B (11.2)	-	B (11.3)	-	B (12.5)

Intersections 6 & 9 operate at LOS D prior to the addition of project traffic. Therefore, the project does not degrade the intersection.

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Table 3.17-4
PM Traffic Signal Warrants

#	Intersection	2024			2024+Project		
		Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Siskiyou Ave at Nielsen Ave	104	8	NO	104	11	NO
2	N Del Norte Ave at Nielsen Ave	80	8	NO	99	16	NO
3	S Madera Ave at Nielsen Ave	829	5	NO	837	10	NO
8	N Del Norte Ave at W Kearney Blvd	474	139	NO	525	193	NO
10	S Vineland Ave at W Kearney Blvd	482	157	NO	562	189	NO
12	Project Entrance at Whitesbridge Ave	-	-	-	1700	112	YES

#	Intersection	2026			2026+Project			2044			2044+Project		
		Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Siskiyou Ave at Nielsen Ave	115	11	NO	115	14	NO	115	11	NO	115	14	NO
2	N Del Norte Ave at Nielsen Ave	89	11	NO	108	19	NO	89	11	NO	108	19	NO
3	S Madera Ave at Nielsen Ave	1180	7	NO	1188	12	NO	1180	7	NO	1188	12	NO
8	N Del Norte Ave at W Kearney Blvd	770	170	NO	821	224	YES	770	170	NO	821	224	YES
10	S Vineland Ave at W Kearney Blvd	610	283	YES	690	315	YES	610	283	YES	690	315	YES
12	Project Entrance at Whitesbridge Ave	-	-	-	2377	112	YES	-	-	-	2377	112	YES

Table 3.17-5
AM Traffic Signal Warrants

#	Intersection	2024			2024+Project		
		Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Siskiyou Ave at Nielsen Ave	133	4	NO	133	6	NO
2	N Del Norte Ave at Nielsen Ave	75	0	NO	94	5	NO
3	S Madera Ave at Nielsen Ave	566	1	NO	571	7	NO
8	N Del Norte Ave at W Kearney Blvd	348	107	NO	382	173	NO
10	S Vineland Ave at W Kearney Blvd	408	150	NO	479	191	NO
12	Project Entrance at Whitesbridge Ave	-	-	-	1155	139	YES

#	Intersection	2029			2029+Project			2044			2044+Project		
		Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Siskiyou Ave at Nielsen Ave	137	4	NO	137	6	NO	146	5	NO	146	7	NO
2	N Del Norte Ave at Nielsen Ave	77	0	NO	96	5	NO	83	0	NO	102	5	NO
3	S Madera Ave at Nielsen Ave	622	1	NO	627	7	NO	833	1	NO	838	7	NO
8	N Del Norte Ave at W Kearney Blvd	398	113	NO	432	179	NO	590	131	NO	624	197	NO
10	S Vineland Ave at W Kearney Blvd	433	166	NO	504	207	NO	520	242	NO	591	264	YES
12	Project Entrance at Whitesbridge Ave	-	-	-	1248	139	YES	-	-	-	1588	139	YES

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Table 3.17-6
PM Roadway Level of Service

Roadway Segment	2024 Two-Way LOS		2024+Project Two-Way LOS		2029 Two-Way LOS		2029+Project Two-Way LOS		2044 Two-Way LOS		2044+Project Two-Way LOS	
	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS
Nielsen Ave: Siskiyou Ave - Del Norte Ave	9	C	18	C	14	C	19	C	18	C	23	C
Nielsen Ave: Del Norte Ave - Madera Ave	12	C	24	C	13	C	26	C	16	C	28	C
Whitesbridge Ave: Siskiyou Ave - Del Norte Ave	959	C	1247	C	1114	C	1368	C	1574	C	1828	C
Whitesbridge Ave: Del Norte Ave - Madera Ave	1390	C	1688	C	1540	C	1838	C	2110	C	2408	C
Whitesbridge Ave: Madera Ave - Vineland Ave	1412	C	1584	C	1587	C	1759	C	2258	C	2430	C
Kearney Blvd: Del Norte Ave - Madera Ave	456	C	526	C	520	C	601	C	727	C	808	C
Kearney Blvd: Madera Ave - Vineland Ave	511	C	598	C	558	C	645	C	728	C	815	C
Del Norte Ave: Nielsen Ave - Whitesbridge Ave	84	C	114	C	86	C	102	C	93	C	309	C
Del Norte Ave: Whitesbridge Ave - Kearney Blvd	181	C	299	C	261	C	302	C	325	C	428	C
Madera Ave: Nielsen Ave - Whitesbridge Ave	951	C	951	C	1011	C	1011	C	1219	C	1219	C
Madera Ave: Whitesbridge Ave - Kearney Blvd	1109	C	1187	C	1173	C	1251	C	1393	C	1471	C
N Vineland Ave: W Whitesbridge Ave - W Kearney Blvd	521	C	590	C	559	C	628	C	695	C	764	C

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Table 3.17-7
AM Roadway Level of Service

Roadway Segment	2024 Two-Way LOS		2024+Project Two-Way LOS		2029 Two-Way LOS		2029+Project Two-Way LOS		2044 Two-Way LOS		2044+Project Two-Way LOS	
	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS
Nielsen Ave: Siskiyou Ave - Del Norte Ave	2	C	6	C	2	C	6	C	2	C	6	C
Nielsen Ave: Del Norte Ave - Madera Ave	2	C	13	C	2	C	13	C	3	C	14	C
Whitesbridge Ave: Siskiyou Ave - Del Norte Ave	869	C	1100	C	971	C	1202	C	1368	C	1599	C
Whitesbridge Ave: Del Norte Ave - Madera Ave	1202	C	1474	C	1333	C	1605	C	1828	C	2100	C
Whitesbridge Ave: Madera Ave - Vineland Ave	1129	C	1299	C	1259	C	1406	C	1760	C	1932	C
Kearney Blvd: Del Norte Ave - Madera Ave	378	C	442	C	414	C	478	C	547	C	611	C
Kearney Blvd: Madera Ave - Vineland Ave	387	C	466	C	425	C	504	C	565	C	644	C
Del Norte Ave: Nielsen Ave - Whitesbridge Ave	73	C	114	C	75	C	116	C	93	C	309	C
Del Norte Ave: Whitesbridge Ave - Kearney Blvd	300	C	452	C	314	C	466	C	370	C	522	C
Madera Ave: Nielsen Ave - Whitesbridge Ave	832	C	832	C	907	C	907	C	1184	C	1184	C
Madera Ave: Whitesbridge Ave - Kearney Blvd	715	C	786	C	758	C	829	C	903	C	974	C
N Vineland Ave: W Whitesbridge Ave - W Kearney Blvd	423	C	487	C	455	C	519	C	572	C	636	C

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Table 3.17-7
AM Roadway Level of Service

Roadway Segment	2024 Two-Way LOS		2024+Project Two-Way LOS		2029 Two-Way LOS		2029+Project Two-Way LOS		2044 Two-Way LOS		2044+Project Two-Way LOS	
	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS
Nielsen Ave: Siskiyou Ave - Del Norte Ave	2	C	6	C	2	C	6	C	2	C	6	C
Nielsen Ave: Del Norte Ave - Madera Ave	2	C	13	C	2	C	13	C	3	C	14	C
Whitesbridge Ave: Siskiyou Ave - Del Norte Ave	869	C	1100	C	971	C	1202	C	1368	C	1599	C
Whitesbridge Ave: Del Norte Ave - Madera Ave	1202	C	1474	C	1333	C	1605	C	1828	C	2100	C
Whitesbridge Ave: Madera Ave - Vineland Ave	1129	C	1299	C	1259	C	1406	C	1760	C	1932	C
Kearney Blvd: Del Norte Ave - Madera Ave	378	C	442	C	414	C	478	C	547	C	611	C
Kearney Blvd: Madera Ave - Vineland Ave	387	C	466	C	425	C	504	C	565	C	644	C
Del Norte Ave: Nielsen Ave - Whitesbridge Ave	73	C	114	C	75	C	116	C	93	C	309	C
Del Norte Ave: Whitesbridge Ave - Kearney Blvd	300	C	452	C	314	C	466	C	370	C	522	C
Madera Ave: Nielsen Ave - Whitesbridge Ave	832	C	832	C	907	C	907	C	1184	C	1184	C
Madera Ave: Whitesbridge Ave - Kearney Blvd	715	C	786	C	758	C	829	C	903	C	974	C
N Vineland Ave: W Whitesbridge Ave - W Kearney Blvd	423	C	487	C	455	C	519	C	572	C	636	C

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The analysis shows that there are no instances where the 95th percentile queue length is longer than the turn lane storage available. Refer to Table 3.17-Xa and Xb for PM and AM queue length analysis.

Table 3.17-Xa
PM Queue Length Analysis

#	Intersection	Movement	Storage Length	2024	2024+Project	2029	2029+Project	2044	2044+Project
4	Siskiyou Ave & Whitesbridge Ave	EBL	470	12	12	13	13	15	15
		EBR	300	33	35	37	41	45	48
		WBL	300	135	142	153	171	184	184
		WBR	480	30	33	35	38	43	45
		NBL	150	51	53	58	62	69	73
5	N Del Norte Ave & Whitesbridge Ave	SBL	100	37	37	42	42	45	49
		EBL	550	21	23	23	23	25	28
		EBR	330	32	36	36	42	45	46
		WBL	545	164	169	192	222	248	290
		NBL	110	78	78	79	85	93	105
6	S Madera Ave & Whitesbridge Ave	SBL	150	71	77	78	79	91	101
		EBL	175	71	80	94	109	117	136
		WBL	230	110	124	143	144	150	167
		NBL	190	106	110	122	131	141	163
		NBR	160	51	58	66	68	74	79
7	S Vineland Ave & Whitesbridge Ave	SBL	120	77	86	91	102	114	127
		SBR	100	20	22	25	25	28	29
		EBL	320	145	162	172	193	194	199
		EBR	310	53	59	64	69	81	89
		WBL	410	66	68	74	87	96	112
8	N Del Norte Ave & W Kearney Blvd	NBL	170	134	142	145	158	158	169
		SBL	105	20	23	24	24	27	28
		SBTR	-	64	66	71	73	75	75
		EBL	100	35	39	43	47	47	49
		WBL	100	30	30	34	35	40	42
9	S Madera Ave & W Kearney Blvd	EBL	150	113	115	116	127	129	139
		EBR	150	110	122	122	124	133	133
		WBL	150	91	96	109	117	129	134
		WBR	150	75	77	80	94	101	115
		NBL	150	99	102	102	116	119	128
10	S Vineland Ave & W Kearney Blvd	SBL	190	84	93	93	97	102	113
		SBL	80	50	50	56	57	61	61
12	Whitesbridge Ave & Project Entrance	SBR	100	62	67	72	72	75	80

Table 3.17-Xb
AM Queue Length Analysis

#	Intersection	Movement	Storage Length	2024	2024+Project	2029	2029+Project	2044	2044+Project
4	Siskiyou Ave & Whitesbridge Ave	EBL	470	9	9	10	11	12	13
		EBR	300	27	28	31	33	35	41
		WBL	300	112	113	119	129	140	158
		WBR	480	24	26	29	34	36	39
		NBL	150	44	47	47	53	61	63
		SBL	100	27	29	31	34	39	42
5	N Del Norte Ave & Whitesbridge Ave	EBL	550	23	23	23	24	24	24
		EBR	330	34	34	34	34	35	40
		WBL	545	194	207	224	250	250	250
		NBL	110	64	65	71	79	81	90
		SBL	150	62	70	72	76	80	87
6	S Madera Ave & Whitesbridge Ave	EBL	175	83	83	90	102	102	117
		WBL	230	117	120	132	135	142	144
		NBL	190	98	99	109	117	136	140
		NBR	160	42	46	48	51	58	68
		SBL	120	89	93	93	96	109	109
		SBR	100	19	19	19	22	24	25
7	S Vineland Ave & Whitesbridge Ave	EBL	320	100	114	125	138	152	171
		EBR	310	41	47	54	60	67	77
		WBL	410	66	74	85	86	95	96
		NBL	170	113	116	123	127	141	146
		SBL	105	18	18	19	19	22	24
		SBTR	-	39	43	43	49	57	65
8	N Del Norte Ave & W Kearney Blvd	EBL	100	24	26	30	35	36	42
		WBL	100	23	26	28	29	34	36
9	S Madera Ave & W Kearney Blvd	EBL	150	77	89	97	106	113	120
		EBR	150	82	90	94	99	115	115
		WBL	150	78	83	92	94	108	115
		WBR	150	72	76	80	89	99	99
		NBL	150	78	88	88	102	103	110
		SBL	190	70	78	82	87	90	97
10	S Vineland Ave & W Kearney Blvd	SBL	80	33	37	42	49	49	53
12	Whitesbridge Ave & Project Entrance	SBR	100	53	55	61	64	66	69

CHAPTER FOUR – Mitigation Monitoring and Reporting Program

State law requires that a public agency adopt a monitoring program for mitigation measures that have been incorporated into the approved project to reduce or avoid significant effects on the environment. The purpose of the monitoring program is to ensure compliance with environmental mitigation during project implementation and operation. Since there are potentially significant impacts requiring mitigation associated with the project, a Mitigation Monitoring Program is included herein on the following pages.

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
Agricultural and Forestry Resources				
AG-1: Reduce Conflicts Between Urban and Agricultural Uses In order to reduce potential conflicts between urban and agricultural uses, the following measures shall be implemented: • Potential residents shall be notified about possible exposure to agricultural chemicals at the time of purchase / lease of property within the development. • A Right-to-Farm Covenant shall be recorded on each residential tract map or be made a condition of each tract map to protect continued agricultural practices in the area. • Potential residents shall be informed of the Right-to-Farm Covenant at the time of purchase / lease of property within the development.	Project Applicant	Prior to issuance of grading or building permits	City of Kerman	
Biological Resources				
BIO-1: Protect Nesting Birds and Raptors Prior to ground disturbance or construction activities, the following measures shall be implemented: <i>(Construction Timing)</i>. If feasible, the project will be implemented outside of the avian nesting season, typically defined as February 1 to August 31. <i>(Preconstruction Surveys)</i>. If construction must occur between February 1 and August 31, a qualified biologist will conduct pre-construction surveys for active bird nests within 10 days prior to the start of construction. The survey	Project Applicant	Prior to issuance of grading or building permits	City of Kerman and CDFW	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
area will encompass the site and accessible surrounding lands within ½ mile for nesting Swainson’s hawks, 500 feet for other nesting raptors (i.e., birds of prey), and 250 feet for nesting migratory birds. <i>(Avoidance of Active Nests)</i>. Should any active nests be discovered in or near proposed construction zones, the biologist will identify a suitable construction-free buffer around the nest. This buffer will be identified on the ground with flagging or fencing and will be maintained until the biologist has determined that the young have fledged and are capable of foraging independently.				
Cultural Resources				
CUL – 1: In the event that historical or archaeological cultural resources are discovered during project construction-related activities, operations shall stop within 100 feet of the find, and a qualified archeologist shall determine whether the resource requires further study. The qualified archaeologist shall determine the measures that shall be implemented to protect the discovered resources including, but not limited to, excavation of the finds and evaluation of the finds in accordance with § 15064.5 of the CEQA Guidelines. Measures may include, but are not limited to, avoidance, preservation in-place, recordation, additional archaeological resting, and data recovery, among other options. Any previously undiscovered resources found during project-related activities within the project area shall be recorded on	Project Applicant	Prior to issuance of grading or building permits / ongoing	City of Kerman	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
appropriate Department of Parks and Recreation forms and evaluated for significance. No further ground disturbance shall occur in the immediate vicinity of the discovery until approved by the qualified archaeologist. The Lead Agency, along with other relevant or tribal officials, shall be contacted upon the discovery of cultural resources to begin coordination on the disposition of the find(s). Treatment of any significant cultural resources shall be undertaken with the approval of the Lead Agency.				
CUL – 2: In order to ensure that the proposed Project does not impact buried human remains during Project construction, the Project proponent shall be responsible for on-going monitoring of Project construction. Prior to the issuance of any grading permit, the Project proponent shall provide the City with documentation identifying construction personnel that will be responsible for on-site monitoring. If buried human remains are encountered during construction, further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains shall be halted until the Fresno County coroner is contacted and the coroner has made the determinations and notifications required pursuant to Health and Safety Code Section 7050.5. If the coroner determines that Health and Safety Code Section 7050.5(c) require that he give notice to the Native American Heritage Commission, then such notice shall be given within 24 hours, as required by	Project Applicant	During construction	City of Kerman	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
Health and Safety Code Section 7050.5(c). In that event, the NAHC will conduct the notifications required by Public Resources Code Section 5097.98. Until the consultations described below have been completed, the landowner shall further ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices where Native American human remains are located, is not disturbed by further development activity until the landowner has discussed and conferred with the Most Likely Descendants on all reasonable options regarding the descendants' preferences and treatments, as prescribed by Public Resources Code Section 5097.98(b). The NAHC will mediate any disputes regarding treatment of remains in accordance with Public Resources Code Section 5097.94(k). The landowner shall be entitled to exercise rights established by Public Resources Code Section 5097.98(e) if any of the circumstances established by that provision become applicable.				
Geology and Soils				
GEO – 1 In order to reduce on-site erosion due to project construction and operation, an erosion control plan and Storm Water Pollution Prevention Plan (SWPPP) shall be prepared for the site preparation, construction, and post-construction periods by a registered civil engineer or certified professional. The erosion control plan shall incorporate best management	Project Applicant	Prior to issuance of grading or building permits	City of Kerman	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
practices consistent with the requirements of the National Pollution Discharge Elimination System (NPDES). The erosion component of the plan must at least meet the requirements of the SWPPP required by the Central Valley RWQCB. If earth disturbing activities are proposed between October 15 and April 15, these activities shall be limited to the extent feasible to minimize potential erosion related impacts. Additional erosion control measures may be implemented in consultation with the City of Kerman. Prior to the issuance of any permit, the Project proponent shall submit detailed plans to the satisfaction of the City of Kerman. The components of the erosion control plan and SWPPP shall be monitored for effectiveness by the City of Kerman. Erosion control measures may include, but not be limited to, the following: i. Limit disturbance of soils and vegetation disturbance removal to the minimum area necessary for access and construction; ii. Confine all vehicular traffic associated with construction to the right-of-way of designated access roads; iii. Adhere to construction schedules designed to avoid periods of heavy precipitation or high winds; iv. Ensure that all exposed soil is provided with temporary drainage and soil protection when construction activity is shut down during the winter periods; and				

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
v. Inform construction personnel prior to construction and periodically during construction activities of environmental concerns, pertinent laws and regulations, and elements of the proposed erosion control measures.				
Hazards and Hazardous Materials				
HAZ-1 Prior to the issuance of grading or building permits, the Project proponent shall conduct a subsurface investigation of the Project site to evaluate the potential for residual concentrations above established thresholds of agricultural chemicals on the site. If remedial action is required, the Project will be responsible for cleanup and any remedial actions in accordance with current rules, regulations and guidelines. Evidence of compliance shall be submitted to the City of Kerman Community Development Department.	Project Applicant	Prior to issuance of grading or building permits	City of Kerman	
HAZ – 2 Prior to the issuance of grading or building permits, the Project proponent or contractor shall properly dispose of the following: existing gasoline and diesel aboveground storage tanks; existing water well; and existing septic system on site in accordance with current rules, regulations and guidelines.	Project Applicant	During construction	City of Kerman	

Mitigation Measure		Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
Evidence of compliance shall be submitted to the City of Kerman Community Development Department.					
Noise					
NOI - 1:	Noise levels from new commercial stationary noise sources may be effectively mitigated by incorporating appropriate noise mitigation measures into the project design that consider the geographical relationship between the noise sources of concern and potential receptors, the noise-producing characteristics of the sources and the path of transmission between noise sources and sensitive receptors. When specific uses within the study area are proposed that could result in a noise-related conflict between a commercial or other stationary noise source and existing or proposed noise-sensitive receptor, an acoustical analysis shall be required by the City that quantifies project-related noise levels and recommends appropriate mitigation measures to achieve compliance with the City's noise standards.	Project Applicant	Prior to issuance of grading or building permits	City of Kerman	
NOI - 2:	Noise levels from transportation noise sources may be effectively mitigated by incorporating noise mitigation measures into the project design that consider the geographical relationship between the noise sources of concern and potential receptors, the noise-producing characteristics of the sources and the path of transmission	Project Applicant	Prior to issuance of grading or building permits	City of Kerman	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
between noise sources and sensitive receptors. The calculations indicated that a sound wall along W. Whitesbridge Avenue (at the residential lots adjacent to the roadway) shall be constructed to a minimum height of seven-and-a-half (7.5) feet above project site grade, which would result in exterior noise levels of approximately 59 dB Ldn within the closest proposed backyards to W. Whitesbridge Avenue. It should be noted that the sound wall would be effective at first-floor receiver locations only. Second story residential buildings are prohibited for properties abutting Whitesbridge Avenue unless a sound study is provided to the City of Kerman demonstrating that the proposed design will not result in noise impacts exceeding 60 dB Ldn at any second-floor balconies facing the roadway. Evidence of compliance shall be submitted to the City of Kerman Community Development Department.				
NOI - 3: The project shall implement the following measures pertaining to construction noise: ▪ Per the City of Kerman Code of Ordinances, construction activities shall not occur outside the hours of 7:00 a.m. to 10:00 p.m. unless otherwise authorized by the Code of Ordinances. ▪ All construction equipment shall be properly maintained and muffled as to minimize noise generation at the source.	Project Applicant	During construction	City of Kerman and contractor	

Mitigation Measure	Party responsible for Implementing Mitigation	Timing	Party responsible for Monitoring	Verification (name/ date)
▪ Noise-producing equipment shall not be operating, running, or idling while not in immediate use by a construction contractor. ▪ All noise-producing construction equipment shall be located and operated, to the extent possible, at the greatest possible distance from any noise-sensitive land uses. ▪ Locate construction staging areas, to the extent possible, at the greatest possible distances from any noise-sensitive land uses. ▪ Signs shall be posted at the construction site and near adjacent sensitive receptors displaying hours of construction activities and providing a contact phone number of a designated noise disturbance coordinator.				

APPENDIX A
Revised Traffic Impact Study

TRAFFIC STUDY

MULTI-USE DEVELOPMENT

WHITESBRIDGE AVENUE & DEL NORTE AVENUE

KERMAN, CALIFORNIA

Prepared for:
CRAWFORD & BOWEN

May 2024
REVISED November 2024

Prepared by:



1800 30TH STREET, SUITE 260
BAKERSFIELD, CA 93301

A handwritten signature in blue ink, appearing to read 'Ian J. Parks', is written over a horizontal line.

Ian J. Parks, RCE 51825



TABLE OF CONTENTS

	<u>Pg</u>
INTRODUCTION	1
FIGURE 1: VICINITY MAP.....	2
FIGURE 2: LOCATION MAP	3
FIGURE 3: SITE PLAN	4
PROJECT TRIP GENERATION	6
TABLE 1: PROJECT TRIP GENERATION	6
TRIP DISTRIBUTION AND ASSIGNMENT.....	7
TABLE 2: PROJECT TRIP DISTRIBUTION	7
EXISTING AND FUTURE TRAFFIC.....	7
FIGURE 4: EXISTING LANE CONFIGURATIONS	9
FIGURE 5: PROJECT PEAK HOUR TRAFFIC	10
FIGURE 6: 2024 PEAK HOUR TRAFFIC	11
FIGURE 7: 2024+PROJECT PEAK HOUR TRAFFIC.....	12
FIGURE 8: 2029 PEAK HOUR TRAFFIC.....	13
FIGURE 9: 2029+PROJECT PEAK HOUR TRAFFIC.....	14
FIGURE 10: 2044 PEAK HOUR TRAFFIC.....	15
FIGURE 11: 2044+PROJECT PEAK HOUR TRAFFIC.....	16
INTERSECTION ANALYSIS	17
TABLE 3a: PM INTERSECTION LEVEL OF SERVICE	18
TABLE 3b: AM INTERSECTION LEVEL OF SERVICE	19
TRAFFIC SIGNAL WARRANT ANALYSIS.....	20
TABLE 4a: PM TRAFFIC SIGNAL WARRANTS.....	20
TABLE 4b: AM TRAFFIC SIGNAL WARRANTS.....	21
ROADWAY ANALYSIS	22
TABLE 5a: PM ROADWAY LEVEL OF SERVICE	22
TABLE 5b: AM ROADWAY LEVEL OF SERVICE	23
QUEUE LENGTH ANALYSIS	24
TABLE 6a: PM QUEUE LENGTH ANALYSIS	24
TABLE 6b: PM QUEUE LENGTH ANALYSIS.....	25
VMT ANALYSIS.....	26
TABLE 6a: TOTAL DAILY TRIPS BY PROJECT LAND USE	26
TABLE 6b: VMT ANALYSIS RESULTS.....	27
SUMMARY AND CONCLUSIONS	28
REFERENCES	29
APPENDIX.....	30

INTRODUCTION

The purpose of this study is to evaluate the potential traffic impacts of a proposed multi-use development located on the northwest corner of Whitesbridge Avenue & Del Norte Avenue in Kerman, CA. A vicinity map and location map are presented in Figures 1 and 2, respectively.

The proposed project consists of 200 single-family residential dwelling units, 100 multifamily dwelling units, 15,000 square feet of retail, and fast-food with drive-through consisting of 7,000 square feet. The site plan for the project is shown in Figure 3.

A. Land Use, Site and Study Area Boundaries

The existing zoning is AL-20 (Limited Agriculture) and the proposed zoning is residential and commercial.

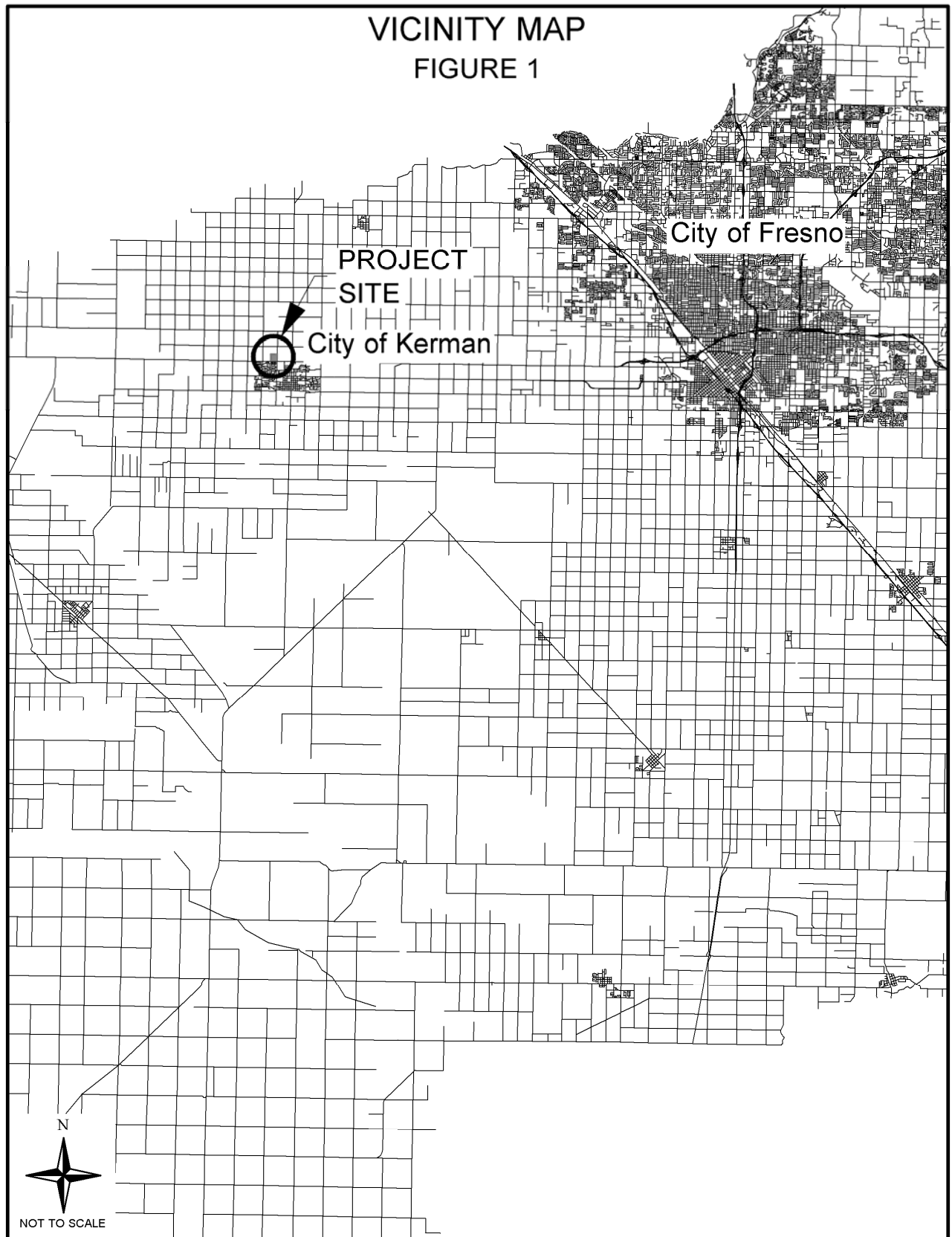
The study area includes a total of five stop-controlled intersections and four signalized intersections along Nielsen Avenue, Whitesbridge Avenue, and Kearney Boulevard.

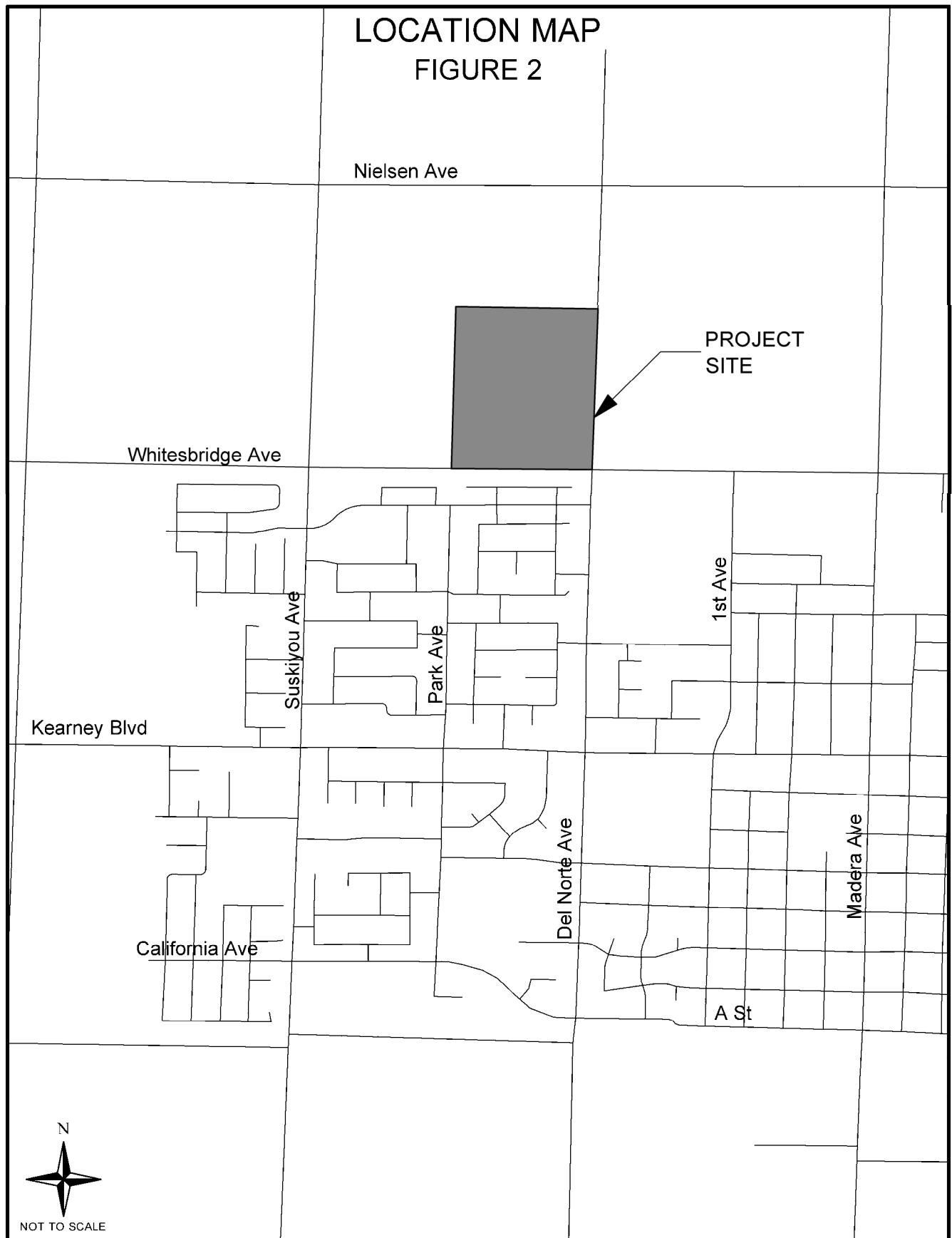
B. Existing Site Uses and Site Access

The site is currently vacant land. As currently planned, access to the proposed development would be provided along Del Norte Avenue and Whitesbridge Avenue.

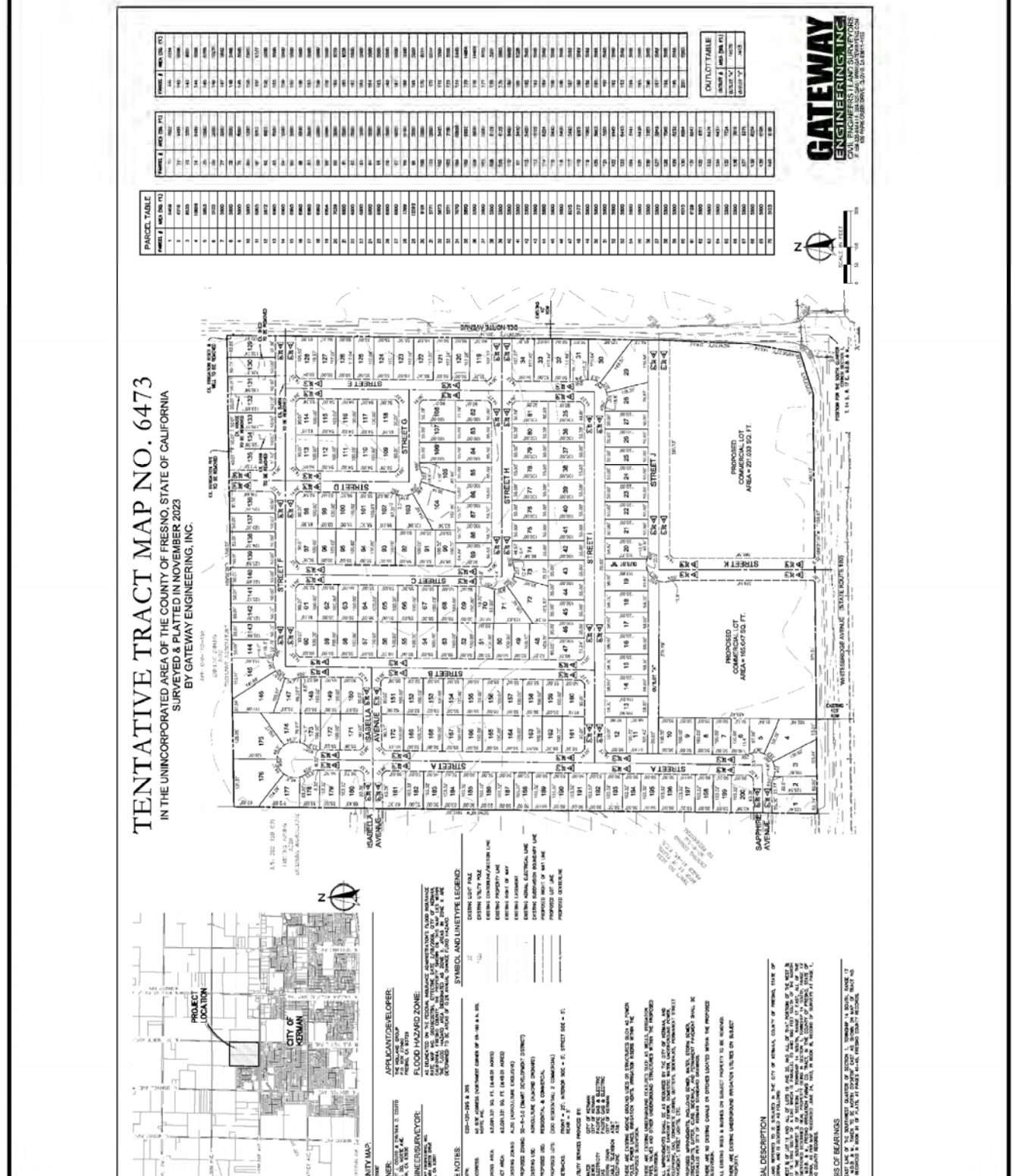
C. Existing Uses in Vicinity of the Site

The site is bounded by Whitesbridge Avenue to the south, Del Norte Avenue to the east, residential land use to the west, and vacant land to the north.





SITE PLAN FIGURE 3



D. Roadway Descriptions

Del Norte Avenue is a north-south collector that extends throughout the western portion of the city of Kerman. In the vicinity of the project, it exists as a two-lane roadway and provides access to agricultural, educational, and residential land uses.

Kearney Boulevard is an east-west collector that extends throughout the center of the city of Kerman. In the vicinity of the project, it exists as a two-lane, divided roadway and provides access to agricultural, educational, religious, and residential land uses.

Madera Avenue (SR 145) is a north-south expressway that extends throughout the center of the city of Kerman. In the vicinity of the project, it exists as a four-lane roadway and provides access to agricultural, commercial, and residential land uses.

Nielsen Avenue is an east-west collector that extends throughout the northern portion of the city of Kerman. In the vicinity of the project, it exists as a two-lane roadway and provides access to agricultural land uses.

Whitesbridge Avenue (SR 180) is an east-west expressway that extends throughout the northern portion of the city of Kerman. In the vicinity of the project, it exists as a three- to four-lane roadway and provides access to agricultural, commercial, religious, and residential land uses.

Siskiyou Avenue is a north-south collector that extends throughout the western portion of the city of Kerman. In the vicinity of the project, it exists as a two-lane roadway and provides access to agricultural, educational, and residential land uses.

Vineland Avenue is a north-south collector that extends throughout the eastern portion of the city of Kerman. In the vicinity of the project, it exists as a two-lane roadway and provides access to agricultural and residential land uses.

PROJECT TRIP GENERATION

The trip generation volumes for the residential development were calculated using the Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition. Trip generation and design hour volumes for all land uses are shown in Table 1.

The ADT, AM and PM peak hour rate equations, and peak hour directional splits for ITE Land Use Codes 210 (Single-Family Detached Housing), 220 (Multifamily Housing – Low Rise), 822 (Strip Retail <40k), and 934 (Fast-Food with Drive-Through) were used to estimate the project traffic.

Table 1
Project Trip Generation

Land Use			Daily Trips		AM Peak Hour Trips			PM Peak Hour Trips		
ITE Code	Development Type	Variable	ADT Rate	ADT	Rate	IN Split Trips	OUT Split Trips	Rate	IN Split Trips	OUT Split Trips
210	Single-Family Detached Housing	200 Dwelling Units	eq	1,909	eq	25% 35	75% 105	eq	63% 120	37% 71
220	Multifamily Housing (Low Rise)	100 Dwelling Units	eq	716	eq	24% 13	76% 41	eq	63% 40	37% 24
822	Strip Retail Plaza (<40k)	15 1000 sq ft GLA	eq	863	eq	60% 23	40% 15	eq	50% 52	50% 52
934	Fast-Food with Drive-Through	7 1000 sq ft GFA	467.48	3,272	44.61	51% 159	49% 153	33.03	52% 120	48% 111
SUBTOTAL				6,761		230	314		332	258
REDUCTIONS										
Internal Trips				207		9	8		9	8
Pass-By Trips				589		26	24		25	23
TOTAL				5,965		195	282		298	227

Internal trip capture rate of 5% applied to ITE Codes 822 and 934

Pass-by rate of 15% applied to external trips (calculated trips - internal trips) generated by ITE Codes 822 and 934

TRIP DISTRIBUTION AND ASSIGNMENT

The project trip distribution in Table 2 represents the most likely travel routes for traffic accessing the project. Project traffic distribution was estimated based on a review of the potential draw from population centers within the region and the types of land uses involved. These assumptions were used to distribute project traffic as shown in Figure 5.

Table 2
Project Trip Distribution

Direction	Percent
North	5
East	40
South	50
West	5

EXISTING AND FUTURE TRAFFIC

Weekday peak hour turning movements were counted at the following intersections in March and October 2024 (see Appendix for count data).

1. Siskiyou Avenue & Nielsen Avenue
2. Del Norte Avenue & Nielsen Avenue
3. Madera Avenue & Nielsen Avenue
4. Siskiyou Avenue & Whitesbridge Avenue
5. Del Norte Avenue & Whitesbridge Avenue
6. Madera Avenue & Whitesbridge Avenue
7. Vineland Avenue & Whitesbridge Ave
8. Del Norte Avenue & Kearney Boulevard
9. Madera Avenue & Kearney Boulevard
10. Vineland Avenue & Kearney Boulevard

Traffic counts were conducted between the hours 6:00 to 8:00 AM and 4:00 to 6:00 PM. AM Peak Hour was determined to be 7:00 to 8:00 AM. PM Peak hour was determined for each intersection individually. Both are shown in Figure 6. The scope of intersections were approved by the City of Kerman, Caltrans and Fresno County. Existing + Project peak hour volumes are shown in Figure 7.

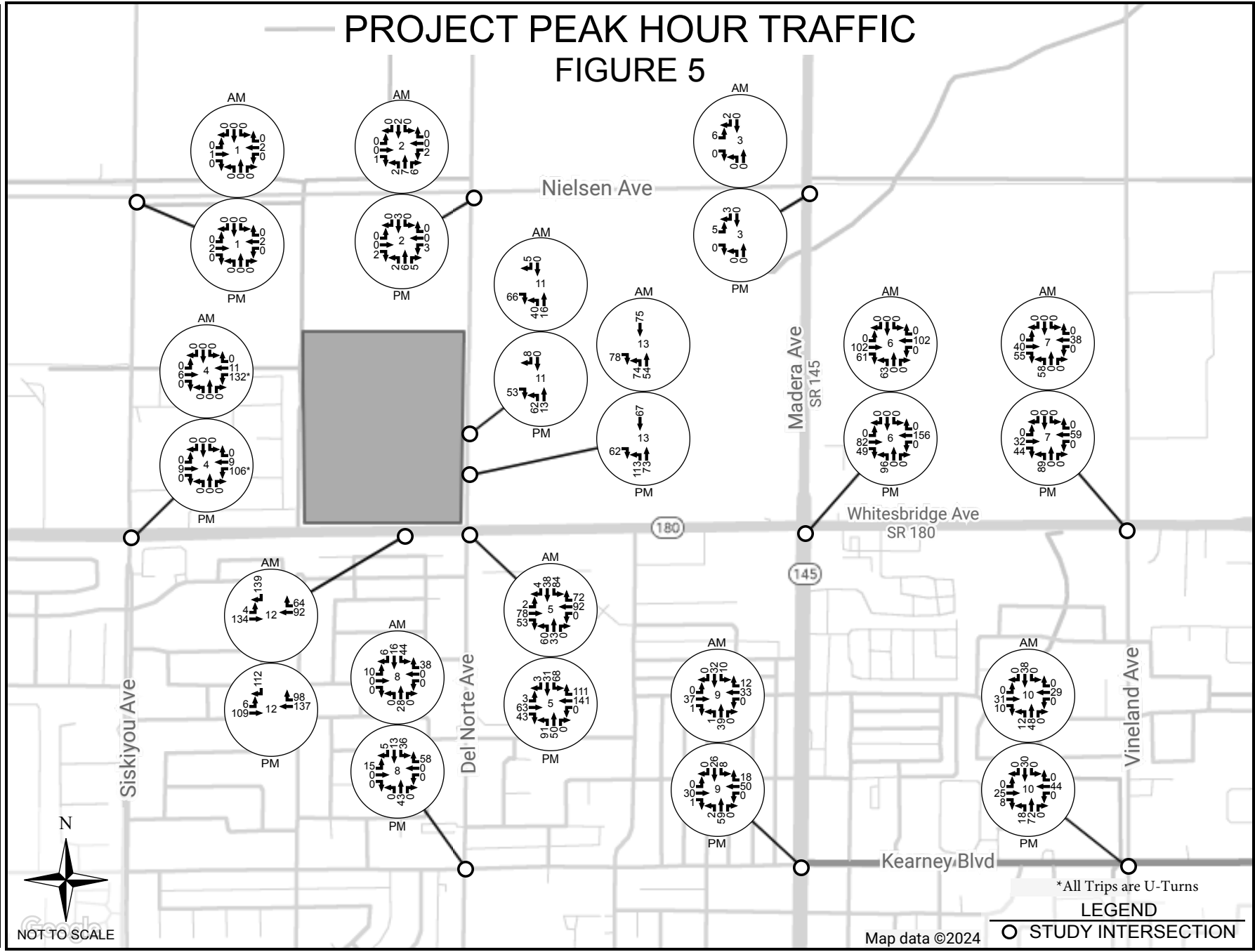
Annual growth rates ranging between 0.5% and 3% were applied to existing traffic volumes to estimate future traffic volumes for the years 2029 and 2044. These growth rates were estimated using a growth compound formula based on Fresno COG traffic model data. Future peak hour volumes are shown in Figures 8 through 11.

EXISTING LANE CONFIGURATIONS

FIGURE 4

1	Siskiyou Ave & Nielsen Ave		6	Madera Ave & Whitesbridge Ave	
2	Del Norte Ave & Nielsen Ave		7	Vineland Ave & Whitesbridge Ave	
3	Madera Ave & Nielsen Ave		8	Del Norte Ave & W Kearney Blvd	
4	Siskiyou Ave & Whitesbridge Ave		9	Madera Ave & W Kearney Blvd	
5	Del Norte Ave & Whitesbridge Ave		10	Vineland Ave & W Kearney Blvd	

PROJECT PEAK HOUR TRAFFIC FIGURE 5



*All Trips are U-Turns

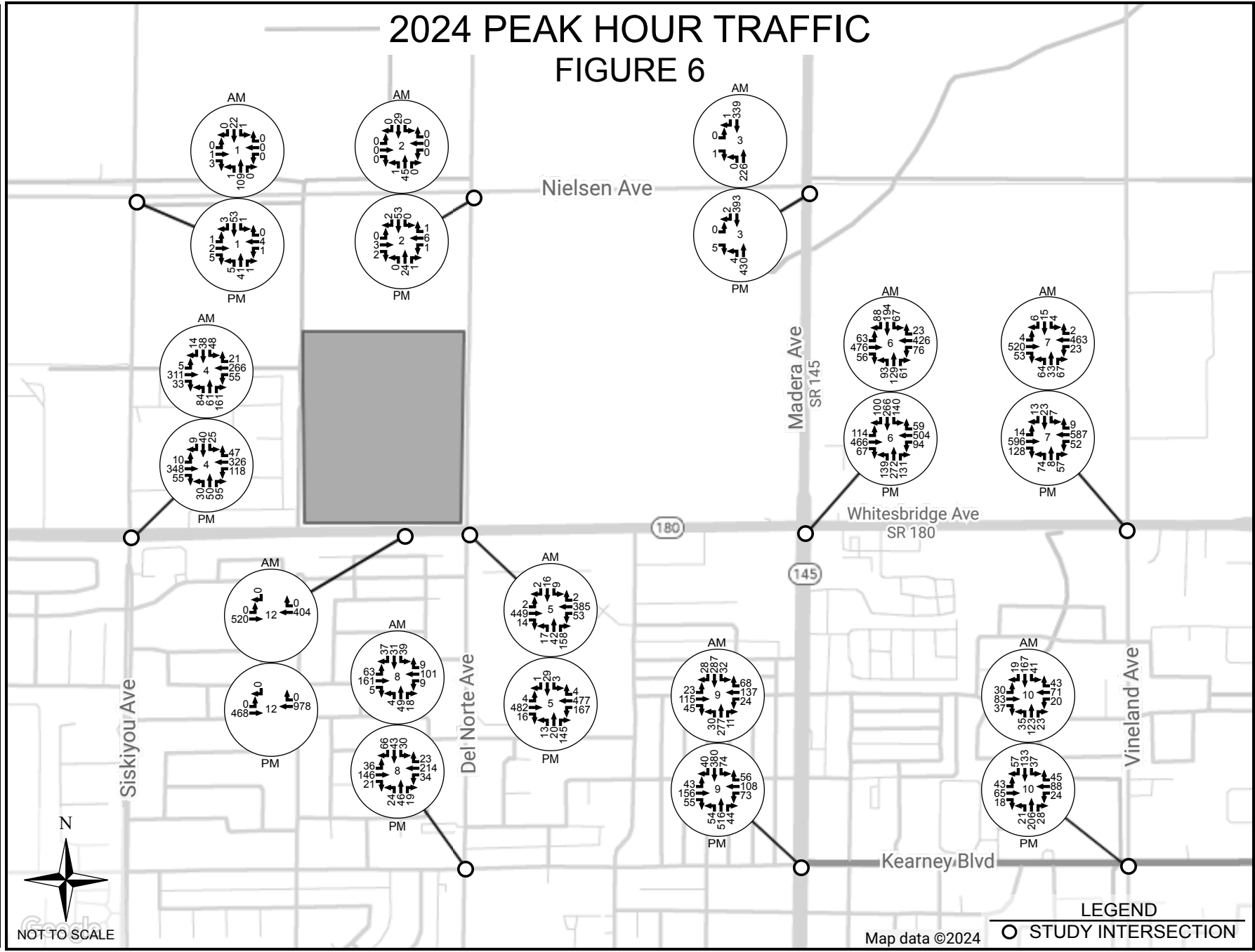
LEGEND

○ STUDY INTERSECTION

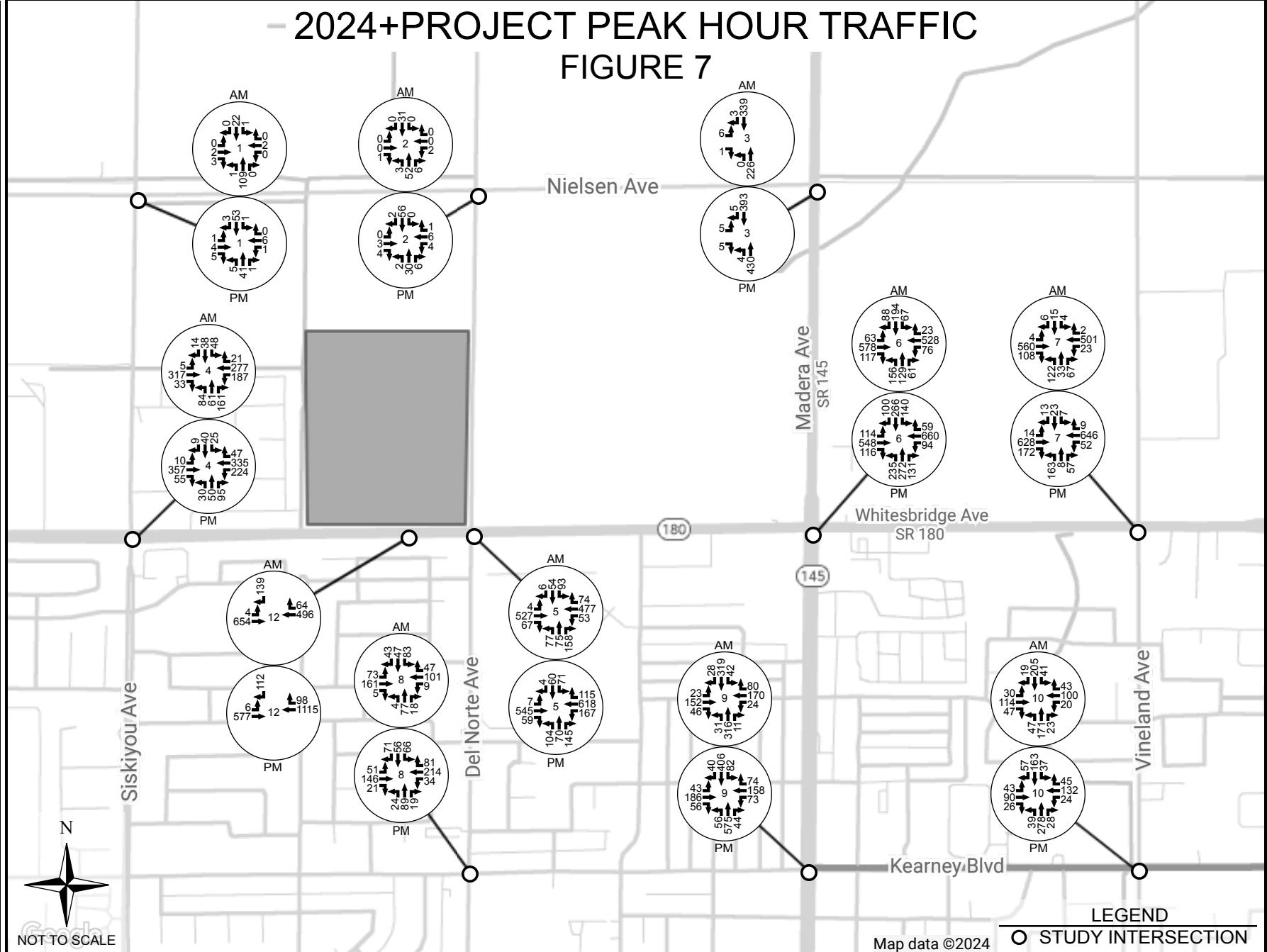
Map data ©2024



2024 PEAK HOUR TRAFFIC FIGURE 6



- 2024+PROJECT PEAK HOUR TRAFFIC FIGURE 7



LEGEND

○ STUDY INTERSECTION

Map data ©2024



2029 PEAK HOUR TRAFFIC FIGURE 8

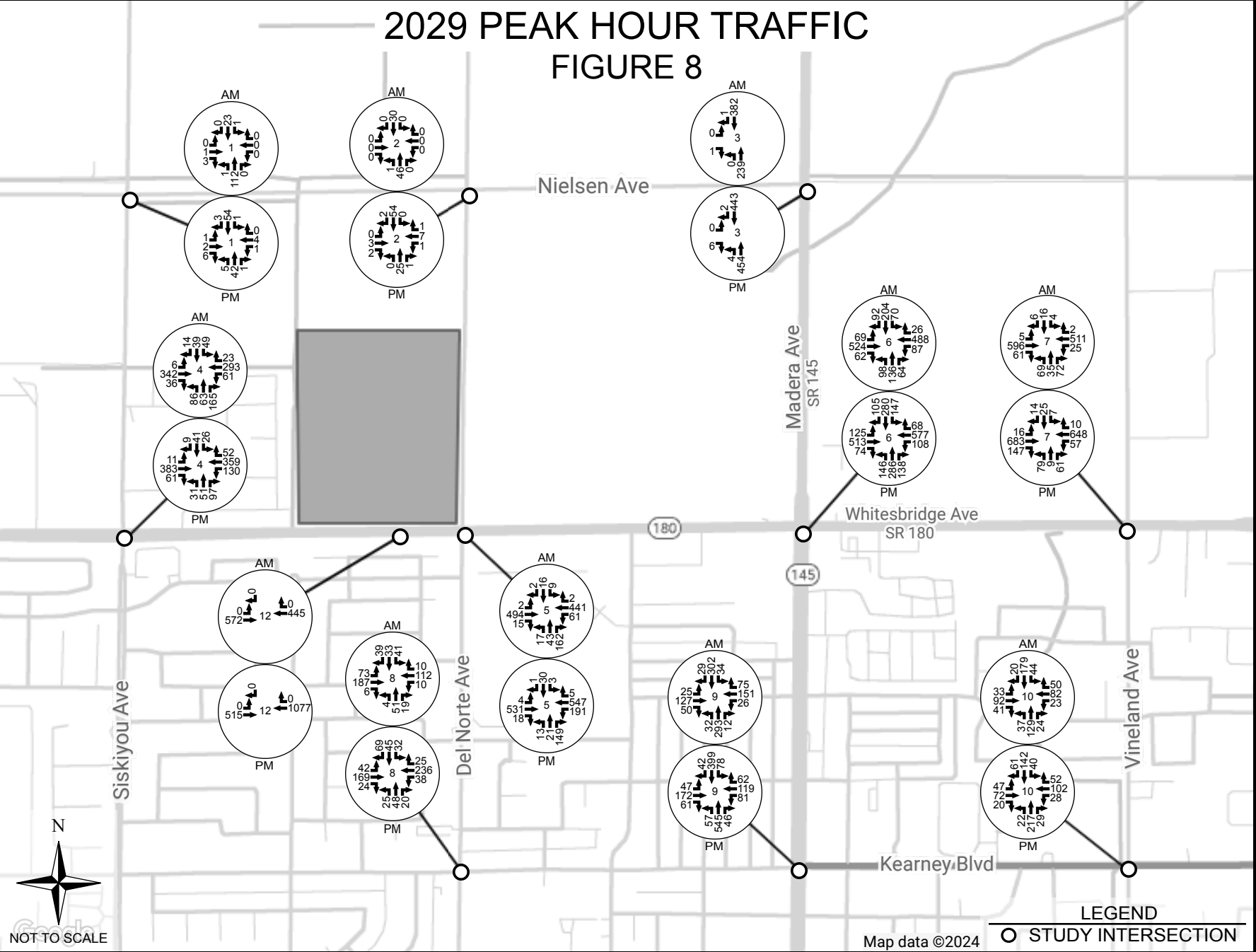
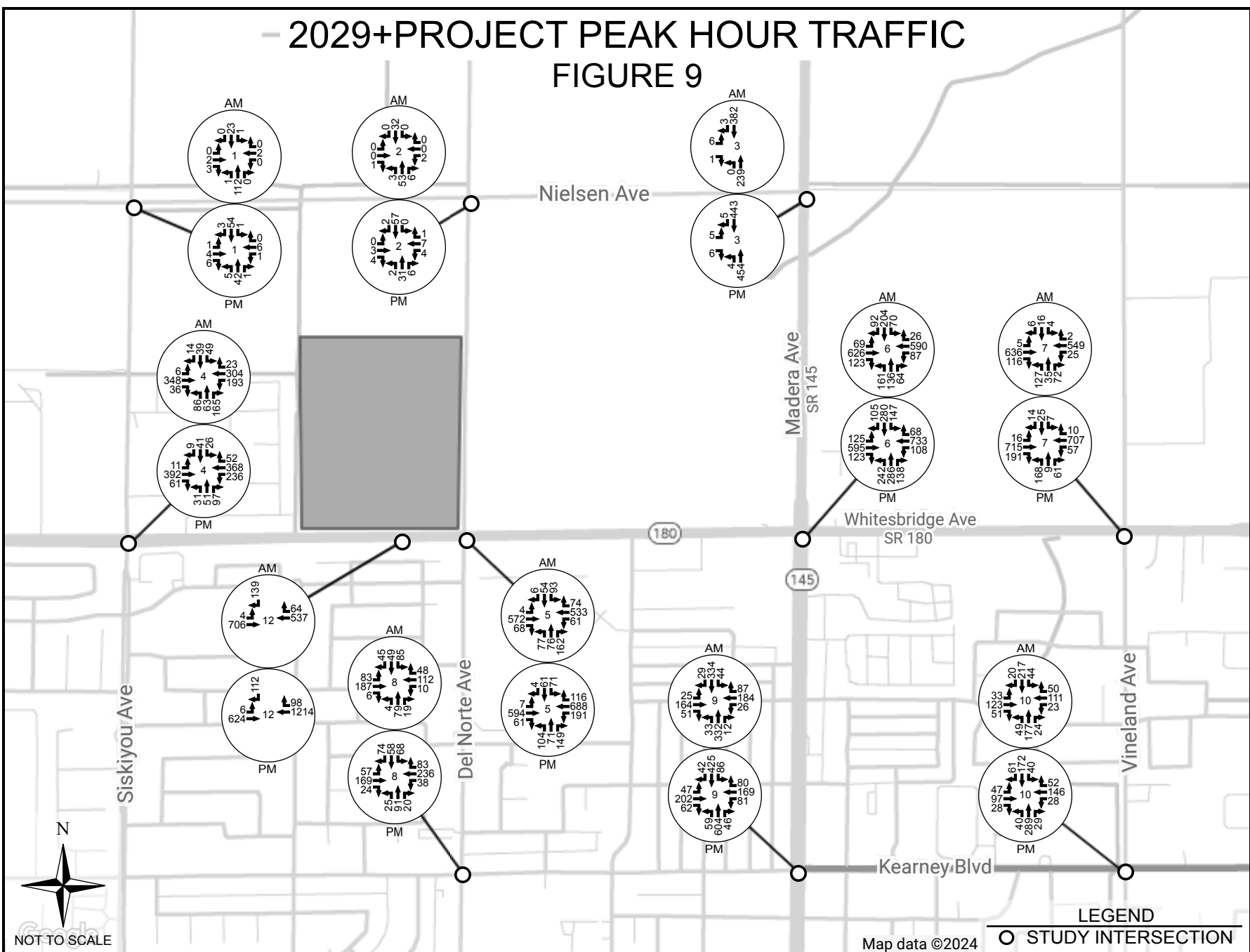
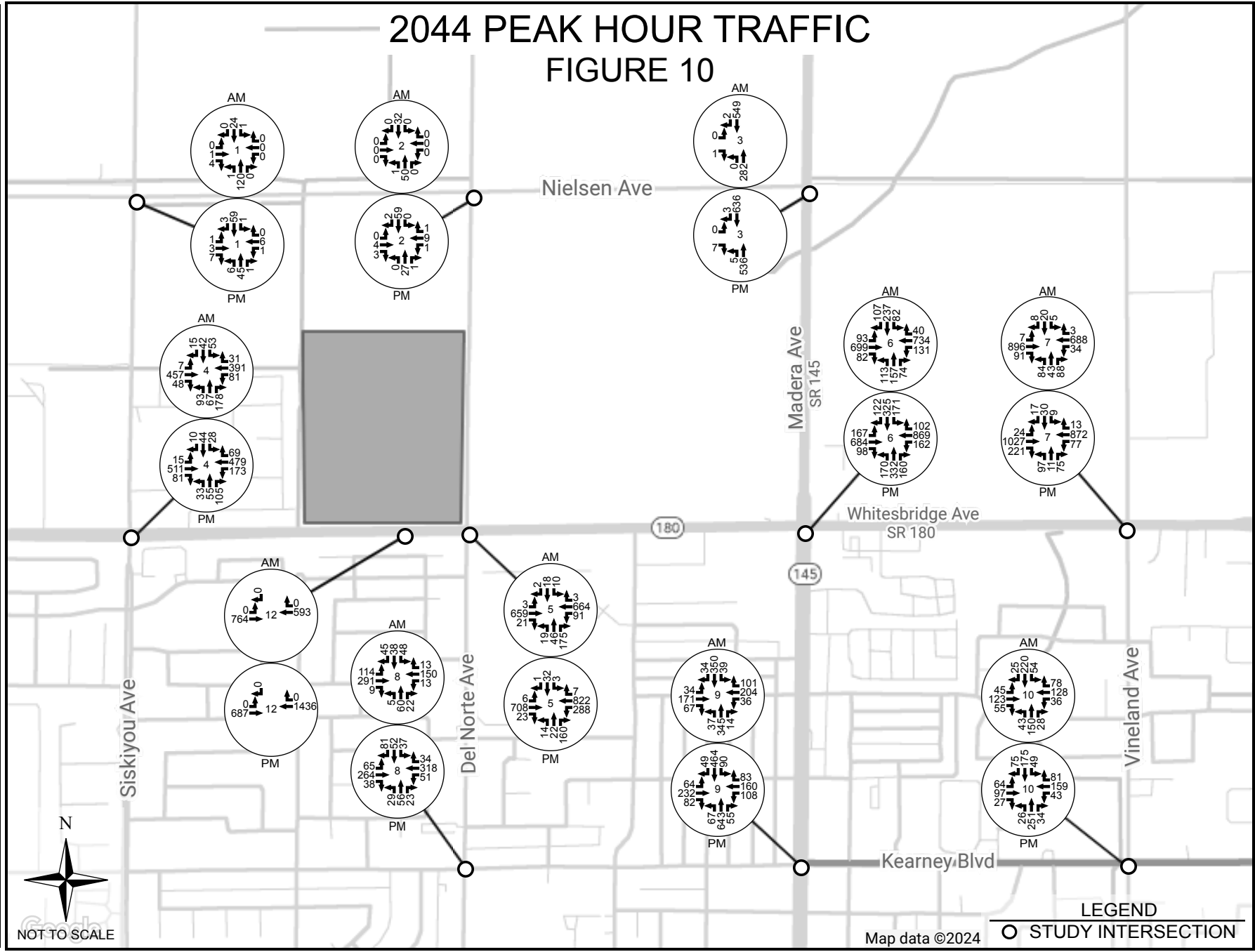


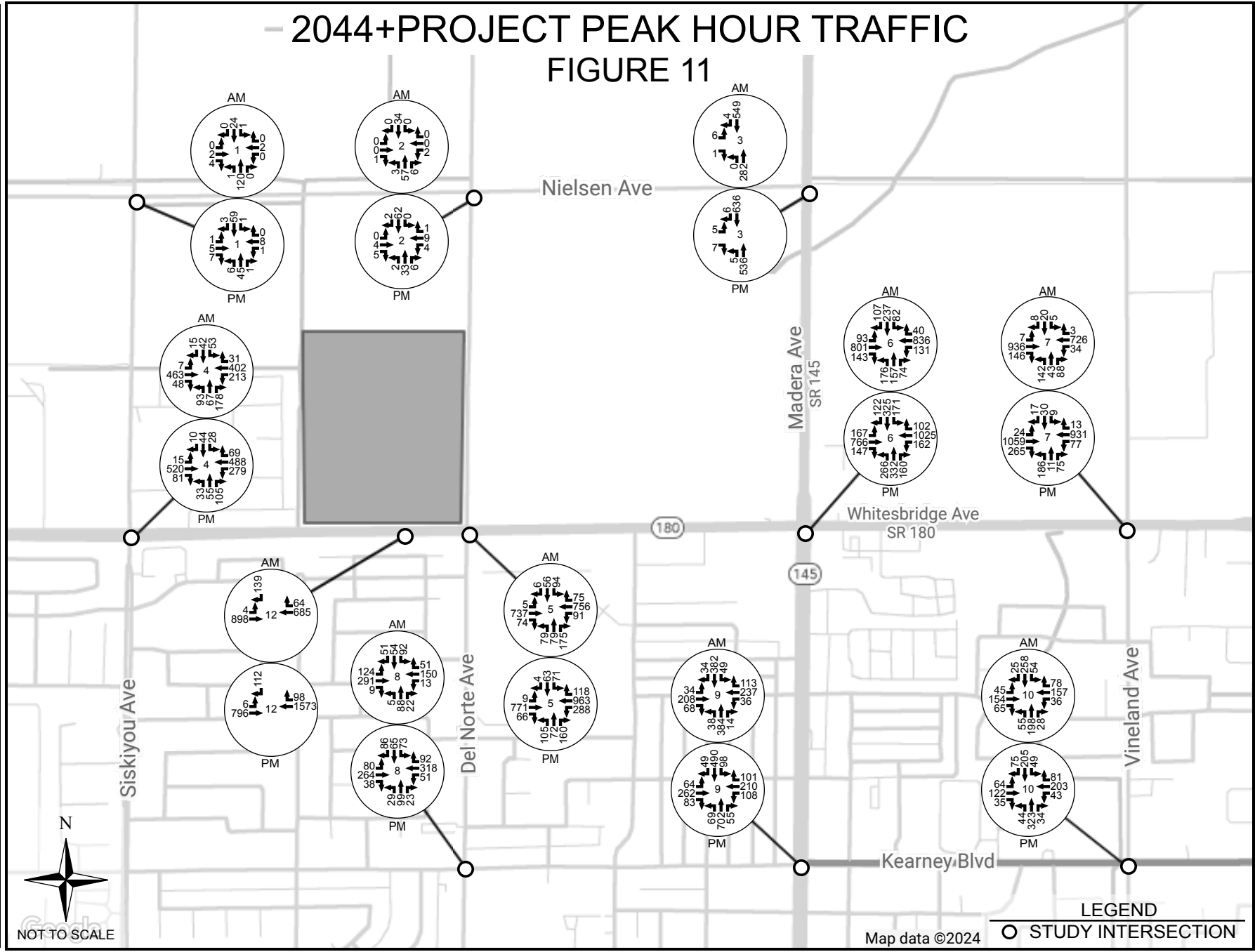
FIGURE 9



2044 PEAK HOUR TRAFFIC FIGURE 10



- 2044+PROJECT PEAK HOUR TRAFFIC
FIGURE 11



INTERSECTION ANALYSIS

A capacity analysis of the study intersections was conducted using Synchro software from Trafficware.

- Existing (2024)
- Existing (2024) + Project
- Near Term (2029)
- Near Term (2029) + Project
- Future (2044)
- Future (2044) + Project

Criteria for intersection level of service (LOS) are shown in the tables below.

LEVEL OF SERVICE CRITERIA UNSIGNALIZED INTERSECTION

Average Control Delay (sec/veh)	Level of Service	Expected Delay to Minor Street Traffic
≤ 10	A	Little or no delay
> 10 and ≤ 15	B	Short traffic delays
> 15 and ≤ 25	C	Average traffic delays
> 25 and ≤ 35	D	Long traffic delays
> 35 and ≤ 50	E	Very long traffic delays
> 50	F	Extreme delays

LEVEL OF SERVICE CRITERIA SIGNALIZED INTERSECTIONS

Volume/Capacity	Control Delay (sec/veh)	Level of Service
< 0.60	≤ 10	A
0.61 - 0.70	> 10 and ≤ 20	B
0.71 - 0.80	> 20 and ≤ 35	C
0.81 - 0.90	> 35 and ≤ 55	D
0.91 - 1.00	> 55 and ≤ 80	E
> 1.0	> 80	F

Level of service for the study intersections is presented in Tables 3a and 3b. The level of service goal for roadway facilities in the City of Kerman is LOS C. Delays are shown for all intersections operating below LOS C.

Table 3a
PM Intersection Level of Service

#	Intersection	Control Type	2024	2024+ Project	2029	2029+ Project	2044	2044+ Project
1	Siskiyou Ave & Nielsen Ave	EB WB	A (9.1) A (9.8)	A (9.3) A (9.9)	A (9.1) A (9.9)	A (9.3) A (9.9)	A (9.2) A (10.1)	A (9.4) B (10.1)
2	Del Norte & Nielsen Ave	EB WB	A (9.3) A (9.4)	A (9.2) A (9.6)	A (9.3) A (9.5)	A (9.2) A (9.6)	A (9.3) A (9.6)	A (9.3) A (9.8)
3	Madera Ave & Nielsen Ave	EB	B (10.8)	B (14.6)	B (10.9)	C (15.0)	B (13.3)	C (20.2)
4	Siskiyou Ave & Whitesbridge Ave	Signal	C (24.4)	C (28.6)	C (24.3)	C (28.6)	C (25.5)	C (31.4)
5	Del Norte Ave & Whitesbridge Ave	Signal	B (17.7)	C (23.8)	B (17.6)	C (23.8)	B (19.2)	C (26.7)
6	Madera Ave & Whitesbridge Ave	Signal	D (49.8)	D (50.5)	D (50.2)	D (52.8)	D (54.3)	D (54.9)
7	Vineland Ave & Whitesbridge Ave	Signal	B (16.3)	B (18.8)	B (16.4)	B (18.9)	B (18.7)	C (22.3)
8	Del Norte Ave & Kearney Blvd	AWSC	B (11.3)	B (11.9)	B (11.6)	B (12.2)	C (19.8)	C (21.8)
9	Madera Ave & Kearney Blvd	Signal	D (39.7)	D (42.1)	D (39.8)	D (42.3)	D (41.8)	D (42.5)
10	Vineland Ave & Kearney Blvd	AWSC	B (11.1)	B (13.4)	B (11.4)	B (14.0)	C (18.2)	C (25.0)
12	Project Entrance & Whitesbridge Ave	SB	-	(16.2)	-	C (16.7)	-	C (24.8)

Intersections 6 & 9 operate at LOS D prior to the addition of project traffic. Therefore, the project does not degrade the intersection.

Table 3b
AM Intersection Level of Service

#	Intersection	Control Type	2024	2024+ Project	2029	2029+ Project	2044	2044+ Project
1	Siskiyou Ave & Nielsen Ave	EB WB	A (8.9) A (0)	A (9.4) B (10.2)	A (8.9) A (0)	A (9.4) B (10.2)	A (8.9) A (0)	A (9.3) B (10.3)
2	Del Norte & Nielsen Ave	EB WB	A (0) A (0)	A (8.5) A (9.4)	A (0) A (0)	A (8.5) A (9.4)	A (0) A (0)	A (8.5) A (9.5)
3	Madera Ave & Nielsen Ave	EB	B (10.3)	B (13.2)	B (10.4)	B (13.5)	B (12.1)	C (17.5)
4	Siskiyou Ave & Whitesbridge Ave	Signal	C (34.2)	C (34.8)	D (37.7)	D (39.0)	D (38.8)	D (42.6)
5	Del Norte Ave & Whitesbridge Ave	Signal	B (19.1)	C (24.5)	C (23.4)	C (24.5)	C (30.5)	C (31.7)
6	Madera Ave & Whitesbridge Ave	Signal	D (38.4)	D (41.6)	D (42.3)	D (43.0)	D (49.4)	D (49.7)
7	Vineland Ave & Whitesbridge Ave	Signal	B (16.7)	B (18.1)	B (16.7)	B (18.2)	C (26.4)	C (28.8)
8	Del Norte Ave & Kearney Blvd	AWSC	B (11.2)	B (12.3)	B (11.6)	B (12.7)	C (22.9)	D (28.4)
9	Madera Ave & Kearney Blvd	Signal	C (24.5)	C (24.8)	C (26.5)	C (27.3)	C (29.3)	C (30.3)
10	Vineland Ave & Kearney Blvd	AWSC	B (12.9)	C (18.0)	B (13.6)	C (19.6)	B (13.9)	C (17.6)
12	Project Entrance & Whitesbridge Ave	SB	-	B (11.2)	-	B (11.3)	-	B (12.5)

Intersections 6 & 9 operate at LOS D prior to the addition of project traffic. Therefore, the project does not degrade the intersection.

TRAFFIC SIGNAL WARRANT ANALYSIS

Peak hour signal warrants were evaluated for the unsignalized intersection within the study based on the California Manual on Uniform Traffic Control Devices (MUTCD). Peak hour signal warrants assess delay to traffic on the minor street approaches when entering or crossing a major street. Signal warrant analysis results for PM & AM peak hour are shown in Tables 4a and 4b, respectively.

Table 4a
PM Traffic Signal Warrants

#	Intersection	2024			2024+Project		
		Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Siskiyou Ave at Nielsen Ave	104	8	NO	104	11	NO
2	N Del Norte Ave at Nielsen Ave	80	8	NO	99	16	NO
3	S Madera Ave at Nielsen Ave	829	5	NO	837	10	NO
8	N Del Norte Ave at W Kearney Blvd	474	139	NO	525	193	NO
10	S Vineland Ave at W Kearney Blvd	482	157	NO	562	189	NO
12	Project Entrance at Whitesbridge Ave	-	-	-	1700	112	YES

#	Intersection	2026			2026+Project			2044			2044+Project		
		Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Siskiyou Ave at Nielsen Ave	115	11	NO	115	14	NO	115	11	NO	115	14	NO
2	N Del Norte Ave at Nielsen Ave	89	11	NO	108	19	NO	89	11	NO	108	19	NO
3	S Madera Ave at Nielsen Ave	1180	7	NO	1188	12	NO	1180	7	NO	1188	12	NO
8	N Del Norte Ave at W Kearney Blvd	770	170	NO	821	224	YES	770	170	NO	821	224	YES
10	S Vineland Ave at W Kearney Blvd	610	283	YES	690	315	YES	610	283	YES	690	315	YES
12	Project Entrance at Whitesbridge Ave	-	-	-	2377	112	YES	-	-	-	2377	112	YES

Table 4b
AM Traffic Signal Warrants

#	Intersection	2024			2024+Project		
		Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Siskiyou Ave at Nielsen Ave	133	4	NO	133	6	NO
2	N Del Norte Ave at Nielsen Ave	75	0	NO	94	5	NO
3	S Madera Ave at Nielsen Ave	566	1	NO	571	7	NO
8	N Del Norte Ave at W Kearney Blvd	348	107	NO	382	173	NO
10	S Vineland Ave at W Kearney Blvd	408	150	NO	479	191	NO
12	Project Entrance at Whitesbridge Ave	-	-	-	1155	139	YES

#	Intersection	2029			2029+Project			2044			2044+Project		
		Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met	Major Street Total Approach Vol	Minor Street High Approach Vol	Warrant Met
1	Siskiyou Ave at Nielsen Ave	137	4	NO	137	6	NO	146	5	NO	146	7	NO
2	N Del Norte Ave at Nielsen Ave	77	0	NO	96	5	NO	83	0	NO	102	5	NO
3	S Madera Ave at Nielsen Ave	622	1	NO	627	7	NO	833	1	NO	838	7	NO
8	N Del Norte Ave at W Kearney Blvd	398	113	NO	432	179	NO	590	131	NO	624	197	NO
10	S Vineland Ave at W Kearney Blvd	433	166	NO	504	207	NO	520	242	NO	591	264	YES
12	Project Entrance at Whitesbridge Ave	-	-	-	1248	139	YES	-	-	-	1588	139	YES

It is important to note that a signal warrant defines the minimum condition under which signalization of an intersection might be warranted. Meeting this threshold does not suggest traffic signals are required, but rather, that other traffic factors and conditions be considered in order to determine whether signals are truly justified.

It is also noted that signal warrants do not necessarily correlate with level of service. An intersection may satisfy a signal warrant condition and operate at or above an acceptable level of service or operate below an acceptable level of service and not meet signal warrant criteria.

ROADWAY ANALYSIS

A capacity analysis of the study roadways was conducted using Table 4 in the State of Florida Department of Transportation *Quality/Level of Service Handbook* dated June 2020 (see Appendix). The level of service goal within the study limits is LOS “C”. The analysis was performed for the following AM and PM traffic scenarios:

- Existing (2024)
- Existing (2024) + Project
- Near Term (2029)
- Near Term (2029) + Project
- Future (2044)
- Future (2044) + Project

Table 5a
PM Roadway Level of Service

Roadway Segment	2024 Two-Way LOS		2024+Project Two-Way LOS		2029 Two-Way LOS		2029+Project Two-Way LOS		2044 Two-Way LOS		2044+Project Two-Way LOS	
	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS
Nielsen Ave: Siskiyou Ave - Del Norte Ave	9	C	18	C	14	C	19	C	18	C	23	C
Nielsen Ave: Del Norte Ave - Madera Ave	12	C	24	C	13	C	26	C	16	C	28	C
Whitesbridge Ave: Siskiyou Ave - Del Norte Ave	959	C	1247	C	1114	C	1368	C	1574	C	1828	C
Whitesbridge Ave: Del Norte Ave - Madera Ave	1390	C	1688	C	1540	C	1838	C	2110	C	2408	C
Whitesbridge Ave: Madera Ave - Vineland Ave	1412	C	1584	C	1587	C	1759	C	2258	C	2430	C
Kearney Blvd: Del Norte Ave - Madera Ave	456	C	526	C	520	C	601	C	727	C	808	C
Kearney Blvd: Madera Ave - Vineland Ave	511	C	598	C	558	C	645	C	728	C	815	C
Del Norte Ave: Nielsen Ave - Whitesbridge Ave	84	C	114	C	86	C	102	C	93	C	309	C
Del Norte Ave: Whitesbridge Ave - Kearney Blvd	181	C	299	C	261	C	302	C	325	C	428	C
Madera Ave: Nielsen Ave - Whitesbridge Ave	951	C	951	C	1011	C	1011	C	1219	C	1219	C
Madera Ave: Whitesbridge Ave - Kearney Blvd	1109	C	1187	C	1173	C	1251	C	1393	C	1471	C
N Vineland Ave: W Whitesbridge Ave - W Kearney Blvd	521	C	590	C	559	C	628	C	695	C	764	C

Table 5b
AM Roadway Level of Service

Roadway Segment	2024 Two-Way LOS		2024+Project Two-Way LOS		2029 Two-Way LOS		2029+Project Two-Way LOS		2044 Two-Way LOS		2044+Project Two-Way LOS	
	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS	VOL	LOS
Nielsen Ave: Siskiyou Ave - Del Norte Ave	2	C	6	C	2	C	6	C	2	C	6	C
Nielsen Ave: Del Norte Ave - Madera Ave	2	C	13	C	2	C	13	C	3	C	14	C
Whitesbridge Ave: Siskiyou Ave - Del Norte Ave	869	C	1100	C	971	C	1202	C	1368	C	1599	C
Whitesbridge Ave: Del Norte Ave - Madera Ave	1202	C	1474	C	1333	C	1605	C	1828	C	2100	C
Whitesbridge Ave: Madera Ave - Vineland Ave	1129	C	1299	C	1259	C	1406	C	1760	C	1932	C
Kearney Blvd: Del Norte Ave - Madera Ave	378	C	442	C	414	C	478	C	547	C	611	C
Kearney Blvd: Madera Ave - Vineland Ave	387	C	466	C	425	C	504	C	565	C	644	C
Del Norte Ave: Nielsen Ave - Whitesbridge Ave	73	C	114	C	75	C	116	C	93	C	309	C
Del Norte Ave: Whitesbridge Ave - Kearney Blvd	300	C	452	C	314	C	466	C	370	C	522	C
Madera Ave: Nielsen Ave - Whitesbridge Ave	832	C	832	C	907	C	907	C	1184	C	1184	C
Madera Ave: Whitesbridge Ave - Kearney Blvd	715	C	786	C	758	C	829	C	903	C	974	C
N Vineland Ave: W Whitesbridge Ave - W Kearney Blvd	423	C	487	C	455	C	519	C	572	C	636	C

All roadways within the scope of the project operate at acceptable levels of service with and without project traffic.

QUEUE LENGTH ANALYSIS

Queue length analysis was conducted using Synchro 11 software. The analysis shows that there are no instances where the 95th percentile queue length is longer than the turn lane storage available.

Table 6a
PM Queue Length Analysis

#	Intersection	Movement	Storage Length	2024	2024+Project	2029	2029+Project	2044	2044+Project
4	Siskiyou Ave & Whitesbridge Ave	EBL	470	12	12	13	13	15	15
		EBR	300	33	35	37	41	45	48
		WBL	300	135	142	153	171	184	184
		WBR	480	30	33	35	38	43	45
		NBL	150	51	53	58	62	69	73
		SBL	100	37	37	42	42	45	49
5	N Del Norte Ave & Whitesbridge Ave	EBL	550	21	23	23	23	25	28
		EBR	330	32	36	36	42	45	46
		WBL	545	164	169	192	222	248	290
		NBL	110	78	78	79	85	93	105
		SBL	150	71	77	78	79	91	101
6	S Madera Ave & Whitesbridge Ave	EBL	175	71	80	94	109	117	136
		WBL	230	110	124	143	144	150	167
		NBL	190	106	110	122	131	141	163
		NBR	160	51	58	66	68	74	79
		SBL	120	77	86	91	102	114	127
		SBR	100	20	22	25	25	28	29
7	S Vineland Ave & Whitesbridge Ave	EBL	320	145	162	172	193	194	199
		EBR	310	53	59	64	69	81	89
		WBL	410	66	68	74	87	96	112
		NBL	170	134	142	145	158	158	169
		SBL	105	20	23	24	24	27	28
		SBTR	-	64	66	71	73	75	75
8	N Del Norte Ave & W Kearney Blvd	EBL	100	35	39	43	47	47	49
		WBL	100	30	30	34	35	40	42
9	S Madera Ave & W Kearney Blvd	EBL	150	113	115	116	127	129	139
		EBR	150	110	122	122	124	133	133
		WBL	150	91	96	109	117	129	134
		WBR	150	75	77	80	94	101	115
		NBL	150	99	102	102	116	119	128
		SBL	190	84	93	93	97	102	113
10	S Vineland Ave & W Kearney Blvd	SBL	80	50	50	56	57	61	61
12	Whitesbridge Ave & Project Entrance	SBR	100	62	67	72	72	75	80

Table 6b
AM Queue Length Analysis

#	Intersection	Movement	Storage Length	2024	2024+Project	2029	2029+Project	2044	2044+Project
4	Siskiyou Ave & Whitesbridge Ave	EBL	470	9	9	10	11	12	13
		EBR	300	27	28	31	33	35	41
		WBL	300	112	113	119	129	140	158
		WBR	480	24	26	29	34	36	39
		NBL	150	44	47	47	53	61	63
		SBL	100	27	29	31	34	39	42
5	N Del Norte Ave & Whitesbridge Ave	EBL	550	23	23	23	24	24	24
		EBR	330	34	34	34	34	35	40
		WBL	545	194	207	224	250	250	250
		NBL	110	64	65	71	79	81	90
		SBL	150	62	70	72	76	80	87
		EBL	175	83	83	90	102	102	117
6	S Madera Ave & Whitesbridge Ave	WBL	230	117	120	132	135	142	144
		NBL	190	98	99	109	117	136	140
		NBR	160	42	46	48	51	58	68
		SBL	120	89	93	93	96	109	109
		SBR	100	19	19	19	22	24	25
		EBL	320	100	114	125	138	152	171
7	S Vineland Ave & Whitesbridge Ave	EBR	310	41	47	54	60	67	77
		WBL	410	66	74	85	86	95	96
		NBL	170	113	116	123	127	141	146
		SBL	105	18	18	19	19	22	24
		SBTR	-	39	43	43	49	57	65
		EBL	100	24	26	30	35	36	42
8	N Del Norte Ave & W Kearney Blvd	WBL	100	23	26	28	29	34	36
		EBL	150	77	89	97	106	113	120
9	S Madera Ave & W Kearney Blvd	EBR	150	82	90	94	99	115	115
		WBL	150	78	83	92	94	108	115
		WBR	150	72	76	80	89	99	99
		NBL	150	78	88	88	102	103	110
		SBL	190	70	78	82	87	90	97
		EBL	150	77	89	97	106	113	120
10	S Vineland Ave & W Kearney Blvd	SBL	80	33	37	42	49	49	53
12	Whitesbridge Ave & Project Entrance	SBR	100	53	55	61	64	66	69

VMT ANALYSIS

An analysis of project VMT (vehicle miles traveled) was conducted following guidance provided in *Fresno County SB 743 Implementation Regional Guidelines*, Fresno Council of Governments, dated January 2021 (VMT Guidelines). The analysis involved comparing an estimate of VMT attributable to the project to the County threshold and assessing whether project VMT would result in a significant transportation impact under the California Environmental Quality Act (CEQA).

Project Screening

The VMT Guidelines contain criteria for determining whether a land use project may be screened from a detailed VMT analysis. Projects meeting one or more of these “screening” criteria are presumed to create a less than significant transportation impact and no further analysis is required. However, as per the VMT Guidelines, these criteria may not be used for this study since the project requires a General Plan Amendment and zone change. Therefore, a detailed VMT analysis was conducted.

Mixed-Use Projects

The project includes a mix of residential and retail land uses. As per the VMT Guidelines, a land development with mixed uses may be analyzed either based on individual project land uses or the project’s predominant land use. The latter approach was taken for this study since, based on the project trip generation estimates presented in Table 1, the retail land uses generate over 60 percent of the daily project trips, as shown in Table 6a.

Table 6a
Total Daily Trips by Project Land Use

Project Land Use	Development Type(s)	Daily Trips	Percent of Total Trips
Residential	Single-Family Detached Housing Multifamily Housing (Low Rise)	2,625	38.8%
Retail	Strip Retail Plaza (<40,000 SF) Fast-Food Restaurant w/Drive-Through Window	4,135	61.2%
TOTAL		6,760	100%

Detailed Analysis

As defined in the VMT Guidelines, the appropriate metric for analyzing land development projects with retail land uses is total VMT (daily) for the region (Fresno County). Projects resulting in a net increase in total VMT would be expected to create a significant transportation impact and mitigation would be required.

In accordance with the VMT Guidelines, the detailed analysis was conducted using the Fresno COG ABM. Model runs for the analysis were developed and generated by Fresno COG staff and accounted for internal trip capture (see Appendix for model output). The VMT analysis results are presented in Table 6b.

Table 6b
VMT Analysis Results

Project Land Use	Metric: Total Regional VMT		Significant Impact	Reduction Needed
	NO Project	PLUS Project		
Retail	23,332,228	23,321,660	NO	- - -

As shown above, the project results in a net decrease in total VMT. Therefore, the project is not expected to result in a significant transportation impact under CEQA and no mitigation is required.

SUMMARY AND CONCLUSIONS

The purpose of this study is to evaluate the potential traffic impacts of a proposed multi-use development located on the northwest corner of Whitesbridge Avenue & Del Norte Avenue in Kerman, CA. The study included both level of service (LOS) and vehicle miles traveled (VMT) analyses.

Level of Service Analysis

All intersections currently operate at an acceptable level of service and are anticipated to do so through 2044, prior to and with the addition of project traffic. Therefore, no improvements are required.

Roadway Capacity

All roadway segments within the scope of the study currently operate at or above LOS C and are expected to continue to do so through the year 2044, prior to and with the addition of project traffic. Therefore, no improvements are required.

VMT

The project results in a net decrease in total VMT for the region. Therefore, the project is expected to create a less than significant transportation impact under CEQA.

REFERENCES

1. Annual Traffic Census, FCOG
2. City of Kerman 2040 General Plan, July 2020.
3. Highway Capacity Manual, Special Report 209, Transportation Research Board
4. California Manual on Uniform Traffic Control Devices for Streets and Highways, 2014 Edition, Federal Highway Administration (FHA)
5. Trip Generation, 11th Edition, Institute of Transportation Engineers (ITE)

APPENDIX



Metro Traffic Data Inc.
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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

LOCATION Whitesbridge Ave @ N Del Norte Ave

LATITUDE 36.7348

COUNTY Fresno

LONGITUDE -120.0692

COLLECTION DATE Thursday, February 29, 2024

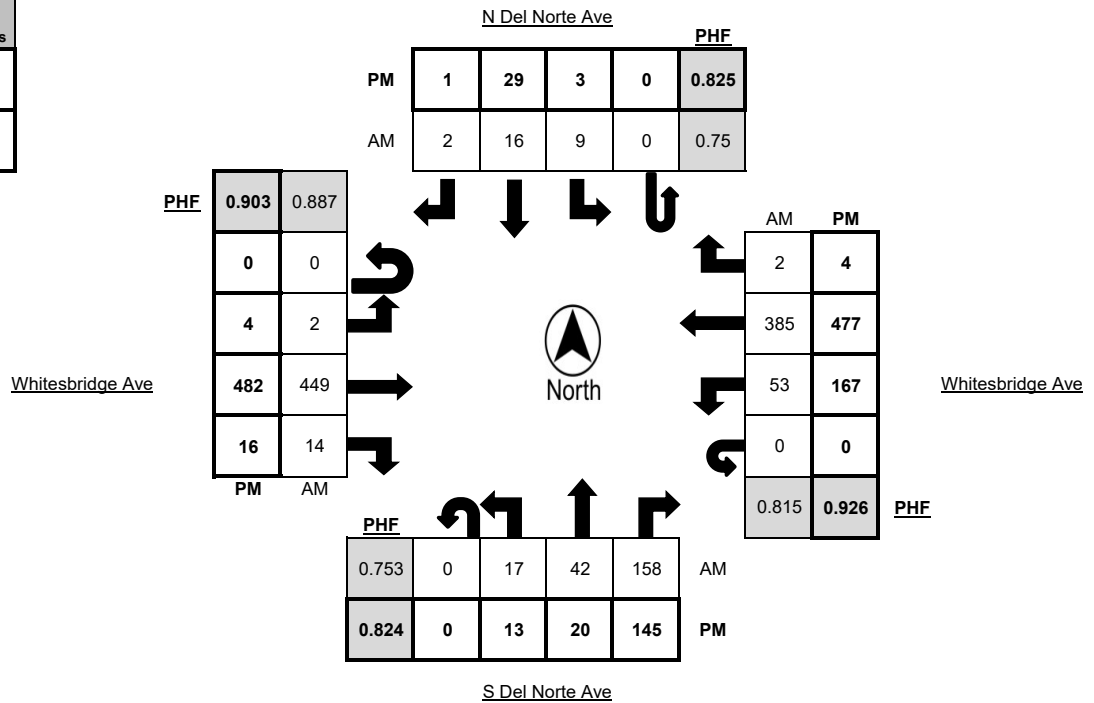
WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	3	4	21	0	0	0	0	0	0	0	0	46	0	2	0	4	63	1	2
6:15 AM - 6:30 AM	0	6	2	26	1	0	1	1	0	0	0	0	80	0	9	0	3	76	0	5
6:30 AM - 6:45 AM	0	4	9	27	0	0	1	1	0	0	0	0	62	1	4	0	2	64	1	3
6:45 AM - 7:00 AM	0	0	16	26	0	0	2	1	0	0	0	0	81	1	3	0	5	72	1	2
7:00 AM - 7:15 AM	0	1	6	30	2	0	0	1	1	0	0	0	95	0	2	0	8	92	0	6
7:15 AM - 7:30 AM	0	5	13	41	0	0	3	5	0	0	0	1	119	2	3	0	15	100	1	6
7:30 AM - 7:45 AM	0	3	14	32	0	0	2	5	1	1	0	1	112	4	7	0	13	122	0	9
7:45 AM - 8:00 AM	0	8	9	55	4	0	4	5	0	0	0	0	123	8	4	0	17	71	1	4
TOTAL	0	30	73	258	7	0	13	19	2	1	0	2	718	16	34	0	67	660	5	37

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	5	5	25	1	0	0	8	1	1	0	0	135	2	5	0	37	111	3	4
4:15 PM - 4:30 PM	0	4	6	38	2	0	2	16	1	1	0	0	118	5	7	0	28	118	0	0
4:30 PM - 4:45 PM	0	3	5	35	0	0	4	8	0	0	0	0	92	1	8	0	27	121	3	2
4:45 PM - 5:00 PM	0	3	3	36	0	0	3	9	0	0	0	0	93	4	2	0	33	120	1	4
5:00 PM - 5:15 PM	0	5	7	39	1	0	1	9	0	0	0	0	129	5	7	0	44	118	1	2
5:15 PM - 5:30 PM	0	5	3	30	0	0	1	9	0	0	0	1	135	3	4	0	36	114	1	2
5:30 PM - 5:45 PM	0	1	6	47	0	0	1	7	1	0	0	1	117	2	2	0	40	133	2	1
5:45 PM - 6:00 PM	0	2	4	29	0	0	0	4	0	0	0	2	101	6	4	0	47	112	0	1
TOTAL	0	28	39	279	4	0	12	70	3	2	0	4	920	28	39	0	292	947	11	16

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	0	17	42	158	6	0	9	16	2	1	0	2	449	14	16	0	53	385	2	25
5:00 PM - 6:00 PM	0	13	20	145	1	0	3	29	1	0	0	4	482	16	17	0	167	477	4	6

	PHF	Trucks
AM	0.930	4.2%
PM	0.950	1.8%





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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

LOCATION Whitesbridge Ave @ S Madera Ave

LATITUDE 36.7349

COUNTY Fresno

LONGITUDE -120.0601

COLLECTION DATE Thursday, February 29, 2024

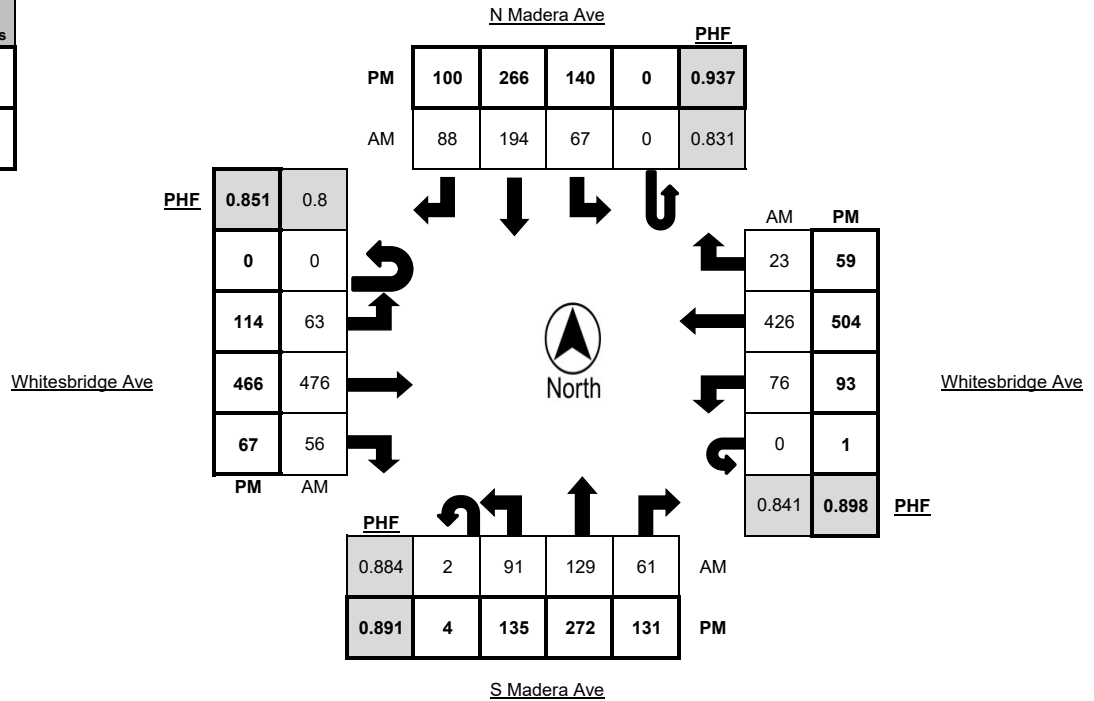
WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	14	29	12	4	0	3	52	12	3	0	10	52	3	6	0	6	34	7	2
6:15 AM - 6:30 AM	0	13	35	13	6	0	7	41	8	6	0	14	87	11	9	0	10	51	7	5
6:30 AM - 6:45 AM	1	8	47	14	6	0	10	42	14	2	0	21	73	3	3	0	10	62	9	4
6:45 AM - 7:00 AM	0	15	25	12	6	0	17	55	8	9	0	14	82	8	3	0	12	62	15	7
7:00 AM - 7:15 AM	0	15	31	11	5	0	11	39	8	2	0	6	103	10	3	0	15	84	3	4
7:15 AM - 7:30 AM	0	18	37	17	6	0	16	47	22	10	0	22	110	5	6	0	14	102	4	9
7:30 AM - 7:45 AM	1	33	28	12	8	0	18	53	30	8	0	16	116	21	7	0	18	129	9	5
7:45 AM - 8:00 AM	1	25	33	21	5	0	22	55	28	6	0	19	147	20	6	0	29	111	7	11
TOTAL	3	141	265	112	46	0	104	384	130	46	0	122	770	81	43	0	114	635	61	47

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	41	92	23	6	0	24	70	15	5	0	23	142	25	8	0	32	117	17	4
4:15 PM - 4:30 PM	1	33	82	30	4	0	34	73	16	5	0	35	92	18	7	0	26	103	10	0
4:30 PM - 4:45 PM	2	26	77	35	4	0	31	77	15	9	0	18	109	22	7	0	29	117	14	3
4:45 PM - 5:00 PM	1	32	81	22	1	0	45	71	19	5	0	20	101	13	5	0	20	121	12	2
5:00 PM - 5:15 PM	0	41	68	43	1	0	30	65	28	0	0	35	135	20	7	0	26	128	22	2
5:15 PM - 5:30 PM	0	34	68	30	1	0	31	71	26	3	0	24	106	17	5	0	25	109	11	1
5:30 PM - 5:45 PM	3	28	55	36	5	0	34	59	27	1	0	35	124	17	4	1	22	146	14	0
5:45 PM - 6:00 PM	0	31	51	31	1	0	35	45	30	1	0	30	103	18	4	1	33	80	13	4
TOTAL	7	266	574	250	23	0	264	531	176	29	0	220	912	150	47	2	213	921	113	16

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	2	91	129	61	24	0	67	194	88	26	0	63	476	56	22	0	76	426	23	29
4:45 PM - 5:45 PM	4	135	272	131	8	0	140	266	100	9	0	114	466	67	21	1	93	504	59	5

	PHF	Trucks
AM	0.846	5.8%
PM	0.917	1.8%





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LOCATION Whitesbridge Ave @ S Vineland Ave

LATITUDE 36.7349

COUNTY Fresno

LONGITUDE -120.0514

COLLECTION DATE Thursday, February 29, 2024

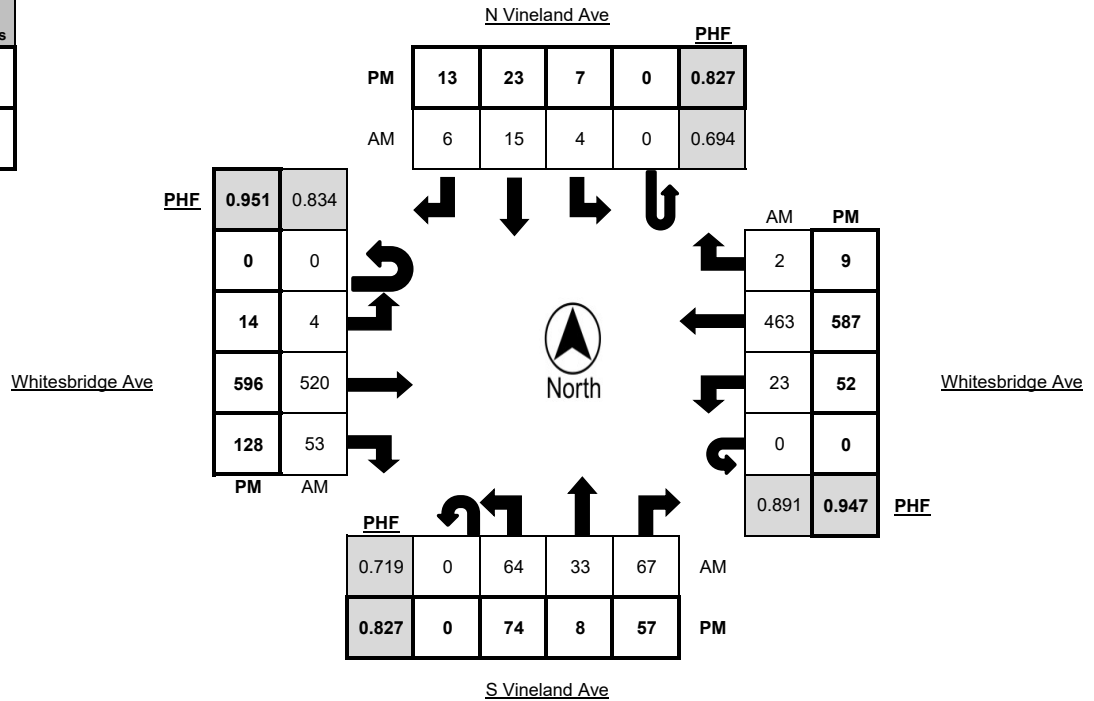
WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	5	6	5	0	0	0	2	0	0	0	0	64	2	7	0	4	41	0	1
6:15 AM - 6:30 AM	0	12	9	11	1	0	2	2	0	1	0	0	97	1	6	0	2	59	0	4
6:30 AM - 6:45 AM	0	7	6	7	0	0	0	0	0	0	0	0	109	4	5	0	1	85	0	5
6:45 AM - 7:00 AM	0	12	6	11	0	0	0	1	0	0	0	0	109	9	6	0	6	81	1	5
7:00 AM - 7:15 AM	0	10	4	15	0	0	2	1	2	1	0	1	116	4	3	0	5	97	1	7
7:15 AM - 7:30 AM	0	13	9	12	2	0	1	4	3	2	0	2	115	8	6	0	5	107	0	5
7:30 AM - 7:45 AM	0	14	14	16	0	0	0	3	0	0	0	0	145	13	6	0	7	129	1	4
7:45 AM - 8:00 AM	0	27	6	24	0	0	1	7	1	0	0	1	144	28	5	0	6	130	0	7
TOTAL	0	100	60	101	3	0	6	20	6	4	0	4	899	69	44	0	36	729	3	38

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	15	4	9	1	0	3	6	1	0	0	1	153	20	8	0	9	140	1	2
4:15 PM - 4:30 PM	0	9	2	15	0	0	5	4	2	0	0	2	147	36	8	0	16	136	2	1
4:30 PM - 4:45 PM	0	28	2	12	0	0	0	6	7	0	0	1	144	28	6	0	14	136	3	4
4:45 PM - 5:00 PM	0	17	2	16	1	0	0	5	2	0	0	5	160	29	9	0	8	161	2	2
5:00 PM - 5:15 PM	0	20	2	14	0	0	2	8	2	0	0	6	145	35	6	0	14	154	2	2
5:15 PM - 5:30 PM	0	16	1	15	0	0	0	6	4	0	0	3	154	40	4	0	14	117	0	1
5:30 PM - 5:45 PM	0	13	3	13	0	0	0	4	3	0	0	2	127	36	2	0	13	172	1	2
5:45 PM - 6:00 PM	0	23	3	10	0	0	0	5	3	0	0	3	132	28	1	0	12	165	1	3
TOTAL	0	141	19	104	2	0	10	44	24	0	0	23	1162	252	44	0	100	1181	12	17

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	0	64	33	67	2	0	4	15	6	3	0	4	520	53	20	0	23	463	2	23
4:15 PM - 5:15 PM	0	74	8	57	1	0	7	23	13	0	0	14	596	128	29	0	52	587	9	9

	PHF	Trucks
AM	0.836	3.8%
PM	0.963	2.5%





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LOCATION W Kearney Blvd @ N Del Norte Ave

LATITUDE 36.7275

COUNTY Fresno

LONGITUDE -120.0693

COLLECTION DATE Thursday, February 29, 2024

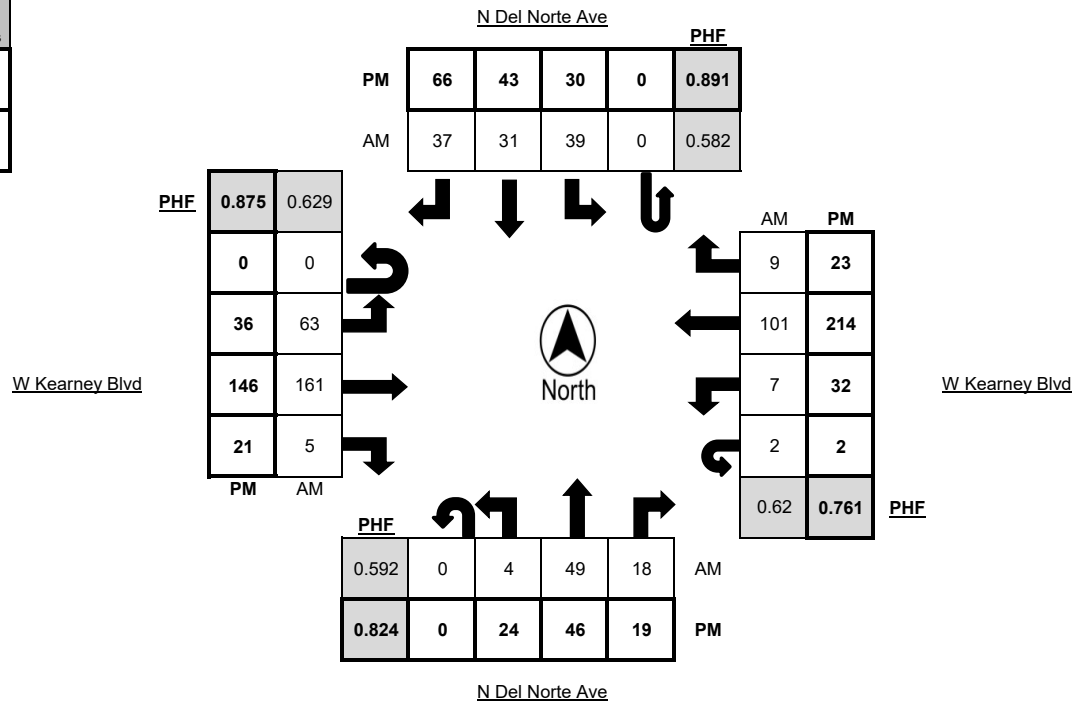
WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	1	8	2	0	0	1	4	1	0	0	2	14	0	0	0	0	5	1	1
6:15 AM - 6:30 AM	0	0	6	2	0	0	5	3	1	0	0	3	14	0	0	1	1	2	4	2
6:30 AM - 6:45 AM	0	1	8	2	0	0	2	3	4	0	0	15	15	2	0	0	0	10	0	0
6:45 AM - 7:00 AM	0	4	5	2	0	0	2	7	1	0	0	9	30	1	0	0	1	19	3	0
7:00 AM - 7:15 AM	0	0	5	1	0	0	6	6	4	0	0	11	30	0	0	0	0	12	1	1
7:15 AM - 7:30 AM	0	1	8	4	0	0	6	5	9	0	0	12	28	0	0	1	4	25	1	0
7:30 AM - 7:45 AM	0	3	13	6	0	0	10	8	7	3	0	14	43	0	0	0	1	25	1	0
7:45 AM - 8:00 AM	0	0	23	7	1	0	17	12	17	1	0	26	60	5	0	1	2	39	6	0
TOTAL	0	10	76	26	1	0	49	48	44	4	0	92	234	8	0	3	9	137	17	4

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	2	11	5	0	0	3	11	8	0	0	6	30	2	0	0	5	42	5	0
4:15 PM - 4:30 PM	0	4	13	0	0	0	5	5	15	0	0	11	34	4	3	0	3	50	6	0
4:30 PM - 4:45 PM	0	0	11	1	0	0	4	7	16	0	0	8	36	2	0	1	3	52	1	3
4:45 PM - 5:00 PM	0	4	10	4	0	0	8	9	15	0	0	12	43	3	0	0	8	48	4	0
5:00 PM - 5:15 PM	0	6	11	5	0	0	8	14	17	0	0	7	40	5	0	1	12	67	9	2
5:15 PM - 5:30 PM	0	2	14	6	0	0	8	10	15	0	0	8	37	6	0	0	6	55	5	0
5:30 PM - 5:45 PM	0	12	11	4	0	0	6	10	19	0	0	9	26	7	0	1	6	44	5	0
5:45 PM - 6:00 PM	0	4	9	7	0	0	6	12	11	0	0	7	30	3	0	1	5	53	6	0
TOTAL	0	34	90	32	0	0	48	78	116	0	0	68	276	32	3	4	48	411	41	5

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	0	4	49	18	1	0	39	31	37	4	0	63	161	5	0	2	7	101	9	1
4:45 PM - 5:45 PM	0	24	46	19	0	0	30	43	66	0	0	36	146	21	0	2	32	214	23	2

	PHF	Trucks
AM	0.612	1.1%
PM	0.869	0.3%





Metro Traffic Data Inc.
310 N. Irwin Street - Suite 20
Hanford, CA 93230
800-975-6938 Phone/Fax
www.metrotrafficdata.com

Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

LOCATION W Kearney Blvd @ S Madera Ave

LATITUDE 36.7276

COUNTY Fresno

LONGITUDE -120.0603

COLLECTION DATE Thursday, February 29, 2024

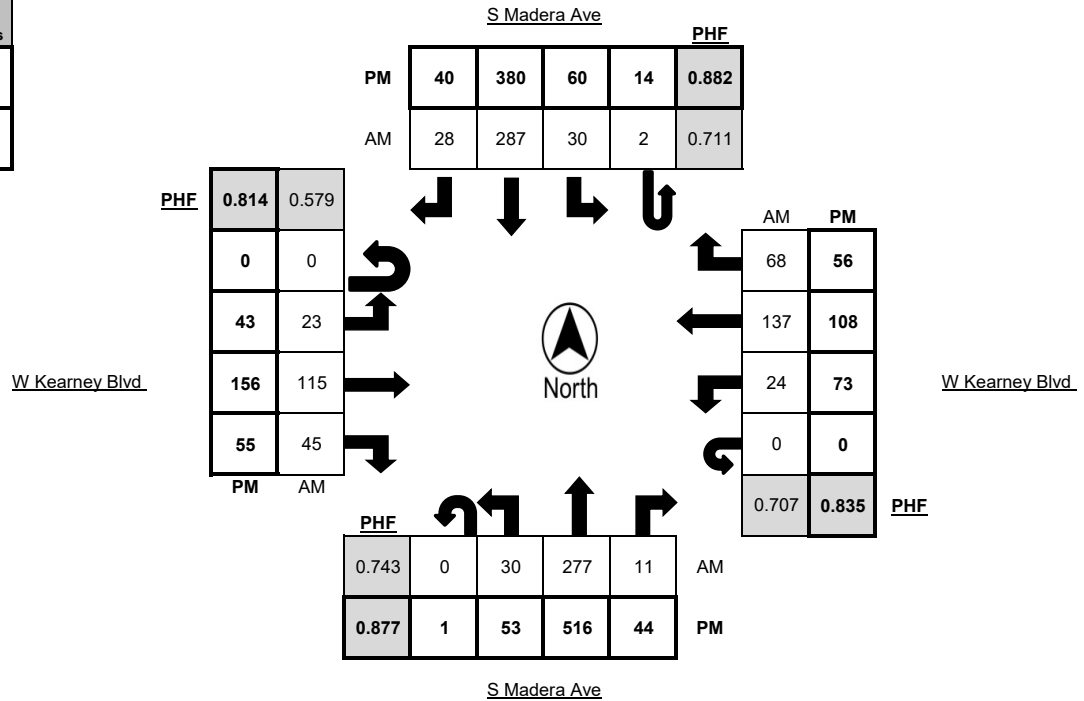
WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	3	52	2	4	0	0	63	1	4	0	6	4	5	2	0	4	9	10	0
6:15 AM - 6:30 AM	0	2	38	2	5	1	1	59	2	8	0	4	7	11	2	0	3	5	10	0
6:30 AM - 6:45 AM	0	1	56	1	6	2	3	69	0	1	0	9	12	13	0	0	9	10	11	0
6:45 AM - 7:00 AM	0	2	31	1	4	1	3	71	5	7	0	13	11	4	0	0	6	16	16	1
7:00 AM - 7:15 AM	0	4	47	4	4	0	3	57	3	2	0	6	9	6	0	0	5	22	14	0
7:15 AM - 7:30 AM	0	11	69	1	6	0	5	57	4	7	0	5	20	6	0	0	4	33	14	1
7:30 AM - 7:45 AM	0	8	66	1	6	1	14	74	7	4	0	5	28	19	0	0	5	38	13	3
7:45 AM - 8:00 AM	0	7	95	5	4	1	8	99	14	6	0	7	58	14	0	0	10	44	27	0
TOTAL	0	38	454	17	39	6	37	549	36	39	0	55	149	78	4	0	46	177	115	5

	Northbound					Southbound					Eastbound					Westbound				
Time	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	2	144	7	5	2	22	106	11	7	0	2	35	16	1	0	13	30	12	0
4:15 PM - 4:30 PM	1	18	130	4	5	6	13	107	9	6	0	4	29	10	0	0	17	15	10	1
4:30 PM - 4:45 PM	0	10	121	15	6	3	17	110	10	9	0	12	37	14	4	0	23	24	13	0
4:45 PM - 5:00 PM	0	8	123	9	1	1	13	69	9	4	0	16	38	16	0	0	14	37	13	0
5:00 PM - 5:15 PM	0	17	142	16	1	4	17	94	12	0	0	11	52	15	2	0	19	32	20	0
5:15 PM - 5:30 PM	0	10	99	7	1	3	14	75	16	4	0	14	38	17	0	0	16	41	13	0
5:30 PM - 5:45 PM	1	6	94	8	3	0	9	83	11	0	0	3	41	20	0	0	13	24	15	0
5:45 PM - 6:00 PM	0	12	69	7	0	0	12	89	11	4	0	16	42	24	0	0	24	22	9	0
TOTAL	2	83	922	73	22	19	117	733	89	34	0	78	312	132	7	0	139	225	105	1

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	0	30	277	11	20	2	30	287	28	19	0	23	115	45	0	0	24	137	68	4
4:15 PM - 5:15 PM	1	53	516	44	13	14	60	380	40	19	0	43	156	55	6	0	73	108	56	1

	PHF	Trucks
AM	0.692	4.0%
PM	0.886	2.4%





Metro Traffic Data Inc.
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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

LOCATION W Kearney Blvd @ S Vineland Ave

LATITUDE 36.7277

COUNTY Fresno

LONGITUDE -120.0514

COLLECTION DATE Thursday, February 29, 2024

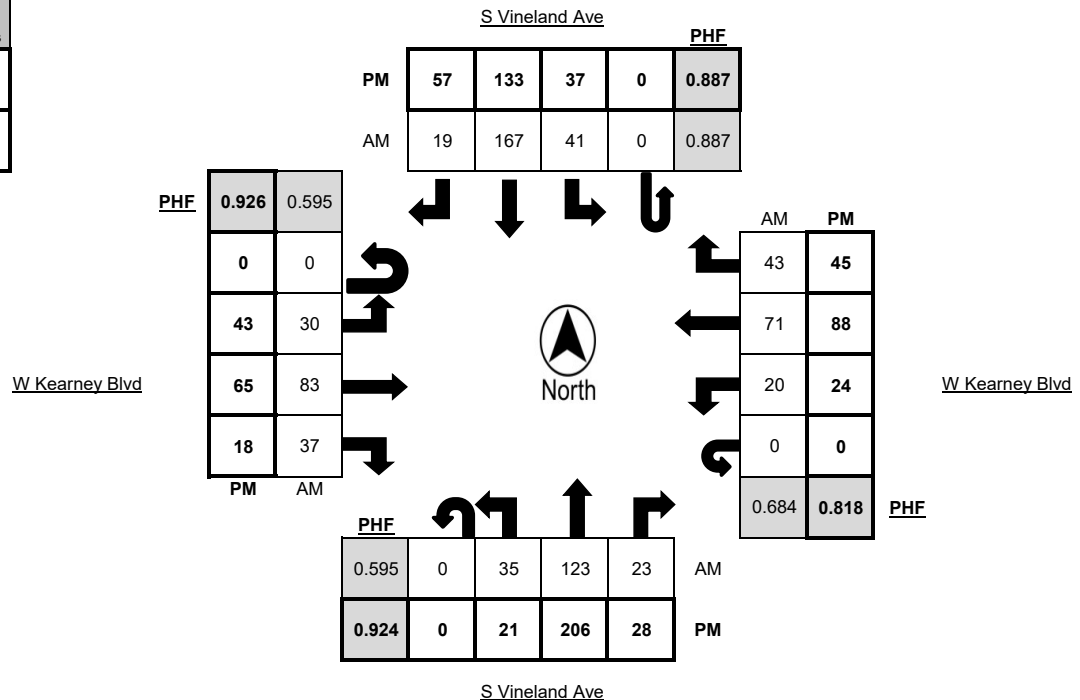
WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	0	7	1	0	0	1	10	3	0	0	2	6	4	0	0	3	2	2	0
6:15 AM - 6:30 AM	0	1	2	2	0	0	2	12	0	0	0	7	12	2	0	0	3	4	2	0
6:30 AM - 6:45 AM	0	3	14	4	0	0	4	18	4	0	0	9	2	4	1	0	3	6	6	0
6:45 AM - 7:00 AM	0	7	16	3	0	0	4	15	0	0	0	4	18	8	0	0	2	13	7	2
7:00 AM - 7:15 AM	0	8	12	3	2	0	3	38	1	2	0	5	12	4	1	0	4	11	8	1
7:15 AM - 7:30 AM	0	7	19	1	1	0	4	50	3	0	0	5	16	9	2	0	4	14	6	1
7:30 AM - 7:45 AM	0	9	38	8	2	0	12	48	4	0	0	7	20	9	0	0	5	17	16	0
7:45 AM - 8:00 AM	0	11	54	11	0	0	22	31	11	1	0	13	35	15	1	0	7	29	13	0
TOTAL	0	46	162	33	5	0	52	222	26	3	0	52	121	55	5	0	31	96	60	4

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	1	30	4	0	0	6	45	6	0	0	12	23	6	1	0	7	15	7	0
4:15 PM - 4:30 PM	0	4	30	2	0	0	5	29	3	0	0	6	16	4	0	0	6	14	7	1
4:30 PM - 4:45 PM	0	7	36	9	1	0	10	30	10	0	0	11	16	5	2	0	6	20	9	1
4:45 PM - 5:00 PM	0	6	58	5	2	0	6	31	11	0	0	11	18	5	0	0	7	14	11	0
5:00 PM - 5:15 PM	0	5	51	5	1	0	9	35	19	0	0	10	18	4	0	0	5	21	13	0
5:15 PM - 5:30 PM	0	6	50	9	1	0	13	37	14	0	0	11	17	5	0	0	6	23	9	0
5:30 PM - 5:45 PM	0	4	47	9	0	0	9	30	13	0	0	11	12	4	0	0	6	30	12	0
5:45 PM - 6:00 PM	0	4	58	5	0	0	6	27	7	0	0	9	13	2	0	0	4	12	16	0
TOTAL	0	37	360	48	5	0	64	264	83	0	0	81	133	35	3	0	47	149	84	2

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	0	35	123	23	5	0	41	167	19	3	0	30	83	37	4	0	20	71	43	2
4:45 PM - 5:45 PM	0	21	206	28	4	0	37	133	57	0	0	43	65	18	0	0	24	88	45	0

	PHF	Trucks
AM	0.687	2.0%
PM	0.956	0.5%





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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

LOCATION W Nielsen Ave @ Del Norte Ave

LATITUDE 36.7421

COUNTY Fresno

LONGITUDE -120.0691

COLLECTION DATE Thursday, February 29, 2024

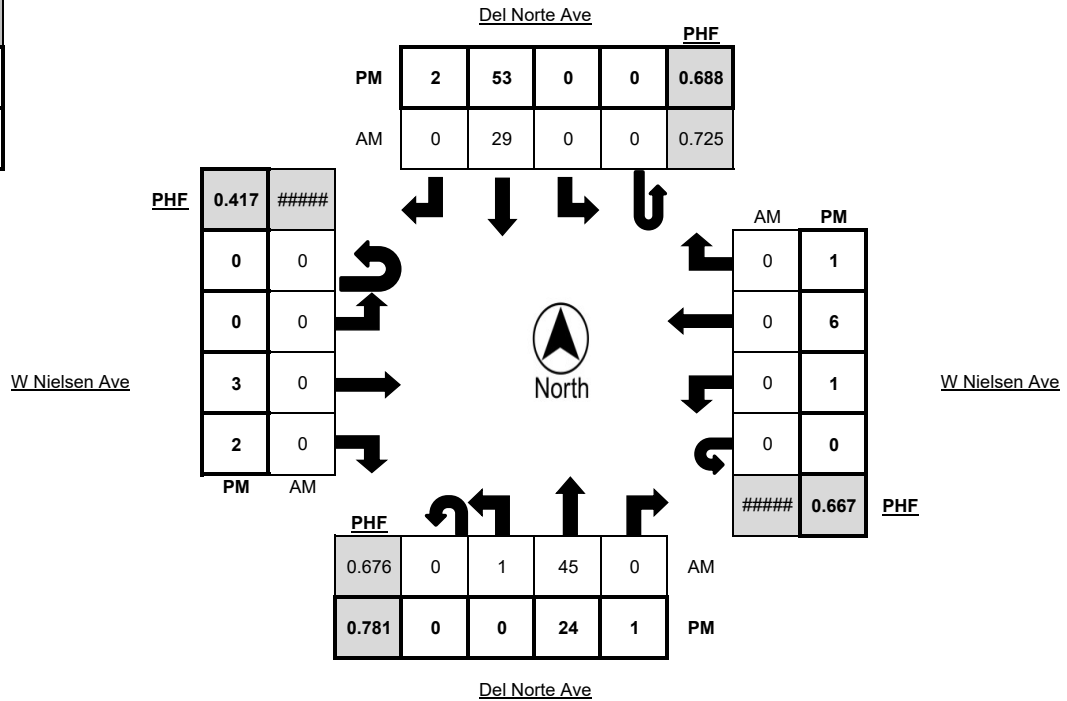
WEATHER Clear

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	0	3	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
6:15 AM - 6:30 AM	0	0	4	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
6:30 AM - 6:45 AM	0	0	8	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	1	0
6:45 AM - 7:00 AM	0	0	18	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
7:00 AM - 7:15 AM	0	0	6	0	1	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	12	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	17	0	0	0	0	0	8	0	1	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	1	10	0	1	0	0	0	10	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	1	78	0	2	0	0	35	0	1	0	0	1	0	0	0	0	0	1	0

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	2	6	0	0	0	1	9	0	1	0	0	1	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	6	0	0	0	0	20	0	1	0	0	0	0	0	0	1	2	0	1
4:30 PM - 4:45 PM	0	0	6	1	0	0	0	11	2	1	0	0	3	0	0	0	0	1	0	0
4:45 PM - 5:00 PM	0	0	4	0	0	0	0	13	0	0	0	0	0	1	0	0	0	2	0	0
5:00 PM - 5:15 PM	0	0	8	0	0	0	0	9	0	0	0	0	0	1	0	0	0	1	1	0
5:15 PM - 5:30 PM	0	0	5	0	0	0	0	9	0	0	0	1	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	9	0	0	0	0	8	1	0	0	0	1	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	4	0	0	0	0	7	1	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	2	48	1	0	0	1	86	4	3	0	1	5	2	0	0	1	6	1	1

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	0	1	45	0	2	0	0	29	0	1	0	0	0	0	0	0	0	0	0	0
4:15 PM - 5:15 PM	0	0	24	1	0	0	0	53	2	2	0	0	3	2	0	0	1	6	1	1

	PHF	Trucks
AM	0.750	4.0%
PM	0.802	3.2%





Metro Traffic Data Inc.
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Hanford, CA 93230
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Turning Movement Report

Prepared For:

Ruettgers & Schuler Civil Engineers
1800 30th St, Ste 260
Bakersfield, CA 93301

LOCATION W Nielsen Ave @ Madera Ave

LATITUDE 36.7423

COUNTY Fresno

LONGITUDE -120.0601

COLLECTION DATE Thursday, February 29, 2024

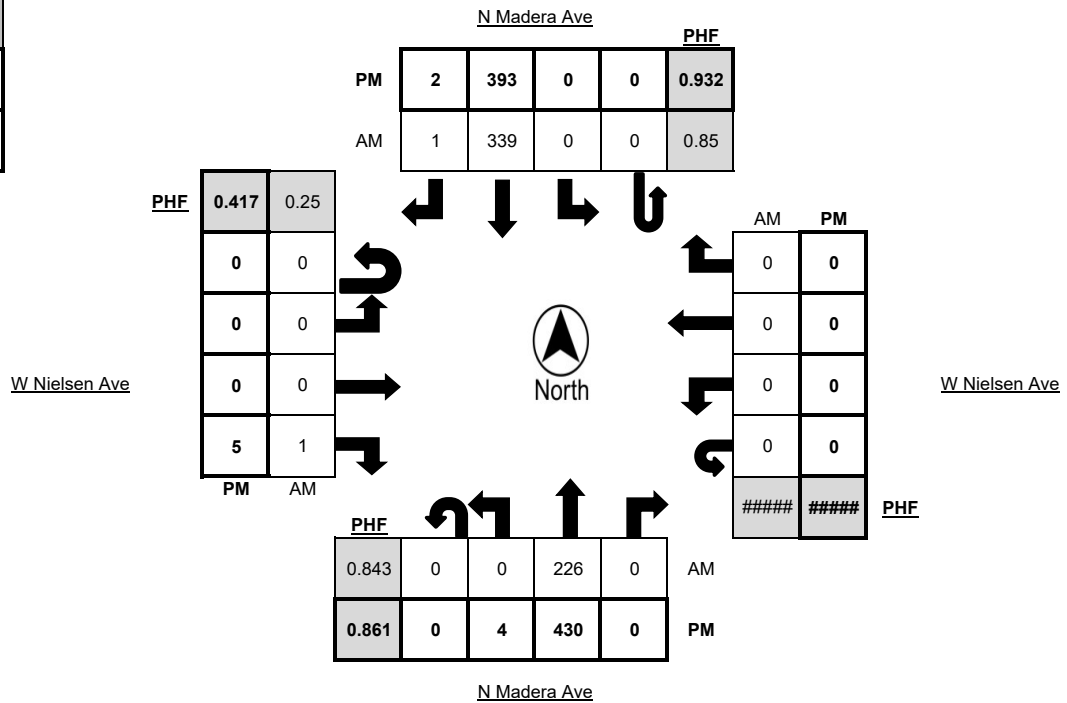
WEATHER Clear

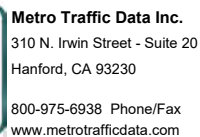
Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	1	48	0	1	0	0	70	0	2	0	0	0	1	0	0	0	0	0	0
6:15 AM - 6:30 AM	0	0	54	0	4	0	0	54	0	4	0	0	0	0	0	0	0	0	0	0
6:30 AM - 6:45 AM	0	1	73	0	6	0	0	67	0	1	0	0	0	0	0	0	0	0	0	0
6:45 AM - 7:00 AM	0	0	49	0	2	0	0	82	0	7	0	0	0	0	0	0	0	0	0	0
7:00 AM - 7:15 AM	0	0	41	0	4	0	0	56	0	2	0	0	0	1	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	64	0	3	0	0	96	1	14	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	54	0	9	0	0	87	0	3	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	67	0	6	0	0	100	0	5	0	0	0	0	0	0	0	0	0	0
TOTAL	0	2	450	0	35	0	0	612	1	38	0	0	0	2	0	0	0	0	0	0

Time	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	0	126	0	6	0	0	106	0	5	0	0	0	2	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	2	116	0	4	0	0	86	1	5	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	1	106	0	3	0	0	100	0	11	0	0	0	3	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	1	82	0	2	0	0	101	1	3	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	2	117	0	0	0	0	107	0	2	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	84	0	0	0	0	77	0	1	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	1	85	0	4	0	0	91	0	2	0	1	0	2	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	82	0	1	0	0	85	0	1	0	0	0	0	0	0	0	0	0	0
TOTAL	0	7	798	0	20	0	0	753	2	30	0	1	0	7	0	0	0	0	0	0

PEAK HOUR	Northbound					Southbound					Eastbound					Westbound				
	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	0	0	226	0	22	0	0	339	1	24	0	0	0	1	0	0	0	0	0	0
4:00 PM - 5:00 PM	0	4	430	0	15	0	0	393	2	24	0	0	0	5	0	0	0	0	0	0

	PHF	Trucks
AM	0.849	8.1%
PM	0.891	4.7%





Prepared For: **Ruettggers & Schuler Civil Engineers**
1800 30th St, Ste 260
Bakersfield, CA 93301

LATITUDE

LONGITUDE

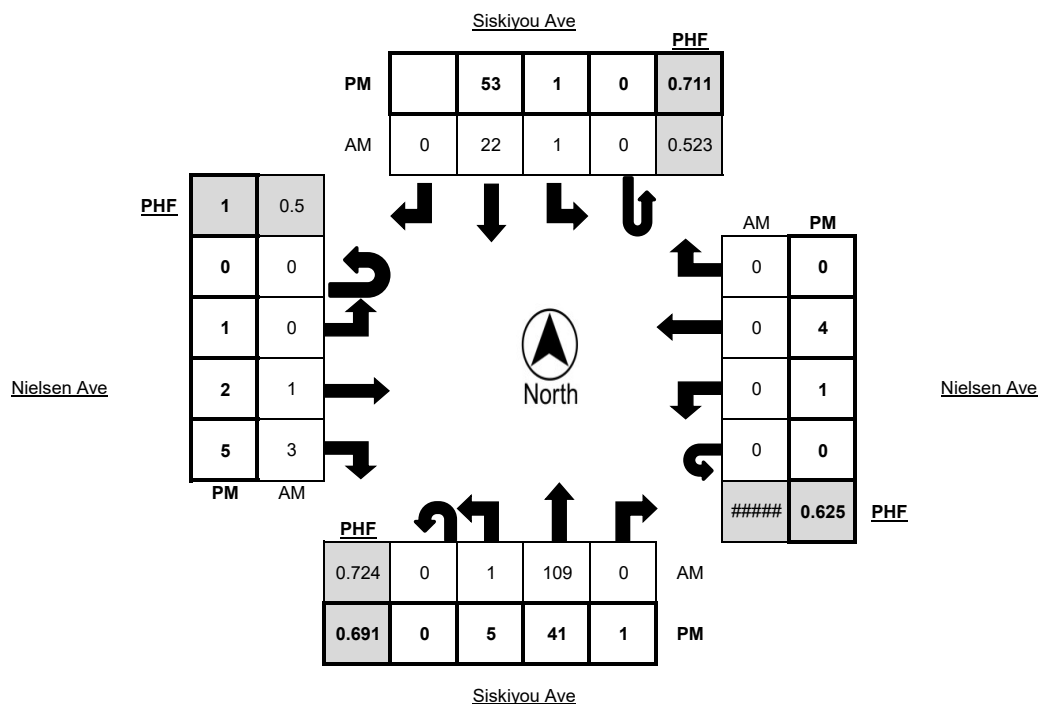
WEATHER Clear

	Northbound					Southbound					Eastbound					Westbound				
Time	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
6:00 AM - 6:15 AM	0	0	4	0	0	0	0	0	1	0	0	0	0	2	1	0	0	0	0	0
6:15 AM - 6:30 AM	0	0	5	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
6:30 AM - 6:45 AM	0	0	5	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM - 7:00 AM	0	1	13	0	0	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0
7:00 AM - 7:15 AM	0	0	11	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0
7:15 AM - 7:30 AM	0	0	27	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	38	0	0	0	1	10	0	1	0	0	0	1	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	1	33	0	0	0	0	9	0	0	0	0	0	0	1	0	0	0	0	0
TOTAL	0	2	136	0	1	0	2	29	1	1	0	0	4	4	1	0	0	0	0	0

	Northbound					Southbound					Eastbound					Westbound				
Time	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
4:00 PM - 4:15 PM	0	2	11	0	2	0	0	15	0	0	0	0	1	1	0	0	0	1	0	0
4:15 PM - 4:30 PM	0	2	15	0	0	0	1	10	0	0	0	1	0	1	0	0	0	1	0	0
4:30 PM - 4:45 PM	0	0	10	0	0	0	0	11	1	0	0	0	2	0	0	0	0	2	0	0
4:45 PM - 5:00 PM	0	1	5	1	0	0	0	17	2	0	0	0	1	1	0	0	1	0	0	0
5:00 PM - 5:15 PM	0	0	4	0	0	0	0	13	0	0	0	0	0	0	0	0	0	1	0	0
5:15 PM - 5:30 PM	0	0	8	0	0	0	1	13	0	0	0	1	0	0	0	0	1	0	0	0
5:30 PM - 5:45 PM	0	1	9	0	0	0	0	13	0	0	0	0	0	1	0	0	1	2	0	0
5:45 PM - 6:00 PM	0	1	7	0	0	0	0	11	0	0	0	1	0	0	0	0	1	0	0	0
TOTAL	0	7	69	1	2	0	2	103	3	0	0	3	3	6	0	0	4	7	0	0

	Northbound					Southbound					Eastbound					Westbound				
PEAK HOUR	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks	U-Turn	Left	Thru	Right	Trucks
7:00 AM - 8:00 AM	0	1	109	0	1	0	1	22	0	1	0	0	1	3	1	0	0	0	0	0
4:00 PM - 5:00 PM	0	5	41	1	2	0	1	53	3	0	0	1	2	5	0	0	1	4	0	0

	PHF	Trucks
AM	0.685	2.2%
PM	0.944	1.7%



City of Kerman
N/S: Siskiyou Avenue
E/W: Whitesbridge Avenue (SR-180)
Weather: Clear

File Name : KRM_Sisk_WB AM
Site Code : 99924900
Start Date : 10/17/2024
Page No : 1

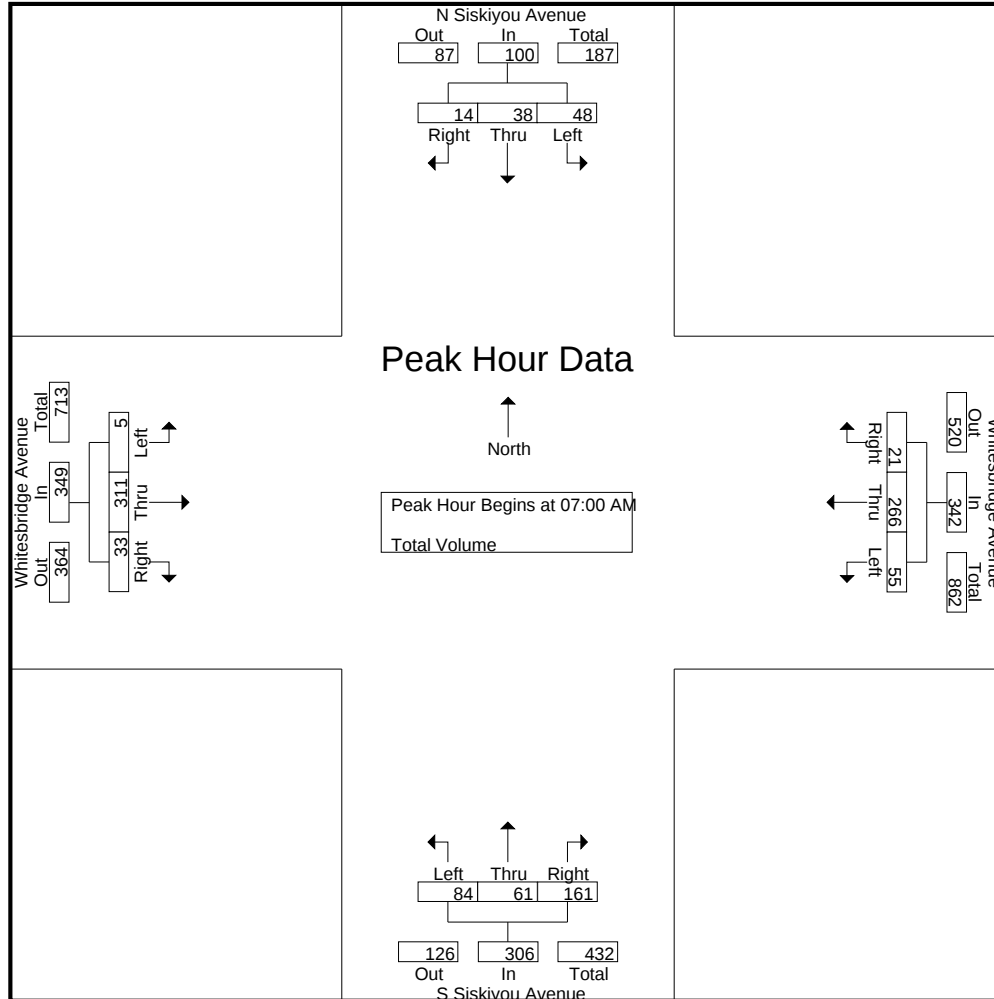
Groups Printed- Total Volume

	N Siskiyou Avenue Southbound				Whitesbridge Avenue Westbound				S Siskiyou Avenue Northbound				Whitesbridge Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:00 AM	4	3	3	10	0	78	0	78	13	5	12	30	0	36	1	37	155
06:15 AM	3	3	1	7	8	56	2	66	17	6	11	34	1	55	4	60	167
06:30 AM	1	13	1	15	6	75	2	83	12	5	27	44	0	52	5	57	199
06:45 AM	6	10	3	19	11	60	3	74	22	13	27	62	0	42	4	46	201
Total	14	29	8	51	25	269	7	301	64	29	77	170	1	185	14	200	722
07:00 AM	6	8	2	16	10	56	2	68	25	7	35	67	0	72	4	76	227
07:15 AM	9	8	2	19	13	82	5	100	22	21	33	76	2	79	3	84	279
07:30 AM	16	13	9	38	10	82	9	101	26	20	39	85	0	92	12	104	328
07:45 AM	17	9	1	27	22	46	5	73	11	13	54	78	3	68	14	85	263
Total	48	38	14	100	55	266	21	342	84	61	161	306	5	311	33	349	1097
Grand Total	62	67	22	151	80	535	28	643	148	90	238	476	6	496	47	549	1819
Apprch %	41.1	44.4	14.6		12.4	83.2	4.4		31.1	18.9	50		1.1	90.3	8.6		
Total %	3.4	3.7	1.2	8.3	4.4	29.4	1.5	35.3	8.1	4.9	13.1	26.2	0.3	27.3	2.6	30.2	

	N Siskiyou Avenue Southbound				Whitesbridge Avenue Westbound				S Siskiyou Avenue Northbound				Whitesbridge Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00 AM																	
07:00 AM	6	8	2	16	10	56	2	68	25	7	35	67	0	72	4	76	227
07:15 AM	9	8	2	19	13	82	5	100	22	21	33	76	2	79	3	84	279
07:30 AM	16	13	9	38	10	82	9	101	26	20	39	85	0	92	12	104	328
07:45 AM	17	9	1	27	22	46	5	73	11	13	54	78	3	68	14	85	263
Total Volume	48	38	14	100	55	266	21	342	84	61	161	306	5	311	33	349	1097
% App. Total	48	38	14		16.1	77.8	6.1		27.5	19.9	52.6		1.4	89.1	9.5		
PHF	.706	.731	.389	.658	.625	.811	.583	.847	.808	.726	.745	.900	.417	.845	.589	.839	.836

City of Kerman
N/S: Siskiyou Avenue
E/W: Whitesbridge Avenue (SR-180)
Weather: Clear

File Name : KRM_Sisk_WB AM
Site Code : 99924900
Start Date : 10/17/2024
Page No : 2



Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				06:45 AM				07:00 AM				07:00 AM			
+0 mins.	6	8	2	16	11	60	3	74	25	7	35	67	0	72	4	76
+15 mins.	9	8	2	19	10	56	2	68	22	21	33	76	2	79	3	84
+30 mins.	16	13	9	38	13	82	5	100	26	20	39	85	0	92	12	104
+45 mins.	17	9	1	27	10	82	9	101	11	13	54	78	3	68	14	85
Total Volume	48	38	14	100	44	280	19	343	84	61	161	306	5	311	33	349
% App. Total	48	38	14		12.8	81.6	5.5		27.5	19.9	52.6		1.4	89.1	9.5	
PHF	.706	.731	.389	.658	.846	.854	.528	.849	.808	.726	.745	.900	.417	.845	.589	.839

City of Kerman
N/S: Siskiyou Avenue
E/W: Whitesbridge Avenue (SR-180)
Weather: Clear

File Name : KRM_Sisk_WB PM
Site Code : 99924900
Start Date : 10/17/2024
Page No : 1

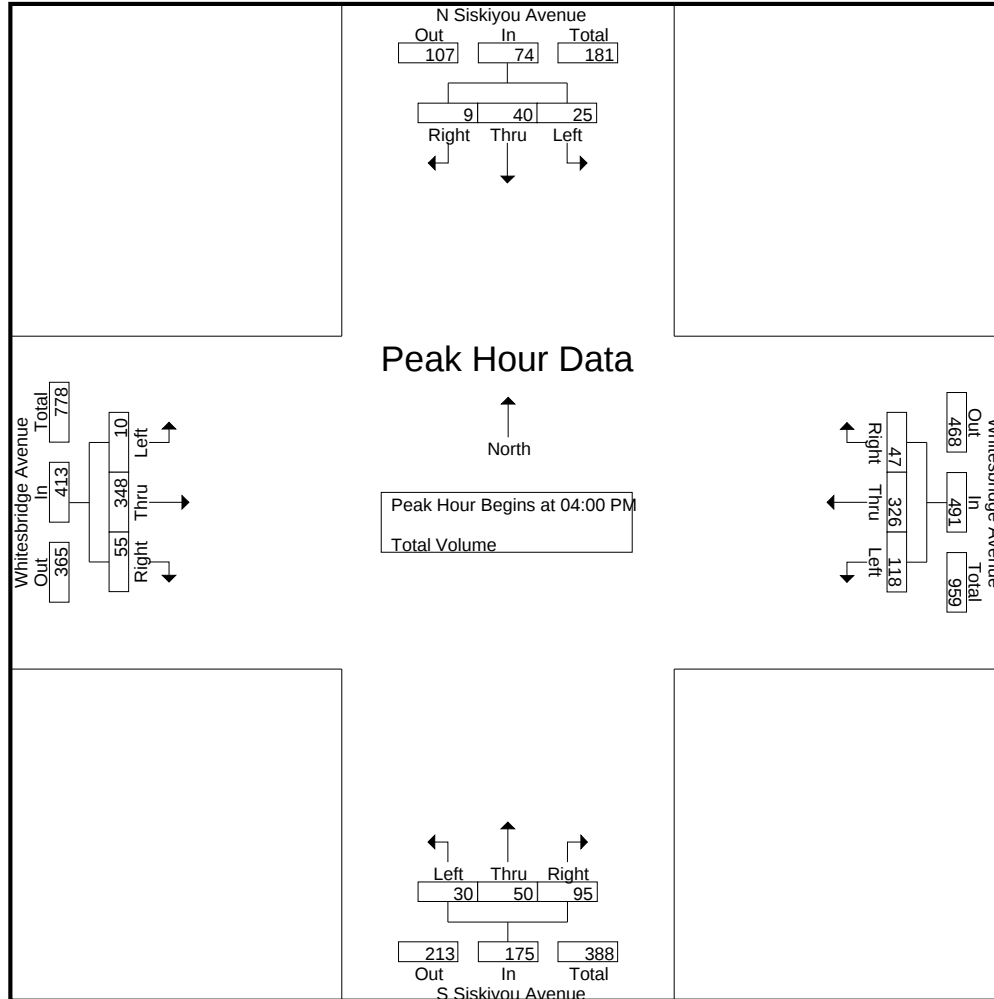
Groups Printed- Total Volume

	N Siskiyou Avenue Southbound				Whitesbridge Avenue Westbound				S Siskiyou Avenue Northbound				Whitesbridge Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	7	10	3	20	31	80	14	125	12	13	27	52	2	107	11	120	317
04:15 PM	3	7	2	12	33	89	7	129	5	9	24	38	2	82	13	97	276
04:30 PM	12	10	0	22	28	79	10	117	5	12	18	35	3	92	12	107	281
04:45 PM	3	13	4	20	26	78	16	120	8	16	26	50	3	67	19	89	279
Total	25	40	9	74	118	326	47	491	30	50	95	175	10	348	55	413	1153
05:00 PM	9	12	1	22	33	83	5	121	2	10	22	34	4	60	19	83	260
05:15 PM	7	18	0	25	29	73	15	117	7	6	19	32	0	123	28	151	325
05:30 PM	12	6	3	21	24	82	12	118	5	8	21	34	3	66	15	84	257
05:45 PM	16	11	1	28	22	79	13	114	11	11	35	57	3	84	10	97	296
Total	44	47	5	96	108	317	45	470	25	35	97	157	10	333	72	415	1138
Grand Total	69	87	14	170	226	643	92	961	55	85	192	332	20	681	127	828	2291
Apprch %	40.6	51.2	8.2		23.5	66.9	9.6		16.6	25.6	57.8		2.4	82.2	15.3		
Total %	3	3.8	0.6	7.4	9.9	28.1	4	41.9	2.4	3.7	8.4	14.5	0.9	29.7	5.5	36.1	

	N Siskiyou Avenue Southbound				Whitesbridge Avenue Westbound				S Siskiyou Avenue Northbound				Whitesbridge Avenue Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	7	10	3	20	31	80	14	125	12	13	27	52	2	107	11	120	317
04:15 PM	3	7	2	12	33	89	7	129	5	9	24	38	2	82	13	97	276
04:30 PM	12	10	0	22	28	79	10	117	5	12	18	35	3	92	12	107	281
04:45 PM	3	13	4	20	26	78	16	120	8	16	26	50	3	67	19	89	279
Total Volume	25	40	9	74	118	326	47	491	30	50	95	175	10	348	55	413	1153
% App. Total	33.8	54.1	12.2		24	66.4	9.6		17.1	28.6	54.3		2.4	84.3	13.3		
PHF	.521	.769	.563	.841	.894	.916	.734	.952	.625	.781	.880	.841	.833	.813	.724	.860	.909

City of Kerman
N/S: Siskiyou Avenue
E/W: Whitesbridge Avenue (SR-180)
Weather: Clear

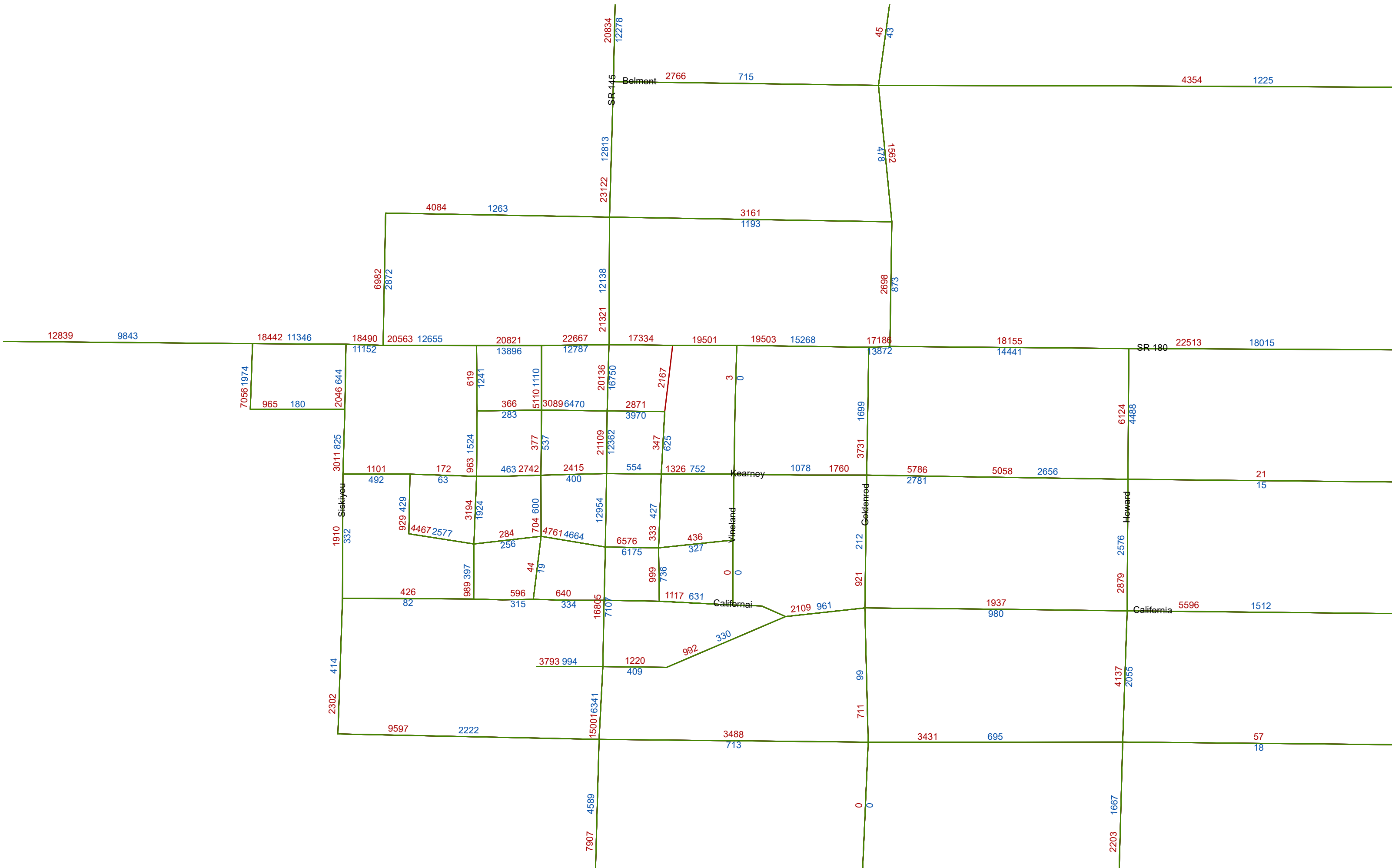
File Name : KRM_Sisk_WB PM
Site Code : 99924900
Start Date : 10/17/2024
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	05:00 PM				04:00 PM				04:00 PM				04:30 PM			
+0 mins.	9	12	1	22	31	80	14	125	12	13	27	52	3	92	12	107
+15 mins.	7	18	0	25	33	89	7	129	5	9	24	38	3	67	19	89
+30 mins.	12	6	3	21	28	79	10	117	5	12	18	35	4	60	19	83
+45 mins.	16	11	1	28	26	78	16	120	8	16	26	50	0	123	28	151
Total Volume	44	47	5	96	118	326	47	491	30	50	95	175	10	342	78	430
% App. Total	45.8	49	5.2		24	66.4	9.6		17.1	28.6	54.3		2.3	79.5	18.1	
PHF	.688	.653	.417	.857	.894	.916	.734	.952	.625	.781	.880	.841	.625	.695	.696	.712

FCOG MODEL RUN



Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	1	2	5	1	4	0	5	41	1	1	53	3
Future Vol, veh/h	1	2	5	1	4	0	5	41	1	1	53	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	63	63	63	69	69	69	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	5	2	6	0	7	59	1	1	75	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	157	155	77	153	156	60	79	0	0	61	0	0
Stage 1	80	80	-	75	75	-	-	-	-	-	-	-
Stage 2	77	75	-	78	82	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	810	737	984	814	736	1005	1519	-	-	1542	-	-
Stage 1	929	829	-	935	833	-	-	-	-	-	-	-
Stage 2	932	832	-	930	827	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	798	733	984	803	731	1005	1519	-	-	1542	-	-
Mov Cap-2 Maneuver	798	733	-	803	731	-	-	-	-	-	-	-
Stage 1	928	828	-	930	829	-	-	-	-	-	-	-
Stage 2	920	828	-	922	826	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	9.12		9.89		0.79		0.13	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	191	-	-	883	745	31	-	-
HCM Lane V/C Ratio	0.005	-	-	0.009	0.011	0.001	-	-
HCM Control Delay (s/veh)	7.4	0	-	9.1	9.9	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	3	2	1	6	1	0	24	1	0	53	2
Future Vol, veh/h	0	3	2	1	6	1	0	24	1	0	53	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	42	42	42	67	67	67	78	78	78	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	7	5	1	9	1	0	31	1	0	77	3
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	114	110	78	112	111	31	80	0	0	32	0	0
Stage 1	78	78	-	31	31	-	-	-	-	-	-	-
Stage 2	35	32	-	80	80	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	864	780	982	866	779	1043	1518	-	-	1580	-	-
Stage 1	931	830	-	985	869	-	-	-	-	-	-	-
Stage 2	980	868	-	928	829	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	853	780	982	854	779	1043	1518	-	-	1580	-	-
Mov Cap-2 Maneuver	853	780	-	854	779	-	-	-	-	-	-	-
Stage 1	931	830	-	985	869	-	-	-	-	-	-	-
Stage 2	969	868	-	916	829	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	9.3		9.49		0		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1518	-	-	850	814	1580	-	-				
HCM Lane V/C Ratio	-	-	-	0.014	0.015	-	-	-				
HCM Control Delay (s/veh)	0	-	-	9.3	9.5	0	-	-				
HCM Lane LOS	A	-	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-				

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	4	430	393	2
Future Vol, veh/h	0	5	4	430	393	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	42	42	86	86	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	5	500	423	2

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	933	424	425	0	-	0
Stage 1	424	-	-	-	-	-
Stage 2	509	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	295	630	1135	-	-	-
Stage 1	660	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	294	630	1135	-	-	-
Mov Cap-2 Maneuver	294	-	-	-	-	-
Stage 1	657	-	-	-	-	-
Stage 2	603	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v10.82		0.08	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	17	-	630	-	-
HCM Lane V/C Ratio	0.004	-	0.019	-	-
HCM Control Delay (s/veh)	8.2	0	10.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

PM 2024
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	348	55	118	326	47	30	50	95	25	40	9
Future Volume (veh/h)	10	348	55	118	326	47	30	50	95	25	40	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.97
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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	12	430	76	133	354	64	48	64	108	48	52	16
Peak Hour Factor	0.83	0.81	0.72	0.89	0.92	0.73	0.63	0.78	0.88	0.52	0.77	0.56
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	42	1061	807	179	2310	925	68	88	149	68	195	60
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.57	0.57	0.22	1.00	1.00	0.04	0.14	0.14	0.04	0.14	0.14
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.5	15.1	11.6	49.5	0.1	0.1	80.2	0.0	51.5	80.2	0.0	44.5
Ln Grp LOS	E	B	B	D	A	A	F		D	F		D
Approach Vol, veh/h		518			551			220			116	
Approach Delay, s/veh		15.6			12.1			57.8			59.2	
Approach LOS		B			B			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		8.8	20.5	16.5	69.2	8.8	20.5	7.0	78.8			
Change Period (Y+Rc), s		4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7			
Max Green (Gmax), s		4.4	27.0	22.3	40.7	4.4	27.0	4.1	58.9			
Max Allow Headway (MAH), s		4.1	4.2	4.1	4.0	4.1	4.1	4.1	4.1			
Max Q Clear (g_c+I1), s		5.3	13.5	10.7	16.9	5.3	5.9	2.8	2.0			
Green Ext Time (g_e), s		0.0	0.5	0.3	1.8	0.0	0.2	0.0	1.7			
Prob of Phs Call (p_c)		0.78	1.00	0.99	1.00	0.78	1.00	0.32	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1641		1641		1641		1641				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			614		1870		1363		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1037		1423		419		1424			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

PM 2024
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	48	0	133	0	48	0	12	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	3.3	0.0	8.7	0.0	3.3	0.0	0.8	0.0
Cycle Q Clear Time (g_c), s	3.3	0.0	8.7	0.0	3.3	0.0	0.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	68	0	179	0	68	0	42	0
V/C Ratio (X)	0.70	0.00	0.74	0.00	0.70	0.00	0.28	0.00
Avail Cap (c_a), veh/h	71	0	342	0	71	0	83	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	54.4	0.0	43.5	0.0	54.4	0.0	55.0	0.0
Incr Delay (d2), s/veh	25.8	0.0	6.0	0.0	25.8	0.0	3.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	80.2	0.0	49.5	0.0	80.2	0.0	58.5	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	3.1	0.0	1.3	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	0.3	0.0	0.5	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	3.4	0.0	1.8	0.0	0.4	0.0
%ile Storage Ratio (RQ%)	0.46	0.00	0.18	0.00	0.31	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	1	0	0	0	2
Grp Vol (v), veh/h	0	0	0	430	0	0	0	354
Grp Sat Flow (s), veh/h/ln	0	0	0	1870	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	14.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	14.9	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	1061	0	0	0	2310
V/C Ratio (X)	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.15
Avail Cap (c_a), veh/h	0	0	0	1061	0	0	0	2310
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.2	0.0	0.0	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
Control Delay (d), s/veh	0.0	0.0	0.0	15.1	0.0	0.0	0.0	0.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

PM 2024
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	5.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	172	0	76	0	68	0	64
Grp Sat Flow (s), veh/h/ln	0	1651	0	1423	0	1782	0	1424
Q Serve Time (g_s), s	0.0	11.5	0.0	2.8	0.0	3.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.5	0.0	2.8	0.0	3.9	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.63	0.00	1.00	0.00	0.24	0.00	1.00
Lane Grp Cap (c), veh/h	0	237	0	807	0	256	0	925
V/C Ratio (X)	0.00	0.73	0.00	0.09	0.00	0.27	0.00	0.07
Avail Cap (c_a), veh/h	0	396	0	807	0	428	0	925
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	47.3	0.0	11.4	0.0	43.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	4.2	0.0	0.2	0.0	0.6	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
Control Delay (d), s/veh	0.0	51.5	0.0	11.6	0.0	44.5	0.0	0.1
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	0.8	0.0	1.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	0.8	0.0	1.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.12	0.00	0.07	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	24.4
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

PM 2024
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (veh/h)	4	482	16	167	477	4	13	20	145	3	29	1
Future Volume (veh/h)	4	482	16	167	477	4	13	20	145	3	29	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	4	536	18	180	513	4	16	24	177	3	34	1
Peak Hour Factor	0.90	0.90	0.90	0.93	0.93	0.93	0.82	0.82	0.82	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	20	1924	778	221	2399	19	36	33	242	18	295	9
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	1.00	1.00	0.13	0.66	0.66	0.02	0.17	0.17	0.01	0.16	0.16
Unsig. Movement Delay												
Ln Grp Delay, s/veh	60.6	0.4	0.1	53.6	7.9	7.8	64.1	0.0	49.1	60.6	0.0	41.2
Ln Grp LOS	E	A	A	D	A	A	E		D	E		D
Approach Vol, veh/h	558				697				217		38	
Approach Delay, s/veh	0.8				19.7				50.2		42.8	
Approach LOS	A				B				D		D	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	5.3	24.0	19.5	66.2	6.5	22.8	5.4	80.4				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	7.1	33.5	24.1	30.7	8.2	32.4	5.0	49.8				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.0	4.1	4.0	4.1	4.0				
Max Q Clear (g_c+I1), s	2.2	15.9	14.3	2.0	3.1	3.8	2.3	8.4				
Green Ext Time (g_e), s	0.0	0.7	0.4	2.3	0.0	0.1	0.0	1.8				
Prob of Phs Call (p_c)	0.09	1.00	1.00	1.00	0.40	1.00	0.12	1.00				
Prob of Max Out (p_x)	0.15	0.00	0.01	0.00	0.18	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		189		3554		1806		3613				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		1392		1437		53		28				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

PM 2024
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	3	0	180	0	16	0	4	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.2	0.0	12.3	0.0	1.1	0.0	0.3	0.0
Cycle Q Clear Time (g_c), s	0.2	0.0	12.3	0.0	1.1	0.0	0.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	18	0	221	0	36	0	20	0
V/C Ratio (X)	0.17	0.00	0.81	0.00	0.45	0.00	0.20	0.00
Avail Cap (c_a), veh/h	114	0	357	0	130	0	84	0
Upstream Filter (I)	1.00	0.00	0.70	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	56.3	0.0	48.4	0.0	55.6	0.0	55.6	0.0
Incr Delay (d2), s/veh	4.2	0.0	5.3	0.0	8.6	0.0	5.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	60.6	0.0	53.6	0.0	64.1	0.0	60.6	0.0
1st-Term Q (Q1), veh/ln	0.1	0.0	4.8	0.0	0.4	0.0	0.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.1	0.0	5.1	0.0	0.5	0.0	0.1	0.0
%ile Storage Ratio (RQ%)	0.02	0.00	0.24	0.00	0.12	0.00	0.01	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	536	0	0	0	252
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.4
Lane Grp Cap (c), veh/h	0	0	0	1924	0	0	0	1180
V/C Ratio (X)	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.21
Avail Cap (c_a), veh/h	0	0	0	1924	0	0	0	1180
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.70
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.4	0.0	0.0	0.0	7.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

PM 2024
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	2.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	201	0	18	0	35	0	265
Grp Sat Flow (s), veh/h/ln	0	1580	0	1437	0	1859	0	1864
Q Serve Time (g_s), s	0.0	13.9	0.0	0.0	0.0	1.8	0.0	6.4
Cycle Q Clear Time (g_c), s	0.0	13.9	0.0	0.0	0.0	1.8	0.0	6.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.88	0.00	1.00	0.00	0.03	0.00	0.02
Lane Grp Cap (c), veh/h	0	275	0	778	0	303	0	1238
V/C Ratio (X)	0.00	0.73	0.00	0.02	0.00	0.12	0.00	0.21
Avail Cap (c_a), veh/h	0	473	0	778	0	538	0	1238
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.70
Uniform Delay (d1), s/veh	0.0	45.4	0.0	0.0	0.0	41.1	0.0	7.6
Incr Delay (d2), s/veh	0.0	3.7	0.0	0.1	0.0	0.2	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	49.1	0.0	0.1	0.0	41.2	0.0	7.8
1st-Term Q (Q1), veh/ln	0.0	5.2	0.0	0.0	0.0	0.8	0.0	2.1
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.5	0.0	0.0	0.0	0.8	0.0	2.2
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.00	0.00	0.02	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	17.7
HCM 7th LOS	B

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

PM 2024
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	466	67	94	504	59	139	272	131	140	266	100
Future Volume (veh/h)	114	466	67	94	504	59	139	272	131	140	266	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.96	1.00		0.98	1.00		0.97
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	134	548	79	104	560	66	156	306	147	149	283	106
Peak Hour Factor	0.85	0.85	0.85	0.90	0.90	0.90	0.89	0.89	0.89	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	170	731	105	138	689	81	689	538	216	649	451	180
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
Prop Arrive On Green	0.10	0.24	0.23	0.08	0.22	0.21	0.42	0.15	0.15	0.40	0.13	0.13
Unsig. Movement Delay												
Ln Grp Delay, s/veh	66.0	45.2	45.4	62.4	49.0	49.3	22.5	48.2	51.8	24.3	56.1	62.7
Ln Grp LOS	E	D	D	E	D	D	C	D	D	C	E	E
Approach Vol, veh/h	761			730			609			538		
Approach Delay, s/veh	48.9			51.0			42.5			48.6		
Approach LOS	D			D			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	6	5	8	7				
Case No	2.0	3.0	2.0	4.0	3.0	2.0	4.0	2.0				
Phs Duration (G+Y+Rc), s	51.5	22.2	14.1	32.2	19.2	54.4	29.9	16.4				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	16.3	28.9	13.7	41.5	25.5	19.7	40.3	14.9				
Max Allow Headway (MAH), s	4.1	4.1	4.1	4.0	4.1	4.1	4.0	4.1				
Max Q Clear (g_c+I1), s	9.2	13.7	9.4	21.7	11.1	9.3	22.1	11.6				
Green Ext Time (g_e), s	0.2	1.6	0.1	2.2	1.3	0.3	2.1	0.1				
Prob of Phs Call (p_c)	0.99	1.00	0.97	1.00	1.00	0.99	1.00	0.99				
Prob of Max Out (p_x)	0.09	0.01	0.84	0.01	0.01	0.01	0.01	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2		4		6		8					
Mvmt Sat Flow, veh/h	3554		3109		3554		3189					
Right-Turn Movement Data												
Assigned Mvmt	12		14		16		18					
Mvmt Sat Flow, veh/h	1424		447		1420		375					
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	0	5	0	7				

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

PM 2024
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	0	1	0	1
Grp Vol (v), veh/h	149	0	104	0	0	156	0	134
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	0	1641	0	1641
Q Serve Time (g_s), s	7.2	0.0	7.4	0.0	0.0	7.3	0.0	9.6
Cycle Q Clear Time (g_c), s	7.2	0.0	7.4	0.0	0.0	7.3	0.0	9.6
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	649	0	138	0	0	689	0	170
V/C Ratio (X)	0.23	0.00	0.75	0.00	0.00	0.23	0.00	0.79
Avail Cap (c_a), veh/h	649	0	200	0	0	689	0	216
Upstream Filter (I)	1.00	0.00	0.96	0.00	0.00	0.95	0.00	0.97
Uniform Delay (d1), s/veh	24.1	0.0	53.7	0.0	0.0	22.3	0.0	52.5
Incr Delay (d2), s/veh	0.2	0.0	8.7	0.0	0.0	0.2	0.0	13.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.3	0.0	62.4	0.0	0.0	22.5	0.0	66.0
1st-Term Q (Q1), veh/ln	2.6	0.0	2.9	0.0	0.0	2.6	0.0	3.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	2.7	0.0	3.3	0.0	0.0	2.7	0.0	4.4
%ile Storage Ratio (RQ%)	0.57	0.00	0.36	0.00	0.00	0.36	0.00	0.64
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	6	0	8	0
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	2	0	1	0
Grp Vol (v), veh/h	0	306	0	312	283	0	311	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	1777	0	1777	0
Q Serve Time (g_s), s	0.0	9.6	0.0	19.6	9.1	0.0	20.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.6	0.0	19.6	9.1	0.0	20.0	0.0
Lane Grp Cap (c), veh/h	0	538	0	418	451	0	384	0
V/C Ratio (X)	0.00	0.57	0.00	0.75	0.63	0.00	0.81	0.00
Avail Cap (c_a), veh/h	0	882	0	628	782	0	610	0
Upstream Filter (I)	0.00	0.95	0.00	0.97	1.00	0.00	0.96	0.00
Uniform Delay (d1), s/veh	0.0	47.3	0.0	42.6	49.7	0.0	44.7	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	2.6	6.4	0.0	4.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	48.2	0.0	45.2	56.1	0.0	49.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	8.1	3.9	0.0	8.3	0.0

HCM 7th Signalized Intersection Capacity Analysis 6: S Madera Ave & Whitesbridge Ave

PM 2024
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.3	0.4	0.0	0.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.1	0.0	8.4	4.3	0.0	8.8	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.08	0.04	0.00	0.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	16	0	18	0
Lane Assignment		R		T+R	R		T+R	
Lanes in Grp	0	1	0	1	1	0	1	0
Grp Vol (v), veh/h	0	147	0	315	106	0	315	0
Grp Sat Flow (s), veh/h/ln	0	1424	0	1779	1420	0	1787	0
Q Serve Time (g_s), s	0.0	11.7	0.0	19.7	8.4	0.0	20.1	0.0
Cycle Q Clear Time (g_c), s	0.0	11.7	0.0	19.7	8.4	0.0	20.1	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.25	1.00	0.00	0.21	0.00
Lane Grp Cap (c), veh/h	0	216	0	419	180	0	386	0
V/C Ratio (X)	0.00	0.68	0.00	0.75	0.59	0.00	0.82	0.00
Avail Cap (c_a), veh/h	0	354	0	629	313	0	613	0
Upstream Filter (I)	0.00	0.95	0.00	0.97	1.00	0.00	0.96	0.00
Uniform Delay (d1), s/veh	0.0	48.2	0.0	42.7	49.4	0.0	44.9	0.0
Incr Delay (d2), s/veh	0.0	3.6	0.0	2.7	13.3	0.0	4.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	51.8	0.0	45.4	62.7	0.0	49.3	0.0
1st-Term Q (Q1), veh/ln	0.0	4.0	0.0	8.2	0.0	0.0	8.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.3	0.7	0.0	0.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.2	0.0	8.5	0.7	0.0	8.9	0.0
%ile Storage Ratio (RQ%)	0.00	0.67	0.00	0.08	0.17	0.00	0.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	48.0
HCM 7th LOS	D

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

PM 2024
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	596	128	52	587	9	74	8	57	7	23	13
Future Volume (veh/h)	14	596	128	52	587	9	74	8	57	7	23	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.96
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	15	627	135	55	618	9	89	10	69	8	28	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes				Yes				Yes			
Cap, veh/h	35	2317	928	82	2440	36	123	29	198	26	92	53
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
Prop Arrive On Green	0.02	0.65	0.65	0.05	0.68	0.67	0.08	0.14	0.14	0.02	0.08	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	62.3	8.7	8.0	62.9	7.6	7.6	59.7	0.0	45.7	62.7	0.0	50.8
Ln Grp LOS	E	A	A	E	A	A	E		D	E		D
Approach Vol, veh/h	777			682			168			52		
Approach Delay, s/veh	9.6			12.0			53.1			52.7		
Approach LOS	A			B			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	5.8	20.5	9.7	79.0	12.6	13.6	6.4	82.3				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	5.1	41.7	12.1	36.5	16.1	30.7	5.1	43.5				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.1	4.1	4.1	4.1	4.0				
Max Q Clear (g_c+I1), s	2.6	7.2	5.8	10.6	8.1	4.8	3.0	9.7				
Green Ext Time (g_e), s	0.0	0.3	0.0	3.3	0.1	0.1	0.0	2.3				
Prob of Phs Call (p_c)	0.23	1.00	0.83	1.00	0.94	1.00	0.38	1.00				
Prob of Max Out (p_x)	1.00	0.00	0.07	0.00	0.02	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	200			3554			1100			3584		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1379			1424			629			52		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

PM 2024
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	8	0	55	0	89	0	15	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.6	0.0	3.8	0.0	6.1	0.0	1.0	0.0
Cycle Q Clear Time (g_c), s	0.6	0.0	3.8	0.0	6.1	0.0	1.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	26	0	82	0	123	0	35	0
V/C Ratio (X)	0.31	0.00	0.67	0.00	0.72	0.00	0.43	0.00
Avail Cap (c_a), veh/h	86	0	185	0	243	0	86	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.79	0.00
Uniform Delay (d1), s/veh	56.0	0.0	53.7	0.0	52.0	0.0	55.6	0.0
Incr Delay (d2), s/veh	6.7	0.0	9.2	0.0	7.7	0.0	6.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	62.7	0.0	62.9	0.0	59.7	0.0	62.3	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	1.5	0.0	2.4	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	0.3	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.3	0.0	1.7	0.0	2.7	0.0	0.5	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.11	0.00	0.40	0.00	0.04	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	627	0	0	0	306
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	8.6	0.0	0.0	0.0	7.6
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	8.6	0.0	0.0	0.0	7.6
Lane Grp Cap (c), veh/h	0	0	0	2317	0	0	0	1210
V/C Ratio (X)	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.25
Avail Cap (c_a), veh/h	0	0	0	2317	0	0	0	1210
Upstream Filter (I)	0.00	0.00	0.00	0.79	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	8.5	0.0	0.0	0.0	7.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	8.7	0.0	0.0	0.0	7.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.7	0.0	0.0	0.0	2.3

HCM 7th Signalized Intersection Capacity Analysis 7: S Vineland Ave & Whitesbridge Ave

PM 2024
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	2.8	0.0	0.0	0.0	2.5
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	79	0	135	0	44	0	321
Grp Sat Flow (s), veh/h/ln	0	1579	0	1424	0	1729	0	1859
Q Serve Time (g_s), s	0.0	5.2	0.0	4.2	0.0	2.8	0.0	7.7
Cycle Q Clear Time (g_c), s	0.0	5.2	0.0	4.2	0.0	2.8	0.0	7.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.87	0.00	1.00	0.00	0.36	0.00	0.03
Lane Grp Cap (c), veh/h	0	226	0	928	0	145	0	1266
V/C Ratio (X)	0.00	0.35	0.00	0.15	0.00	0.30	0.00	0.25
Avail Cap (c_a), veh/h	0	585	0	928	0	475	0	1266
Upstream Filter (I)	0.00	1.00	0.00	0.79	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	44.8	0.0	7.7	0.0	49.7	0.0	7.1
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.3	0.0	1.2	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	45.7	0.0	8.0	0.0	50.8	0.0	7.6
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	1.1	0.0	1.1	0.0	2.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.0	0.0	1.1	0.0	1.2	0.0	2.6
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.09	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	16.3
HCM 7th LOS	B

Intersection

Intersection Delay, s/veh 11.3

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	146	21	34	214	23	24	46	19	30	43	66
Future Vol, veh/h	36	146	21	34	214	23	24	46	19	30	43	66
Peak Hour Factor	0.88	0.88	0.88	0.76	0.76	0.76	0.82	0.82	0.82	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	166	24	45	282	30	29	56	23	34	48	74
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay, s/veh	0.8	12.7	9.8	9.8
HCM LOS	B	B	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	45%	0%	100%	0%	0%	100%	0%	0%	100%	18%
Vol Right, %	0%	0%	55%	0%	0%	100%	0%	0%	100%	0%	0%	82%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	31	34	36	146	21	34	214	23	30	29	80
LT Vol	24	0	0	36	0	0	34	0	0	30	0	0
Through Vol	0	31	15	0	146	0	0	214	0	0	29	14
RT Vol	0	0	19	0	0	21	0	0	23	0	0	66
Lane Flow Rate	29	37	42	41	166	24	45	282	30	34	32	90
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.058	0.069	0.072	0.076	0.285	0.036	0.08	0.464	0.044	0.066	0.058	0.149
Departure Headway (Hd)	7.11	6.61	6.223	6.679	6.179	5.479	6.428	5.928	5.228	7.012	6.512	5.937
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	503	542	575	536	581	653	558	608	685	511	549	603
Service Time	4.857	4.357	3.969	4.419	3.919	3.219	4.163	3.663	2.963	4.757	4.257	3.682
HCM Lane V/C Ratio	0.058	0.068	0.073	0.076	0.286	0.037	0.081	0.464	0.044	0.067	0.058	0.149
HCM Control Delay, s/veh	10.3	9.8	9.5	10	11.4	8.4	9.7	13.7	8.2	10.3	9.7	9.7
HCM Lane LOS	B	A	A	A	B	A	A	B	A	B	A	A
HCM 95th-tile Q	0.2	0.2	0.2	0.2	1.2	0.1	0.3	2.4	0.1	0.2	0.2	0.5

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

PM 2024
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	156	55	73	108	56	54	516	44	74	380	40
Future Volume (veh/h)	43	156	55	73	108	56	54	516	44	74	380	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.98
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	53	193	68	87	129	67	61	586	50	84	432	45
Peak Hour Factor	0.81	0.81	0.81	0.84	0.84	0.84	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	79	270	206	121	318	242	769	1888	161	117	564	58
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
Prop Arrive On Green	0.05	0.14	0.14	0.07	0.17	0.17	0.47	0.57	0.56	0.07	0.17	0.17
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.2	50.4	45.1	59.9	43.4	42.2	16.9	13.6	13.7	59.7	60.8	61.3
Ln Grp LOS	E	D	D	E	D	D	B	B	B	E	E	E
Approach Vol, veh/h	314			283			697			561		
Approach Delay, s/veh	51.4			48.2			13.9			60.8		
Approach LOS	D			D			B			E		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4	3	6	5	7	8				
Case No	2.0	4.0	3.0	2.0	4.0	2.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	12.2	69.7	20.6	12.5	24.0	57.9	9.5	23.5				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	15.1	36.1	29.1	15.1	40.1	11.1	11.1	33.1				
Max Allow Headway (MAH), s	4.1	4.0	4.1	4.1	4.0	4.1	4.1	4.1				
Max Q Clear (g_c+I1), s	7.8	12.7	13.3	8.0	16.7	4.4	5.7	9.1				
Green Ext Time (g_e), s	0.1	2.2	0.8	0.1	1.6	0.1	0.0	0.6				
Prob of Phs Call (p_c)	0.93	1.00	1.00	0.94	1.00	0.86	0.82	1.00				
Prob of Max Out (p_x)	0.03	0.00	0.00	0.04	0.00	0.05	0.19	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1				3			5	7			
Mvmt Sat Flow, veh/h	1641				1641			1641	1641			
Through Movement Data												
Assigned Mvmt			2	4			6			8		
Mvmt Sat Flow, veh/h			3306	1870			3241			1870		
Right-Turn Movement Data												
Assigned Mvmt			12	14			16			18		
Mvmt Sat Flow, veh/h			282	1423			336			1426		
Left Lane Group Data												
Assigned Mvmt	1	0	0	3	0	5	7	0				

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

PM 2024
11/06/2024

Lane Assignment	L (Prot)			L (Prot)			L (Prot) L (Prot)	
Lanes in Grp	1	0	0	1	0	1	1	0
Grp Vol (v), veh/h	84	0	0	87	0	61	53	0
Grp Sat Flow (s), veh/h/ln	1641	0	0	1641	0	1641	1641	0
Q Serve Time (g_s), s	5.8	0.0	0.0	6.0	0.0	2.4	3.7	0.0
Cycle Q Clear Time (g_c), s	5.8	0.0	0.0	6.0	0.0	2.4	3.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	117	0	0	121	0	769	79	0
V/C Ratio (X)	0.72	0.00	0.00	0.72	0.00	0.08	0.67	0.00
Avail Cap (c_a), veh/h	228	0	0	228	0	769	171	0
Upstream Filter (I)	0.95	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	52.2	0.0	0.0	52.1	0.0	16.9	53.8	0.0
Incr Delay (d2), s/veh	7.5	0.0	0.0	7.8	0.0	0.0	9.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.7	0.0	0.0	59.9	0.0	16.9	63.2	0.0
1st-Term Q (Q1), veh/ln	2.3	0.0	0.0	2.3	0.0	0.8	1.4	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.3	0.0	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.5	0.0	0.0	2.6	0.0	0.8	1.7	0.0
%ile Storage Ratio (RQ%)	0.34	0.00	0.00	0.74	0.00	0.21	0.42	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	6	0	0	8
Lane Assignment	T			T			T	
Lanes in Grp	0	1	1	0	1	0	0	1
Grp Vol (v), veh/h	0	314	193	0	236	0	0	129
Grp Sat Flow (s), veh/h/ln	0	1777	1870	0	1777	0	0	1870
Q Serve Time (g_s), s	0.0	10.6	11.3	0.0	14.5	0.0	0.0	7.1
Cycle Q Clear Time (g_c), s	0.0	10.6	11.3	0.0	14.5	0.0	0.0	7.1
Lane Grp Cap (c), veh/h	0	1015	270	0	309	0	0	318
V/C Ratio (X)	0.00	0.31	0.71	0.00	0.76	0.00	0.00	0.41
Avail Cap (c_a), veh/h	0	1015	488	0	633	0	0	553
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.95	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.8	46.9	0.0	45.2	0.0	0.0	42.6
Incr Delay (d2), s/veh	0.0	0.8	3.5	0.0	15.5	0.0	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.6	50.4	0.0	60.8	0.0	0.0	43.4
1st-Term Q (Q1), veh/ln	0.0	3.7	5.0	0.0	6.1	0.0	0.0	3.1

HCM 7th Signalized Intersection Capacity Analysis 9: S Madera Ave & W Kearney Blvd

PM 2024
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.3	0.0	1.3	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.9	5.3	0.0	7.4	0.0	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.01	0.05	0.00	0.07	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	16	0	0	18
Lane Assignment	T+R		R	T+R		R		
Lanes in Grp	0	1	1	0	1	0	0	1
Grp Vol (v), veh/h	0	322	68	0	241	0	0	67
Grp Sat Flow (s), veh/h/ln	0	1811	1423	0	1800	0	0	1426
Q Serve Time (g_s), s	0.0	10.7	4.9	0.0	14.7	0.0	0.0	4.7
Cycle Q Clear Time (g_c), s	0.0	10.7	4.9	0.0	14.7	0.0	0.0	4.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.16	1.00	0.00	0.19	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1034	206	0	313	0	0	242
V/C Ratio (X)	0.00	0.31	0.33	0.00	0.77	0.00	0.00	0.28
Avail Cap (c_a), veh/h	0	1034	371	0	642	0	0	422
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.95	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	44.2	0.0	45.4	0.0	0.0	41.6
Incr Delay (d2), s/veh	0.0	0.8	0.9	0.0	15.9	0.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.7	45.1	0.0	61.3	0.0	0.0	42.2
1st-Term Q (Q1), veh/ln	0.0	3.8	1.7	0.0	6.2	0.0	0.0	1.6
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.1	0.0	1.4	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.0	1.7	0.0	7.6	0.0	0.0	1.6
%ile Storage Ratio (RQ%)	0.00	0.01	0.44	0.00	0.08	0.00	0.00	0.41
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	39.7
HCM 7th LOS	D

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	43	65	18	24	88	45	21	206	28	37	133	57
Future Vol, veh/h	43	65	18	24	88	45	21	206	28	37	133	57
Peak Hour Factor	0.93	0.93	0.93	0.82	0.82	0.82	0.92	0.92	0.92	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	70	19	29	107	55	23	224	30	42	149	64
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	10.3	10.8	12	10.9
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	8%	34%	15%	100%	0%
Vol Thru, %	81%	52%	56%	0%	70%
Vol Right, %	11%	14%	29%	0%	30%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	255	126	157	37	190
LT Vol	21	43	24	37	0
Through Vol	206	65	88	0	133
RT Vol	28	18	45	0	57
Lane Flow Rate	277	135	191	42	213
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.41	0.214	0.291	0.073	0.333
Departure Headway (Hd)	5.324	5.693	5.468	6.332	5.612
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	676	630	657	566	640
Service Time	3.361	3.738	3.509	4.071	3.351
HCM Lane V/C Ratio	0.41	0.214	0.291	0.074	0.333
HCM Control Delay, s/veh	12	10.3	10.8	9.6	11.1
HCM Lane LOS	B	B	B	A	B
HCM 95th-tile Q	2	0.8	1.2	0.2	1.5

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↖	
Traffic Vol, veh/h	0	0	0	28	56	0
Future Vol, veh/h	0	0	0	28	56	0
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	0	0	0	30	61	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	61	61	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	1004	1542	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	1004	1542	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1542	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s/veh)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 7th TWSC
12: Whitesbridge Ave & Project Entrance

PM 2024
11/06/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	468	978	0	0	0
Future Vol, veh/h	0	468	978	0	0	0
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	0	509	1063	0	0	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	532
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	492
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	492
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0	0		0		
HCM LOS				A		
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s/veh)	-	-	-	0		
HCM Lane LOS	-	-	-	A		
HCM 95th %tile Q(veh)	-	-	-	-		

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	1	5	5	1	6	0	5	41	1	1	53	3
Future Vol, veh/h	1	5	5	1	6	0	5	41	1	1	53	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	63	63	63	69	69	69	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	5	5	2	10	0	7	59	1	1	75	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	158	155	77	155	156	60	79	0	0	61	0	0
Stage 1	80	80	-	75	75	-	-	-	-	-	-	-
Stage 2	79	75	-	80	82	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	808	737	984	812	736	1005	1519	-	-	1542	-	-
Stage 1	929	829	-	935	833	-	-	-	-	-	-	-
Stage 2	930	832	-	929	827	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	793	733	984	798	731	1005	1519	-	-	1542	-	-
Mov Cap-2 Maneuver	793	733	-	798	731	-	-	-	-	-	-	-
Stage 1	928	828	-	930	829	-	-	-	-	-	-	-
Stage 2	915	828	-	917	826	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	9.37		9.94		0.79		0.13	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	191	-	-	835	740	31	-	-
HCM Lane V/C Ratio	0.005	-	-	0.013	0.015	0.001	-	-
HCM Control Delay (s/veh)	7.4	0	-	9.4	9.9	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	3	5	9	6	1	2	30	6	0	59	2
Future Vol, veh/h	0	3	5	9	6	1	2	30	6	0	59	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	42	42	42	67	67	67	78	78	78	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	7	12	13	9	1	3	38	8	0	86	3
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	135	138	87	137	136	42	88	0	0	46	0	0
Stage 1	87	87	-	47	47	-	-	-	-	-	-	-
Stage 2	48	51	-	89	88	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	836	753	972	834	755	1028	1507	-	-	1562	-	-
Stage 1	921	823	-	966	855	-	-	-	-	-	-	-
Stage 2	965	852	-	918	822	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	824	751	972	815	754	1028	1507	-	-	1562	-	-
Mov Cap-2 Maneuver	824	751	-	815	754	-	-	-	-	-	-	-
Stage 1	921	823	-	964	854	-	-	-	-	-	-	-
Stage 2	952	851	-	899	822	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	9.2		9.63		0.39		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	92	-	-	875	801	1562	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.022	0.03	-	-	-				
HCM Control Delay (s/veh)	7.4	0	-	9.2	9.6	0	-	-				
HCM Lane LOS	A	A	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-				

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	P	
Traffic Vol, veh/h	5	5	4	430	393	10
Future Vol, veh/h	5	5	4	430	393	10
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	42	42	86	86	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	12	5	500	423	11

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	937	428	433	0	-	0
Stage 1	428	-	-	-	-	-
Stage 2	509	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	294	627	1126	-	-	-
Stage 1	657	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	292	627	1126	-	-	-
Mov Cap-2 Maneuver	292	-	-	-	-	-
Stage 1	654	-	-	-	-	-
Stage 2	603	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	14.61	0.08	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	17	-	398	-	-
HCM Lane V/C Ratio	0.004	-	0.06	-	-
HCM Control Delay (s/veh)	8.2	0	14.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

PM 2024+Project
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	359	55	224	335	47	30	50	95	25	40	9
Future Volume (veh/h)	10	359	55	224	335	47	30	50	95	25	40	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.97
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	12	443	76	252	364	64	48	64	108	48	52	16
Peak Hour Factor	0.83	0.81	0.72	0.89	0.92	0.73	0.63	0.78	0.88	0.52	0.77	0.56
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	42	932	708	292	2310	925	68	88	149	68	195	60
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.50	0.50	0.36	1.00	1.00	0.04	0.14	0.14	0.04	0.14	0.14
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.5	20.7	15.6	53.6	0.1	0.1	80.2	0.0	51.5	80.2	0.0	44.5
Ln Grp LOS	E	C	B	D	A	A	F		D	F		D
Approach Vol, veh/h	531			680			220			116		
Approach Delay, s/veh	20.8			20.0			57.8			59.2		
Approach LOS	C			B			E			E		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	8.8	20.5	24.4	61.3	8.8	20.5	7.0	78.8				
Change Period (Y+Rc), s	4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7				
Max Green (Gmax), s	4.4	27.0	22.3	40.7	4.4	27.0	4.1	58.9				
Max Allow Headway (MAH), s	4.1	4.2	4.1	4.0	4.1	4.1	4.1	4.1				
Max Q Clear (g_c+I1), s	5.3	13.5	18.4	19.9	5.3	5.9	2.8	2.0				
Green Ext Time (g_e), s	0.0	0.5	0.3	1.8	0.0	0.2	0.0	1.8				
Prob of Phs Call (p_c)	0.78	1.00	1.00	1.00	0.78	1.00	0.32	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		614		1870		1363		3554				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		1037		1421		419		1424				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

PM 2024+Project
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	48	0	252	0	48	0	12	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	3.3	0.0	16.4	0.0	3.3	0.0	0.8	0.0
Cycle Q Clear Time (g_c), s	3.3	0.0	16.4	0.0	3.3	0.0	0.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	68	0	292	0	68	0	42	0
V/C Ratio (X)	0.70	0.00	0.86	0.00	0.70	0.00	0.28	0.00
Avail Cap (c_a), veh/h	71	0	342	0	71	0	83	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	54.4	0.0	35.8	0.0	54.4	0.0	55.0	0.0
Incr Delay (d2), s/veh	25.8	0.0	17.8	0.0	25.8	0.0	3.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	80.2	0.0	53.6	0.0	80.2	0.0	58.5	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	5.0	0.0	1.3	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	1.4	0.0	0.5	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	6.4	0.0	1.8	0.0	0.4	0.0
%ile Storage Ratio (RQ%)	0.46	0.00	0.34	0.00	0.31	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	1	0	0	0	2
Grp Vol (v), veh/h	0	0	0	443	0	0	0	364
Grp Sat Flow (s), veh/h/ln	0	0	0	1870	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	17.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	17.9	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	932	0	0	0	2310
V/C Ratio (X)	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.16
Avail Cap (c_a), veh/h	0	0	0	932	0	0	0	2310
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	19.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.7	0.0	0.0	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
Control Delay (d), s/veh	0.0	0.0	0.0	20.7	0.0	0.0	0.0	0.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis 4: Siskiyou Ave & Whitesbridge Ave

PM 2024+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	172	0	76	0	68	0	64
Grp Sat Flow (s), veh/h/ln	0	1651	0	1421	0	1782	0	1424
Q Serve Time (g_s), s	0.0	11.5	0.0	3.3	0.0	3.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.5	0.0	3.3	0.0	3.9	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.63	0.00	1.00	0.00	0.24	0.00	1.00
Lane Grp Cap (c), veh/h	0	237	0	708	0	256	0	925
V/C Ratio (X)	0.00	0.73	0.00	0.11	0.00	0.27	0.00	0.07
Avail Cap (c_a), veh/h	0	396	0	708	0	428	0	925
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	47.3	0.0	15.3	0.0	43.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	4.2	0.0	0.3	0.0	0.6	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
Control Delay (d), s/veh	0.0	51.5	0.0	15.6	0.0	44.5	0.0	0.1
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	1.0	0.0	1.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	1.0	0.0	1.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.12	0.00	0.09	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	28.6
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

PM 2024+Project

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	545	59	167	557	91	67	58	145	71	60	4
Future Volume (veh/h)	15	545	59	167	557	91	67	58	145	71	60	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	17	606	66	180	599	98	82	71	177	83	70	5
Peak Hour Factor	0.90	0.90	0.90	0.93	0.93	0.93	0.82	0.82	0.82	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	37	1640	663	221	1747	285	114	91	227	114	336	24
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.92	0.92	0.13	0.57	0.57	0.07	0.20	0.19	0.07	0.20	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.0	3.1	2.7	53.0	13.6	13.7	67.7	0.0	48.7	73.0	0.0	39.1
Ln Grp LOS	E	A	A	D	B	B	E		D	E		D
Approach Vol, veh/h		689			877			330			158	
Approach Delay, s/veh		4.6			21.7			53.4			56.9	
Approach LOS		A			C			D			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		12.0	26.4	19.5	57.1	12.0	26.5	6.6	70.0			
Change Period (Y+Rc), s		4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9			
Max Green (Gmax), s		7.1	33.5	24.1	30.7	8.2	32.4	5.0	49.8			
Max Allow Headway (MAH), s		4.1	4.3	4.1	4.0	4.1	4.0	4.1	4.0			
Max Q Clear (g_c+I1), s		7.7	18.6	14.3	4.3	7.6	5.9	3.2	14.1			
Green Ext Time (g_e), s		0.0	0.8	0.4	2.8	0.0	0.2	0.0	2.6			
Prob of Phs Call (p_c)		0.93	1.00	1.00	1.00	0.93	1.00	0.42	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.01	0.00	1.00	0.00	1.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1641		1641		1641		1641				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			467		3554		1722		3045			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1163		1436		123		497			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

PM 2024+Project
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	83	0	180	0	82	0	17	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	5.7	0.0	12.3	0.0	5.6	0.0	1.2	0.0
Cycle Q Clear Time (g_c), s	5.7	0.0	12.3	0.0	5.6	0.0	1.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	114	0	221	0	114	0	37	0
V/C Ratio (X)	0.73	0.00	0.81	0.00	0.72	0.00	0.46	0.00
Avail Cap (c_a), veh/h	114	0	357	0	130	0	84	0
Upstream Filter (I)	1.00	0.00	0.62	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	52.4	0.0	48.4	0.0	52.4	0.0	54.2	0.0
Incr Delay (d2), s/veh	20.6	0.0	4.7	0.0	15.3	0.0	8.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	73.0	0.0	53.0	0.0	67.7	0.0	63.0	0.0
1st-Term Q (Q1), veh/ln	2.2	0.0	4.8	0.0	2.2	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.7	0.0	0.3	0.0	0.5	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.9	0.0	5.1	0.0	2.7	0.0	0.5	0.0
%ile Storage Ratio (RQ%)	0.49	0.00	0.24	0.00	0.62	0.00	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	606	0	0	0	349
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	2.3	0.0	0.0	0.0	12.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	2.3	0.0	0.0	0.0	12.0
Lane Grp Cap (c), veh/h	0	0	0	1640	0	0	0	1020
V/C Ratio (X)	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.34
Avail Cap (c_a), veh/h	0	0	0	1640	0	0	0	1020
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.62
Uniform Delay (d1), s/veh	0.0	0.0	0.0	2.5	0.0	0.0	0.0	13.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	3.1	0.0	0.0	0.0	13.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.0	4.2

HCM 7th Signalized Intersection Capacity Analysis 5: N Del Norte Ave & Whitesbridge Ave

PM 2024+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.7	0.0	0.0	0.0	4.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	248	0	66	0	75	0	348
Grp Sat Flow (s), veh/h/ln	0	1630	0	1436	0	1845	0	1765
Q Serve Time (g_s), s	0.0	16.6	0.0	0.4	0.0	3.9	0.0	12.1
Cycle Q Clear Time (g_c), s	0.0	16.6	0.0	0.4	0.0	3.9	0.0	12.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.71	0.00	1.00	0.00	0.07	0.00	0.28
Lane Grp Cap (c), veh/h	0	318	0	663	0	360	0	1013
V/C Ratio (X)	0.00	0.78	0.00	0.10	0.00	0.21	0.00	0.34
Avail Cap (c_a), veh/h	0	488	0	663	0	534	0	1013
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.62
Uniform Delay (d1), s/veh	0.0	44.3	0.0	2.4	0.0	38.8	0.0	13.1
Incr Delay (d2), s/veh	0.0	4.4	0.0	0.3	0.0	0.3	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	48.7	0.0	2.7	0.0	39.1	0.0	13.7
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	0.1	0.0	1.7	0.0	4.2
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.8	0.0	0.2	0.0	1.7	0.0	4.4
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.01	0.00	0.05	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	23.8
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

PM 2024+Project

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	548	116	94	608	59	202	272	131	140	266	100
Future Volume (veh/h)	114	548	116	94	608	59	202	272	131	140	266	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.97
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	134	645	136	104	676	66	227	306	147	149	283	106
Peak Hour Factor	0.85	0.85	0.85	0.90	0.90	0.90	0.89	0.89	0.89	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	170	766	161	138	795	78	643	664	267	545	451	180
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
Prop Arrive On Green	0.10	0.26	0.26	0.08	0.24	0.24	0.13	0.06	0.06	0.33	0.13	0.13
Unsig. Movement Delay												
Ln Grp Delay, s/veh	65.4	48.9	49.4	62.1	50.7	50.9	38.7	50.9	53.1	29.7	56.1	62.7
Ln Grp LOS	E	D	D	E	D	D	D	D	D	C	E	E
Approach Vol, veh/h	915			846			680			538		
Approach Delay, s/veh	51.5			52.2			47.3			50.1		
Approach LOS	D			D			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	6	5	8	7				
Case No	2.0	3.0	2.0	4.0	3.0	2.0	4.0	2.0				
Phs Duration (G+Y+Rc), s	43.9	26.4	14.1	35.6	19.2	51.0	33.3	16.4				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	16.3	28.9	13.7	41.5	25.5	19.7	40.3	14.9				
Max Allow Headway (MAH), s	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	4.1			
Max Q Clear (g_c+I1), s	10.0	14.0	9.4	27.3	11.1	17.1	25.8	11.6				
Green Ext Time (g_e), s	0.2	1.6	0.1	2.6	1.3	0.2	2.4	0.1				
Prob of Phs Call (p_c)	0.99	1.00	0.97	1.00	1.00	1.00	1.00	0.99				
Prob of Max Out (p_x)	0.16	0.01	0.84	0.07	0.01	1.00	0.05	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3			5		7				
Mvmt Sat Flow, veh/h	1641		1641			1641		1641				
Through Movement Data												
Assigned Mvmt		2		4	6		8					
Mvmt Sat Flow, veh/h		3554		2910	3554		3259					
Right-Turn Movement Data												
Assigned Mvmt		12		14	16		18					
Mvmt Sat Flow, veh/h		1427		613	1420		318					
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	0	5	0	7				

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

PM 2024+Project
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	0	1	0	1
Grp Vol (v), veh/h	149	0	104	0	0	227	0	134
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	0	1641	0	1641
Q Serve Time (g_s), s	8.0	0.0	7.4	0.0	0.0	15.1	0.0	9.6
Cycle Q Clear Time (g_c), s	8.0	0.0	7.4	0.0	0.0	15.1	0.0	9.6
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	545	0	138	0	0	643	0	170
V/C Ratio (X)	0.27	0.00	0.75	0.00	0.00	0.35	0.00	0.79
Avail Cap (c_a), veh/h	545	0	200	0	0	643	0	216
Upstream Filter (I)	1.00	0.00	0.93	0.00	0.00	0.93	0.00	0.92
Uniform Delay (d1), s/veh	29.4	0.0	53.7	0.0	0.0	38.3	0.0	52.5
Incr Delay (d2), s/veh	0.3	0.0	8.4	0.0	0.0	0.3	0.0	12.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	29.7	0.0	62.1	0.0	0.0	38.7	0.0	65.4
1st-Term Q (Q1), veh/ln	3.0	0.0	2.9	0.0	0.0	6.6	0.0	3.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	3.0	0.0	3.3	0.0	0.0	6.6	0.0	4.4
%ile Storage Ratio (RQ%)	0.64	0.00	0.36	0.00	0.00	0.89	0.00	0.64
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	6	0	8	0
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	2	0	1	0
Grp Vol (v), veh/h	0	306	0	393	283	0	368	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	1777	0	1777	0
Q Serve Time (g_s), s	0.0	10.0	0.0	25.1	9.1	0.0	23.7	0.0
Cycle Q Clear Time (g_c), s	0.0	10.0	0.0	25.1	9.1	0.0	23.7	0.0
Lane Grp Cap (c), veh/h	0	664	0	468	451	0	433	0
V/C Ratio (X)	0.00	0.46	0.00	0.84	0.63	0.00	0.85	0.00
Avail Cap (c_a), veh/h	0	882	0	628	782	0	610	0
Upstream Filter (I)	0.00	0.93	0.00	0.92	1.00	0.00	0.93	0.00
Uniform Delay (d1), s/veh	0.0	50.5	0.0	41.8	49.7	0.0	43.3	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	7.1	6.4	0.0	7.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	50.9	0.0	48.9	56.1	0.0	50.7	0.0
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	10.4	3.9	0.0	9.8	0.0

HCM 7th Signalized Intersection Capacity Analysis 6: S Madera Ave & Whitesbridge Ave

PM 2024+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.9	0.4	0.0	0.9	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.6	0.0	11.3	4.3	0.0	10.7	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.11	0.04	0.00	0.11	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	16	0	18	0
Lane Assignment	R		T+R		R	T+R		
Lanes in Grp	0	1	0	1	1	0	1	0
Grp Vol (v), veh/h	0	147	0	388	106	0	374	0
Grp Sat Flow (s), veh/h/ln	0	1427	0	1746	1420	0	1800	0
Q Serve Time (g_s), s	0.0	12.0	0.0	25.3	8.4	0.0	23.8	0.0
Cycle Q Clear Time (g_c), s	0.0	12.0	0.0	25.3	8.4	0.0	23.8	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.35	1.00	0.00	0.18	0.00
Lane Grp Cap (c), veh/h	0	267	0	459	180	0	439	0
V/C Ratio (X)	0.00	0.55	0.00	0.84	0.59	0.00	0.85	0.00
Avail Cap (c_a), veh/h	0	354	0	617	313	0	618	0
Upstream Filter (I)	0.00	0.93	0.00	0.92	1.00	0.00	0.93	0.00
Uniform Delay (d1), s/veh	0.0	51.4	0.0	42.0	49.4	0.0	43.4	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	7.4	13.3	0.0	7.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	53.1	0.0	49.4	62.7	0.0	50.9	0.0
1st-Term Q (Q1), veh/ln	0.0	4.4	0.0	10.3	0.0	0.0	10.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.9	0.7	0.0	0.9	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.6	0.0	11.2	0.7	0.0	10.9	0.0
%ile Storage Ratio (RQ%)	0.00	0.72	0.00	0.11	0.17	0.00	0.11	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	50.5
HCM 7th LOS	D

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

PM 2024+Project
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	628	172	52	627	9	130	8	57	7	23	13
Future Volume (veh/h)	14	628	172	52	627	9	130	8	57	7	23	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.96
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	15	661	181	55	660	9	157	10	69	8	28	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	35	2158	864	82	2282	31	197	38	260	26	92	53
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
Prop Arrive On Green	0.02	0.61	0.61	0.05	0.64	0.63	0.12	0.19	0.18	0.02	0.08	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	61.5	11.2	10.5	63.0	10.0	10.0	56.4	0.0	40.7	62.7	0.0	50.8
Ln Grp LOS	E	B	B	E	A	A	E		D	E		D
Approach Vol, veh/h	857			724			236			52		
Approach Delay, s/veh	11.9			14.0			51.2			52.7		
Approach LOS	B			B			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	5.8	25.6	9.7	73.8	17.8	13.6	6.4	77.1				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	4.1	47.7	10.1	33.5	21.1	30.7	4.1	39.5				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.1	4.1	4.1	4.1	4.0				
Max Q Clear (g_c+I1), s	2.6	6.9	5.8	12.3	12.7	4.8	3.0	11.4				
Green Ext Time (g_e), s	0.0	0.3	0.0	3.5	0.3	0.1	0.0	2.4				
Prob of Phs Call (p_c)	0.23	1.00	0.83	1.00	0.99	1.00	0.38	1.00				
Prob of Max Out (p_x)	1.00	0.00	0.76	0.00	0.03	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	200			3554			1100			3588		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1383			1423			629			49		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

PM 2024+Project
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	8	0	55	0	157	0	15	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.6	0.0	3.8	0.0	10.7	0.0	1.0	0.0
Cycle Q Clear Time (g_c), s	0.6	0.0	3.8	0.0	10.7	0.0	1.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	26	0	82	0	197	0	35	0
V/C Ratio (X)	0.31	0.00	0.67	0.00	0.80	0.00	0.43	0.00
Avail Cap (c_a), veh/h	71	0	157	0	314	0	71	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.70	0.00
Uniform Delay (d1), s/veh	56.0	0.0	53.7	0.0	49.2	0.0	55.6	0.0
Incr Delay (d2), s/veh	6.7	0.0	9.3	0.0	7.2	0.0	5.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	62.7	0.0	63.0	0.0	56.4	0.0	61.5	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	1.5	0.0	4.2	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	0.4	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.3	0.0	1.7	0.0	4.6	0.0	0.5	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.11	0.00	0.68	0.00	0.04	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	661	0	0	0	327
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	10.3	0.0	0.0	0.0	9.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.3	0.0	0.0	0.0	9.4
Lane Grp Cap (c), veh/h	0	0	0	2158	0	0	0	1130
V/C Ratio (X)	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.29
Avail Cap (c_a), veh/h	0	0	0	2158	0	0	0	1130
Upstream Filter (I)	0.00	0.00	0.00	0.70	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	10.9	0.0	0.0	0.0	9.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	11.2	0.0	0.0	0.0	10.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.5	0.0	0.0	0.0	3.0

HCM 7th Signalized Intersection Capacity Analysis 7: S Vineland Ave & Whitesbridge Ave

PM 2024+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.5	0.0	0.0	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	79	0	181	0	44	0	342
Grp Sat Flow (s), veh/h/ln	0	1584	0	1423	0	1729	0	1860
Q Serve Time (g_s), s	0.0	4.9	0.0	6.6	0.0	2.8	0.0	9.4
Cycle Q Clear Time (g_c), s	0.0	4.9	0.0	6.6	0.0	2.8	0.0	9.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.87	0.00	1.00	0.00	0.36	0.00	0.03
Lane Grp Cap (c), veh/h	0	298	0	864	0	145	0	1183
V/C Ratio (X)	0.00	0.27	0.00	0.21	0.00	0.30	0.00	0.29
Avail Cap (c_a), veh/h	0	669	0	864	0	475	0	1183
Upstream Filter (I)	0.00	1.00	0.00	0.70	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	40.2	0.0	10.2	0.0	49.7	0.0	9.3
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.4	0.0	1.2	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	40.7	0.0	10.5	0.0	50.8	0.0	10.0
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	1.8	0.0	1.1	0.0	3.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.9	0.0	1.9	0.0	1.2	0.0	3.4
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.15	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	18.8
HCM 7th LOS	B

Intersection

Intersection Delay, s/veh 11.9

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	146	21	34	214	68	24	62	19	66	56	71
Future Vol, veh/h	42	146	21	34	214	68	24	62	19	66	56	71
Peak Hour Factor	0.88	0.88	0.88	0.76	0.76	0.76	0.82	0.82	0.82	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	166	24	45	282	89	29	76	23	74	63	80
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay, s/veh	11.5	13.2	10.4	10.6
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	52%	0%	100%	0%	0%	100%	0%	0%	100%	21%
Vol Right, %	0%	0%	48%	0%	0%	100%	0%	0%	100%	0%	0%	79%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	41	40	42	146	21	34	214	68	66	37	90
LT Vol	24	0	0	42	0	0	34	0	0	66	0	0
Through Vol	0	41	21	0	146	0	0	214	0	0	37	19
RT Vol	0	0	19	0	0	21	0	0	68	0	0	71
Lane Flow Rate	29	50	48	48	166	24	45	282	89	74	42	101
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.061	0.098	0.089	0.094	0.303	0.039	0.084	0.489	0.138	0.15	0.079	0.174
Departure Headway (Hd)	7.471	6.971	6.636	7.085	6.585	5.885	6.751	6.251	5.551	7.275	6.775	6.221
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	478	512	537	504	544	606	530	574	643	492	527	574
Service Time	5.24	4.74	4.405	4.848	4.348	3.648	4.505	4.005	3.305	5.037	4.537	3.983
HCM Lane V/C Ratio	0.061	0.098	0.089	0.095	0.305	0.04	0.085	0.491	0.138	0.15	0.08	0.176
HCM Control Delay, s/veh	10.7	10.5	10.1	10.6	12.2	8.9	10.1	14.9	9.2	11.3	10.1	10.3
HCM Lane LOS	B	B	B	B	B	A	B	B	A	B	B	B
HCM 95th-tile Q	0.2	0.3	0.3	0.3	1.3	0.1	0.3	2.7	0.5	0.5	0.3	0.6

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

PM 2024+Project
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	186	56	73	146	67	55	549	44	82	406	40
Future Volume (veh/h)	43	186	56	73	146	67	55	549	44	82	406	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	53	230	69	87	174	80	62	624	50	93	461	45
Peak Hour Factor	0.81	0.81	0.81	0.84	0.84	0.84	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	79	298	227	120	345	264	741	1848	148	128	595	58
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.05	0.16	0.16	0.07	0.18	0.18	0.45	0.56	0.55	0.03	0.06	0.06
Unsig. Movement Delay												
Ln Grp Delay, s/veh	65.8	52.5	6.7	62.5	45.1	42.9	18.8	15.5	15.5	64.3	69.3	69.6
Ln Grp LOS	E	D	A	E	D	D	B	B	B	E	E	E
Approach Vol, veh/h	352				341				736		599	
Approach Delay, s/veh	45.5				49.0				15.8		68.6	
Approach LOS	D				D				B		E	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	6	5	7	8				
Case No	2.0	4.0	2.0	3.0	4.0	2.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	13.4	70.7	12.8	23.1	25.9	58.2	9.8	26.2				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	16.1	39.1	15.1	30.1	43.1	12.1	11.1	34.1				
Max Allow Headway (MAH), s	4.1	4.0	4.1	4.1	4.0	4.1	4.1	4.1				
Max Q Clear (g_c+I1), s	8.8	14.4	8.2	16.1	18.8	4.6	5.8	12.0				
Green Ext Time (g_e), s	0.1	2.4	0.1	0.8	1.7	0.1	0.0	0.8				
Prob of Phs Call (p_c)	0.95	1.00	0.94	1.00	1.00	0.87	0.83	1.00				
Prob of Max Out (p_x)	0.04	0.00	0.06	0.00	0.00	0.00	0.02	0.23	0.00			
Left-Turn Movement Data												
Assigned Mvmt	1	3		5			7					
Mvmt Sat Flow, veh/h	1641	1641		1641			1641					
Through Movement Data												
Assigned Mvmt	2			4		6	8					
Mvmt Sat Flow, veh/h	3325			1870		3264	1870					
Right-Turn Movement Data												
Assigned Mvmt	12			14		16	18					
Mvmt Sat Flow, veh/h	266			1425		317	1427					
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	0	5	7	0				

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

PM 2024+Project
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	0	1	1	0
Grp Vol (v), veh/h	93	0	87	0	0	62	53	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	0	1641	1641	0
Q Serve Time (g_s), s	6.8	0.0	6.2	0.0	0.0	2.6	3.8	0.0
Cycle Q Clear Time (g_c), s	6.8	0.0	6.2	0.0	0.0	2.6	3.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	128	0	120	0	0	741	79	0
V/C Ratio (X)	0.73	0.00	0.73	0.00	0.00	0.08	0.67	0.00
Avail Cap (c_a), veh/h	232	0	219	0	0	741	164	0
Upstream Filter (I)	0.94	0.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	57.2	0.0	54.4	0.0	0.0	18.8	56.2	0.0
Incr Delay (d2), s/veh	7.1	0.0	8.0	0.0	0.0	0.0	9.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	64.3	0.0	62.5	0.0	0.0	18.8	65.8	0.0
1st-Term Q (Q1), veh/ln	2.8	0.0	2.5	0.0	0.0	0.9	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.3	0.0	0.0	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.0	0.0	2.7	0.0	0.0	0.9	1.7	0.0
%ile Storage Ratio (RQ%)	0.41	0.00	0.77	0.00	0.00	0.24	0.44	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	6	0	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	1	1	0	0	1
Grp Vol (v), veh/h	0	333	0	230	250	0	0	174
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	1777	0	0	1870
Q Serve Time (g_s), s	0.0	12.3	0.0	14.1	16.6	0.0	0.0	10.0
Cycle Q Clear Time (g_c), s	0.0	12.3	0.0	14.1	16.6	0.0	0.0	10.0
Lane Grp Cap (c), veh/h	0	988	0	298	324	0	0	345
V/C Ratio (X)	0.00	0.34	0.00	0.77	0.77	0.00	0.00	0.50
Avail Cap (c_a), veh/h	0	988	0	483	652	0	0	546
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.94	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.6	0.0	48.3	53.9	0.0	0.0	44.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	4.2	15.3	0.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.5	0.0	52.5	69.3	0.0	0.0	45.1
1st-Term Q (Q1), veh/ln	0.0	4.4	0.0	6.3	7.9	0.0	0.0	4.4

HCM 7th Signalized Intersection Capacity Analysis 9: S Madera Ave & W Kearney Blvd

PM 2024+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.3	1.4	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.7	0.0	6.6	9.3	0.0	0.0	4.6
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.07	0.09	0.00	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	16	0	0	18
Lane Assignment	T+R			R	T+R			R
Lanes in Grp	0	1	0	1	1	0	0	1
Grp Vol (v), veh/h	0	341	0	69	256	0	0	80
Grp Sat Flow (s), veh/h/ln	0	1814	0	1425	1804	0	0	1427
Q Serve Time (g_s), s	0.0	12.4	0.0	1.9	16.8	0.0	0.0	5.8
Cycle Q Clear Time (g_c), s	0.0	12.4	0.0	1.9	16.8	0.0	0.0	5.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.15	0.00	1.00	0.18	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1009	0	227	329	0	0	264
V/C Ratio (X)	0.00	0.34	0.00	0.30	0.78	0.00	0.00	0.30
Avail Cap (c_a), veh/h	0	1009	0	368	662	0	0	416
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.94	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.6	0.0	5.9	54.0	0.0	0.0	42.3
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.7	15.6	0.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.5	0.0	6.7	69.6	0.0	0.0	42.9
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	1.7	8.1	0.0	0.0	2.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	1.4	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	1.7	9.5	0.0	0.0	2.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.44	0.10	0.00	0.00	0.51
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	42.1
HCM 7th LOS	D

Intersection

Intersection Delay, s/veh 13.4

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	90	26	24	120	45	32	245	28	37	163	57
Future Vol, veh/h	43	90	26	24	120	45	32	245	28	37	163	57
Peak Hour Factor	0.93	0.93	0.93	0.82	0.82	0.82	0.92	0.92	0.92	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	97	28	29	146	55	35	266	30	42	183	64
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	1.8	12.7	15.2	12.8
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	10%	27%	13%	100%	0%
Vol Thru, %	80%	57%	63%	0%	74%
Vol Right, %	9%	16%	24%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	305	159	189	37	220
LT Vol	32	43	24	37	0
Through Vol	245	90	120	0	163
RT Vol	28	26	45	0	57
Lane Flow Rate	332	171	230	42	247
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.529	0.291	0.38	0.078	0.417
Departure Headway (Hd)	5.741	6.133	5.931	6.766	6.073
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	623	581	602	527	588
Service Time	3.817	4.226	4.017	4.545	3.852
HCM Lane V/C Ratio	0.533	0.294	0.382	0.08	0.42
HCM Control Delay, s/veh	15.2	11.8	12.7	10.1	13.2
HCM Lane LOS	C	B	B	B	B
HCM 95th-tile Q	3.1	1.2	1.8	0.3	2

Intersection						
Int Delay, s/veh	5.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↖	
Traffic Vol, veh/h	0	115	136	41	56	17
Future Vol, veh/h	0	115	136	41	56	17
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	0	125	148	45	61	18
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	70	79	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	993	1519	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	993	1519	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	9.15	5.86		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1383	-	993	-	-	
HCM Lane V/C Ratio	0.097	-	0.126	-	-	
HCM Control Delay (s/veh)	7.6	0	9.1	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.3	-	0.4	-	-	

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	585	981	134	0	112
Future Vol, veh/h	0	585	981	134	0	112
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	0	636	1066	146	0	122

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 606
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.32
Pot Cap-1 Maneuver	0	-	- - 0 440
Stage 1	0	-	- - 0 -
Stage 2	0	-	- - 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - 440
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	16.28
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	440
HCM Lane V/C Ratio	-	-	-	0.277
HCM Control Delay (s/veh)	-	-	-	16.3
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1.1

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	1	2	5	1	4	0	5	41	1	1	54	3
Future Vol, veh/h	1	2	5	1	4	0	5	41	1	1	54	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	63	63	63	69	69	69	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	2	5	2	6	0	7	59	1	1	76	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	158	156	78	155	158	60	80	0	0	61	0	0
Stage 1	81	81	-	75	75	-	-	-	-	-	-	-
Stage 2	77	75	-	80	83	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	808	736	982	812	734	1005	1518	-	-	1542	-	-
Stage 1	927	828	-	935	833	-	-	-	-	-	-	-
Stage 2	932	832	-	929	826	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	796	731	982	801	730	1005	1518	-	-	1542	-	-
Mov Cap-2 Maneuver	796	731	-	801	730	-	-	-	-	-	-	-
Stage 1	927	827	-	930	829	-	-	-	-	-	-	-
Stage 2	920	828	-	921	825	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	9.12		9.9		0.79		0.13	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	191	-	-	881	743	31	-	-
HCM Lane V/C Ratio	0.005	-	-	0.009	0.011	0.001	-	-
HCM Control Delay (s/veh)	7.4	0	-	9.1	9.9	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	3	2	1	6	1	0	24	1	0	54	2
Future Vol, veh/h	0	3	2	1	6	1	0	24	1	0	54	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	42	42	42	67	67	67	78	78	78	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	7	5	1	9	1	0	31	1	0	78	3
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	115	112	80	113	113	31	81	0	0	32	0	0
Stage 1	80	80	-	31	31	-	-	-	-	-	-	-
Stage 2	35	32	-	82	81	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	862	778	981	864	778	1043	1516	-	-	1580	-	-
Stage 1	929	829	-	985	869	-	-	-	-	-	-	-
Stage 2	980	868	-	926	828	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	851	778	981	852	778	1043	1516	-	-	1580	-	-
Mov Cap-2 Maneuver	851	778	-	852	778	-	-	-	-	-	-	-
Stage 1	929	829	-	985	869	-	-	-	-	-	-	-
Stage 2	969	868	-	914	828	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s/v	9.3		9.5			0			0			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1516	-	-	848	812	1580	-	-				
HCM Lane V/C Ratio	-	-	-	0.014	0.015	-	-	-				
HCM Control Delay (s/veh)	0	-	-	9.3	9.5	0	-	-				
HCM Lane LOS	A	-	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-				

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	0	5	4	440	412	2
Future Vol, veh/h	0	5	4	440	412	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	42	42	86	86	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	5	512	443	2

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	965	444	445	0	-	0
Stage 1	444	-	-	-	-	-
Stage 2	521	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	283	614	1115	-	-	-
Stage 1	646	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	281	614	1115	-	-	-
Mov Cap-2 Maneuver	281	-	-	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	596	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v10.98		0.07	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	16	-	614	-	-
HCM Lane V/C Ratio	0.004	-	0.019	-	-
HCM Control Delay (s/veh)	8.2	0	11	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

PM 2029
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	362	57	123	339	49	30	51	96	25	40	9
Future Volume (veh/h)	10	362	57	123	339	49	30	51	96	25	40	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.97
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			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	12	447	79	138	368	67	48	65	109	48	52	16
Peak Hour Factor	0.83	0.81	0.72	0.89	0.92	0.73	0.63	0.78	0.88	0.52	0.77	0.56
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes				Yes				Yes
Cap, veh/h	42	1053	801	184	2307	924	68	89	149	68	197	61
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.56	0.56	0.22	1.00	1.00	0.04	0.14	0.14	0.04	0.14	0.14
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.5	15.7	11.9	49.2	0.1	0.2	80.2	0.0	51.5	80.2	0.0	44.4
Ln Grp LOS	E	B	B	D	A	A	F		D	F		D
Approach Vol, veh/h	538				573				222			
Approach Delay, s/veh	16.1				12.0				57.7			
Approach LOS	B				B				E			
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	8.8	20.6	16.9	68.7	8.8	20.6	7.0	78.6				
Change Period (Y+Rc), s	4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7				
Max Green (Gmax), s	4.4	27.0	22.3	40.7	4.4	27.0	4.1	58.9				
Max Allow Headway (MAH), s	4.1	4.2	4.1	4.0	4.1	4.1	4.1	4.1				
Max Q Clear (g_c+I1), s	5.3	13.6	11.0	17.8	5.3	5.9	2.8	2.0				
Green Ext Time (g_e), s	0.0	0.5	0.3	1.9	0.0	0.2	0.0	1.8				
Prob of Phs Call (p_c)	0.78	1.00	0.99	1.00	0.78	1.00	0.32	1.00				
Prob of Max Out (p_x)	1.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2		4		6		8					
Mvmt Sat Flow, veh/h	617		1870		1363		3554					
Right-Turn Movement Data												
Assigned Mvmt	12		14		16		18					
Mvmt Sat Flow, veh/h	1035		1422		419		1424					
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

PM 2029
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	48	0	138	0	48	0	12	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	3.3	0.0	9.0	0.0	3.3	0.0	0.8	0.0
Cycle Q Clear Time (g_c), s	3.3	0.0	9.0	0.0	3.3	0.0	0.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	68	0	184	0	68	0	42	0
V/C Ratio (X)	0.70	0.00	0.75	0.00	0.70	0.00	0.28	0.00
Avail Cap (c_a), veh/h	71	0	342	0	71	0	83	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	54.4	0.0	43.1	0.0	54.4	0.0	55.0	0.0
Incr Delay (d2), s/veh	25.8	0.0	6.1	0.0	25.8	0.0	3.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	80.2	0.0	49.2	0.0	80.2	0.0	58.5	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	3.2	0.0	1.3	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	0.3	0.0	0.5	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	3.5	0.0	1.8	0.0	0.4	0.0
%ile Storage Ratio (RQ%)	0.46	0.00	0.18	0.00	0.31	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	1	0	0	0	2
Grp Vol (v), veh/h	0	0	0	447	0	0	0	368
Grp Sat Flow (s), veh/h/ln	0	0	0	1870	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	15.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	15.8	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	1053	0	0	0	2307
V/C Ratio (X)	0.00	0.00	0.00	0.42	0.00	0.00	0.00	0.16
Avail Cap (c_a), veh/h	0	0	0	1053	0	0	0	2307
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	14.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.3	0.0	0.0	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
Control Delay (d), s/veh	0.0	0.0	0.0	15.7	0.0	0.0	0.0	0.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	5.8	0.0	0.0	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis 4: Siskiyou Ave & Whitesbridge Ave

PM 2029
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	6.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	174	0	79	0	68	0	67
Grp Sat Flow (s), veh/h/ln	0	1652	0	1422	0	1782	0	1424
Q Serve Time (g_s), s	0.0	11.6	0.0	3.0	0.0	3.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.6	0.0	3.0	0.0	3.9	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.63	0.00	1.00	0.00	0.24	0.00	1.00
Lane Grp Cap (c), veh/h	0	239	0	801	0	257	0	924
V/C Ratio (X)	0.00	0.73	0.00	0.10	0.00	0.26	0.00	0.07
Avail Cap (c_a), veh/h	0	396	0	801	0	428	0	924
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	47.2	0.0	11.6	0.0	43.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	4.2	0.0	0.2	0.0	0.5	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
Control Delay (d), s/veh	0.0	51.5	0.0	11.9	0.0	44.4	0.0	0.2
1st-Term Q (Q1), veh/ln	0.0	4.6	0.0	0.8	0.0	1.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	0.9	0.0	1.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.12	0.00	0.08	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	24.3
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

PM 2029

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	501	17	176	504	4	13	20	146	3	29	1
Future Volume (veh/h)	4	501	17	176	504	4	13	20	146	3	29	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	4	557	19	189	542	4	16	24	178	3	34	1
Peak Hour Factor	0.90	0.90	0.90	0.93	0.93	0.93	0.82	0.82	0.82	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	20	1902	769	230	2398	18	36	33	243	18	296	9
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	1.00	1.00	0.14	0.66	0.66	0.02	0.17	0.17	0.01	0.16	0.16
Unsig. Movement Delay												
Ln Grp Delay, s/veh	60.6	0.4	0.1	54.1	8.0	8.0	64.1	0.0	49.1	60.6	0.0	41.2
Ln Grp LOS	E	A	A	D	A	A	E		D	E		D
Approach Vol, veh/h		580			735			218			38	
Approach Delay, s/veh		0.8			19.8			50.2			42.7	
Approach LOS		A			B			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		5.3	24.1	20.1	65.6	6.5	22.8	5.4	80.3			
Change Period (Y+Rc), s		4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9			
Max Green (Gmax), s		7.1	33.5	24.1	30.7	8.2	32.4	5.0	49.8			
Max Allow Headway (MAH), s		4.1	4.3	4.1	4.0	4.1	4.0	4.1	4.0			
Max Q Clear (g_c+I1), s		2.2	16.0	14.9	2.0	3.1	3.8	2.3	8.8			
Green Ext Time (g_e), s		0.0	0.7	0.4	2.4	0.0	0.1	0.0	1.9			
Prob of Phs Call (p_c)		0.09	1.00	1.00	1.00	0.40	1.00	0.12	1.00			
Prob of Max Out (p_x)		0.15	0.00	0.02	0.00	0.18	0.00	1.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1641		1641		1641		1641				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			188		3554		1806		3615			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1392		1437		53		27			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

PM 2029
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	3	0	189	0	16	0	4	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.2	0.0	12.9	0.0	1.1	0.0	0.3	0.0
Cycle Q Clear Time (g_c), s	0.2	0.0	12.9	0.0	1.1	0.0	0.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	18	0	230	0	36	0	20	0
V/C Ratio (X)	0.17	0.00	0.82	0.00	0.45	0.00	0.20	0.00
Avail Cap (c_a), veh/h	114	0	357	0	130	0	84	0
Upstream Filter (I)	1.00	0.00	0.69	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	56.3	0.0	48.0	0.0	55.6	0.0	55.6	0.0
Incr Delay (d2), s/veh	4.2	0.0	6.1	0.0	8.6	0.0	5.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	60.6	0.0	54.1	0.0	64.1	0.0	60.6	0.0
1st-Term Q (Q1), veh/ln	0.1	0.0	5.0	0.0	0.4	0.0	0.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.4	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.1	0.0	5.4	0.0	0.5	0.0	0.1	0.0
%ile Storage Ratio (RQ%)	0.02	0.00	0.25	0.00	0.12	0.00	0.01	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	557	0	0	0	266
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.8
Lane Grp Cap (c), veh/h	0	0	0	1902	0	0	0	1179
V/C Ratio (X)	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.23
Avail Cap (c_a), veh/h	0	0	0	1902	0	0	0	1179
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.69
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.4	0.0	0.0	0.0	8.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

PM 2029
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	2.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	202	0	19	0	35	0	280
Grp Sat Flow (s), veh/h/ln	0	1580	0	1437	0	1859	0	1865
Q Serve Time (g_s), s	0.0	14.0	0.0	0.0	0.0	1.8	0.0	6.8
Cycle Q Clear Time (g_c), s	0.0	14.0	0.0	0.0	0.0	1.8	0.0	6.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.88	0.00	1.00	0.00	0.03	0.00	0.01
Lane Grp Cap (c), veh/h	0	276	0	769	0	304	0	1237
V/C Ratio (X)	0.00	0.73	0.00	0.02	0.00	0.12	0.00	0.23
Avail Cap (c_a), veh/h	0	473	0	769	0	538	0	1237
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.69
Uniform Delay (d1), s/veh	0.0	45.3	0.0	0.0	0.0	41.0	0.0	7.7
Incr Delay (d2), s/veh	0.0	3.8	0.0	0.1	0.0	0.2	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	49.1	0.0	0.1	0.0	41.2	0.0	8.0
1st-Term Q (Q1), veh/ln	0.0	5.2	0.0	0.0	0.0	0.8	0.0	2.2
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.5	0.0	0.0	0.0	0.8	0.0	2.3
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.00	0.00	0.02	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	17.6
HCM 7th LOS	B

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

PM 2029
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	484	70	99	532	62	142	277	134	143	271	102
Future Volume (veh/h)	118	484	70	99	532	62	142	277	134	143	271	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.97
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	139	569	82	110	591	69	160	311	151	152	288	109
Peak Hour Factor	0.85	0.85	0.85	0.90	0.90	0.90	0.89	0.89	0.89	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	175	755	108	145	716	83	668	546	219	626	456	182
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
Prop Arrive On Green	0.11	0.24	0.24	0.09	0.22	0.22	0.41	0.15	0.15	0.38	0.13	0.13
Unsig. Movement Delay												
Ln Grp Delay, s/veh	66.9	45.0	45.3	63.6	49.5	49.8	23.5	48.0	51.7	25.5	56.1	63.0
Ln Grp LOS	E	D	D	E	D	D	C	D	D	C	E	E
Approach Vol, veh/h	790			770			622			549		
Approach Delay, s/veh	49.0			51.6			42.6			49.0		
Approach LOS	D			D			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	6	5	8	7				
Case No	2.0	3.0	2.0	4.0	3.0	2.0	4.0	2.0				
Phs Duration (G+Y+Rc), s	49.8	22.5	14.6	33.1	19.4	52.9	30.9	16.8				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	16.3	28.9	13.7	41.5	25.5	19.7	40.3	14.9				
Max Allow Headway (MAH), s	4.1	4.1	4.1	4.0	4.1	4.1	4.0	4.1				
Max Q Clear (g_c+I1), s	9.6	14.0	9.9	22.4	11.2	9.7	23.2	11.9				
Green Ext Time (g_e), s	0.2	1.6	0.1	2.2	1.3	0.3	2.2	0.1				
Prob of Phs Call (p_c)	0.99	1.00	0.97	1.00	1.00	1.00	1.00	0.99				
Prob of Max Out (p_x)	0.12	0.01	1.00	0.01	0.01	0.01	0.02	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4		6		8				
Mvmt Sat Flow, veh/h	3554			3109		3554		3193				
Right-Turn Movement Data												
Assigned Mvmt	12			14		16		18				
Mvmt Sat Flow, veh/h	1424			447		1421		372				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	0	5	0	7				

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

PM 2029
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	0	1	0	1
Grp Vol (v), veh/h	152	0	110	0	0	160	0	139
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	0	1641	0	1641
Q Serve Time (g_s), s	7.6	0.0	7.9	0.0	0.0	7.7	0.0	9.9
Cycle Q Clear Time (g_c), s	7.6	0.0	7.9	0.0	0.0	7.7	0.0	9.9
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	626	0	145	0	0	668	0	175
V/C Ratio (X)	0.24	0.00	0.76	0.00	0.00	0.24	0.00	0.79
Avail Cap (c_a), veh/h	626	0	200	0	0	668	0	216
Upstream Filter (I)	1.00	0.00	0.96	0.00	0.00	0.95	0.00	0.97
Uniform Delay (d1), s/veh	25.3	0.0	53.5	0.0	0.0	23.4	0.0	52.3
Incr Delay (d2), s/veh	0.2	0.0	10.2	0.0	0.0	0.2	0.0	14.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	25.5	0.0	63.6	0.0	0.0	23.5	0.0	66.9
1st-Term Q (Q1), veh/ln	2.8	0.0	3.1	0.0	0.0	2.8	0.0	3.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	2.8	0.0	3.5	0.0	0.0	2.8	0.0	4.6
%ile Storage Ratio (RQ%)	0.60	0.00	0.39	0.00	0.00	0.38	0.00	0.67
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	6	0	8	0
Lane Assignment	T		T		T	T		
Lanes in Grp	0	2	0	1	2	0	1	0
Grp Vol (v), veh/h	0	311	0	324	288	0	328	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	1777	0	1777	0
Q Serve Time (g_s), s	0.0	9.7	0.0	20.3	9.2	0.0	21.1	0.0
Cycle Q Clear Time (g_c), s	0.0	9.7	0.0	20.3	9.2	0.0	21.1	0.0
Lane Grp Cap (c), veh/h	0	546	0	431	456	0	399	0
V/C Ratio (X)	0.00	0.57	0.00	0.75	0.63	0.00	0.82	0.00
Avail Cap (c_a), veh/h	0	882	0	628	782	0	610	0
Upstream Filter (I)	0.00	0.95	0.00	0.97	1.00	0.00	0.96	0.00
Uniform Delay (d1), s/veh	0.0	47.1	0.0	42.1	49.6	0.0	44.3	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	2.9	6.5	0.0	5.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	48.0	0.0	45.0	56.1	0.0	49.5	0.0
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	8.4	3.9	0.0	8.8	0.0

HCM 7th Signalized Intersection Capacity Analysis 6: S Madera Ave & Whitesbridge Ave

PM 2029
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.3	0.4	0.0	0.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.2	0.0	8.8	4.3	0.0	9.4	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.09	0.04	0.00	0.10	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	16	0	18	0
Lane Assignment	R		T+R		R	T+R		
Lanes in Grp	0	1	0	1	1	0	1	0
Grp Vol (v), veh/h	0	151	0	327	109	0	332	0
Grp Sat Flow (s), veh/h/ln	0	1424	0	1779	1421	0	1788	0
Q Serve Time (g_s), s	0.0	12.0	0.0	20.4	8.7	0.0	21.2	0.0
Cycle Q Clear Time (g_c), s	0.0	12.0	0.0	20.4	8.7	0.0	21.2	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.25	1.00	0.00	0.21	0.00
Lane Grp Cap (c), veh/h	0	219	0	432	182	0	401	0
V/C Ratio (X)	0.00	0.69	0.00	0.76	0.60	0.00	0.83	0.00
Avail Cap (c_a), veh/h	0	354	0	629	313	0	614	0
Upstream Filter (I)	0.00	0.95	0.00	0.97	1.00	0.00	0.96	0.00
Uniform Delay (d1), s/veh	0.0	48.1	0.0	42.2	49.4	0.0	44.4	0.0
Incr Delay (d2), s/veh	0.0	3.7	0.0	3.0	13.6	0.0	5.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	51.7	0.0	45.3	63.0	0.0	49.8	0.0
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	8.5	3.0	0.0	8.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.4	0.7	0.0	0.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.3	0.0	8.9	3.6	0.0	9.5	0.0
%ile Storage Ratio (RQ%)	0.00	0.68	0.00	0.09	0.93	0.00	0.10	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	48.3
HCM 7th LOS	D

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

PM 2029
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	629	135	54	611	9	76	8	59	7	24	13
Future Volume (veh/h)	15	629	135	54	611	9	76	8	59	7	24	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.96
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	16	662	142	57	643	9	92	10	71	8	29	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	36	2303	922	84	2430	34	127	28	202	26	94	52
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
Prop Arrive On Green	0.02	0.65	0.65	0.05	0.68	0.67	0.08	0.15	0.14	0.02	0.08	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	62.3	9.0	8.2	62.7	7.8	7.8	59.5	0.0	45.5	62.7	0.0	50.8
Ln Grp LOS	E	A	A	E	A	A	E		D	E		D
Approach Vol, veh/h	820			709			173			53		
Approach Delay, s/veh	9.9			12.2			53.0			52.6		
Approach LOS	A			B			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	5.8	20.8	9.9	78.5	12.9	13.7	6.5	81.9				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	5.1	41.7	11.1	37.5	16.1	30.7	6.1	42.5				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.1	4.1	4.1	4.1	4.0				
Max Q Clear (g_c+I1), s	2.6	7.3	5.9	11.3	8.3	4.8	3.1	10.1				
Green Ext Time (g_e), s	0.0	0.3	0.0	3.5	0.1	0.1	0.0	2.4				
Prob of Phs Call (p_c)	0.23	1.00	0.84	1.00	0.95	1.00	0.40	1.00				
Prob of Max Out (p_x)	1.00	0.00	0.27	0.00	0.02	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	195			3554			1116			3586		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1383			1424			616			50		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

PM 2029
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	8	0	57	0	92	0	16	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.6	0.0	3.9	0.0	6.3	0.0	1.1	0.0
Cycle Q Clear Time (g_c), s	0.6	0.0	3.9	0.0	6.3	0.0	1.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	26	0	84	0	127	0	36	0
V/C Ratio (X)	0.31	0.00	0.68	0.00	0.73	0.00	0.45	0.00
Avail Cap (c_a), veh/h	86	0	171	0	243	0	100	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.78	0.00
Uniform Delay (d1), s/veh	56.0	0.0	53.6	0.0	51.9	0.0	55.6	0.0
Incr Delay (d2), s/veh	6.7	0.0	9.1	0.0	7.7	0.0	6.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	62.7	0.0	62.7	0.0	59.5	0.0	62.3	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	1.6	0.0	2.5	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	0.3	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.3	0.0	1.8	0.0	2.8	0.0	0.5	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.11	0.00	0.41	0.00	0.04	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	662	0	0	0	318
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	9.3	0.0	0.0	0.0	8.1
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	9.3	0.0	0.0	0.0	8.1
Lane Grp Cap (c), veh/h	0	0	0	2303	0	0	0	1204
V/C Ratio (X)	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.26
Avail Cap (c_a), veh/h	0	0	0	2303	0	0	0	1204
Upstream Filter (I)	0.00	0.00	0.00	0.78	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	8.8	0.0	0.0	0.0	7.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	9.0	0.0	0.0	0.0	7.8
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.9	0.0	0.0	0.0	2.4

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

PM 2029
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.0	0.0	0.0	0.0	2.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	81	0	142	0	45	0	334
Grp Sat Flow (s), veh/h/ln	0	1578	0	1424	0	1732	0	1860
Q Serve Time (g_s), s	0.0	5.3	0.0	4.5	0.0	2.8	0.0	8.1
Cycle Q Clear Time (g_c), s	0.0	5.3	0.0	4.5	0.0	2.8	0.0	8.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.88	0.00	1.00	0.00	0.36	0.00	0.03
Lane Grp Cap (c), veh/h	0	230	0	922	0	146	0	1260
V/C Ratio (X)	0.00	0.35	0.00	0.15	0.00	0.31	0.00	0.26
Avail Cap (c_a), veh/h	0	585	0	922	0	476	0	1260
Upstream Filter (I)	0.00	1.00	0.00	0.78	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	44.6	0.0	7.9	0.0	49.7	0.0	7.3
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.3	0.0	1.2	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	45.5	0.0	8.2	0.0	50.8	0.0	7.8
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	1.1	0.0	1.2	0.0	2.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.1	0.0	1.2	0.0	1.2	0.0	2.7
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.10	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	16.4
HCM 7th LOS	B

Intersection

Intersection Delay, s/veh 11.6

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	155	22	35	223	24	24	47	19	31	44	67
Future Vol, veh/h	38	155	22	35	223	24	24	47	19	31	44	67
Peak Hour Factor	0.88	0.88	0.88	0.76	0.76	0.76	0.82	0.82	0.82	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	176	25	46	293	32	29	57	23	35	49	75
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay, s/veh	1.1	13.2	10	10
HCM LOS	B	B	A	A

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	45%	0%	100%	0%	0%	100%	0%	0%	100%	18%
Vol Right, %	0%	0%	55%	0%	0%	100%	0%	0%	100%	0%	0%	82%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	31	35	38	155	22	35	223	24	31	29	82
LT Vol	24	0	0	38	0	0	35	0	0	31	0	0
Through Vol	0	31	16	0	155	0	0	223	0	0	29	15
RT Vol	0	0	19	0	0	22	0	0	24	0	0	67
Lane Flow Rate	29	38	42	43	176	25	46	293	32	35	33	92
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.059	0.071	0.074	0.081	0.305	0.038	0.083	0.488	0.046	0.069	0.06	0.154
Departure Headway (Hd)	7.206	6.706	6.322	6.739	6.239	5.539	6.486	5.986	5.286	7.102	6.602	6.028
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	497	533	566	532	576	645	553	602	677	504	542	594
Service Time	4.956	4.456	4.073	4.482	3.982	3.282	4.224	3.724	3.024	4.85	4.35	3.775
HCM Lane V/C Ratio	0.058	0.071	0.074	0.081	0.306	0.039	0.083	0.487	0.047	0.069	0.061	0.155
HCM Control Delay, s/veh	10.4	10	9.6	10.1	11.7	8.5	9.8	14.3	8.3	10.4	9.8	9.9
HCM Lane LOS	B	A	A	B	B	A	A	B	A	B	A	A
HCM 95th-tile Q	0.2	0.2	0.2	0.3	1.3	0.1	0.3	2.7	0.1	0.2	0.2	0.5

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

PM 2029
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	162	57	76	112	58	55	528	45	75	388	41
Future Volume (veh/h)	45	162	57	76	112	58	55	528	45	75	388	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	56	200	70	90	133	69	62	600	51	85	441	47
Peak Hour Factor	0.81	0.81	0.81	0.84	0.84	0.84	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	83	276	210	124	323	247	756	1869	159	119	571	61
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
Prop Arrive On Green	0.05	0.15	0.15	0.08	0.17	0.17	0.46	0.57	0.56	0.07	0.18	0.17
Unsig. Movement Delay												
Ln Grp Delay, s/veh	62.8	50.3	44.8	59.7	43.2	41.9	17.4	14.1	14.2	59.6	60.6	61.1
Ln Grp LOS	E	D	D	E	D	D	B	B	B	E	E	E
Approach Vol, veh/h	326				292				713		573	
Approach Delay, s/veh	51.3				48.0				14.4		60.7	
Approach LOS	D				D				B		E	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4	3	6	5	7	8				
Case No	2.0	4.0	3.0	2.0	4.0	2.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	12.3	69.0	21.0	12.7	24.3	57.0	9.8	23.9				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	15.1	36.1	29.1	15.1	40.1	11.1	11.1	33.1				
Max Allow Headway (MAH), s	4.1	4.0	4.1	4.1	4.0	4.1	4.1	4.1				
Max Q Clear (g_c+I1), s	7.8	13.1	13.7	8.2	17.1	4.4	5.9	9.3				
Green Ext Time (g_e), s	0.1	2.3	0.8	0.1	1.7	0.1	0.0	0.6				
Prob of Phs Call (p_c)	0.93	1.00	1.00	0.94	1.00	0.86	0.83	1.00				
Prob of Max Out (p_x)	0.04	0.00	0.00	0.06	0.00	0.05	0.25	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1			3			5		7			
Mvmt Sat Flow, veh/h	1641			1641			1641		1641			
Through Movement Data												
Assigned Mvmt	2			4			6		8			
Mvmt Sat Flow, veh/h	3307			1870			3233		1870			
Right-Turn Movement Data												
Assigned Mvmt	12			14			16		18			
Mvmt Sat Flow, veh/h	281			1424			343		1426			
Left Lane Group Data												
Assigned Mvmt	1	0	0	3	0	5	7	0				

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

PM 2029
11/06/2024

Lane Assignment	L (Prot)			L (Prot)			L (Prot) L (Prot)	
Lanes in Grp	1	0	0	1	0	1	1	0
Grp Vol (v), veh/h	85	0	0	90	0	62	56	0
Grp Sat Flow (s), veh/h/ln	1641	0	0	1641	0	1641	1641	0
Q Serve Time (g_s), s	5.8	0.0	0.0	6.2	0.0	2.4	3.9	0.0
Cycle Q Clear Time (g_c), s	5.8	0.0	0.0	6.2	0.0	2.4	3.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	119	0	0	124	0	756	83	0
V/C Ratio (X)	0.72	0.00	0.00	0.72	0.00	0.08	0.68	0.00
Avail Cap (c_a), veh/h	228	0	0	228	0	756	171	0
Upstream Filter (I)	0.94	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	52.2	0.0	0.0	52.0	0.0	17.4	53.7	0.0
Incr Delay (d2), s/veh	7.4	0.0	0.0	7.7	0.0	0.0	9.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.6	0.0	0.0	59.7	0.0	17.4	62.8	0.0
1st-Term Q (Q1), veh/ln	2.3	0.0	0.0	2.4	0.0	0.9	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.3	0.0	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.5	0.0	0.0	2.7	0.0	0.9	1.7	0.0
%ile Storage Ratio (RQ%)	0.34	0.00	0.00	0.76	0.00	0.22	0.44	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	6	0	0	8
Lane Assignment	T			T			T	
Lanes in Grp	0	1	1	0	1	0	0	1
Grp Vol (v), veh/h	0	322	200	0	241	0	0	133
Grp Sat Flow (s), veh/h/ln	0	1777	1870	0	1777	0	0	1870
Q Serve Time (g_s), s	0.0	11.1	11.7	0.0	14.9	0.0	0.0	7.3
Cycle Q Clear Time (g_c), s	0.0	11.1	11.7	0.0	14.9	0.0	0.0	7.3
Lane Grp Cap (c), veh/h	0	1004	276	0	314	0	0	323
V/C Ratio (X)	0.00	0.32	0.72	0.00	0.77	0.00	0.00	0.41
Avail Cap (c_a), veh/h	0	1004	488	0	633	0	0	553
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.94	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.3	46.8	0.0	45.1	0.0	0.0	42.3
Incr Delay (d2), s/veh	0.0	0.8	3.6	0.0	15.6	0.0	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.1	50.3	0.0	60.6	0.0	0.0	43.2
1st-Term Q (Q1), veh/ln	0.0	3.9	5.2	0.0	6.2	0.0	0.0	3.2

HCM 7th Signalized Intersection Capacity Analysis 9: S Madera Ave & W Kearney Blvd

PM 2029
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.3	0.0	1.4	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.1	5.5	0.0	7.6	0.0	0.0	3.3
%ile Storage Ratio (RQ%)	0.00	0.01	0.05	0.00	0.08	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	16	0	0	18
Lane Assignment	T+R		R	T+R		R		
Lanes in Grp	0	1	1	0	1	0	0	1
Grp Vol (v), veh/h	0	329	70	0	247	0	0	69
Grp Sat Flow (s), veh/h/ln	0	1811	1424	0	1799	0	0	1426
Q Serve Time (g_s), s	0.0	11.1	5.1	0.0	15.1	0.0	0.0	4.8
Cycle Q Clear Time (g_c), s	0.0	11.1	5.1	0.0	15.1	0.0	0.0	4.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.15	1.00	0.00	0.19	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1023	210	0	318	0	0	247
V/C Ratio (X)	0.00	0.32	0.33	0.00	0.78	0.00	0.00	0.28
Avail Cap (c_a), veh/h	0	1023	371	0	641	0	0	422
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.94	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.3	43.9	0.0	45.2	0.0	0.0	41.3
Incr Delay (d2), s/veh	0.0	0.8	0.9	0.0	15.9	0.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.2	44.8	0.0	61.1	0.0	0.0	41.9
1st-Term Q (Q1), veh/ln	0.0	4.0	1.7	0.0	6.4	0.0	0.0	1.6
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.1	0.0	1.4	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.2	1.8	0.0	7.8	0.0	0.0	1.7
%ile Storage Ratio (RQ%)	0.00	0.01	0.45	0.00	0.08	0.00	0.00	0.42
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	39.8
HCM 7th LOS	D

Intersection

Intersection Delay, s/veh 11.4

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	68	19	25	93	48	21	210	29	38	137	59
Future Vol, veh/h	45	68	19	25	93	48	21	210	29	38	137	59
Peak Hour Factor	0.93	0.93	0.93	0.82	0.82	0.82	0.92	0.92	0.92	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	73	20	30	113	59	23	228	32	43	154	66
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	10.5	11.1	12.4	11.2
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	8%	34%	15%	100%	0%
Vol Thru, %	81%	52%	56%	0%	70%
Vol Right, %	11%	14%	29%	0%	30%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	260	132	166	38	196
LT Vol	21	45	25	38	0
Through Vol	210	68	93	0	137
RT Vol	29	19	48	0	59
Lane Flow Rate	283	142	202	43	220
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.424	0.228	0.311	0.076	0.348
Departure Headway (Hd)	5.406	5.771	5.534	6.414	5.693
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	664	620	648	558	632
Service Time	3.448	3.822	3.582	4.156	3.435
HCM Lane V/C Ratio	0.426	0.229	0.312	0.077	0.348
HCM Control Delay, s/veh	12.4	10.5	11.1	9.7	11.5
HCM Lane LOS	B	B	B	A	B
HCM 95th-tile Q	2.1	0.9	1.3	0.2	1.6

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	28	57	0
Future Vol, veh/h	0	0	0	28	57	0
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	0	0	0	30	62	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	62	62	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	1003	1541	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	1003	1541	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1541	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s/veh)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 7th TWSC
12: Whitesbridge Ave & Project Entrance

PM 2029
11/06/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	486	1016	0	0	0
Future Vol, veh/h	0	486	1016	0	0	0
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	0	528	1104	0	0	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	552
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	477
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	477
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0	0		0		
HCM LOS				A		
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s/veh)	-	-	-	0		
HCM Lane LOS	-	-	-	A		
HCM 95th %tile Q(veh)	-	-	-	-		

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	1	5	5	1	6	0	5	41	1	1	54	3
Future Vol, veh/h	1	5	5	1	6	0	5	41	1	1	54	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	63	63	63	69	69	69	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	5	5	2	10	0	7	59	1	1	76	4

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	160	156	78	156	158	60	80	0	0	61	0	0
Stage 1	81	81	-	75	75	-	-	-	-	-	-	-
Stage 2	79	75	-	81	83	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	806	736	982	810	734	1005	1518	-	-	1542	-	-
Stage 1	927	828	-	935	833	-	-	-	-	-	-	-
Stage 2	930	832	-	927	826	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	791	731	982	796	730	1005	1518	-	-	1542	-	-
Mov Cap-2 Maneuver	791	731	-	796	730	-	-	-	-	-	-	-
Stage 1	927	827	-	930	829	-	-	-	-	-	-	-
Stage 2	915	828	-	916	825	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	9.37		9.95		0.79		0.13	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	191	-	-	834	739	31	-	-
HCM Lane V/C Ratio	0.005	-	-	0.013	0.015	0.001	-	-
HCM Control Delay (s/veh)	7.4	0	-	9.4	9.9	7.3	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	0	3	5	9	6	1	2	30	6	0	60	2
Future Vol, veh/h	0	3	5	9	6	1	2	30	6	0	60	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	42	42	42	67	67	67	78	78	78	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	7	12	13	9	1	3	38	8	0	87	3

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	136	140	88	138	137	42	90	0	0	46	0	0
Stage 1	88	88	-	47	47	-	-	-	-	-	-	-
Stage 2	48	51	-	91	90	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	834	751	970	833	754	1028	1505	-	-	1562	-	-
Stage 1	919	822	-	966	855	-	-	-	-	-	-	-
Stage 2	965	852	-	917	820	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	822	750	970	813	752	1028	1505	-	-	1562	-	-
Mov Cap-2 Maneuver	822	750	-	813	752	-	-	-	-	-	-	-
Stage 1	919	822	-	964	854	-	-	-	-	-	-	-
Stage 2	952	851	-	898	820	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	9.21		9.64		0.39		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	92	-	-	874	799	1562	-
HCM Lane V/C Ratio	0.002	-	-	0.022	0.03	-	-
HCM Control Delay (s/veh)	7.4	0	-	9.2	9.6	0	-
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	5	5	4	440	412	10
Future Vol, veh/h	5	5	4	440	412	10
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	42	42	86	86	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	12	5	512	443	11

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	969	448	454	0	-	0
Stage 1	448	-	-	-	-	-
Stage 2	521	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	281	610	1107	-	-	-
Stage 1	643	-	-	-	-	-
Stage 2	596	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	279	610	1107	-	-	-
Mov Cap-2 Maneuver	279	-	-	-	-	-
Stage 1	640	-	-	-	-	-
Stage 2	596	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v15.01		0.07	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	16	-	383	-	-
HCM Lane V/C Ratio	0.004	-	0.062	-	-
HCM Control Delay (s/veh)	8.3	0	15	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

PM 2029+Project

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	373	57	229	348	49	30	51	96	25	40	9
Future Volume (veh/h)	10	373	57	229	348	49	30	51	96	25	40	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.97	1.00		0.98	1.00		0.97	1.00		0.97
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			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	12	460	79	257	378	67	48	65	109	48	52	16
Peak Hour Factor	0.83	0.81	0.72	0.89	0.92	0.73	0.63	0.78	0.88	0.52	0.77	0.56
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes				Yes				Yes
Cap, veh/h	42	925	703	296	2307	924	68	89	149	68	197	61
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.49	0.49	0.36	1.00	1.00	0.04	0.14	0.14	0.04	0.14	0.14
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.5	21.4	15.9	54.0	0.2	0.2	80.2	0.0	51.5	80.2	0.0	44.4
Ln Grp LOS	E	C	B	D	A	A	F		D	F		D
Approach Vol, veh/h	551				702				222		116	
Approach Delay, s/veh	21.4				19.9				57.7		59.2	
Approach LOS	C				B				E		E	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	8.8	20.6	24.8	60.9	8.8	20.6	7.0	78.6				
Change Period (Y+Rc), s	4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7				
Max Green (Gmax), s	4.4	27.0	22.3	40.7	4.4	27.0	4.1	58.9				
Max Allow Headway (MAH), s	4.1	4.2	4.1	4.0	4.1	4.1	4.1	4.1				
Max Q Clear (g_c+I1), s	5.3	13.6	18.8	21.0	5.3	5.9	2.8	2.0				
Green Ext Time (g_e), s	0.0	0.5	0.3	1.9	0.0	0.2	0.0	1.9				
Prob of Phs Call (p_c)	0.78	1.00	1.00	1.00	0.78	1.00	0.32	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	617			1870			1363			3554		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1035			1421			419			1424		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

PM 2029+Project

11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	48	0	257	0	48	0	12	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	3.3	0.0	16.8	0.0	3.3	0.0	0.8	0.0
Cycle Q Clear Time (g_c), s	3.3	0.0	16.8	0.0	3.3	0.0	0.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	68	0	296	0	68	0	42	0
V/C Ratio (X)	0.70	0.00	0.87	0.00	0.70	0.00	0.28	0.00
Avail Cap (c_a), veh/h	71	0	342	0	71	0	83	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	54.4	0.0	35.5	0.0	54.4	0.0	55.0	0.0
Incr Delay (d2), s/veh	25.8	0.0	18.6	0.0	25.8	0.0	3.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	80.2	0.0	54.0	0.0	80.2	0.0	58.5	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	5.1	0.0	1.3	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	1.5	0.0	0.5	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	6.6	0.0	1.8	0.0	0.4	0.0
%ile Storage Ratio (RQ%)	0.46	0.00	0.35	0.00	0.31	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	1	0	0	0	2
Grp Vol (v), veh/h	0	0	0	460	0	0	0	378
Grp Sat Flow (s), veh/h/ln	0	0	0	1870	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	19.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	19.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	925	0	0	0	2307
V/C Ratio (X)	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.16
Avail Cap (c_a), veh/h	0	0	0	925	0	0	0	2307
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	19.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.9	0.0	0.0	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
Control Delay (d), s/veh	0.0	0.0	0.0	21.4	0.0	0.0	0.0	0.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

PM 2029+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	7.9	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	174	0	79	0	68	0	67
Grp Sat Flow (s), veh/h/ln	0	1652	0	1421	0	1782	0	1424
Q Serve Time (g_s), s	0.0	11.6	0.0	3.4	0.0	3.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.6	0.0	3.4	0.0	3.9	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.63	0.00	1.00	0.00	0.24	0.00	1.00
Lane Grp Cap (c), veh/h	0	239	0	703	0	257	0	924
V/C Ratio (X)	0.00	0.73	0.00	0.11	0.00	0.26	0.00	0.07
Avail Cap (c_a), veh/h	0	396	0	703	0	428	0	924
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	47.2	0.0	15.6	0.0	43.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	4.2	0.0	0.3	0.0	0.5	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
Control Delay (d), s/veh	0.0	51.5	0.0	15.9	0.0	44.4	0.0	0.2
1st-Term Q (Q1), veh/ln	0.0	4.6	0.0	1.0	0.0	1.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	1.1	0.0	1.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.12	0.00	0.09	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	28.6
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

PM 2029+Project
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	564	60	176	584	91	67	58	146	71	60	4
Future Volume (veh/h)	15	564	60	176	584	91	67	58	146	71	60	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
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			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	17	627	67	189	628	98	82	71	178	83	70	5
Peak Hour Factor	0.90	0.90	0.90	0.93	0.93	0.93	0.82	0.82	0.82	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes				Yes				Yes
Cap, veh/h	37	1618	654	230	1759	274	114	91	228	114	337	24
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.91	0.91	0.14	0.57	0.57	0.07	0.20	0.19	0.07	0.20	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.0	3.6	3.1	53.5	13.8	13.9	67.7	0.0	48.7	73.0	0.0	39.1
Ln Grp LOS	E	A	A	D	B	B	E		D	E		D
Approach Vol, veh/h	711				915				331			
Approach Delay, s/veh	5.0				22.0				53.4			
Approach LOS	A				C				D			
Timer:	1		2		3		4		5		6	
Assigned Phs	1		2		3		4		5		6	
Case No	2.0		4.0		2.0		3.0		2.0		4.0	
Phs Duration (G+Y+Rc), s	12.0		26.5		20.1		56.4		12.0		26.5	
Change Period (Y+Rc), s	4.9		4.9		4.9		4.9		4.9		4.9	
Max Green (Gmax), s	7.1		33.5		24.1		30.7		8.2		32.4	
Max Allow Headway (MAH), s	4.1		4.3		4.1		4.0		4.1		4.0	
Max Q Clear (g_c+I1), s	7.7		18.7		14.9		4.8		7.6		5.9	
Green Ext Time (g_e), s	0.0		0.8		0.4		2.9		0.0		0.2	
Prob of Phs Call (p_c)	0.93		1.00		1.00		1.00		0.93		1.00	
Prob of Max Out (p_x)	1.00		0.00		0.02		0.00		1.00		0.00	
Left-Turn Movement Data												
Assigned Mvmt	1				3				5			
Mvmt Sat Flow, veh/h	1641				1641				1641			
Through Movement Data												
Assigned Mvmt			2				4				6	
Mvmt Sat Flow, veh/h			465				3554				1722	
Right-Turn Movement Data												
Assigned Mvmt			12				14				16	
Mvmt Sat Flow, veh/h			1165				1436				123	
Left Lane Group Data												
Assigned Mvmt	1		0		3		0		5		0	

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

PM 2029+Project

11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	83	0	189	0	82	0	17	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	5.7	0.0	12.9	0.0	5.6	0.0	1.2	0.0
Cycle Q Clear Time (g_c), s	5.7	0.0	12.9	0.0	5.6	0.0	1.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	114	0	230	0	114	0	37	0
V/C Ratio (X)	0.73	0.00	0.82	0.00	0.72	0.00	0.46	0.00
Avail Cap (c_a), veh/h	114	0	357	0	130	0	84	0
Upstream Filter (I)	1.00	0.00	0.61	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	52.4	0.0	48.0	0.0	52.4	0.0	54.2	0.0
Incr Delay (d2), s/veh	20.6	0.0	5.4	0.0	15.3	0.0	8.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	73.0	0.0	53.5	0.0	67.7	0.0	63.0	0.0
1st-Term Q (Q1), veh/ln	2.2	0.0	5.0	0.0	2.2	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.7	0.0	0.3	0.0	0.5	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.9	0.0	5.4	0.0	2.7	0.0	0.5	0.0
%ile Storage Ratio (RQ%)	0.49	0.00	0.25	0.00	0.62	0.00	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	627	0	0	0	363
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	2.8	0.0	0.0	0.0	12.6
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	2.8	0.0	0.0	0.0	12.6
Lane Grp Cap (c), veh/h	0	0	0	1618	0	0	0	1019
V/C Ratio (X)	0.00	0.00	0.00	0.39	0.00	0.00	0.00	0.36
Avail Cap (c_a), veh/h	0	0	0	1618	0	0	0	1019
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.61
Uniform Delay (d1), s/veh	0.0	0.0	0.0	2.9	0.0	0.0	0.0	13.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	3.6	0.0	0.0	0.0	13.8
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.7	0.0	0.0	0.0	4.4

HCM 7th Signalized Intersection Capacity Analysis 5: N Del Norte Ave & Whitesbridge Ave

PM 2029+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.9	0.0	0.0	0.0	4.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	249	0	67	0	75	0	363
Grp Sat Flow (s), veh/h/ln	0	1630	0	1436	0	1845	0	1770
Q Serve Time (g_s), s	0.0	16.7	0.0	0.5	0.0	3.9	0.0	12.7
Cycle Q Clear Time (g_c), s	0.0	16.7	0.0	0.5	0.0	3.9	0.0	12.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.71	0.00	1.00	0.00	0.07	0.00	0.27
Lane Grp Cap (c), veh/h	0	319	0	654	0	361	0	1014
V/C Ratio (X)	0.00	0.78	0.00	0.10	0.00	0.21	0.00	0.36
Avail Cap (c_a), veh/h	0	487	0	654	0	534	0	1014
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.61
Uniform Delay (d1), s/veh	0.0	44.2	0.0	2.8	0.0	38.8	0.0	13.2
Incr Delay (d2), s/veh	0.0	4.5	0.0	0.3	0.0	0.3	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	48.7	0.0	3.1	0.0	39.1	0.0	13.9
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	0.1	0.0	1.7	0.0	4.4
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.8	0.0	0.2	0.0	1.7	0.0	4.6
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.02	0.00	0.05	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	23.8
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

PM 2029+Project

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	566	119	99	636	62	205	277	134	143	271	102
Future Volume (veh/h)	118	566	119	99	636	62	205	277	134	143	271	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.97
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	139	666	140	110	707	69	230	311	151	152	288	109
Peak Hour Factor	0.85	0.85	0.85	0.90	0.90	0.90	0.89	0.89	0.89	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	175	788	165	145	822	80	622	667	268	525	456	182
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
Prop Arrive On Green	0.11	0.27	0.26	0.09	0.25	0.24	0.13	0.06	0.06	0.32	0.13	0.13
Unsig. Movement Delay												
Ln Grp Delay, s/veh	66.1	48.8	49.2	63.3	51.3	51.4	39.7	51.0	53.2	30.9	56.1	63.0
Ln Grp LOS	E	D	D	E	D	D	D	D	D	C	E	E
Approach Vol, veh/h	945			886			692			549		
Approach Delay, s/veh	51.5			52.8			47.7			50.5		
Approach LOS	D			D			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	6	5	8	7				
Case No	2.0	3.0	2.0	4.0	3.0	2.0	4.0	2.0				
Phs Duration (G+Y+Rc), s	42.4	26.5	14.6	36.5	19.4	49.5	34.3	16.8				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	16.3	28.9	13.7	41.5	25.5	19.7	40.3	14.9				
Max Allow Headway (MAH), s	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0	4.1			
Max Q Clear (g_c+I1), s	10.3	14.3	9.9	28.0	11.2	17.4	26.9	11.9				
Green Ext Time (g_e), s	0.2	1.6	0.1	2.6	1.3	0.2	2.5	0.1				
Prob of Phs Call (p_c)	0.99	1.00	0.97	1.00	1.00	1.00	1.00	1.00	0.99			
Prob of Max Out (p_x)	0.22	0.01	1.00	0.09	0.01	1.00	0.08	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3			5		7				
Mvmt Sat Flow, veh/h	1641		1641			1641		1641				
Through Movement Data												
Assigned Mvmt		2		4	6		8					
Mvmt Sat Flow, veh/h		3554		2912	3554		3259					
Right-Turn Movement Data												
Assigned Mvmt		12		14	16		18					
Mvmt Sat Flow, veh/h		1428		611	1421		318					
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	0	5	0	7				

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

PM 2029+Project
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	0	1	0	1
Grp Vol (v), veh/h	152	0	110	0	0	230	0	139
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	0	1641	0	1641
Q Serve Time (g_s), s	8.3	0.0	7.9	0.0	0.0	15.4	0.0	9.9
Cycle Q Clear Time (g_c), s	8.3	0.0	7.9	0.0	0.0	15.4	0.0	9.9
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	525	0	145	0	0	622	0	175
V/C Ratio (X)	0.29	0.00	0.76	0.00	0.00	0.37	0.00	0.79
Avail Cap (c_a), veh/h	525	0	200	0	0	622	0	216
Upstream Filter (I)	1.00	0.00	0.93	0.00	0.00	0.93	0.00	0.91
Uniform Delay (d1), s/veh	30.6	0.0	53.5	0.0	0.0	39.3	0.0	52.3
Incr Delay (d2), s/veh	0.3	0.0	9.9	0.0	0.0	0.3	0.0	13.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	30.9	0.0	63.3	0.0	0.0	39.7	0.0	66.1
1st-Term Q (Q1), veh/ln	3.1	0.0	3.1	0.0	0.0	6.7	0.0	3.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.4	0.0	0.0	0.1	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	3.2	0.0	3.5	0.0	0.0	6.8	0.0	4.6
%ile Storage Ratio (RQ%)	0.67	0.00	0.39	0.00	0.00	0.91	0.00	0.67
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	6	0	8	0
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	2	0	1	0
Grp Vol (v), veh/h	0	311	0	406	288	0	385	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	1777	0	1777	0
Q Serve Time (g_s), s	0.0	10.1	0.0	25.9	9.2	0.0	24.8	0.0
Cycle Q Clear Time (g_c), s	0.0	10.1	0.0	25.9	9.2	0.0	24.8	0.0
Lane Grp Cap (c), veh/h	0	667	0	481	456	0	448	0
V/C Ratio (X)	0.00	0.47	0.00	0.84	0.63	0.00	0.86	0.00
Avail Cap (c_a), veh/h	0	882	0	628	782	0	610	0
Upstream Filter (I)	0.00	0.93	0.00	0.91	1.00	0.00	0.93	0.00
Uniform Delay (d1), s/veh	0.0	50.5	0.0	41.4	49.6	0.0	42.8	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	7.4	6.5	0.0	8.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	51.0	0.0	48.8	56.1	0.0	51.3	0.0
1st-Term Q (Q1), veh/ln	0.0	4.6	0.0	10.7	3.9	0.0	10.3	0.0

HCM 7th Signalized Intersection Capacity Analysis 6: S Madera Ave & Whitesbridge Ave

PM 2029+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.0	0.4	0.0	1.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.7	0.0	11.7	4.3	0.0	11.3	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.12	0.04	0.00	0.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	16	0	18	0
Lane Assignment		R		T+R	R		T+R	
Lanes in Grp	0	1	0	1	1	0	1	0
Grp Vol (v), veh/h	0	151	0	400	109	0	391	0
Grp Sat Flow (s), veh/h/ln	0	1428	0	1746	1421	0	1800	0
Q Serve Time (g_s), s	0.0	12.3	0.0	26.0	8.7	0.0	24.9	0.0
Cycle Q Clear Time (g_c), s	0.0	12.3	0.0	26.0	8.7	0.0	24.9	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.35	1.00	0.00	0.18	0.00
Lane Grp Cap (c), veh/h	0	268	0	473	182	0	454	0
V/C Ratio (X)	0.00	0.56	0.00	0.85	0.60	0.00	0.86	0.00
Avail Cap (c_a), veh/h	0	355	0	617	313	0	618	0
Upstream Filter (I)	0.00	0.93	0.00	0.91	1.00	0.00	0.93	0.00
Uniform Delay (d1), s/veh	0.0	51.5	0.0	41.5	49.4	0.0	42.9	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	7.7	13.6	0.0	8.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	53.2	0.0	49.2	63.0	0.0	51.4	0.0
1st-Term Q (Q1), veh/ln	0.0	4.6	0.0	10.6	3.0	0.0	10.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.0	0.7	0.0	1.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.7	0.0	11.6	3.6	0.0	11.5	0.0
%ile Storage Ratio (RQ%)	0.00	0.75	0.00	0.12	0.93	0.00	0.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	50.9
HCM 7th LOS	D

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

PM 2029+Project
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	661	179	54	651	9	132	8	59	7	24	13
Future Volume (veh/h)	15	661	179	54	651	9	132	8	59	7	24	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.96
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	16	696	188	57	685	9	159	10	71	8	29	16
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	36	2147	860	84	2275	30	199	37	263	26	94	52
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
Prop Arrive On Green	0.02	0.60	0.60	0.05	0.63	0.63	0.12	0.19	0.18	0.02	0.08	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	61.5	11.5	10.8	62.8	10.2	10.2	56.7	0.0	40.6	62.7	0.0	50.8
Ln Grp LOS	E	B	B	E	B	B	E		D	E		D
Approach Vol, veh/h	900			751			240			53		
Approach Delay, s/veh	12.2			14.2			51.3			52.6		
Approach LOS	B			B			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	5.8	25.8	9.9	73.5	17.9	13.7	6.5	76.9				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	4.1	47.7	10.1	33.5	21.1	30.7	5.1	38.5				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.1	4.1	4.1	4.1	4.0				
Max Q Clear (g_c+I1), s	2.6	7.1	5.9	13.1	12.8	4.8	3.1	11.9				
Green Ext Time (g_e), s	0.0	0.3	0.0	3.7	0.3	0.1	0.0	2.5				
Prob of Phs Call (p_c)	0.23	1.00	0.84	1.00	0.99	1.00	0.40	1.00				
Prob of Max Out (p_x)	1.00	0.00	0.90	0.00	0.04	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	195			3554			1116			3590		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1388			1423			616			47		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

PM 2029+Project
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	8	0	57	0	159	0	16	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.6	0.0	3.9	0.0	10.8	0.0	1.1	0.0
Cycle Q Clear Time (g_c), s	0.6	0.0	3.9	0.0	10.8	0.0	1.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	26	0	84	0	199	0	36	0
V/C Ratio (X)	0.31	0.00	0.68	0.00	0.80	0.00	0.45	0.00
Avail Cap (c_a), veh/h	71	0	157	0	314	0	86	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.69	0.00
Uniform Delay (d1), s/veh	56.0	0.0	53.6	0.0	49.2	0.0	55.6	0.0
Incr Delay (d2), s/veh	6.7	0.0	9.1	0.0	7.5	0.0	6.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	62.7	0.0	62.8	0.0	56.7	0.0	61.5	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	1.6	0.0	4.2	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	0.4	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.3	0.0	1.8	0.0	4.7	0.0	0.5	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.11	0.00	0.69	0.00	0.04	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	696	0	0	0	339
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	11.1	0.0	0.0	0.0	9.9
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	11.1	0.0	0.0	0.0	9.9
Lane Grp Cap (c), veh/h	0	0	0	2147	0	0	0	1126
V/C Ratio (X)	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.30
Avail Cap (c_a), veh/h	0	0	0	2147	0	0	0	1126
Upstream Filter (I)	0.00	0.00	0.00	0.69	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	11.2	0.0	0.0	0.0	9.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	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
Control Delay (d), s/veh	0.0	0.0	0.0	11.5	0.0	0.0	0.0	10.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.7	0.0	0.0	0.0	3.2

HCM 7th Signalized Intersection Capacity Analysis 7: S Vineland Ave & Whitesbridge Ave

PM 2029+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.8	0.0	0.0	0.0	3.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	81	0	188	0	45	0	355
Grp Sat Flow (s), veh/h/ln	0	1583	0	1423	0	1732	0	1860
Q Serve Time (g_s), s	0.0	5.1	0.0	6.9	0.0	2.8	0.0	9.9
Cycle Q Clear Time (g_c), s	0.0	5.1	0.0	6.9	0.0	2.8	0.0	9.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.88	0.00	1.00	0.00	0.36	0.00	0.03
Lane Grp Cap (c), veh/h	0	301	0	860	0	146	0	1179
V/C Ratio (X)	0.00	0.27	0.00	0.22	0.00	0.31	0.00	0.30
Avail Cap (c_a), veh/h	0	669	0	860	0	476	0	1179
Upstream Filter (I)	0.00	1.00	0.00	0.69	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	40.1	0.0	10.4	0.0	49.7	0.0	9.5
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.4	0.0	1.2	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
Control Delay (d), s/veh	0.0	40.6	0.0	10.8	0.0	50.8	0.0	10.2
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	1.9	0.0	1.2	0.0	3.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.9	0.0	2.0	0.0	1.2	0.0	3.6
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.16	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	18.9
HCM 7th LOS	B

Intersection

Intersection Delay, s/veh 12.2

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	155	22	35	223	69	24	63	19	67	57	72
Future Vol, veh/h	44	155	22	35	223	69	24	63	19	67	57	72
Peak Hour Factor	0.88	0.88	0.88	0.76	0.76	0.76	0.82	0.82	0.82	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	176	25	46	293	91	29	77	23	75	64	81
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay, s/veh	11.9	13.7	10.5	10.8
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	53%	0%	100%	0%	0%	100%	0%	0%	100%	21%
Vol Right, %	0%	0%	48%	0%	0%	100%	0%	0%	100%	0%	0%	79%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	42	40	44	155	22	35	223	69	67	38	91
LT Vol	24	0	0	44	0	0	35	0	0	67	0	0
Through Vol	0	42	21	0	155	0	0	223	0	0	38	19
RT Vol	0	0	19	0	0	22	0	0	69	0	0	72
Lane Flow Rate	29	51	49	50	176	25	46	293	91	75	43	102
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.062	0.101	0.091	0.099	0.325	0.041	0.087	0.515	0.142	0.154	0.081	0.179
Departure Headway (Hd)	7.571	7.071	6.739	7.149	6.649	5.949	6.813	6.313	5.613	7.365	6.865	6.312
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	471	505	529	500	539	599	525	569	636	486	520	565
Service Time	5.345	4.845	4.513	4.916	4.416	3.716	4.569	4.069	3.369	5.136	4.636	4.082
HCM Lane V/C Ratio	0.062	0.101	0.093	0.1	0.327	0.042	0.088	0.515	0.143	0.154	0.083	0.181
HCM Control Delay, s/veh	10.8	10.6	10.2	10.7	12.6	9	10.2	15.6	9.3	11.5	10.2	10.5
HCM Lane LOS	B	B	B	B	B	A	B	C	A	B	B	B
HCM 95th-tile Q	0.2	0.3	0.3	0.3	1.4	0.1	0.3	2.9	0.5	0.5	0.3	0.6

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

PM 2029+Project

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	192	58	76	150	69	56	561	45	83	414	41
Future Volume (veh/h)	45	192	58	76	150	69	56	561	45	83	414	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
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			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	56	237	72	90	179	82	64	638	51	94	470	47
Peak Hour Factor	0.81	0.81	0.81	0.84	0.84	0.84	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes				Yes				Yes
Cap, veh/h	82	304	232	123	351	268	728	1829	146	129	603	60
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.05	0.16	0.16	0.08	0.19	0.19	0.44	0.55	0.54	0.03	0.06	0.06
Unsig. Movement Delay												
Ln Grp Delay, s/veh	65.4	52.5	6.9	62.2	44.9	42.6	19.4	16.0	16.1	64.2	69.2	69.6
Ln Grp LOS	E	D	A	E	D	D	B	B	B	E	E	E
Approach Vol, veh/h	365				351				753			
Approach Delay, s/veh	45.5				48.8				16.3			
Approach LOS	D				D				B			
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	6	5	7	8				
Case No	2.0	4.0	2.0	3.0	4.0	2.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	13.5	70.0	13.0	23.5	26.2	57.2	10.0	26.5				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	16.1	38.1	16.1	30.1	42.1	12.1	11.1	35.1				
Max Allow Headway (MAH), s	4.1	4.0	4.1	4.1	4.0	4.1	4.1	4.1				
Max Q Clear (g_c+I1), s	8.8	14.9	8.4	16.6	19.2	4.7	6.0	12.3				
Green Ext Time (g_e), s	0.1	2.5	0.1	0.9	1.8	0.1	0.0	0.9				
Prob of Phs Call (p_c)	0.96	1.00	0.95	1.00	1.00	0.88	0.85	1.00				
Prob of Max Out (p_x)	0.04	0.00	0.03	0.01	0.00	0.02	0.31	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5			7					
Mvmt Sat Flow, veh/h	1641	1641		1641			1641					
Through Movement Data												
Assigned Mvmt	2			4		6	8					
Mvmt Sat Flow, veh/h	3326			1870		3256	1870					
Right-Turn Movement Data												
Assigned Mvmt	12			14		16	18					
Mvmt Sat Flow, veh/h	265			1425		324	1428					
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	0	5	7	0				

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

PM 2029+Project
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	0	1	1	0
Grp Vol (v), veh/h	94	0	90	0	0	64	56	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	0	1641	1641	0
Q Serve Time (g_s), s	6.8	0.0	6.4	0.0	0.0	2.7	4.0	0.0
Cycle Q Clear Time (g_c), s	6.8	0.0	6.4	0.0	0.0	2.7	4.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	129	0	123	0	0	728	82	0
V/C Ratio (X)	0.73	0.00	0.73	0.00	0.00	0.09	0.68	0.00
Avail Cap (c_a), veh/h	232	0	232	0	0	728	164	0
Upstream Filter (I)	0.93	0.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	57.2	0.0	54.3	0.0	0.0	19.3	56.0	0.0
Incr Delay (d2), s/veh	7.0	0.0	7.9	0.0	0.0	0.1	9.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	64.2	0.0	62.2	0.0	0.0	19.4	65.4	0.0
1st-Term Q (Q1), veh/ln	2.8	0.0	2.6	0.0	0.0	1.0	1.6	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.3	0.0	0.0	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.1	0.0	2.8	0.0	0.0	1.0	1.8	0.0
%ile Storage Ratio (RQ%)	0.41	0.00	0.80	0.00	0.00	0.25	0.46	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	6	0	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	1	1	0	0	1
Grp Vol (v), veh/h	0	340	0	237	256	0	0	179
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	1777	0	0	1870
Q Serve Time (g_s), s	0.0	12.8	0.0	14.6	17.0	0.0	0.0	10.3
Cycle Q Clear Time (g_c), s	0.0	12.8	0.0	14.6	17.0	0.0	0.0	10.3
Lane Grp Cap (c), veh/h	0	977	0	304	329	0	0	351
V/C Ratio (X)	0.00	0.35	0.00	0.78	0.78	0.00	0.00	0.51
Avail Cap (c_a), veh/h	0	977	0	483	637	0	0	561
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.93	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.0	0.0	48.2	53.9	0.0	0.0	43.8
Incr Delay (d2), s/veh	0.0	1.0	0.0	4.3	15.3	0.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.0	0.0	52.5	69.2	0.0	0.0	44.9
1st-Term Q (Q1), veh/ln	0.0	4.6	0.0	6.5	8.0	0.0	0.0	4.6

HCM 7th Signalized Intersection Capacity Analysis 9: S Madera Ave & W Kearney Blvd

PM 2029+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.4	1.4	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.9	0.0	6.8	9.4	0.0	0.0	4.7
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.07	0.10	0.00	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	16	0	0	18
Lane Assignment	T+R			R	T+R			R
Lanes in Grp	0	1	0	1	1	0	0	1
Grp Vol (v), veh/h	0	349	0	72	261	0	0	82
Grp Sat Flow (s), veh/h/ln	0	1814	0	1425	1803	0	0	1428
Q Serve Time (g_s), s	0.0	12.9	0.0	2.0	17.2	0.0	0.0	5.9
Cycle Q Clear Time (g_c), s	0.0	12.9	0.0	2.0	17.2	0.0	0.0	5.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.15	0.00	1.00	0.18	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	998	0	232	334	0	0	268
V/C Ratio (X)	0.00	0.35	0.00	0.31	0.78	0.00	0.00	0.31
Avail Cap (c_a), veh/h	0	998	0	368	646	0	0	428
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.93	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.1	0.0	6.2	54.0	0.0	0.0	42.0
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.8	15.6	0.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.1	0.0	6.9	69.6	0.0	0.0	42.6
1st-Term Q (Q1), veh/ln	0.0	4.8	0.0	1.7	8.2	0.0	0.0	2.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	1.4	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.0	0.0	1.8	9.7	0.0	0.0	2.1
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.46	0.10	0.00	0.00	0.52
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	42.3
HCM 7th LOS	D

Intersection

Intersection Delay, s/veh 14

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	93	27	25	125	48	32	249	29	38	167	59
Future Vol, veh/h	45	93	27	25	125	48	32	249	29	38	167	59
Peak Hour Factor	0.93	0.93	0.93	0.82	0.82	0.82	0.92	0.92	0.92	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	100	29	30	152	59	35	271	32	43	188	66
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	12.2	13.3	15.9	13.4
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	10%	27%	13%	100%	0%
Vol Thru, %	80%	56%	63%	0%	74%
Vol Right, %	9%	16%	24%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	310	165	198	38	226
LT Vol	32	45	25	38	0
Through Vol	249	93	125	0	167
RT Vol	29	27	48	0	59
Lane Flow Rate	337	177	241	43	254
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.546	0.312	0.41	0.083	0.442
Departure Headway (Hd)	5.955	6.332	6.113	6.959	6.263
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	610	570	592	517	576
Service Time	3.955	4.357	4.127	4.674	3.979
HCM Lane V/C Ratio	0.552	0.311	0.407	0.083	0.441
HCM Control Delay, s/veh	15.9	12.2	13.3	10.3	13.9
HCM Lane LOS	C	B	B	B	B
HCM 95th-tile Q	3.3	1.3	2	0.3	2.2

Intersection						
Int Delay, s/veh	5.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	115	136	41	57	17
Future Vol, veh/h	0	115	136	41	57	17
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	0	125	148	45	62	18
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	71	80	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	991	1517	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	991	1517	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	9.16	5.86		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1383	-	991	-	-	
HCM Lane V/C Ratio	0.097	-	0.126	-	-	
HCM Control Delay (s/veh)	7.6	0	9.2	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.3	-	0.4	-	-	

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	603	1019	134	0	112
Future Vol, veh/h	0	603	1019	134	0	112
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	0	655	1108	146	0	122

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	- 0 - 627
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - 6.94
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - 3.32
Pot Cap-1 Maneuver	0	-	- 0 427
Stage 1	0	-	- 0 -
Stage 2	0	-	- 0 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - 427
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

Approach	EB	WB	SB
HCM Control Delay, s/v	0	0	16.78
HCM LOS			C

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	427
HCM Lane V/C Ratio	-	-	-	0.285
HCM Control Delay (s/veh)	-	-	-	16.8
HCM Lane LOS	-	-	-	C
HCM 95th %tile Q(veh)	-	-	-	1.2

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	1	3	7	1	6	0	6	45	1	1	59	3
Future Vol, veh/h	1	3	7	1	6	0	6	45	1	1	59	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	63	63	63	69	69	69	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	3	7	2	10	0	9	65	1	1	83	4
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	175	172	85	171	173	66	87	0	0	67	0	0
Stage 1	88	88	-	83	83	-	-	-	-	-	-	-
Stage 2	87	84	-	87	90	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	787	721	974	793	720	998	1509	-	-	1535	-	-
Stage 1	920	822	-	925	826	-	-	-	-	-	-	-
Stage 2	920	825	-	920	820	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	771	716	974	778	715	998	1509	-	-	1535	-	-
Mov Cap-2 Maneuver	771	716	-	778	715	-	-	-	-	-	-	-
Stage 1	919	821	-	919	821	-	-	-	-	-	-	-
Stage 2	904	820	-	909	819	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s/v	9.2		10.06			0.85			0.12			
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	207	-	-	868	723	28	-	-				
HCM Lane V/C Ratio	0.006	-	-	0.013	0.015	0.001	-	-				
HCM Control Delay (s/veh)	7.4	0	-	9.2	10.1	7.3	0	-				
HCM Lane LOS	A	A	-	A	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-				

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	4	3	1	9	1	0	27	1	0	59	2
Future Vol, veh/h	0	4	3	1	9	1	0	27	1	0	59	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	42	42	42	67	67	67	78	78	78	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	7	1	13	1	0	35	1	0	86	3
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	128	123	87	126	124	35	88	0	0	36	0	0
Stage 1	87	87	-	35	35	-	-	-	-	-	-	-
Stage 2	41	36	-	90	88	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	845	768	972	848	767	1038	1507	-	-	1575	-	-
Stage 1	921	823	-	980	866	-	-	-	-	-	-	-
Stage 2	973	865	-	917	822	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	829	768	972	832	767	1038	1507	-	-	1575	-	-
Mov Cap-2 Maneuver	829	768	-	832	767	-	-	-	-	-	-	-
Stage 1	921	823	-	980	866	-	-	-	-	-	-	-
Stage 2	957	865	-	900	822	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s/v	9.35		9.65			0			0			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1507	-	-	843	791	1575	-	-				
HCM Lane V/C Ratio	-	-	-	0.02	0.021	-	-	-				
HCM Control Delay (s/veh)	0	-	-	9.4	9.6	0	-	-				
HCM Lane LOS	A	-	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-				

Intersection						
Int Delay, s/veh	0.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	0	7	5	536	636	3
Future Vol, veh/h	0	7	5	536	636	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	42	42	86	86	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	17	6	623	684	3

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1320	685	687	0	-	0
Stage 1	685	-	-	-	-	-
Stage 2	635	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	173	448	907	-	-	-
Stage 1	500	-	-	-	-	-
Stage 2	528	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	171	448	907	-	-	-
Mov Cap-2 Maneuver	171	-	-	-	-	-
Stage 1	495	-	-	-	-	-
Stage 2	528	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v13.35		0.08	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	17	-	448	-	-
HCM Lane V/C Ratio	0.006	-	0.037	-	-
HCM Control Delay (s/veh)	9	0	13.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

PM 2044
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	511	81	173	479	69	33	55	105	28	44	10
Future Volume (veh/h)	15	511	81	173	479	69	33	55	105	28	44	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
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			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	18	631	112	194	521	95	52	71	119	54	57	18
Peak Hour Factor	0.83	0.81	0.72	0.89	0.92	0.73	0.63	0.78	0.88	0.52	0.77	0.56
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes				Yes				Yes
Cap, veh/h	49	972	739	238	2256	904	71	94	158	71	206	65
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.52	0.52	0.29	1.00	1.00	0.04	0.15	0.15	0.04	0.15	0.15
Unsig. Movement Delay												
Ln Grp Delay, s/veh	59.2	23.4	14.8	49.0	0.2	0.2	85.4	0.0	51.4	90.9	0.0	43.7
Ln Grp LOS	E	C	B	D	A	A	F		D	F		D
Approach Vol, veh/h	761				810				242		129	
Approach Delay, s/veh	23.0				11.9				58.7		63.5	
Approach LOS	C				B				E		E	
Timer:	1		2	3	4	5	6	7	8			
Assigned Phs	1		2	3	4	5	6	7	8			
Case No	2.0		4.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s	9.0		21.5	20.7	63.8	9.0	21.5	7.4	77.0			
Change Period (Y+Rc), s	4.6		4.6	5.7	5.7	4.6	4.6	5.7	5.7			
Max Green (Gmax), s	4.4		27.0	22.3	40.7	4.4	27.0	4.1	58.9			
Max Allow Headway (MAH), s	4.1		4.2	4.1	4.0	4.1	4.1	4.1	4.1			
Max Q Clear (g_c+I1), s	5.7		14.7	14.6	30.1	5.6	6.3	3.2	2.0			
Green Ext Time (g_e), s	0.0		0.5	0.4	2.3	0.0	0.2	0.0	2.7			
Prob of Phs Call (p_c)	0.82		1.00	1.00	1.00	0.81	1.00	0.44	1.00			
Prob of Max Out (p_x)	1.00		0.00	0.08	0.00	1.00	0.00	1.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			618		1870		1353		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1035		1422		427		1423			
Left Lane Group Data												
Assigned Mvmt	1		0	3	0	5	0	7	0			

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

PM 2044
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	54	0	194	0	52	0	18	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	3.7	0.0	12.6	0.0	3.6	0.0	1.2	0.0
Cycle Q Clear Time (g_c), s	3.7	0.0	12.6	0.0	3.6	0.0	1.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	71	0	238	0	71	0	49	0
V/C Ratio (X)	0.76	0.00	0.82	0.00	0.73	0.00	0.37	0.00
Avail Cap (c_a), veh/h	71	0	342	0	71	0	83	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	54.4	0.0	39.4	0.0	54.3	0.0	54.7	0.0
Incr Delay (d2), s/veh	36.5	0.0	9.6	0.0	31.1	0.0	4.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	90.9	0.0	49.0	0.0	85.4	0.0	59.2	0.0
1st-Term Q (Q1), veh/ln	1.5	0.0	4.2	0.0	1.4	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.7	0.0	0.6	0.0	0.6	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.2	0.0	4.8	0.0	2.0	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.56	0.00	0.25	0.00	0.35	0.00	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	1	0	0	0	2
Grp Vol (v), veh/h	0	0	0	631	0	0	0	521
Grp Sat Flow (s), veh/h/ln	0	0	0	1870	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	28.1	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	28.1	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	972	0	0	0	2256
V/C Ratio (X)	0.00	0.00	0.00	0.65	0.00	0.00	0.00	0.23
Avail Cap (c_a), veh/h	0	0	0	972	0	0	0	2256
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	20.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	3.4	0.0	0.0	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
Control Delay (d), s/veh	0.0	0.0	0.0	23.4	0.0	0.0	0.0	0.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	10.8	0.0	0.0	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis 4: Siskiyou Ave & Whitesbridge Ave

PM 2044
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	11.7	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	190	0	112	0	75	0	95
Grp Sat Flow (s), veh/h/ln	0	1653	0	1422	0	1781	0	1423
Q Serve Time (g_s), s	0.0	12.7	0.0	4.7	0.0	4.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	12.7	0.0	4.7	0.0	4.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.63	0.00	1.00	0.00	0.24	0.00	1.00
Lane Grp Cap (c), veh/h	0	252	0	739	0	272	0	904
V/C Ratio (X)	0.00	0.75	0.00	0.15	0.00	0.28	0.00	0.11
Avail Cap (c_a), veh/h	0	397	0	739	0	427	0	904
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	46.8	0.0	14.4	0.0	43.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	4.5	0.0	0.4	0.0	0.5	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
Control Delay (d), s/veh	0.0	51.4	0.0	14.8	0.0	43.7	0.0	0.2
1st-Term Q (Q1), veh/ln	0.0	5.0	0.0	1.4	0.0	1.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.3	0.0	1.5	0.0	1.8	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.12	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	25.5
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

PM 2044
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	708	23	288	822	7	14	22	160	3	32	1
Future Volume (veh/h)	6	708	23	288	822	7	14	22	160	3	32	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.98
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			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	7	787	26	310	884	8	17	27	195	3	37	1
Peak Hour Factor	0.90	0.90	0.90	0.93	0.93	0.93	0.82	0.82	0.82	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes				Yes				Yes
Cap, veh/h	24	1632	660	337	2345	21	37	36	257	18	315	9
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.92	0.92	0.41	1.00	1.00	0.02	0.19	0.18	0.01	0.17	0.17
Unsig. Movement Delay												
Ln Grp Delay, s/veh	61.6	3.7	2.7	47.9	0.4	0.4	64.3	0.0	48.8	60.6	0.0	40.3
Ln Grp LOS	E	A	A	D	A	A	E		D	E		D
Approach Vol, veh/h	820				1202				239			
Approach Delay, s/veh	4.2				12.7				49.9			
Approach LOS	A				B				D			
Timer:	1		2		3		4		5		6	
Assigned Phs	1		2		3		4		5		6	
Case No	2.0		4.0		2.0		3.0		2.0		4.0	
Phs Duration (G+Y+Rc), s	5.3		25.3		27.6		56.8		6.6		24.0	
Change Period (Y+Rc), s	4.9		4.9		4.9		4.9		4.9		4.9	
Max Green (Gmax), s	7.1		33.5		24.1		30.7		8.2		32.4	
Max Allow Headway (MAH), s	4.1		4.3		4.1		4.0		4.1		4.0	
Max Q Clear (g_c+I1), s	2.2		17.3		22.6		5.7		3.2		4.0	
Green Ext Time (g_e), s	0.0		0.7		0.2		3.6		0.0		0.1	
Prob of Phs Call (p_c)	0.09		1.00		1.00		1.00		0.42		1.00	
Prob of Max Out (p_x)	0.15		0.00		1.00		0.00		0.21		0.00	
Left-Turn Movement Data												
Assigned Mvmt	1				3				5			
Mvmt Sat Flow, veh/h	1641				1641				1641			
Through Movement Data												
Assigned Mvmt			2				4				6	
Mvmt Sat Flow, veh/h			192				3554				1811	
Right-Turn Movement Data												
Assigned Mvmt			12				14				16	
Mvmt Sat Flow, veh/h			1390				1436				49	
Left Lane Group Data												
Assigned Mvmt	1		0		3		0		5		0	

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

PM 2044
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	3	0	310	0	17	0	7	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.2	0.0	20.6	0.0	1.2	0.0	0.5	0.0
Cycle Q Clear Time (g_c), s	0.2	0.0	20.6	0.0	1.2	0.0	0.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	18	0	337	0	37	0	24	0
V/C Ratio (X)	0.17	0.00	0.92	0.00	0.46	0.00	0.29	0.00
Avail Cap (c_a), veh/h	114	0	357	0	130	0	84	0
Upstream Filter (I)	1.00	0.00	0.44	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	56.3	0.0	32.9	0.0	55.5	0.0	55.2	0.0
Incr Delay (d2), s/veh	4.2	0.0	15.0	0.0	8.8	0.0	6.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	60.6	0.0	47.9	0.0	64.3	0.0	61.6	0.0
1st-Term Q (Q1), veh/ln	0.1	0.0	5.7	0.0	0.5	0.0	0.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.4	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.1	0.0	7.1	0.0	0.6	0.0	0.2	0.0
%ile Storage Ratio (RQ%)	0.02	0.00	0.33	0.00	0.13	0.00	0.01	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	787	0	0	0	435
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	1632	0	0	0	1155
V/C Ratio (X)	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.38
Avail Cap (c_a), veh/h	0	0	0	1632	0	0	0	1155
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.44
Uniform Delay (d1), s/veh	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

PM 2044
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	222	0	26	0	38	0	457
Grp Sat Flow (s), veh/h/ln	0	1582	0	1436	0	1860	0	1863
Q Serve Time (g_s), s	0.0	15.3	0.0	0.2	0.0	2.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	15.3	0.0	0.2	0.0	2.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.88	0.00	1.00	0.00	0.03	0.00	0.02
Lane Grp Cap (c), veh/h	0	293	0	660	0	323	0	1211
V/C Ratio (X)	0.00	0.76	0.00	0.04	0.00	0.12	0.00	0.38
Avail Cap (c_a), veh/h	0	473	0	660	0	539	0	1211
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.44
Uniform Delay (d1), s/veh	0.0	44.8	0.0	2.5	0.0	40.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	4.0	0.0	0.1	0.0	0.2	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	48.8	0.0	2.7	0.0	40.3	0.0	0.4
1st-Term Q (Q1), veh/ln	0.0	5.7	0.0	0.1	0.0	0.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.1	0.0	0.1	0.0	0.9	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.01	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	14.0
HCM 7th LOS	B

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

PM 2044
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	167	684	98	162	869	102	170	332	160	171	325	122
Future Volume (veh/h)	167	684	98	162	869	102	170	332	160	171	325	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.97
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	196	805	115	180	966	113	191	373	180	182	346	130
Peak Hour Factor	0.85	0.85	0.85	0.90	0.90	0.90	0.89	0.89	0.89	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	228	1019	146	217	1025	120	417	618	248	372	521	209
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.11	0.11	0.13	0.32	0.31	0.25	0.17	0.17	0.23	0.15	0.15
Unsig. Movement Delay												
Ln Grp Delay, s/veh	78.0	54.0	54.0	65.8	60.4	60.5	36.9	44.7	48.5	39.6	53.0	38.3
Ln Grp LOS	E	D	D	E	E	E	D	D	D	D	D	D
Approach Vol, veh/h	1116			1259			744			658		
Approach Delay, s/veh	58.2			61.2			43.6			46.4		
Approach LOS	E			E			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	6	5	7	8				
Case No	2.0	3.0	2.0	4.0	3.0	2.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	30.1	24.0	19.2	41.7	20.9	33.2	20.0	40.9				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	16.4	27.8	16.1	35.1	30.4	13.8	15.1	36.1				
Max Allow Headway (MAH), s	4.1	4.1	4.1	4.0	4.1	4.1	4.1	4.0				
Max Q Clear (g_c+I1), s	13.1	15.7	14.3	31.0	12.6	13.3	15.6	35.9				
Green Ext Time (g_e), s	0.2	1.8	0.1	1.5	1.8	0.0	0.0	0.1				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	1.00	0.05	1.00	0.99	0.00	1.00	1.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3			5	7					
Mvmt Sat Flow, veh/h	1641		1641			1641	1641					
Through Movement Data												
Assigned Mvmt		2		4	6			8				
Mvmt Sat Flow, veh/h		3554		3113	3554			3193				
Right-Turn Movement Data												
Assigned Mvmt		12		14	16			18				
Mvmt Sat Flow, veh/h		1426		445	1423			373				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	0	5	7	0				

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

PM 2044
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	0	1	1	0
Grp Vol (v), veh/h	182	0	180	0	0	191	196	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	0	1641	1641	0
Q Serve Time (g_s), s	11.1	0.0	12.3	0.0	0.0	11.3	13.6	0.0
Cycle Q Clear Time (g_c), s	11.1	0.0	12.3	0.0	0.0	11.3	13.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	372	0	217	0	0	417	228	0
V/C Ratio (X)	0.49	0.00	0.83	0.00	0.00	0.46	0.86	0.00
Avail Cap (c_a), veh/h	372	0	243	0	0	417	228	0
Upstream Filter (I)	1.00	0.00	0.89	0.00	0.00	0.86	0.90	0.00
Uniform Delay (d1), s/veh	38.6	0.0	48.6	0.0	0.0	36.2	53.7	0.0
Incr Delay (d2), s/veh	1.0	0.0	17.2	0.0	0.0	0.7	24.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	39.6	0.0	65.8	0.0	0.0	36.9	78.0	0.0
1st-Term Q (Q1), veh/ln	4.2	0.0	4.8	0.0	0.0	4.3	5.9	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	1.0	0.0	0.0	0.1	1.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.3	0.0	5.8	0.0	0.0	4.4	7.4	0.0
%ile Storage Ratio (RQ%)	0.92	0.00	0.64	0.00	0.00	0.58	1.08	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	6	0	0	8
Lane Assignment	T		T		T			T
Lanes in Grp	0	2	0	1	2	0	0	1
Grp Vol (v), veh/h	0	373	0	459	346	0	0	537
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	1777	0	0	1777
Q Serve Time (g_s), s	0.0	11.1	0.0	29.0	10.6	0.0	0.0	33.9
Cycle Q Clear Time (g_c), s	0.0	11.1	0.0	29.0	10.6	0.0	0.0	33.9
Lane Grp Cap (c), veh/h	0	618	0	582	521	0	0	570
V/C Ratio (X)	0.00	0.60	0.00	0.79	0.66	0.00	0.00	0.94
Avail Cap (c_a), veh/h	0	887	0	582	967	0	0	572
Upstream Filter (I)	0.00	0.86	0.00	0.90	1.00	0.00	0.00	0.89
Uniform Delay (d1), s/veh	0.0	43.9	0.0	47.4	46.4	0.0	0.0	38.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	6.5	6.6	0.0	0.0	22.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	44.7	0.0	54.0	53.0	0.0	0.0	60.4
1st-Term Q (Q1), veh/ln	0.0	4.7	0.0	13.7	4.5	0.0	0.0	13.6

HCM 7th Signalized Intersection Capacity Analysis 6: S Madera Ave & Whitesbridge Ave

PM 2044
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.1	0.5	0.0	0.0	3.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.7	0.0	14.7	4.9	0.0	0.0	17.2
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.15	0.05	0.00	0.00	0.18
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	16	0	0	18
Lane Assignment		R		T+R	R			T+R
Lanes in Grp	0	1	0	1	1	0	0	1
Grp Vol (v), veh/h	0	180	0	461	130	0	0	542
Grp Sat Flow (s), veh/h/ln	0	1426	0	1781	1423	0	0	1789
Q Serve Time (g_s), s	0.0	13.7	0.0	29.0	7.3	0.0	0.0	33.9
Cycle Q Clear Time (g_c), s	0.0	13.7	0.0	29.0	7.3	0.0	0.0	33.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.25	1.00	0.00	0.00	0.21
Lane Grp Cap (c), veh/h	0	248	0	583	209	0	0	574
V/C Ratio (X)	0.00	0.73	0.00	0.79	0.62	0.00	0.00	0.94
Avail Cap (c_a), veh/h	0	356	0	583	387	0	0	576
Upstream Filter (I)	0.00	0.86	0.00	0.90	1.00	0.00	0.00	0.89
Uniform Delay (d1), s/veh	0.0	44.9	0.0	47.5	25.0	0.0	0.0	38.1
Incr Delay (d2), s/veh	0.0	3.6	0.0	6.5	13.2	0.0	0.0	22.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	48.5	0.0	54.0	38.3	0.0	0.0	60.5
1st-Term Q (Q1), veh/ln	0.0	4.6	0.0	13.7	3.2	0.0	0.0	13.8
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	1.1	0.8	0.0	0.0	3.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.9	0.0	14.8	4.0	0.0	0.0	17.3
%ile Storage Ratio (RQ%)	0.00	0.77	0.00	0.15	1.02	0.00	0.00	0.18
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	54.3
HCM 7th LOS	D

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

PM 2044
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1027	221	77	872	13	97	11	75	9	30	17
Future Volume (veh/h)	24	1027	221	77	872	13	97	11	75	9	30	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	1.00		0.96
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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	25	1081	233	81	918	14	117	13	90	11	36	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	43	2192	878	112	2359	36	153	33	226	29	98	55
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
Prop Arrive On Green	0.03	0.62	0.62	0.07	0.66	0.65	0.09	0.16	0.16	0.02	0.09	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	65.5	13.2	11.0	68.4	10.4	10.3	60.8	0.0	46.2	66.2	0.0	53.2
Ln Grp LOS	E	B	B	E	B	B	E		D	E		D
Approach Vol, veh/h	1339				1013				220		67	
Approach Delay, s/veh	13.8				15.0				54.0		55.3	
Approach LOS	B				B				D		E	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	6.1	23.7	12.2	78.0	15.2	14.6	7.2	83.0				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	4.0	43.8	9.1	43.5	17.1	30.7	5.5	47.1				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.1	4.1	4.1	4.1	4.0				
Max Q Clear (g_c+I1), s	2.8	9.0	7.8	22.1	10.4	5.7	3.8	16.1				
Green Ext Time (g_e), s	0.0	0.4	0.0	6.2	0.2	0.1	0.0	3.7				
Prob of Phs Call (p_c)	0.31	1.00	0.93	1.00	0.98	1.00	0.57	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	0.09	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	200			3554			1114			3581		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1382			1423			619			55		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

PM 2044
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	11	0	81	0	117	0	25	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.8	0.0	5.8	0.0	8.4	0.0	1.8	0.0
Cycle Q Clear Time (g_c), s	0.8	0.0	5.8	0.0	8.4	0.0	1.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	29	0	112	0	153	0	43	0
V/C Ratio (X)	0.38	0.00	0.72	0.00	0.76	0.00	0.58	0.00
Avail Cap (c_a), veh/h	67	0	137	0	246	0	88	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.65	0.00
Uniform Delay (d1), s/veh	58.3	0.0	54.8	0.0	53.1	0.0	57.8	0.0
Incr Delay (d2), s/veh	7.9	0.0	13.6	0.0	7.7	0.0	7.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	66.2	0.0	68.4	0.0	60.8	0.0	65.5	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	2.3	0.0	3.3	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.4	0.0	0.3	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.4	0.0	2.7	0.0	3.6	0.0	0.8	0.0
%ile Storage Ratio (RQ%)	0.09	0.00	0.17	0.00	0.54	0.00	0.06	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	1081	0	0	0	455
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	20.1	0.0	0.0	0.0	14.1
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	20.1	0.0	0.0	0.0	14.1
Lane Grp Cap (c), veh/h	0	0	0	2192	0	0	0	1170
V/C Ratio (X)	0.00	0.00	0.00	0.49	0.00	0.00	0.00	0.39
Avail Cap (c_a), veh/h	0	0	0	2192	0	0	0	1170
Upstream Filter (I)	0.00	0.00	0.00	0.65	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	12.7	0.0	0.0	0.0	9.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	13.2	0.0	0.0	0.0	10.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	6.8	0.0	0.0	0.0	4.5

HCM 7th Signalized Intersection Capacity Analysis 7: S Vineland Ave & Whitesbridge Ave

PM 2044
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	7.0	0.0	0.0	0.0	4.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	103	0	233	0	56	0	477
Grp Sat Flow (s), veh/h/ln	0	1581	0	1423	0	1732	0	1859
Q Serve Time (g_s), s	0.0	7.0	0.0	9.0	0.0	3.7	0.0	14.1
Cycle Q Clear Time (g_c), s	0.0	7.0	0.0	9.0	0.0	3.7	0.0	14.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.87	0.00	1.00	0.00	0.36	0.00	0.03
Lane Grp Cap (c), veh/h	0	259	0	878	0	153	0	1225
V/C Ratio (X)	0.00	0.40	0.00	0.27	0.00	0.37	0.00	0.39
Avail Cap (c_a), veh/h	0	589	0	878	0	456	0	1225
Upstream Filter (I)	0.00	1.00	0.00	0.65	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	45.2	0.0	10.5	0.0	51.7	0.0	9.4
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.5	0.0	1.5	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
Control Delay (d), s/veh	0.0	46.2	0.0	11.0	0.0	53.2	0.0	10.3
1st-Term Q (Q1), veh/ln	0.0	2.7	0.0	2.4	0.0	1.5	0.0	4.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.7	0.0	2.6	0.0	1.6	0.0	5.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.21	0.00	0.02	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	18.7
HCM 7th LOS	B

Intersection

Intersection Delay, s/veh 19.8

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	264	38	51	318	34	29	56	23	37	52	81
Future Vol, veh/h	65	264	38	51	318	34	29	56	23	37	52	81
Peak Hour Factor	0.88	0.88	0.88	0.76	0.76	0.76	0.82	0.82	0.82	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	300	43	67	418	45	35	68	28	42	58	91
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay, s/veh	7.1	26.9	11.6	11.9
HCM LOS	C	D	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	45%	0%	100%	0%	0%	100%	0%	0%	100%	18%
Vol Right, %	0%	0%	55%	0%	0%	100%	0%	0%	100%	0%	0%	82%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	37	42	65	264	38	51	318	34	37	35	98
LT Vol	29	0	0	65	0	0	51	0	0	37	0	0
Through Vol	0	37	19	0	264	0	0	318	0	0	35	17
RT Vol	0	0	23	0	0	38	0	0	34	0	0	81
Lane Flow Rate	35	46	51	74	300	43	67	418	45	42	39	110
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.083	0.101	0.107	0.155	0.589	0.076	0.137	0.797	0.077	0.096	0.085	0.222
Departure Headway (Hd)	8.473	7.973	7.586	7.567	7.067	6.367	7.358	6.858	6.158	8.318	7.818	7.241
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	423	449	472	474	510	562	491	531	585	431	458	496
Service Time	6.223	5.723	5.337	5.309	4.809	4.109	5.058	4.558	3.858	6.065	5.565	4.988
HCM Lane V/C Ratio	0.083	0.102	0.108	0.156	0.588	0.077	0.136	0.787	0.077	0.097	0.085	0.222
HCM Control Delay, s/veh	12	11.6	11.2	11.7	19.5	9.6	11.2	31.3	9.4	12	11.3	12.1
HCM Lane LOS	B	B	B	B	C	A	B	D	A	B	B	B
HCM 95th-tile Q	0.3	0.3	0.4	0.5	3.8	0.2	0.5	7.5	0.2	0.3	0.3	0.8

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

PM 2044
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	232	82	108	160	83	67	643	55	90	464	49
Future Volume (veh/h)	64	232	82	108	160	83	67	643	55	90	464	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
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			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	79	286	101	129	190	99	76	731	62	102	527	56
Peak Hour Factor	0.81	0.81	0.81	0.84	0.84	0.84	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	110	347	265	166	410	313	627	1644	139	136	642	68
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
Prop Arrive On Green	0.07	0.19	0.19	0.10	0.22	0.22	0.38	0.50	0.49	0.08	0.20	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.2	55.0	8.9	61.6	41.5	39.9	24.1	21.1	21.1	60.0	61.2	61.6
Ln Grp LOS	E	D	A	E	D	D	C	C	C	E	E	E
Approach Vol, veh/h	466				418		869				685	
Approach Delay, s/veh	46.4				47.3		21.4				61.2	
Approach LOS	D				D		C				E	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	6	5	7	8				
Case No	2.0	4.0	2.0	3.0	4.0	2.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	14.0	63.7	16.1	26.2	27.8	49.8	12.1	30.3				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	14.1	39.1	17.1	30.1	41.3	11.9	12.3	34.9				
Max Allow Headway (MAH), s	4.1	4.0	4.1	4.1	4.0	4.1	4.1	4.1				
Max Q Clear (g_c+I1), s	9.3	19.2	11.2	19.6	20.8	5.6	7.7	12.6				
Green Ext Time (g_e), s	0.1	2.9	0.2	1.0	2.0	0.1	0.1	1.0				
Prob of Phs Call (p_c)	0.97	1.00	0.99	1.00	1.00	0.92	0.93	1.00				
Prob of Max Out (p_x)	0.50	0.02	0.21	0.05	0.00	0.09	0.56	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2		4		6	8						
Mvmt Sat Flow, veh/h	3307		1870		3234	1870						
Right-Turn Movement Data												
Assigned Mvmt	12		14		16	18						
Mvmt Sat Flow, veh/h	280		1427		342	1430						
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	0	5	7	0				

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

PM 2044
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	0	1	1	0
Grp Vol (v), veh/h	102	0	129	0	0	76	79	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	0	1641	1641	0
Q Serve Time (g_s), s	7.3	0.0	9.2	0.0	0.0	3.6	5.7	0.0
Cycle Q Clear Time (g_c), s	7.3	0.0	9.2	0.0	0.0	3.6	5.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	136	0	166	0	0	627	110	0
V/C Ratio (X)	0.75	0.00	0.78	0.00	0.00	0.12	0.72	0.00
Avail Cap (c_a), veh/h	205	0	246	0	0	627	180	0
Upstream Filter (I)	0.78	0.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	53.8	0.0	52.6	0.0	0.0	24.0	54.8	0.0
Incr Delay (d2), s/veh	6.2	0.0	8.9	0.0	0.0	0.1	8.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	60.0	0.0	61.6	0.0	0.0	24.1	63.2	0.0
1st-Term Q (Q1), veh/ln	2.9	0.0	3.6	0.0	0.0	1.3	2.2	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.4	0.0	0.0	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.1	0.0	4.0	0.0	0.0	1.3	2.5	0.0
%ile Storage Ratio (RQ%)	0.42	0.00	1.14	0.00	0.00	0.34	0.64	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	6	0	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	1	1	0	0	1
Grp Vol (v), veh/h	0	393	0	286	289	0	0	190
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	1777	0	0	1870
Q Serve Time (g_s), s	0.0	17.1	0.0	17.6	18.7	0.0	0.0	10.6
Cycle Q Clear Time (g_c), s	0.0	17.1	0.0	17.6	18.7	0.0	0.0	10.6
Lane Grp Cap (c), veh/h	0	883	0	347	353	0	0	410
V/C Ratio (X)	0.00	0.44	0.00	0.82	0.82	0.00	0.00	0.46
Avail Cap (c_a), veh/h	0	883	0	483	625	0	0	558
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.78	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.5	0.0	47.0	46.0	0.0	0.0	40.7
Incr Delay (d2), s/veh	0.0	1.6	0.0	8.0	15.2	0.0	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.1	0.0	55.0	61.2	0.0	0.0	41.5
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	7.8	7.8	0.0	0.0	4.7

HCM 7th Signalized Intersection Capacity Analysis 9: S Madera Ave & W Kearney Blvd

PM 2044
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.8	1.5	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.8	0.0	8.6	9.3	0.0	0.0	4.7
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.09	0.09	0.00	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	16	0	0	18
Lane Assignment	T+R			R	T+R			R
Lanes in Grp	0	1	0	1	1	0	0	1
Grp Vol (v), veh/h	0	400	0	101	294	0	0	99
Grp Sat Flow (s), veh/h/ln	0	1811	0	1427	1800	0	0	1430
Q Serve Time (g_s), s	0.0	17.2	0.0	3.2	18.8	0.0	0.0	7.0
Cycle Q Clear Time (g_c), s	0.0	17.2	0.0	3.2	18.8	0.0	0.0	7.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.15	0.00	1.00	0.19	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	900	0	265	357	0	0	313
V/C Ratio (X)	0.00	0.44	0.00	0.38	0.82	0.00	0.00	0.32
Avail Cap (c_a), veh/h	0	900	0	369	633	0	0	427
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.78	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.5	0.0	8.0	46.2	0.0	0.0	39.3
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.9	15.4	0.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.1	0.0	8.9	61.6	0.0	0.0	39.9
1st-Term Q (Q1), veh/ln	0.0	6.6	0.0	2.4	8.0	0.0	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	1.5	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.0	0.0	2.5	9.5	0.0	0.0	2.4
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.63	0.10	0.00	0.00	0.61
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	41.8
HCM 7th LOS	D

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	64	97	27	43	159	81	26	251	34	49	175	75
Future Vol, veh/h	64	97	27	43	159	81	26	251	34	49	175	75
Peak Hour Factor	0.93	0.93	0.93	0.82	0.82	0.82	0.92	0.92	0.92	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	69	104	29	52	194	99	28	273	37	55	197	84
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	14.7	19.9	20.2	16.6
HCM LOS	B	C	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	8%	34%	15%	100%	0%
Vol Thru, %	81%	52%	56%	0%	70%
Vol Right, %	11%	14%	29%	0%	30%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	311	188	283	49	250
LT Vol	26	64	43	49	0
Through Vol	251	97	159	0	175
RT Vol	34	27	81	0	75
Lane Flow Rate	338	202	345	55	281
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.624	0.394	0.624	0.117	0.539
Departure Headway (Hd)	6.643	7.021	6.511	7.632	6.904
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	541	509	552	467	520
Service Time	4.723	5.115	4.59	5.413	4.684
HCM Lane V/C Ratio	0.625	0.397	0.625	0.118	0.54
HCM Control Delay, s/veh	20.2	14.7	19.9	11.4	17.6
HCM Lane LOS	C	B	C	B	C
HCM 95th-tile Q	4.3	1.9	4.3	0.4	3.2

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↖	
Traffic Vol, veh/h	0	0	0	31	62	0
Future Vol, veh/h	0	0	0	31	62	0
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	0	0	0	34	67	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	67	67	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	996	1534	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	996	1534	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1534	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s/veh)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 7th TWSC
12: Whitesbridge Ave & Project Entrance

PM 2044
11/06/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	687	1436	0	0	0
Future Vol, veh/h	0	687	1436	0	0	0
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	0	747	1561	0	0	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	780
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	338
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	338
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s/veh)	-	-	-	0		
HCM Lane LOS	-	-	-	A		
HCM 95th %tile Q(veh)	-	-	-	-		

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	6	7	1	8	0	6	45	1	1	59	3
Future Vol, veh/h	1	6	7	1	8	0	6	45	1	1	59	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	63	63	63	69	69	69	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	6	7	2	13	0	9	65	1	1	83	4
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	177	172	85	172	173	66	87	0	0	67	0	0
Stage 1	88	88	-	83	83	-	-	-	-	-	-	-
Stage 2	89	84	-	89	90	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	785	721	974	791	720	998	1509	-	-	1535	-	-
Stage 1	920	822	-	925	826	-	-	-	-	-	-	-
Stage 2	918	825	-	919	820	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	766	716	974	773	715	998	1509	-	-	1535	-	-
Mov Cap-2 Maneuver	766	716	-	773	715	-	-	-	-	-	-	-
Stage 1	919	821	-	919	821	-	-	-	-	-	-	-
Stage 2	899	820	-	904	819	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s/v	9.41		10.1			0.85			0.12			
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	207	-	-	830	721	28	-	-				
HCM Lane V/C Ratio	0.006	-	-	0.017	0.02	0.001	-	-				
HCM Control Delay (s/veh)	7.4	0	-	9.4	10.1	7.3	0	-				
HCM Lane LOS	A	A	-	A	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-				

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	4	6	9	9	1	2	33	6	0	65	2
Future Vol, veh/h	0	4	6	9	9	1	2	33	6	0	65	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	42	42	42	67	67	67	78	78	78	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	10	14	13	13	1	3	42	8	0	94	3
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	150	151	96	150	148	46	97	0	0	50	0	0
Stage 1	96	96	-	51	51	-	-	-	-	-	-	-
Stage 2	54	55	-	99	97	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	818	741	961	817	743	1023	1496	-	-	1557	-	-
Stage 1	911	816	-	962	852	-	-	-	-	-	-	-
Stage 2	958	849	-	907	815	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	801	740	961	794	742	1023	1496	-	-	1557	-	-
Mov Cap-2 Maneuver	801	740	-	794	742	-	-	-	-	-	-	-
Stage 1	911	816	-	960	851	-	-	-	-	-	-	-
Stage 2	940	847	-	883	815	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s/v	9.31		9.81			0.36			0			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	85	-	-	858	777	1557	-	-				
HCM Lane V/C Ratio	0.002	-	-	0.028	0.036	-	-	-				
HCM Control Delay (s/veh)	7.4	0	-	9.3	9.8	0	-	-				
HCM Lane LOS	A	A	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-	-				

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	P	
Traffic Vol, veh/h	5	7	5	536	636	11
Future Vol, veh/h	5	7	5	536	636	11
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	42	42	86	86	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	17	6	623	684	12

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1325	690	696	0	-	0
Stage 1	690	-	-	-	-	-
Stage 2	635	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	172	445	900	-	-	-
Stage 1	498	-	-	-	-	-
Stage 2	528	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	170	445	900	-	-	-
Mov Cap-2 Maneuver	170	-	-	-	-	-
Stage 1	493	-	-	-	-	-
Stage 2	528	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v20.15		0.08	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	17	-	266	-	-
HCM Lane V/C Ratio	0.006	-	0.107	-	-
HCM Control Delay (s/veh)	9	0	20.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

PM 2044+Project
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	522	81	279	488	69	33	55	105	28	44	10
Future Volume (veh/h)	15	522	81	279	488	69	33	55	105	28	44	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	18	644	112	313	530	95	52	71	119	54	57	18
Peak Hour Factor	0.83	0.81	0.72	0.89	0.92	0.73	0.63	0.78	0.88	0.52	0.77	0.56
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	49	853	648	342	2256	904	71	94	158	71	206	65
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
Prop Arrive On Green	0.03	0.46	0.46	0.21	0.63	0.63	0.04	0.15	0.15	0.04	0.15	0.15
Unsig. Movement Delay												
Ln Grp Delay, s/veh	59.2	32.1	19.0	72.6	9.3	8.5	85.4	0.0	51.4	90.9	0.0	43.7
Ln Grp LOS	E	C	B	E	A	A	F		D	F		D
Approach Vol, veh/h	774			938			242			129		
Approach Delay, s/veh	30.8			30.3			58.7			63.5		
Approach LOS	C			C			E			E		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	9.0	21.5	28.0	56.5	9.0	21.5	7.4	77.0				
Change Period (Y+Rc), s	4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7				
Max Green (Gmax), s	4.4	27.0	22.3	40.7	4.4	27.0	4.1	58.9				
Max Allow Headway (MAH), s	4.1	4.2	4.1	4.0	4.1	4.1	4.1	4.1				
Max Q Clear (g_c+I1), s	5.7	14.7	23.5	34.8	5.6	6.3	3.2	9.4				
Green Ext Time (g_e), s	0.0	0.5	0.0	1.7	0.0	0.2	0.0	2.7				
Prob of Phs Call (p_c)	0.82	1.00	1.00	1.00	0.81	1.00	0.44	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	618			1870			1353			3554		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1035			1421			427			1423		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

PM 2044+Project
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	54	0	313	0	52	0	18	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	3.7	0.0	21.5	0.0	3.6	0.0	1.2	0.0
Cycle Q Clear Time (g_c), s	3.7	0.0	21.5	0.0	3.6	0.0	1.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	71	0	342	0	71	0	49	0
V/C Ratio (X)	0.76	0.00	0.91	0.00	0.73	0.00	0.37	0.00
Avail Cap (c_a), veh/h	71	0	342	0	71	0	83	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	54.4	0.0	44.5	0.0	54.3	0.0	54.7	0.0
Incr Delay (d2), s/veh	36.5	0.0	28.1	0.0	31.1	0.0	4.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	90.9	0.0	72.6	0.0	85.4	0.0	59.2	0.0
1st-Term Q (Q1), veh/ln	1.5	0.0	8.2	0.0	1.4	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.7	0.0	2.7	0.0	0.6	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.2	0.0	10.9	0.0	2.0	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.56	0.00	0.58	0.00	0.35	0.00	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	1	0	0	0	2
Grp Vol (v), veh/h	0	0	0	644	0	0	0	530
Grp Sat Flow (s), veh/h/ln	0	0	0	1870	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	32.8	0.0	0.0	0.0	7.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	32.8	0.0	0.0	0.0	7.4
Lane Grp Cap (c), veh/h	0	0	0	853	0	0	0	2256
V/C Ratio (X)	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.23
Avail Cap (c_a), veh/h	0	0	0	853	0	0	0	2256
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	25.9	0.0	0.0	0.0	9.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	6.2	0.0	0.0	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
Control Delay (d), s/veh	0.0	0.0	0.0	32.1	0.0	0.0	0.0	9.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	13.1	0.0	0.0	0.0	2.4

HCM 7th Signalized Intersection Capacity Analysis 4: Siskiyou Ave & Whitesbridge Ave

PM 2044+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	14.6	0.0	0.0	0.0	2.5
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.57	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	190	0	112	0	75	0	95
Grp Sat Flow (s), veh/h/ln	0	1653	0	1421	0	1781	0	1423
Q Serve Time (g_s), s	0.0	12.7	0.0	5.4	0.0	4.3	0.0	3.0
Cycle Q Clear Time (g_c), s	0.0	12.7	0.0	5.4	0.0	4.3	0.0	3.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.63	0.00	1.00	0.00	0.24	0.00	1.00
Lane Grp Cap (c), veh/h	0	252	0	648	0	272	0	904
V/C Ratio (X)	0.00	0.75	0.00	0.17	0.00	0.28	0.00	0.11
Avail Cap (c_a), veh/h	0	397	0	648	0	427	0	904
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	46.8	0.0	18.5	0.0	43.2	0.0	8.2
Incr Delay (d2), s/veh	0.0	4.5	0.0	0.6	0.0	0.5	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
Control Delay (d), s/veh	0.0	51.4	0.0	19.0	0.0	43.7	0.0	8.5
1st-Term Q (Q1), veh/ln	0.0	5.0	0.0	1.6	0.0	1.8	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.3	0.0	1.7	0.0	1.8	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.15	0.00	0.04	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	35.9
HCM 7th LOS	D

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

PM 2044+Project

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	771	66	288	902	94	68	60	160	71	63	4
Future Volume (veh/h)	17	771	66	288	902	94	68	60	160	71	63	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
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			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	19	857	73	310	970	101	83	73	195	83	73	5
Peak Hour Factor	0.90	0.90	0.90	0.93	0.93	0.93	0.82	0.82	0.82	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	38	1447	585	338	980	102	98	90	241	82	334	23
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.41	0.41	0.41	1.00	1.00	0.06	0.20	0.20	0.05	0.19	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	67.8	29.6	22.6	46.4	0.0	14.5	101.0	0.0	53.0	159.6	0.0	41.1
Ln Grp LOS	E	C	C	D		B	F		D	F		D
Approach Vol, veh/h	949				1381				351			
Approach Delay, s/veh	29.8				21.6				64.4			
Approach LOS	C				C				E			
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	10.0	28.4	28.7	52.9	11.2	27.2	6.8	74.8				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	5.1	33.5	26.6	35.2	6.3	32.3	4.0	57.8				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.0	4.1	4.0	4.1	4.0				
Max Q Clear (g_c+I1), s	8.0	20.9	23.4	24.6	8.0	6.3	3.4	2.0				
Green Ext Time (g_e), s	0.0	0.8	0.3	3.1	0.0	0.2	0.0	6.6				
Prob of Phs Call (p_c)	0.94	1.00	1.00	1.00	0.94	1.00	0.47	1.00				
Prob of Max Out (p_x)	1.00	0.01	1.00	0.00	1.00	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	443			3554			1728			1661		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1183			1436			118			173		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

PM 2044+Project

11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	83	0	310	0	83	0	19	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	6.0	0.0	21.4	0.0	6.0	0.0	1.4	0.0
Cycle Q Clear Time (g_c), s	6.0	0.0	21.4	0.0	6.0	0.0	1.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	82	0	338	0	98	0	38	0
V/C Ratio (X)	1.01	0.00	0.92	0.00	0.84	0.00	0.50	0.00
Avail Cap (c_a), veh/h	82	0	376	0	98	0	67	0
Upstream Filter (I)	1.00	0.00	0.37	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	57.0	0.0	34.4	0.0	55.8	0.0	57.9	0.0
Incr Delay (d2), s/veh	102.6	0.0	12.1	0.0	45.2	0.0	9.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	159.6	0.0	46.4	0.0	101.0	0.0	67.8	0.0
1st-Term Q (Q1), veh/ln	2.4	0.0	6.0	0.0	2.4	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	2.3	0.0	1.1	0.0	1.2	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.7	0.0	7.1	0.0	3.6	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.80	0.00	0.33	0.00	0.84	0.00	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T							
Lanes in Grp	0	0	0	2	0	0	0	0
Grp Vol (v), veh/h	0	0	0	857	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	22.6	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	22.6	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	1447	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.59	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	1447	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	27.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	29.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	8.9	0.0	0.0	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis 5: N Del Norte Ave & Whitesbridge Ave

PM 2044+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	9.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.44	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	268	0	73	0	78	0	1071
Grp Sat Flow (s), veh/h/ln	0	1626	0	1436	0	1846	0	1834
Q Serve Time (g_s), s	0.0	18.9	0.0	3.8	0.0	4.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	18.9	0.0	3.8	0.0	4.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.73	0.00	1.00	0.00	0.06	0.00	0.09
Lane Grp Cap (c), veh/h	0	331	0	585	0	357	0	1082
V/C Ratio (X)	0.00	0.81	0.00	0.12	0.00	0.22	0.00	0.99
Avail Cap (c_a), veh/h	0	466	0	585	0	511	0	1082
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.37
Uniform Delay (d1), s/veh	0.0	45.9	0.0	22.2	0.0	40.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	7.1	0.0	0.4	0.0	0.3	0.0	14.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	53.0	0.0	22.6	0.0	41.1	0.0	14.5
1st-Term Q (Q1), veh/ln	0.0	7.3	0.0	1.2	0.0	1.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.7	0.0	0.1	0.0	0.0	0.0	4.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.9	0.0	1.3	0.0	1.9	0.0	4.3
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.10	0.00	0.05	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	34.2
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

PM 2044+Project

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	167	766	147	162	973	102	233	332	160	171	325	122
Future Volume (veh/h)	167	766	147	162	973	102	233	332	160	171	325	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.96
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	196	901	173	180	1081	113	262	373	180	182	346	130
Peak Hour Factor	0.85	0.85	0.85	0.90	0.90	0.90	0.89	0.89	0.89	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	216	1047	201	200	1111	116	408	676	272	331	508	200
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.12	0.11	0.12	0.34	0.34	0.08	0.06	0.06	0.20	0.14	0.14
Unsig. Movement Delay												
Ln Grp Delay, s/veh	87.0	59.1	59.3	85.5	65.3	65.7	52.7	51.9	54.9	45.0	56.0	63.8
Ln Grp LOS	F	E	E	F	E	E	D	D	D	D	E	E
Approach Vol, veh/h	1270			1374			815			658		
Approach Delay, s/veh	63.5			68.1			52.8			54.5		
Approach LOS	E			E			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	6	5	8	7				
Case No	2.0	3.0	2.0	4.0	3.0	2.0	4.0	2.0				
Phs Duration (G+Y+Rc), s	28.2	26.8	18.6	46.4	21.2	33.8	45.2	19.8				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	16.3	28.9	13.7	41.5	25.5	19.7	40.3	14.9				
Max Allow Headway (MAH), s	4.1	4.1	4.1	4.1	4.1	4.1	4.0	4.1				
Max Q Clear (g_c+I1), s	14.0	16.8	15.0	37.8	13.1	20.6	41.6	16.3				
Green Ext Time (g_e), s	0.1	1.8	0.0	1.6	1.6	0.0	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	1.00	0.05	1.00	1.00	0.03	1.00	1.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3			5		7				
Mvmt Sat Flow, veh/h	1641		1641			1641		1641				
Through Movement Data												
Assigned Mvmt		2		4	6		8					
Mvmt Sat Flow, veh/h		3554		2964	3554		3236					
Right-Turn Movement Data												
Assigned Mvmt		12		14	16		18					
Mvmt Sat Flow, veh/h		1428		569	1398		338					
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	0	5	0	7				

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

PM 2044+Project
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	0	1	0	1
Grp Vol (v), veh/h	182	0	180	0	0	262	0	196
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	0	1641	0	1641
Q Serve Time (g_s), s	12.0	0.0	13.0	0.0	0.0	18.6	0.0	14.3
Cycle Q Clear Time (g_c), s	12.0	0.0	13.0	0.0	0.0	18.6	0.0	14.3
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	331	0	200	0	0	408	0	216
V/C Ratio (X)	0.55	0.00	0.90	0.00	0.00	0.64	0.00	0.91
Avail Cap (c_a), veh/h	331	0	200	0	0	408	0	216
Upstream Filter (I)	1.00	0.00	0.84	0.00	0.00	0.83	0.00	0.75
Uniform Delay (d1), s/veh	43.0	0.0	52.0	0.0	0.0	49.9	0.0	56.7
Incr Delay (d2), s/veh	2.0	0.0	33.5	0.0	0.0	2.8	0.0	30.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	45.0	0.0	85.5	0.0	0.0	52.7	0.0	87.0
1st-Term Q (Q1), veh/ln	4.6	0.0	5.1	0.0	0.0	8.1	0.0	6.2
2nd-Term Q (Q2), veh/ln	0.2	0.0	1.9	0.0	0.0	0.3	0.0	1.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	4.8	0.0	7.0	0.0	0.0	8.4	0.0	8.0
%ile Storage Ratio (RQ%)	1.02	0.00	0.77	0.00	0.00	1.13	0.00	1.16
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	6	0	8	0
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	2	0	1	0
Grp Vol (v), veh/h	0	373	0	540	346	0	593	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	1777	0	1777	0
Q Serve Time (g_s), s	0.0	12.2	0.0	35.8	11.1	0.0	39.5	0.0
Cycle Q Clear Time (g_c), s	0.0	12.2	0.0	35.8	11.1	0.0	39.5	0.0
Lane Grp Cap (c), veh/h	0	676	0	628	508	0	610	0
V/C Ratio (X)	0.00	0.55	0.00	0.86	0.68	0.00	0.97	0.00
Avail Cap (c_a), veh/h	0	882	0	628	782	0	610	0
Upstream Filter (I)	0.00	0.83	0.00	0.75	1.00	0.00	0.84	0.00
Uniform Delay (d1), s/veh	0.0	51.3	0.0	50.1	48.8	0.0	38.8	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	9.0	7.2	0.0	26.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	51.9	0.0	59.1	56.0	0.0	65.3	0.0
1st-Term Q (Q1), veh/ln	0.0	5.6	0.0	16.9	4.7	0.0	15.9	0.0

HCM 7th Signalized Intersection Capacity Analysis 6: S Madera Ave & Whitesbridge Ave

PM 2044+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.6	0.5	0.0	4.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.7	0.0	18.4	5.2	0.0	20.4	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.18	0.05	0.00	0.21	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	16	0	18	0
Lane Assignment		R		T+R	R		T+R	
Lanes in Grp	0	1	0	1	1	0	1	0
Grp Vol (v), veh/h	0	180	0	534	130	0	601	0
Grp Sat Flow (s), veh/h/ln	0	1428	0	1756	1398	0	1797	0
Q Serve Time (g_s), s	0.0	14.8	0.0	35.8	10.5	0.0	39.6	0.0
Cycle Q Clear Time (g_c), s	0.0	14.8	0.0	35.8	10.5	0.0	39.6	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.32	1.00	0.00	0.19	0.00
Lane Grp Cap (c), veh/h	0	272	0	620	200	0	617	0
V/C Ratio (X)	0.00	0.66	0.00	0.86	0.65	0.00	0.97	0.00
Avail Cap (c_a), veh/h	0	355	0	620	308	0	617	0
Upstream Filter (I)	0.00	0.83	0.00	0.75	1.00	0.00	0.84	0.00
Uniform Delay (d1), s/veh	0.0	52.5	0.0	50.2	48.6	0.0	39.0	0.0
Incr Delay (d2), s/veh	0.0	2.4	0.0	9.2	15.2	0.0	26.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	54.9	0.0	59.3	63.8	0.0	65.7	0.0
1st-Term Q (Q1), veh/ln	0.0	5.6	0.0	16.7	3.5	0.0	16.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	1.6	0.8	0.0	4.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.8	0.0	18.3	4.4	0.0	20.7	0.0
%ile Storage Ratio (RQ%)	0.00	0.92	0.00	0.18	1.11	0.00	0.22	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	61.5
HCM 7th LOS	E

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

PM 2044+Project
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1059	265	77	912	13	153	11	75	9	30	17
Future Volume (veh/h)	24	1059	265	77	912	13	153	11	75	9	30	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.96
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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	25	1115	279	81	960	14	184	13	90	11	36	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes				Yes				Yes			
Cap, veh/h	43	2047	819	112	2215	32	220	41	283	29	98	55
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.01	0.19	0.19	0.07	0.62	0.61	0.13	0.20	0.20	0.02	0.09	0.08
Unsig. Movement Delay												
Ln Grp Delay, s/veh	65.1	34.9	29.5	68.4	13.2	13.2	70.5	0.0	41.5	66.2	0.0	53.2
Ln Grp LOS	E	C	C	E	B	B	E		D	E		D
Approach Vol, veh/h	1419			1055				287			67	
Approach Delay, s/veh	34.4			17.4				60.1			55.3	
Approach LOS	C			B				E			E	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	6.1	28.6	12.2	73.1	20.1	14.6	7.2	78.1				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	4.0	43.8	9.1	43.5	17.1	30.7	5.5	47.1				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.1	4.1	4.1	4.1	4.0				
Max Q Clear (g_c+I1), s	2.8	8.7	7.8	36.0	15.1	5.7	3.8	18.8				
Green Ext Time (g_e), s	0.0	0.4	0.0	3.8	0.1	0.1	0.0	3.9				
Prob of Phs Call (p_c)	0.31	1.00	0.93	1.00	1.00	1.00	0.57	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5			7					
Mvmt Sat Flow, veh/h	1641	1641		1641			1641					
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	200			3554			1114			3584		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1385			1423			619			52		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

PM 2044+Project
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	11	0	81	0	184	0	25	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.8	0.0	5.8	0.0	13.1	0.0	1.8	0.0
Cycle Q Clear Time (g_c), s	0.8	0.0	5.8	0.0	13.1	0.0	1.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	29	0	112	0	220	0	43	0
V/C Ratio (X)	0.38	0.00	0.72	0.00	0.84	0.00	0.58	0.00
Avail Cap (c_a), veh/h	67	0	137	0	246	0	88	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.53	0.00
Uniform Delay (d1), s/veh	58.3	0.0	54.8	0.0	50.7	0.0	58.8	0.0
Incr Delay (d2), s/veh	7.9	0.0	13.6	0.0	19.8	0.0	6.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	66.2	0.0	68.4	0.0	70.5	0.0	65.1	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	2.3	0.0	5.2	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.4	0.0	1.2	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.4	0.0	2.7	0.0	6.4	0.0	0.8	0.0
%ile Storage Ratio (RQ%)	0.09	0.00	0.17	0.00	0.95	0.00	0.06	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	1115	0	0	0	476
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	34.0	0.0	0.0	0.0	16.8
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	34.0	0.0	0.0	0.0	16.8
Lane Grp Cap (c), veh/h	0	0	0	2047	0	0	0	1098
V/C Ratio (X)	0.00	0.00	0.00	0.54	0.00	0.00	0.00	0.43
Avail Cap (c_a), veh/h	0	0	0	2047	0	0	0	1098
Upstream Filter (I)	0.00	0.00	0.00	0.53	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	34.4	0.0	0.0	0.0	12.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.0	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
Control Delay (d), s/veh	0.0	0.0	0.0	34.9	0.0	0.0	0.0	13.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	16.0	0.0	0.0	0.0	5.7

HCM 7th Signalized Intersection Capacity Analysis 7: S Vineland Ave & Whitesbridge Ave

PM 2044+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	16.1	0.0	0.0	0.0	6.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	103	0	279	0	56	0	498
Grp Sat Flow (s), veh/h/ln	0	1585	0	1423	0	1732	0	1859
Q Serve Time (g_s), s	0.0	6.7	0.0	20.4	0.0	3.7	0.0	16.8
Cycle Q Clear Time (g_c), s	0.0	6.7	0.0	20.4	0.0	3.7	0.0	16.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.87	0.00	1.00	0.00	0.36	0.00	0.03
Lane Grp Cap (c), veh/h	0	324	0	819	0	153	0	1149
V/C Ratio (X)	0.00	0.32	0.00	0.34	0.00	0.37	0.00	0.43
Avail Cap (c_a), veh/h	0	590	0	819	0	456	0	1149
Upstream Filter (I)	0.00	1.00	0.00	0.53	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	40.9	0.0	28.9	0.0	51.7	0.0	12.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.6	0.0	1.5	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
Control Delay (d), s/veh	0.0	41.5	0.0	29.5	0.0	53.2	0.0	13.2
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	7.7	0.0	1.5	0.0	6.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.6	0.0	7.8	0.0	1.6	0.0	6.3
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.64	0.00	0.02	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	31.2
HCM 7th LOS	C

Intersection

Intersection Delay, s/veh 21.8

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	71	264	38	51	318	79	29	72	23	73	65	86
Future Vol, veh/h	71	264	38	51	318	79	29	72	23	73	65	86
Peak Hour Factor	0.88	0.88	0.88	0.76	0.76	0.76	0.82	0.82	0.82	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	81	300	43	67	418	104	35	88	28	82	73	97
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay, s/veh	19.2	29.9	12.3	12.9
HCM LOS	C	D	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	51%	0%	100%	0%	0%	100%	0%	0%	100%	20%
Vol Right, %	0%	0%	49%	0%	0%	100%	0%	0%	100%	0%	0%	80%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	48	47	71	264	38	51	318	79	73	43	108
LT Vol	29	0	0	71	0	0	51	0	0	73	0	0
Through Vol	0	48	24	0	264	0	0	318	0	0	43	22
RT Vol	0	0	23	0	0	38	0	0	79	0	0	86
Lane Flow Rate	35	59	57	81	300	43	67	418	104	82	49	121
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.088	0.137	0.129	0.18	0.629	0.082	0.144	0.84	0.188	0.197	0.11	0.255
Departure Headway (Hd)	8.927	8.427	8.084	8.05	7.55	6.85	7.728	7.228	6.528	8.645	8.145	7.586
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	401	425	442	445	477	522	464	502	549	415	440	473
Service Time	6.69	6.19	5.847	5.803	5.303	4.603	5.476	4.976	4.276	6.403	5.903	5.344
HCM Lane V/C Ratio	0.087	0.139	0.129	0.182	0.629	0.082	0.144	0.833	0.189	0.198	0.111	0.256
HCM Control Delay, s/veh	12.6	12.5	12	12.6	22.3	10.2	11.8	37.6	10.8	13.5	11.9	12.9
HCM Lane LOS	B	B	B	B	C	B	B	E	B	B	B	B
HCM 95th-tile Q	0.3	0.5	0.4	0.6	4.3	0.3	0.5	8.5	0.7	0.7	0.4	1

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

PM 2044+Project

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	262	83	108	198	94	68	676	55	98	490	49
Future Volume (veh/h)	64	262	83	108	198	94	68	676	55	98	490	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
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			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	79	323	102	129	236	112	77	768	62	111	557	56
Peak Hour Factor	0.81	0.81	0.81	0.84	0.84	0.84	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes				Yes				Yes
Cap, veh/h	110	378	289	166	441	338	579	1572	127	148	685	69
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.07	0.20	0.20	0.10	0.24	0.24	0.35	0.47	0.47	0.03	0.07	0.07
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.2	56.7	9.3	61.9	41.1	38.6	26.5	23.7	23.7	62.1	65.9	66.1
Ln Grp LOS	E	E	A	E	D	D	C	C	C	E	E	E
Approach Vol, veh/h	504				477				907			
Approach Delay, s/veh	48.1				46.1				23.9			
Approach LOS	D				D				C			
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	6	5	7	8				
Case No	2.0	4.0	2.0	3.0	4.0	2.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	14.8	60.8	16.1	28.3	29.3	46.3	12.1	32.3				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	15.5	36.6	16.9	31.4	40.2	11.9	12.1	36.2				
Max Allow Headway (MAH), s	4.1	4.0	4.1	4.1	4.0	4.1	4.1	4.1				
Max Q Clear (g_c+I1), s	10.1	21.0	11.2	22.0	22.3	5.8	7.7	15.2				
Green Ext Time (g_e), s	0.1	2.8	0.2	1.1	2.0	0.1	0.1	1.2				
Prob of Phs Call (p_c)	0.98	1.00	0.99	1.00	1.00	0.92	0.93	1.00				
Prob of Max Out (p_x)	0.28	0.06	0.25	0.09	0.01	0.12	0.69	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2		4		6		8					
Mvmt Sat Flow, veh/h	3322		1870		3254		1870					
Right-Turn Movement Data												
Assigned Mvmt	12		14		16		18					
Mvmt Sat Flow, veh/h	268		1429		326		1431					
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	0	5	7	0				

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

PM 2044+Project
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	0	1	1	0
Grp Vol (v), veh/h	111	0	129	0	0	77	79	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	0	1641	1641	0
Q Serve Time (g_s), s	8.1	0.0	9.2	0.0	0.0	3.8	5.7	0.0
Cycle Q Clear Time (g_c), s	8.1	0.0	9.2	0.0	0.0	3.8	5.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	148	0	166	0	0	579	110	0
V/C Ratio (X)	0.75	0.00	0.78	0.00	0.00	0.13	0.72	0.00
Avail Cap (c_a), veh/h	224	0	243	0	0	579	178	0
Upstream Filter (I)	0.69	0.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	56.9	0.0	52.6	0.0	0.0	26.4	54.8	0.0
Incr Delay (d2), s/veh	5.2	0.0	9.2	0.0	0.0	0.1	8.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	62.1	0.0	61.9	0.0	0.0	26.5	63.2	0.0
1st-Term Q (Q1), veh/ln	3.4	0.0	3.6	0.0	0.0	1.4	2.2	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.4	0.0	0.0	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.6	0.0	4.1	0.0	0.0	1.4	2.5	0.0
%ile Storage Ratio (RQ%)	0.48	0.00	1.15	0.00	0.00	0.36	0.64	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	6	0	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	1	1	0	0	1
Grp Vol (v), veh/h	0	411	0	323	303	0	0	236
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	1777	0	0	1870
Q Serve Time (g_s), s	0.0	19.0	0.0	20.0	20.2	0.0	0.0	13.2
Cycle Q Clear Time (g_c), s	0.0	19.0	0.0	20.0	20.2	0.0	0.0	13.2
Lane Grp Cap (c), veh/h	0	841	0	378	374	0	0	441
V/C Ratio (X)	0.00	0.49	0.00	0.85	0.81	0.00	0.00	0.53
Avail Cap (c_a), veh/h	0	841	0	503	609	0	0	578
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.69	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.7	0.0	46.2	53.5	0.0	0.0	40.1
Incr Delay (d2), s/veh	0.0	2.0	0.0	10.5	12.4	0.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.7	0.0	56.7	65.9	0.0	0.0	41.1
1st-Term Q (Q1), veh/ln	0.0	7.2	0.0	8.8	9.6	0.0	0.0	5.8

HCM 7th Signalized Intersection Capacity Analysis 9: S Madera Ave & W Kearney Blvd

PM 2044+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	1.1	1.3	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.7	0.0	9.9	10.8	0.0	0.0	5.9
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.10	0.11	0.00	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	16	0	0	18
Lane Assignment	T+R			R	T+R			R
Lanes in Grp	0	1	0	1	1	0	0	1
Grp Vol (v), veh/h	0	419	0	102	310	0	0	112
Grp Sat Flow (s), veh/h/ln	0	1813	0	1429	1803	0	0	1431
Q Serve Time (g_s), s	0.0	19.0	0.0	3.4	20.3	0.0	0.0	7.8
Cycle Q Clear Time (g_c), s	0.0	19.0	0.0	3.4	20.3	0.0	0.0	7.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.15	0.00	1.00	0.18	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	858	0	289	380	0	0	338
V/C Ratio (X)	0.00	0.49	0.00	0.35	0.82	0.00	0.00	0.33
Avail Cap (c_a), veh/h	0	858	0	385	618	0	0	442
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.69	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.7	0.0	8.5	53.6	0.0	0.0	38.0
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.7	12.5	0.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.7	0.0	9.3	66.1	0.0	0.0	38.6
1st-Term Q (Q1), veh/ln	0.0	7.4	0.0	2.4	9.8	0.0	0.0	2.6
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	1.3	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.9	0.0	2.4	11.1	0.0	0.0	2.7
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.62	0.11	0.00	0.00	0.67
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	44.1
HCM 7th LOS	D

Intersection

Intersection Delay, s/veh 25

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	64	122	35	43	191	81	37	290	34	49	205	75
Future Vol, veh/h	64	122	35	43	191	81	37	290	34	49	205	75
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	70	133	38	47	208	88	40	315	37	53	223	82
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	18.7	25.1	32.2	21.3
HCM LOS	C	D	D	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	10%	29%	14%	100%	0%
Vol Thru, %	80%	55%	61%	0%	73%
Vol Right, %	9%	16%	26%	0%	27%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	361	221	315	49	280
LT Vol	37	64	43	49	0
Through Vol	290	122	191	0	205
RT Vol	34	35	81	0	75
Lane Flow Rate	392	240	342	53	304
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.787	0.513	0.69	0.122	0.639
Departure Headway (Hd)	7.219	7.695	7.258	8.269	7.561
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	498	466	496	432	475
Service Time	5.29	5.78	5.332	6.043	5.334
HCM Lane V/C Ratio	0.787	0.515	0.69	0.123	0.64
HCM Control Delay, s/veh	32.2	18.7	25.1	12.2	22.9
HCM Lane LOS	D	C	D	B	C
HCM 95th-tile Q	7.2	2.9	5.2	0.4	4.4

Intersection						
Int Delay, s/veh	5.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↖	
Traffic Vol, veh/h	0	115	136	44	62	17
Future Vol, veh/h	0	115	136	44	62	17
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	0	125	148	48	67	18
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	77	86	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	984	1510	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	984	1510	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	9.19	5.77		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1360	-	984	-	-	
HCM Lane V/C Ratio	0.098	-	0.127	-	-	
HCM Control Delay (s/veh)	7.6	0	9.2	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.3	-	0.4	-	-	

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	804	1439	134	0	112
Future Vol, veh/h	0	804	1439	134	0	112
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	0	874	1564	146	0	122
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	855
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	302
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	302
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0	0		24.79		
HCM LOS				C		
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	302		
HCM Lane V/C Ratio	-	-	-	0.404		
HCM Control Delay (s/veh)	-	-	-	24.8		
HCM Lane LOS	-	-	-	C		
HCM 95th %tile Q(veh)	-	-	-	1.9		

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	3	0	0	0	1	109	0	1	22	0
Future Vol, veh/h	0	1	3	0	0	0	1	109	0	1	22	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	25	25	25	72	72	72	52	52	52
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	6	0	0	0	1	151	0	2	42	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	200	200	42	201	200	151	42	0	0	151	0	0
Stage 1	46	46	-	154	154	-	-	-	-	-	-	-
Stage 2	154	154	-	47	46	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	758	696	1028	757	696	895	1567	-	-	1430	-	-
Stage 1	968	856	-	848	770	-	-	-	-	-	-	-
Stage 2	848	770	-	966	856	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	756	694	1028	749	694	895	1567	-	-	1430	-	-
Mov Cap-2 Maneuver	756	694	-	749	694	-	-	-	-	-	-	-
Stage 1	966	855	-	847	769	-	-	-	-	-	-	-
Stage 2	847	769	-	957	855	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	8.96	0	0.07	0.33
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	16	-	-	918	-	78	-
HCM Lane V/C Ratio	0.001	-	-	0.009	-	0.001	-
HCM Control Delay (s/veh)	7.3	0	-	9	0	7.5	0
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	1	45	0	0	29	0
Future Vol, veh/h	0	0	0	0	0	0	1	45	0	0	29	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	25	25	25	68	68	68	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	1	66	0	0	40	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	109	109	40	109	109	66	40	0	0	66	0	0
Stage 1	40	40	-	69	69	-	-	-	-	-	-	-
Stage 2	69	69	-	40	40	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	870	781	1032	870	781	998	1570	-	-	1536	-	-
Stage 1	975	862	-	941	837	-	-	-	-	-	-	-
Stage 2	941	837	-	975	862	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	869	780	1032	869	780	998	1570	-	-	1536	-	-
Mov Cap-2 Maneuver	869	780	-	869	780	-	-	-	-	-	-	-
Stage 1	975	862	-	940	837	-	-	-	-	-	-	-
Stage 2	940	837	-	975	862	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	0		0		0.16		0	
HCM LOS	A		A					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	39	-	-	-	1536	-	-
HCM Lane V/C Ratio	0.001	-	-	-	-	-	-
HCM Control Delay (s/veh)	7.3	0	-	0	0	-	-
HCM Lane LOS	A	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0	-	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	226	339	1
Future Vol, veh/h	0	1	0	226	339	1
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	25	25	84	84	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	4	0	269	365	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	634	365	366	0	-	0
Stage 1	365	-	-	-	-	-
Stage 2	269	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	443	680	1193	-	-	-
Stage 1	702	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	443	680	1193	-	-	-
Mov Cap-2 Maneuver	443	-	-	-	-	-
Stage 1	702	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v10.33		0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1193	-	680	-	-	
HCM Lane V/C Ratio	-	-	0.006	-	-	
HCM Control Delay (s/veh)	0	-	10.3	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

AM 2024

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	311	33	55	266	21	84	61	161	48	38	14
Future Volume (veh/h)	5	311	33	55	266	21	84	61	161	48	38	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	12	366	56	87	328	25	104	84	215	68	52	36
Peak Hour Factor	0.42	0.85	0.59	0.63	0.81	0.85	0.81	0.73	0.75	0.71	0.73	0.39
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	41	979	744	129	2050	821	134	95	244	93	187	129
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.52	0.52	0.16	1.00	1.00	0.08	0.21	0.20	0.06	0.18	0.18
Unsig. Movement Delay												
Ln Grp Delay, s/veh	61.3	18.0	14.4	55.1	0.2	0.1	78.0	0.0	64.9	70.7	0.0	42.8
Ln Grp LOS	E	B	B	E	A	A	E		E	E		D
Approach Vol, veh/h	434			440			403			156		
Approach Delay, s/veh	18.8			11.0			68.3			54.9		
Approach LOS	B			B			E			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	10.8	29.0	13.4	66.8	13.8	26.0	7.0	73.2				
Change Period (Y+Rc), s	4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7				
Max Green (Gmax), s	8.2	28.2	25.3	37.7	9.4	27.0	4.1	58.9				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.0	4.1	4.2	4.1	4.0				
Max Q Clear (g_c+I1), s	6.9	23.4	8.0	15.9	9.5	7.3	2.9	2.0				
Green Ext Time (g_e), s	0.0	0.5	0.2	1.5	0.0	0.2	0.0	1.4				
Prob of Phs Call (p_c)	0.90	1.00	0.94	1.00	0.97	1.00	0.33	1.00				
Prob of Max Out (p_x)	1.00	0.75	0.00	0.00	1.00	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt		2			4		6		8			
Mvmt Sat Flow, veh/h		458			1870		1019		3554			
Right-Turn Movement Data												
Assigned Mvmt			12			14		16		18		
Mvmt Sat Flow, veh/h			1172			1422		705		1423		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

AM 2024
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	68	0	87	0	104	0	12	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	4.9	0.0	6.0	0.0	7.5	0.0	0.9	0.0
Cycle Q Clear Time (g_c), s	4.9	0.0	6.0	0.0	7.5	0.0	0.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	93	0	129	0	134	0	41	0
V/C Ratio (X)	0.73	0.00	0.67	0.00	0.78	0.00	0.29	0.00
Avail Cap (c_a), veh/h	120	0	369	0	137	0	79	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	55.7	0.0	49.1	0.0	54.1	0.0	57.4	0.0
Incr Delay (d2), s/veh	15.0	0.0	6.0	0.0	23.9	0.0	3.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	70.7	0.0	55.1	0.0	78.0	0.0	61.3	0.0
1st-Term Q (Q1), veh/ln	1.9	0.0	2.2	0.0	3.0	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.2	0.0	0.9	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.3	0.0	2.4	0.0	3.8	0.0	0.4	0.0
%ile Storage Ratio (RQ%)	0.59	0.00	0.13	0.00	0.65	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	1	0	0	0	2
Grp Vol (v), veh/h	0	0	0	366	0	0	0	328
Grp Sat Flow (s), veh/h/ln	0	0	0	1870	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	13.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	13.9	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	979	0	0	0	2050
V/C Ratio (X)	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.16
Avail Cap (c_a), veh/h	0	0	0	979	0	0	0	2050
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	16.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.1	0.0	0.0	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
Control Delay (d), s/veh	0.0	0.0	0.0	18.0	0.0	0.0	0.0	0.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	5.4	0.0	0.0	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

AM 2024
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	5.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	299	0	56	0	88	0	25
Grp Sat Flow (s), veh/h/ln	0	1629	0	1422	0	1724	0	1423
Q Serve Time (g_s), s	0.0	21.4	0.0	2.3	0.0	5.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	21.4	0.0	2.3	0.0	5.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.72	0.00	1.00	0.00	0.41	0.00	1.00
Lane Grp Cap (c), veh/h	0	339	0	744	0	316	0	821
V/C Ratio (X)	0.00	0.88	0.00	0.08	0.00	0.28	0.00	0.03
Avail Cap (c_a), veh/h	0	391	0	744	0	397	0	821
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	46.3	0.0	14.2	0.0	42.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	18.6	0.0	0.2	0.0	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
Control Delay (d), s/veh	0.0	64.9	0.0	14.4	0.0	42.8	0.0	0.1
1st-Term Q (Q1), veh/ln	0.0	8.2	0.0	0.7	0.0	2.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	10.0	0.0	0.7	0.0	2.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	0.06	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	34.2
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

AM 2024

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	449	14	53	385	2	17	42	158	9	16	2
Future Volume (veh/h)	2	449	14	53	385	2	17	42	158	9	16	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	2	504	16	65	470	2	23	56	211	12	21	3
Peak Hour Factor	0.89	0.89	0.89	0.82	0.82	0.82	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	16	2084	843	94	2300	10	42	69	260	30	316	45
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	1.00	1.00	0.06	0.63	0.63	0.03	0.20	0.20	0.02	0.20	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	61.9	0.3	0.0	62.9	9.6	9.6	68.8	0.0	53.2	66.4	0.0	39.3
Ln Grp LOS	E	A	A	E	A	A	E		D	E		D
Approach Vol, veh/h	522				537				290		36	
Approach Delay, s/veh	0.5				16.0				54.5		48.3	
Approach LOS	A				B				D		D	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	6.2	28.6	10.9	74.4	7.0	27.7	5.2	80.1				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	15.1	33.5	14.1	37.7	10.4	38.2	4.0	47.8				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.0	4.1	4.0	4.1	4.0				
Max Q Clear (g_c+I1), s	2.9	21.0	6.7	2.0	3.7	3.3	2.1	8.5				
Green Ext Time (g_e), s	0.0	0.8	0.1	2.2	0.0	0.0	0.0	1.6				
Prob of Phs Call (p_c)	0.33	1.00	0.89	1.00	0.54	1.00	0.06	1.00				
Prob of Max Out (p_x)	0.00	0.01	0.02	0.00	0.02	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	337			3554			1595			3629		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1271			1438			228			15		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

AM 2024
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	12	0	65	0	23	0	2	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.9	0.0	4.7	0.0	1.7	0.0	0.1	0.0
Cycle Q Clear Time (g_c), s	0.9	0.0	4.7	0.0	1.7	0.0	0.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	30	0	94	0	42	0	16	0
V/C Ratio (X)	0.40	0.00	0.69	0.00	0.55	0.00	0.13	0.00
Avail Cap (c_a), veh/h	219	0	205	0	154	0	67	0
Upstream Filter (I)	1.00	0.00	0.83	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	58.2	0.0	55.5	0.0	57.8	0.0	58.3	0.0
Incr Delay (d2), s/veh	8.1	0.0	7.4	0.0	11.0	0.0	3.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	66.4	0.0	62.9	0.0	68.8	0.0	61.9	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	1.9	0.0	0.7	0.0	0.1	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.2	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.4	0.0	2.0	0.0	0.8	0.0	0.1	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.10	0.00	0.18	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	504	0	0	0	230
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5
Lane Grp Cap (c), veh/h	0	0	0	2084	0	0	0	1126
V/C Ratio (X)	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.20
Avail Cap (c_a), veh/h	0	0	0	2084	0	0	0	1126
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.83
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	0.0	9.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2

HCM 7th Signalized Intersection Capacity Analysis 5: N Del Norte Ave & Whitesbridge Ave

AM 2024
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	2.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	267	0	16	0	24	0	242
Grp Sat Flow (s), veh/h/ln	0	1608	0	1438	0	1823	0	1867
Q Serve Time (g_s), s	0.0	19.0	0.0	0.0	0.0	1.3	0.0	6.5
Cycle Q Clear Time (g_c), s	0.0	19.0	0.0	0.0	0.0	1.3	0.0	6.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.79	0.00	1.00	0.00	0.13	0.00	0.01
Lane Grp Cap (c), veh/h	0	329	0	843	0	361	0	1184
V/C Ratio (X)	0.00	0.81	0.00	0.02	0.00	0.07	0.00	0.20
Avail Cap (c_a), veh/h	0	461	0	843	0	594	0	1184
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.83
Uniform Delay (d1), s/veh	0.0	45.9	0.0	0.0	0.0	39.2	0.0	9.2
Incr Delay (d2), s/veh	0.0	7.4	0.0	0.0	0.0	0.1	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	53.2	0.0	0.0	0.0	39.3	0.0	9.6
1st-Term Q (Q1), veh/ln	0.0	7.3	0.0	0.0	0.0	0.6	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.9	0.0	0.0	0.0	0.6	0.0	2.4
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.00	0.00	0.02	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	19.1
HCM 7th LOS	B

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

AM 2024

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	476	56	76	426	23	93	129	61	67	194	88
Future Volume (veh/h)	63	476	56	76	426	23	93	129	61	67	194	88
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	79	595	70	90	507	27	106	147	69	81	234	106
Peak Hour Factor	0.80	0.80	0.80	0.84	0.84	0.84	0.88	0.88	0.88	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	112	730	86	125	809	43	143	1586	641	170	1644	665
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
Prop Arrive On Green	0.07	0.23	0.22	0.08	0.24	0.23	0.09	0.45	0.45	0.10	0.46	0.46
Unsig. Movement Delay												
Ln Grp Delay, s/veh	57.9	47.3	47.6	57.0	39.1	39.2	56.2	17.6	8.8	48.5	17.2	17.7
Ln Grp LOS	E	D	D	E	D	D	E	B	A	D	B	B
Approach Vol, veh/h	744			624			322			421		
Approach Delay, s/veh	48.6			41.7			28.4			23.3		
Approach LOS	D			D			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2	1	3	4	5	6	7	8				
Case No	3.0	2.0	2.0	4.0	2.0	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	53.1	15.4	12.4	29.1	13.6	54.9	11.5	30.0				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	29.1	15.1	14.1	32.1	15.1	29.1	12.1	34.1				
Max Allow Headway (MAH), s	4.1	4.1	4.1	4.0	4.1	4.1	4.1	4.1				
Max Q Clear (g_c+I1), s	4.6	7.1	7.9	21.5	8.9	6.7	7.2	16.6				
Green Ext Time (g_e), s	0.8	0.1	0.1	1.9	0.1	1.3	0.1	1.7				
Prob of Phs Call (p_c)	1.00	0.92	0.94	1.00	0.96	1.00	0.91	1.00				
Prob of Max Out (p_x)	0.00	0.02	0.12	0.13	0.14	0.00	0.41	0.01				
Left-Turn Movement Data												
Assigned Mvmt			1	3			5	7				
Mvmt Sat Flow, veh/h			1641	1641			1641	1641				
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3554			3195			3554			3425		
Right-Turn Movement Data												
Assigned Mvmt	12				14				16			
Mvmt Sat Flow, veh/h	1436				375				1436			
Left Lane Group Data												
Assigned Mvmt	0	1	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

AM 2024
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	0	1	1	0	1	0	1	0
Grp Vol (v), veh/h	0	81	90	0	106	0	79	0
Grp Sat Flow (s), veh/h/ln	0	1641	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.0	5.1	5.9	0.0	6.9	0.0	5.2	0.0
Cycle Q Clear Time (g_c), s	0.0	5.1	5.9	0.0	6.9	0.0	5.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	170	125	0	143	0	112	0
V/C Ratio (X)	0.00	0.48	0.72	0.00	0.74	0.00	0.71	0.00
Avail Cap (c_a), veh/h	0	239	224	0	239	0	194	0
Upstream Filter (I)	0.00	1.00	0.97	0.00	0.99	0.00	0.98	0.00
Uniform Delay (d1), s/veh	0.0	46.5	49.7	0.0	49.0	0.0	50.2	0.0
Incr Delay (d2), s/veh	0.0	2.1	7.3	0.0	7.2	0.0	7.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	48.5	57.0	0.0	56.2	0.0	57.9	0.0
1st-Term Q (Q1), veh/ln	0.0	2.0	2.3	0.0	2.7	0.0	2.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.3	0.0	0.3	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.1	2.6	0.0	3.0	0.0	2.3	0.0
%ile Storage Ratio (RQ%)	0.00	0.44	0.28	0.00	0.40	0.00	0.33	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	2	0	0	4	0	6	0	8
Lane Assignment	T			T		T		T
Lanes in Grp	2	0	0	1	0	2	0	1
Grp Vol (v), veh/h	147	0	0	330	0	234	0	262
Grp Sat Flow (s), veh/h/ln	1777	0	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	2.6	0.0	0.0	19.4	0.0	4.2	0.0	14.6
Cycle Q Clear Time (g_c), s	2.6	0.0	0.0	19.4	0.0	4.2	0.0	14.6
Lane Grp Cap (c), veh/h	1586	0	0	406	0	1644	0	420
V/C Ratio (X)	0.09	0.00	0.00	0.81	0.00	0.14	0.00	0.63
Avail Cap (c_a), veh/h	1586	0	0	533	0	1644	0	565
Upstream Filter (I)	0.99	0.00	0.00	0.98	0.00	1.00	0.00	0.97
Uniform Delay (d1), s/veh	17.6	0.0	0.0	40.2	0.0	17.0	0.0	37.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	7.1	0.0	0.2	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	17.6	0.0	0.0	47.3	0.0	17.2	0.0	39.1
1st-Term Q (Q1), veh/ln	1.0	0.0	0.0	7.9	0.0	1.6	0.0	5.9

HCM 7th Signalized Intersection Capacity Analysis 6: S Madera Ave & Whitesbridge Ave

AM 2024
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	1.0	0.0	0.0	8.7	0.0	1.6	0.0	6.1
%ile Storage Ratio (RQ%)	0.01	0.00	0.00	0.09	0.00	0.02	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	12	0	0	14	0	16	0	18
Lane Assignment	R			T+R		R		T+R
Lanes in Grp	1	0	0	1	0	1	0	1
Grp Vol (v), veh/h	69	0	0	335	0	106	0	272
Grp Sat Flow (s), veh/h/ln	1436	0	0	1794	0	1436	0	1830
Q Serve Time (g_s), s	2.2	0.0	0.0	19.5	0.0	4.7	0.0	14.6
Cycle Q Clear Time (g_c), s	2.2	0.0	0.0	19.5	0.0	4.7	0.0	14.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	0.21	0.00	1.00	0.00	0.10
Lane Grp Cap (c), veh/h	641	0	0	409	0	665	0	433
V/C Ratio (X)	0.11	0.00	0.00	0.82	0.00	0.16	0.00	0.63
Avail Cap (c_a), veh/h	641	0	0	538	0	665	0	582
Upstream Filter (I)	0.99	0.00	0.00	0.98	0.00	1.00	0.00	0.97
Uniform Delay (d1), s/veh	8.7	0.0	0.0	40.4	0.0	17.1	0.0	37.7
Incr Delay (d2), s/veh	0.1	0.0	0.0	7.2	0.0	0.5	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	8.8	0.0	0.0	47.6	0.0	17.7	0.0	39.2
1st-Term Q (Q1), veh/ln	0.9	0.0	0.0	8.1	0.0	1.4	0.0	6.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.8	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.9	0.0	0.0	8.9	0.0	1.5	0.0	6.3
%ile Storage Ratio (RQ%)	0.15	0.00	0.00	0.09	0.00	0.38	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	38.4
HCM 7th LOS	D

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

AM 2024
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	520	53	23	463	2	64	33	67	4	15	6
Future Volume (veh/h)	4	520	53	23	463	2	64	33	67	4	15	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.96
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	5	627	64	26	520	2	89	46	93	6	22	9
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.72	0.72	0.72	0.69	0.69	0.69
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	21	2449	981	44	2553	10	123	74	150	22	95	39
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
Prop Arrive On Green	0.01	0.69	0.69	0.03	0.70	0.70	0.07	0.14	0.13	0.01	0.08	0.07
Unsig. Movement Delay												
Ln Grp Delay, s/veh	62.8	7.2	6.2	69.7	6.5	6.5	62.2	0.0	51.9	65.0	0.0	53.2
Ln Grp LOS	E	A	A	E	A	A	E		D	E		D
Approach Vol, veh/h	696			548			228			37		
Approach Delay, s/veh	7.5			9.5			55.9			55.1		
Approach LOS	A			A			E			E		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	5.6	20.5	7.2	86.7	13.0	13.1	5.5	88.4				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	4.0	44.8	5.1	46.5	18.1	30.7	4.0	47.6				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.0	4.1	4.1	4.1	4.0				
Max Q Clear (g_c+I1), s	2.4	11.6	3.9	10.0	8.4	4.0	2.4	8.0				
Green Ext Time (g_e), s	0.0	0.5	0.0	3.0	0.1	0.1	0.0	1.8				
Prob of Phs Call (p_c)	0.18	1.00	0.58	1.00	0.95	1.00	0.15	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	542			3554			1245			3630		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1096			1424			509			14		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

AM 2024
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	6	0	26	0	89	0	5	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.4	0.0	1.9	0.0	6.4	0.0	0.4	0.0
Cycle Q Clear Time (g_c), s	0.4	0.0	1.9	0.0	6.4	0.0	0.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	22	0	44	0	123	0	21	0
V/C Ratio (X)	0.27	0.00	0.59	0.00	0.73	0.00	0.24	0.00
Avail Cap (c_a), veh/h	67	0	82	0	260	0	67	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.70	0.00
Uniform Delay (d1), s/veh	58.6	0.0	57.7	0.0	54.3	0.0	58.7	0.0
Incr Delay (d2), s/veh	6.4	0.0	12.0	0.0	7.9	0.0	4.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	65.0	0.0	69.7	0.0	62.2	0.0	62.8	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.8	0.0	2.5	0.0	0.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.3	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.2	0.0	0.9	0.0	2.8	0.0	0.2	0.0
%ile Storage Ratio (RQ%)	0.05	0.00	0.06	0.00	0.42	0.00	0.01	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	627	0	0	0	254
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	8.0	0.0	0.0	0.0	6.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	8.0	0.0	0.0	0.0	6.0
Lane Grp Cap (c), veh/h	0	0	0	2449	0	0	0	1250
V/C Ratio (X)	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.20
Avail Cap (c_a), veh/h	0	0	0	2449	0	0	0	1250
Upstream Filter (I)	0.00	0.00	0.00	0.70	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	7.0	0.0	0.0	0.0	6.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	7.2	0.0	0.0	0.0	6.5
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.4	0.0	0.0	0.0	1.8

HCM 7th Signalized Intersection Capacity Analysis

AM 2024

7: S Vineland Ave & Whitesbridge Ave

11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	2.5	0.0	0.0	0.0	1.9
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	139	0	64	0	31	0	268
Grp Sat Flow (s), veh/h/ln	0	1638	0	1424	0	1754	0	1867
Q Serve Time (g_s), s	0.0	9.6	0.0	1.8	0.0	2.0	0.0	6.0
Cycle Q Clear Time (g_c), s	0.0	9.6	0.0	1.8	0.0	2.0	0.0	6.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.67	0.00	1.00	0.00	0.29	0.00	0.01
Lane Grp Cap (c), veh/h	0	225	0	981	0	133	0	1313
V/C Ratio (X)	0.00	0.62	0.00	0.07	0.00	0.23	0.00	0.20
Avail Cap (c_a), veh/h	0	624	0	981	0	462	0	1313
Upstream Filter (I)	0.00	1.00	0.00	0.70	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	49.1	0.0	6.1	0.0	52.3	0.0	6.2
Incr Delay (d2), s/veh	0.0	2.8	0.0	0.1	0.0	0.9	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	51.9	0.0	6.2	0.0	53.2	0.0	6.5
1st-Term Q (Q1), veh/ln	0.0	3.8	0.0	0.4	0.0	0.8	0.0	1.8
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.0	0.0	0.4	0.0	0.9	0.0	2.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.04	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	16.7
HCM 7th LOS	B

Intersection												
Intersection Delay, s/veh 11.2												
Intersection LOS B												

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	63	161	5	9	101	9	4	49	18	39	31	37
Future Vol, veh/h	63	161	5	9	101	9	4	49	18	39	31	37
Peak Hour Factor	0.63	0.63	0.63	0.62	0.62	0.62	0.59	0.59	0.59	0.58	0.58	0.58
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	100	256	8	15	163	15	7	83	31	67	53	64
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay, s/veh	12.3	11.2	9.9	10.1
HCM LOS	B	B	A	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	48%	0%	100%	0%	0%	100%	0%	0%	100%	22%
Vol Right, %	0%	0%	52%	0%	0%	100%	0%	0%	100%	0%	0%	78%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	33	34	63	161	5	9	101	9	39	21	47
LT Vol	4	0	0	63	0	0	9	0	0	39	0	0
Through Vol	0	33	16	0	161	0	0	101	0	0	21	10
RT Vol	0	0	18	0	0	5	0	0	9	0	0	37
Lane Flow Rate	7	55	58	100	256	8	15	163	15	67	36	82
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.013	0.102	0.101	0.18	0.424	0.012	0.028	0.286	0.023	0.13	0.064	0.134
Departure Headway (Hd)	7.122	6.622	6.255	6.476	5.976	5.276	6.822	6.322	5.622	6.979	6.479	5.931
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	502	540	572	554	603	678	525	569	636	514	552	604
Service Time	4.869	4.369	4.002	4.211	3.711	3.011	4.564	4.064	3.364	4.723	4.223	3.676
HCM Lane V/C Ratio	0.014	0.102	0.101	0.181	0.425	0.012	0.029	0.286	0.024	0.13	0.065	0.136
HCM Control Delay, s/veh	10	10.1	9.7	10.6	13.1	8.1	9.8	11.6	8.5	10.8	9.7	9.6
HCM Lane LOS	A	B	A	B	B	A	A	B	A	B	A	A
HCM 95th-tile Q	0	0.3	0.3	0.7	2.1	0	0.1	1.2	0.1	0.4	0.2	0.5

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

AM 2024

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	115	45	24	137	68	30	277	11	32	287	28
Future Volume (veh/h)	23	115	45	24	137	68	30	277	11	32	287	28
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	40	198	78	34	193	96	41	374	15	45	404	39
Peak Hour Factor	0.58	0.58	0.58	0.71	0.71	0.71	0.74	0.74	0.74	0.71	0.71	0.71
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	63	288	219	69	294	224	65	2092	84	70	1977	190
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
Prop Arrive On Green	0.04	0.15	0.15	0.04	0.16	0.16	0.04	0.60	0.59	0.04	0.60	0.60
Unsig. Movement Delay												
Ln Grp Delay, s/veh	57.3	42.9	27.5	52.3	42.1	27.7	57.1	9.3	9.3	56.4	9.3	9.4
Ln Grp LOS	E	D	C	D	D	C	E	A	A	E	A	A
Approach Vol, veh/h	316			323			430			488		
Approach Delay, s/veh	40.9			38.9			13.8			13.7		
Approach LOS	D			D			B			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4	3	5	6	8	7				
Case No	2.0	4.0	3.0	2.0	2.0	4.0	3.0	2.0				
Phs Duration (G+Y+Rc), s	8.3	64.1	19.4	8.2	7.9	64.5	19.7	7.9				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	8.1	31.1	33.1	8.1	8.1	31.1	33.1	8.1				
Max Allow Headway (MAH), s	4.1	4.0	4.1	4.1	4.1	4.0	4.1	4.1				
Max Q Clear (g_c+I1), s	4.7	6.8	12.0	4.0	4.5	7.6	11.7	4.4				
Green Ext Time (g_e), s	0.0	1.3	0.9	0.0	0.0	1.5	1.0	0.0				
Prob of Phs Call (p_c)	0.71	1.00	1.00	0.61	0.68	1.00	1.00	0.67				
Prob of Max Out (p_x)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1			3			5			7		
Mvmt Sat Flow, veh/h	1641			1641			1641			1641		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3479			1870			3271			1870		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	139			1424			314			1425		
Left Lane Group Data												
Assigned Mvmt	1	0	0	3	5	0	0	7				

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

AM 2024
11/06/2024

Lane Assignment	L (Prot)			L (Prot)			L (Prot)	
Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	45	0	0	34	41	0	0	40
Grp Sat Flow (s), veh/h/ln	1641	0	0	1641	1641	0	0	1641
Q Serve Time (g_s), s	2.7	0.0	0.0	2.0	2.5	0.0	0.0	2.4
Cycle Q Clear Time (g_c), s	2.7	0.0	0.0	2.0	2.5	0.0	0.0	2.4
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	70	0	0	69	65	0	0	63
V/C Ratio (X)	0.64	0.00	0.00	0.49	0.63	0.00	0.00	0.63
Avail Cap (c_a), veh/h	148	0	0	148	148	0	0	148
Upstream Filter (I)	0.98	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	47.1	0.0	0.0	46.9	47.3	0.0	0.0	47.4
Incr Delay (d2), s/veh	9.3	0.0	0.0	5.4	9.8	0.0	0.0	9.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	56.4	0.0	0.0	52.3	57.1	0.0	0.0	57.3
1st-Term Q (Q1), veh/ln	1.0	0.0	0.0	0.8	1.0	0.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.1	0.2	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	1.2	0.0	0.0	0.9	1.1	0.0	0.0	1.1
%ile Storage Ratio (RQ%)	0.16	0.00	0.00	0.25	0.29	0.00	0.00	0.28
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	8	0
Lane Assignment	T			T			T	
Lanes in Grp	0	1	1	0	0	1	1	0
Grp Vol (v), veh/h	0	190	198	0	0	218	193	0
Grp Sat Flow (s), veh/h/ln	0	1777	1870	0	0	1777	1870	0
Q Serve Time (g_s), s	0.0	4.8	10.0	0.0	0.0	5.5	9.7	0.0
Cycle Q Clear Time (g_c), s	0.0	4.8	10.0	0.0	0.0	5.5	9.7	0.0
Lane Grp Cap (c), veh/h	0	1069	288	0	0	1074	294	0
V/C Ratio (X)	0.00	0.18	0.69	0.00	0.00	0.20	0.66	0.00
Avail Cap (c_a), veh/h	0	1069	636	0	0	1074	636	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.98	1.00	0.00
Uniform Delay (d1), s/veh	0.0	8.9	40.0	0.0	0.0	8.9	39.6	0.0
Incr Delay (d2), s/veh	0.0	0.4	2.9	0.0	0.0	0.4	2.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.3	42.9	0.0	0.0	9.3	42.1	0.0
1st-Term Q (Q1), veh/ln	0.0	1.5	4.3	0.0	0.0	1.7	4.2	0.0

HCM 7th Signalized Intersection Capacity Analysis 9: S Madera Ave & W Kearney Blvd

AM 2024
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.2	0.0	0.0	0.1	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.6	4.5	0.0	0.0	1.9	4.4	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.05	0.00	0.00	0.02	0.04	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	18	0
Lane Assignment	T+R		R			T+R	R	
Lanes in Grp	0	1	1	0	0	1	1	0
Grp Vol (v), veh/h	0	199	78	0	0	225	96	0
Grp Sat Flow (s), veh/h/ln	0	1841	1424	0	0	1808	1425	0
Q Serve Time (g_s), s	0.0	4.8	4.1	0.0	0.0	5.6	5.1	0.0
Cycle Q Clear Time (g_c), s	0.0	4.8	4.1	0.0	0.0	5.6	5.1	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.08	1.00	0.00	0.00	0.17	1.00	0.00
Lane Grp Cap (c), veh/h	0	1107	219	0	0	1093	224	0
V/C Ratio (X)	0.00	0.18	0.36	0.00	0.00	0.21	0.43	0.00
Avail Cap (c_a), veh/h	0	1107	484	0	0	1093	484	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.98	1.00	0.00
Uniform Delay (d1), s/veh	0.0	8.9	26.6	0.0	0.0	9.0	26.4	0.0
Incr Delay (d2), s/veh	0.0	0.4	1.0	0.0	0.0	0.4	1.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.3	27.5	0.0	0.0	9.4	27.7	0.0
1st-Term Q (Q1), veh/ln	0.0	1.6	1.6	0.0	0.0	1.8	2.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.7	1.6	0.0	0.0	1.9	2.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.42	0.00	0.00	0.02	0.52	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	24.5
HCM 7th LOS	C

Intersection

Intersection Delay, s/veh 12.9

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	83	37	20	71	43	35	123	23	41	167	19
Future Vol, veh/h	30	83	37	20	71	43	35	123	23	41	167	19
Peak Hour Factor	0.60	0.60	0.60	0.68	0.68	0.68	0.60	0.60	0.60	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	138	62	29	104	63	58	205	38	46	188	21
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh 12.9		11.8	14.3	12.2
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	19%	20%	15%	100%	0%
Vol Thru, %	68%	55%	53%	0%	90%
Vol Right, %	13%	25%	32%	0%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	181	150	134	41	186
LT Vol	35	30	20	41	0
Through Vol	123	83	71	0	167
RT Vol	23	37	43	0	19
Lane Flow Rate	302	250	197	46	209
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.486	0.405	0.322	0.087	0.363
Departure Headway (Hd)	5.797	5.825	5.882	6.837	6.255
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	618	613	607	521	571
Service Time	3.874	3.906	3.97	4.619	4.037
HCM Lane V/C Ratio	0.489	0.408	0.325	0.088	0.366
HCM Control Delay, s/veh	14.3	12.9	11.8	10.3	12.6
HCM Lane LOS	B	B	B	B	B
HCM 95th-tile Q	2.7	2	1.4	0.3	1.6

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	44	29	0
Future Vol, veh/h	0	0	0	44	29	0
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	0	0	0	48	32	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	32	32	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	1042	1581	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	1042	1581	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1581	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s/veh)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 7th TWSC
12: Whitesbridge Ave & Project Entrance

AM 2024
11/06/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	520	404	0	0	0
Future Vol, veh/h	0	520	404	0	0	0
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	0	565	439	0	0	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	220
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	784
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	784
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0	0		0		
HCM LOS				A		
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s/veh)	-	-	-	0		
HCM Lane LOS	-	-	-	A		
HCM 95th %tile Q(veh)	-	-	-	-		

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	3	3	0	2	0	1	109	0	1	22	0
Future Vol, veh/h	0	3	3	0	2	0	1	109	0	1	22	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	25	25	25	72	72	72	52	52	52
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	6	6	0	8	0	1	151	0	2	42	0
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	204	200	42	203	200	151	42	0	0	151	0	0
Stage 1	46	46	-	154	154	-	-	-	-	-	-	-
Stage 2	158	154	-	49	46	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	754	696	1028	755	696	895	1567	-	-	1430	-	-
Stage 1	968	856	-	848	770	-	-	-	-	-	-	-
Stage 2	844	770	-	964	856	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	743	694	1028	742	694	895	1567	-	-	1430	-	-
Mov Cap-2 Maneuver	743	694	-	742	694	-	-	-	-	-	-	-
Stage 1	966	855	-	847	769	-	-	-	-	-	-	-
Stage 2	834	769	-	950	855	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s/v	9.41		10.25			0.07			0.33			
HCM LOS	A		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	16	-	-	829	694	78	-	-				
HCM Lane V/C Ratio	0.001	-	-	0.014	0.012	0.001	-	-				
HCM Control Delay (s/veh)	7.3	0	-	9.4	10.2	7.5	0	-				
HCM Lane LOS	A	A	-	A	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-				

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	2	5	0	0	3	52	6	0	33	0
Future Vol, veh/h	0	0	2	5	0	0	3	52	6	0	33	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	25	25	25	68	68	68	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	8	20	0	0	4	76	9	0	45	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	130	139	45	135	135	81	45	0	0	85	0	0
Stage 1	45	45	-	90	90	-	-	-	-	-	-	-
Stage 2	85	94	-	45	45	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	842	752	1025	836	756	979	1563	-	-	1511	-	-
Stage 1	969	857	-	918	821	-	-	-	-	-	-	-
Stage 2	923	817	-	969	857	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	840	749	1025	827	754	979	1563	-	-	1511	-	-
Mov Cap-2 Maneuver	840	749	-	827	754	-	-	-	-	-	-	-
Stage 1	969	857	-	915	818	-	-	-	-	-	-	-
Stage 2	920	815	-	961	857	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	8.54		9.46		0.36		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	87	-	-	1025	827	1511	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.008	0.024	-	-	-				
HCM Control Delay (s/veh)	7.3	0	-	8.5	9.5	0	-	-				
HCM Lane LOS	A	A	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-				

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	4	
Traffic Vol, veh/h	6	1	0	226	339	6
Future Vol, veh/h	6	1	0	226	339	6
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	25	25	84	84	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	4	0	269	365	6

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	637	368	371	0	-	0
Stage 1	368	-	-	-	-	-
Stage 2	269	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	442	678	1188	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	442	678	1188	-	-	-
Mov Cap-2 Maneuver	442	-	-	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	776	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v13.24		0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1188	-	465	-	-
HCM Lane V/C Ratio	-	-	0.06	-	-
HCM Control Delay (s/veh)	0	-	13.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

AM 2024+Project

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	318	33	187	277	21	84	61	161	48	38	14
Future Volume (veh/h)	5	318	33	187	277	21	84	61	161	48	38	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.97
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	12	374	56	297	342	25	104	84	215	68	52	36
Peak Hour Factor	0.42	0.85	0.59	0.63	0.81	0.85	0.81	0.73	0.75	0.71	0.73	0.39
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	41	597	452	463	2047	820	276	96	245	93	98	68
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.32	0.32	0.56	1.00	1.00	0.17	0.21	0.20	0.06	0.10	0.09
Unsig. Movement Delay												
Ln Grp Delay, s/veh	61.3	39.7	29.5	25.0	0.2	0.1	45.2	0.0	62.7	74.5	0.0	54.3
Ln Grp LOS	E	D	C	C	A	A	D		E	E		D
Approach Vol, veh/h	442			664			403			156		
Approach Delay, s/veh	39.0			11.3			58.2			63.1		
Approach LOS	D			B			E			E		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4	3	6	5	7	8				
Case No	2.0	4.0	3.0	2.0	4.0	2.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	10.8	29.1	42.3	37.9	15.6	24.2	7.0	73.1				
Change Period (Y+Rc), s	4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7				
Max Green (Gmax), s	7.4	30.0	36.6	25.4	27.0	10.4	4.0	58.0				
Max Allow Headway (MAH), s	4.1	4.3	4.0	4.1	4.2	4.1	4.1	4.0				
Max Q Clear (g_c+I1), s	6.9	23.4	22.4	16.8	7.9	8.8	2.9	2.0				
Green Ext Time (g_e), s	0.0	0.6	1.3	0.7	0.2	0.0	0.0	1.5				
Prob of Phs Call (p_c)	0.90	1.00	1.00	1.00	1.00	0.97	0.33	1.00				
Prob of Max Out (p_x)	1.00	0.29	0.00	0.08	0.00	1.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1			3			5			7		
Mvmt Sat Flow, veh/h	1641			1641			1641			1641		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	458			1870			1014			3554		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1172			1416			702			1423		
Left Lane Group Data												
Assigned Mvmt	1	0	0	3	0	5	7	0				

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

AM 2024+Project
11/06/2024

Lane Assignment	L (Prot)			L (Prot)			L (Prot) L (Prot)	
Lanes in Grp	1	0	0	1	0	1	1	0
Grp Vol (v), veh/h	68	0	0	297	0	104	12	0
Grp Sat Flow (s), veh/h/ln	1641	0	0	1641	0	1641	1641	0
Q Serve Time (g_s), s	4.9	0.0	0.0	14.8	0.0	6.8	0.9	0.0
Cycle Q Clear Time (g_c), s	4.9	0.0	0.0	14.8	0.0	6.8	0.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	93	0	0	463	0	276	41	0
V/C Ratio (X)	0.73	0.00	0.00	0.64	0.00	0.38	0.29	0.00
Avail Cap (c_a), veh/h	109	0	0	463	0	276	78	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	55.7	0.0	0.0	22.0	0.0	44.3	57.4	0.0
Incr Delay (d2), s/veh	18.7	0.0	0.0	3.0	0.0	0.8	3.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	74.5	0.0	0.0	25.0	0.0	45.2	61.3	0.0
1st-Term Q (Q1), veh/ln	1.9	0.0	0.0	4.0	0.0	2.6	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	0.0	0.4	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.4	0.0	0.0	4.4	0.0	2.7	0.4	0.0
%ile Storage Ratio (RQ%)	0.62	0.00	0.00	0.23	0.00	0.46	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	6	0	0	8
Lane Assignment	T			T			T	
Lanes in Grp	0	0	1	0	0	0	0	2
Grp Vol (v), veh/h	0	0	374	0	0	0	0	342
Grp Sat Flow (s), veh/h/ln	0	0	1870	0	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	20.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	20.4	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	597	0	0	0	0	2047
V/C Ratio (X)	0.00	0.00	0.63	0.00	0.00	0.00	0.00	0.17
Avail Cap (c_a), veh/h	0	0	597	0	0	0	0	2047
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	4.9	0.0	0.0	0.0	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
Control Delay (d), s/veh	0.0	0.0	39.7	0.0	0.0	0.0	0.0	0.2
1st-Term Q (Q1), veh/ln	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis 4: Siskiyou Ave & Whitesbridge Ave

AM 2024+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	9.6	0.0	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	16	0	0	18
Lane Assignment	T+R		R	T+R		R		
Lanes in Grp	0	1	1	0	1	0	0	1
Grp Vol (v), veh/h	0	299	56	0	88	0	0	25
Grp Sat Flow (s), veh/h/ln	0	1629	1416	0	1716	0	0	1423
Q Serve Time (g_s), s	0.0	21.4	3.4	0.0	5.9	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	21.4	3.4	0.0	5.9	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.72	1.00	0.00	0.41	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	340	452	0	166	0	0	820
V/C Ratio (X)	0.00	0.88	0.12	0.00	0.53	0.00	0.00	0.03
Avail Cap (c_a), veh/h	0	415	452	0	395	0	0	820
Upstream Filter (I)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	46.2	29.0	0.0	51.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	16.5	0.6	0.0	2.6	0.0	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
Control Delay (d), s/veh	0.0	62.7	29.5	0.0	54.3	0.0	0.0	0.1
1st-Term Q (Q1), veh/ln	0.0	8.2	1.1	0.0	2.4	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	1.6	0.1	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.8	1.2	0.0	2.5	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.25	0.10	0.00	0.05	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	34.8
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

AM 2024+Project

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	527	67	53	438	59	53	67	158	93	54	6
Future Volume (veh/h)	9	527	67	53	438	59	53	67	158	93	54	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	10	592	75	65	534	72	71	89	211	124	72	8
Peak Hour Factor	0.89	0.89	0.89	0.82	0.82	0.82	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	28	1751	708	94	1672	225	101	106	252	160	421	47
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.99	0.99	0.06	0.53	0.53	0.06	0.22	0.21	0.10	0.26	0.25
Unsig. Movement Delay												
Ln Grp Delay, s/veh	65.0	1.0	0.7	62.8	16.5	16.6	63.9	0.0	55.0	64.1	0.0	35.0
Ln Grp LOS	E	A	A	E	B	B	E		D	E		C
Approach Vol, veh/h	677				671				371		204	
Approach Delay, s/veh	1.9				21.0				56.7		52.7	
Approach LOS	A				C				E		D	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	15.7	30.3	10.9	63.1	11.4	34.7	6.0	67.9				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	15.1	33.5	14.1	37.7	10.4	38.2	4.0	47.8				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.0	4.1	4.0	4.1	4.0				
Max Q Clear (g_c+I1), s	10.9	23.1	6.7	2.4	7.1	6.1	2.7	13.6				
Green Ext Time (g_e), s	0.1	0.8	0.1	2.9	0.0	0.2	0.0	2.2				
Prob of Phs Call (p_c)	0.98	1.00	0.89	1.00	0.91	1.00	0.28	1.00				
Prob of Max Out (p_x)	0.87	0.04	0.02	0.00	1.00	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	485			3554			1650			3137		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1149			1437			183			421		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

AM 2024+Project

11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	124	0	65	0	71	0	10	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	8.9	0.0	4.7	0.0	5.1	0.0	0.7	0.0
Cycle Q Clear Time (g_c), s	8.9	0.0	4.7	0.0	5.1	0.0	0.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	160	0	94	0	101	0	28	0
V/C Ratio (X)	0.78	0.00	0.69	0.00	0.71	0.00	0.36	0.00
Avail Cap (c_a), veh/h	219	0	205	0	154	0	67	0
Upstream Filter (I)	1.00	0.00	0.82	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	52.9	0.0	55.5	0.0	55.3	0.0	57.3	0.0
Incr Delay (d2), s/veh	11.2	0.0	7.3	0.0	8.7	0.0	7.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	64.1	0.0	62.8	0.0	63.9	0.0	65.0	0.0
1st-Term Q (Q1), veh/ln	3.5	0.0	1.9	0.0	2.0	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	0.2	0.0	0.2	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.0	0.0	2.0	0.0	2.3	0.0	0.3	0.0
%ile Storage Ratio (RQ%)	0.68	0.00	0.10	0.00	0.52	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	592	0	0	0	302
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	11.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	11.5
Lane Grp Cap (c), veh/h	0	0	0	1751	0	0	0	947
V/C Ratio (X)	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.32
Avail Cap (c_a), veh/h	0	0	0	1751	0	0	0	947
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.82
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	0.0	15.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	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
Control Delay (d), s/veh	0.0	0.0	0.0	1.0	0.0	0.0	0.0	16.5
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	4.2

HCM 7th Signalized Intersection Capacity Analysis 5: N Del Norte Ave & Whitesbridge Ave

AM 2024+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	4.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	300	0	75	0	80	0	304
Grp Sat Flow (s), veh/h/ln	0	1634	0	1437	0	1833	0	1781
Q Serve Time (g_s), s	0.0	21.1	0.0	0.1	0.0	4.1	0.0	11.6
Cycle Q Clear Time (g_c), s	0.0	21.1	0.0	0.1	0.0	4.1	0.0	11.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.70	0.00	1.00	0.00	0.10	0.00	0.24
Lane Grp Cap (c), veh/h	0	358	0	708	0	468	0	949
V/C Ratio (X)	0.00	0.84	0.00	0.11	0.00	0.17	0.00	0.32
Avail Cap (c_a), veh/h	0	469	0	708	0	597	0	949
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.82
Uniform Delay (d1), s/veh	0.0	45.1	0.0	0.4	0.0	34.8	0.0	15.9
Incr Delay (d2), s/veh	0.0	9.9	0.0	0.3	0.0	0.2	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
Control Delay (d), s/veh	0.0	55.0	0.0	0.7	0.0	35.0	0.0	16.6
1st-Term Q (Q1), veh/ln	0.0	8.1	0.0	0.0	0.0	1.7	0.0	4.3
2nd-Term Q (Q2), veh/ln	0.0	1.0	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.1	0.0	0.1	0.0	1.8	0.0	4.5
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.01	0.00	0.05	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	24.5
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

AM 2024+Project

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	578	117	76	494	23	134	129	61	67	194	88
Future Volume (veh/h)	63	578	117	76	494	23	134	129	61	67	194	88
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	79	722	146	90	588	27	152	147	69	81	234	106
Peak Hour Factor	0.80	0.80	0.80	0.84	0.84	0.84	0.88	0.88	0.88	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	112	820	166	124	992	45	195	603	242	541	1352	546
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
Prop Arrive On Green	0.07	0.28	0.27	0.08	0.29	0.28	0.04	0.06	0.06	0.33	0.38	0.38
Unsig. Movement Delay												
Ln Grp Delay, s/veh	57.5	50.7	51.1	57.2	34.9	34.9	60.8	45.4	29.9	26.1	22.9	23.6
Ln Grp LOS	E	D	D	E	C	C	E	D	C	C	C	C
Approach Vol, veh/h	947			705			368			421		
Approach Delay, s/veh	51.4			37.8			48.8			23.7		
Approach LOS	D			D			D			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4	3	5	6	7	8				
Case No	2.0	3.0	4.0	2.0	2.0	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	40.3	22.7	34.7	12.3	17.1	45.9	11.5	35.6				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	13.7	31.5	34.1	11.1	17.1	28.1	10.5	34.7				
Max Allow Headway (MAH), s	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0				
Max Q Clear (g_c+I1), s	5.8	6.4	27.9	7.9	12.1	7.4	7.2	18.1				
Green Ext Time (g_e), s	0.1	0.8	1.9	0.1	0.2	1.3	0.0	2.0				
Prob of Phs Call (p_c)	0.92	1.00	1.00	0.94	0.99	1.00	0.91	1.00				
Prob of Max Out (p_x)	0.02	0.00	0.61	1.00	0.48	0.00	1.00	0.01				
Left-Turn Movement Data												
Assigned Mvmt	1			3			7					
Mvmt Sat Flow, veh/h	1641			1641			1641					
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3554			2934			3554			3454		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1426			593			1435			158		
Left Lane Group Data												
Assigned Mvmt	1	0	0	3	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

AM 2024+Project

11/06/2024

Lane Assignment	L (Prot)			L (Prot)	L (Prot)	L (Prot)		
Lanes in Grp	1	0	0	1	1	0	1	0
Grp Vol (v), veh/h	81	0	0	90	152	0	79	0
Grp Sat Flow (s), veh/h/ln	1641	0	0	1641	1641	0	1641	0
Q Serve Time (g_s), s	3.8	0.0	0.0	5.9	10.1	0.0	5.2	0.0
Cycle Q Clear Time (g_c), s	3.8	0.0	0.0	5.9	10.1	0.0	5.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	541	0	0	124	195	0	112	0
V/C Ratio (X)	0.15	0.00	0.00	0.72	0.78	0.00	0.71	0.00
Avail Cap (c_a), veh/h	541	0	0	179	268	0	170	0
Upstream Filter (I)	1.00	0.00	0.00	0.96	0.98	0.00	0.92	0.00
Uniform Delay (d1), s/veh	26.0	0.0	0.0	49.7	51.4	0.0	50.2	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	7.5	9.4	0.0	7.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	26.1	0.0	0.0	57.2	60.8	0.0	57.5	0.0
1st-Term Q (Q1), veh/ln	1.4	0.0	0.0	2.3	4.2	0.0	2.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.3	0.5	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.4	0.0	0.0	2.6	4.7	0.0	2.3	0.0
%ile Storage Ratio (RQ%)	0.30	0.00	0.00	0.28	0.63	0.00	0.33	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment	T		T	T			T	
Lanes in Grp	0	2	1	0	0	2	0	1
Grp Vol (v), veh/h	0	147	437	0	0	234	0	302
Grp Sat Flow (s), veh/h/ln	0	1777	1777	0	0	1777	0	1777
Q Serve Time (g_s), s	0.0	4.4	25.9	0.0	0.0	4.8	0.0	16.1
Cycle Q Clear Time (g_c), s	0.0	4.4	25.9	0.0	0.0	4.8	0.0	16.1
Lane Grp Cap (c), veh/h	0	603	496	0	0	1352	0	510
V/C Ratio (X)	0.00	0.24	0.88	0.00	0.00	0.17	0.00	0.59
Avail Cap (c_a), veh/h	0	1047	565	0	0	1352	0	575
Upstream Filter (I)	0.00	0.98	0.92	0.00	0.00	1.00	0.00	0.96
Uniform Delay (d1), s/veh	0.0	45.2	37.9	0.0	0.0	22.6	0.0	33.7
Incr Delay (d2), s/veh	0.0	0.2	12.8	0.0	0.0	0.3	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
Control Delay (d), s/veh	0.0	45.4	50.7	0.0	0.0	22.9	0.0	34.9
1st-Term Q (Q1), veh/ln	0.0	1.9	10.4	0.0	0.0	1.9	0.0	6.5

HCM 7th Signalized Intersection Capacity Analysis 6: S Madera Ave & Whitesbridge Ave

AM 2024+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	1.8	0.0	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.9	12.2	0.0	0.0	1.9	0.0	6.7
%ile Storage Ratio (RQ%)	0.00	0.02	0.12	0.00	0.00	0.02	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		R	T+R			R		T+R
Lanes in Grp	0	1	1	0	0	1	0	1
Grp Vol (v), veh/h	0	69	431	0	0	106	0	313
Grp Sat Flow (s), veh/h/ln	0	1426	1750	0	0	1435	0	1836
Q Serve Time (g_s), s	0.0	4.1	25.9	0.0	0.0	5.4	0.0	16.1
Cycle Q Clear Time (g_c), s	0.0	4.1	25.9	0.0	0.0	5.4	0.0	16.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.34	0.00	0.00	1.00	0.00	0.09
Lane Grp Cap (c), veh/h	0	242	489	0	0	546	0	527
V/C Ratio (X)	0.00	0.29	0.88	0.00	0.00	0.19	0.00	0.59
Avail Cap (c_a), veh/h	0	420	557	0	0	546	0	594
Upstream Filter (I)	0.00	0.98	0.92	0.00	0.00	1.00	0.00	0.96
Uniform Delay (d1), s/veh	0.0	29.2	38.0	0.0	0.0	22.8	0.0	33.7
Incr Delay (d2), s/veh	0.0	0.6	13.0	0.0	0.0	0.8	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
Control Delay (d), s/veh	0.0	29.9	51.1	0.0	0.0	23.6	0.0	34.9
1st-Term Q (Q1), veh/ln	0.0	1.7	10.3	0.0	0.0	1.7	0.0	6.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.8	0.0	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.8	12.1	0.0	0.0	1.8	0.0	6.9
%ile Storage Ratio (RQ%)	0.00	0.28	0.12	0.00	0.00	0.46	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	42.3
HCM 7th LOS	D

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

AM 2024+Project
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (veh/h)	4	560	108	23	489	2	101	33	67	4	15	6
Future Volume (veh/h)	4	560	108	23	489	2	101	33	67	4	15	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.96
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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	5	675	130	26	549	2	140	46	93	6	22	9
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.72	0.72	0.72	0.69	0.69	0.69
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes				Yes				Yes			
Cap, veh/h	21	2331	934	44	2433	9	177	93	187	22	95	39
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
Prop Arrive On Green	0.01	0.66	0.66	0.03	0.67	0.66	0.11	0.17	0.16	0.01	0.08	0.07
Unsig. Movement Delay												
Ln Grp Delay, s/veh	62.3	9.0	8.0	69.7	8.1	8.1	61.8	0.0	46.8	65.0	0.0	53.2
Ln Grp LOS	E	A	A	E	A	A	E		D	E		D
Approach Vol, veh/h	810			577				279		37		
Approach Delay, s/veh	9.1			10.9				54.3		55.1		
Approach LOS	A			B				D		E		
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		5.6	24.5	7.2	82.7	17.0	13.1	5.5	84.4			
Change Period (Y+Rc), s		4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9			
Max Green (Gmax), s		4.0	44.8	5.1	46.5	18.1	30.7	4.0	47.6			
Max Allow Headway (MAH), s		4.1	4.3	4.1	4.1	4.1	4.1	4.1	4.0			
Max Q Clear (g_c+I1), s		2.4	11.2	3.9	11.7	12.0	4.0	2.4	9.1			
Green Ext Time (g_e), s		0.0	0.5	0.0	3.6	0.2	0.1	0.0	1.9			
Prob of Phs Call (p_c)		0.18	1.00	0.58	1.00	0.99	1.00	0.15	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.00	0.18	0.00	1.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1641		1641		1641		1641				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			543		3554		1245		3631			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1098		1424		509		13			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

AM 2024+Project
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	6	0	26	0	140	0	5	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.4	0.0	1.9	0.0	10.0	0.0	0.4	0.0
Cycle Q Clear Time (g_c), s	0.4	0.0	1.9	0.0	10.0	0.0	0.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	22	0	44	0	177	0	21	0
V/C Ratio (X)	0.27	0.00	0.59	0.00	0.79	0.00	0.24	0.00
Avail Cap (c_a), veh/h	67	0	82	0	260	0	67	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.61	0.00
Uniform Delay (d1), s/veh	58.6	0.0	57.7	0.0	52.2	0.0	58.7	0.0
Incr Delay (d2), s/veh	6.4	0.0	12.0	0.0	9.6	0.0	3.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	65.0	0.0	69.7	0.0	61.8	0.0	62.3	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.8	0.0	3.9	0.0	0.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.5	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.2	0.0	0.9	0.0	4.4	0.0	0.2	0.0
%ile Storage Ratio (RQ%)	0.05	0.00	0.06	0.00	0.66	0.00	0.01	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	675	0	0	0	269
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	9.7	0.0	0.0	0.0	7.1
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	9.7	0.0	0.0	0.0	7.1
Lane Grp Cap (c), veh/h	0	0	0	2331	0	0	0	1191
V/C Ratio (X)	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.23
Avail Cap (c_a), veh/h	0	0	0	2331	0	0	0	1191
Upstream Filter (I)	0.00	0.00	0.00	0.61	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	8.8	0.0	0.0	0.0	7.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	9.0	0.0	0.0	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.1	0.0	0.0	0.0	2.2

HCM 7th Signalized Intersection Capacity Analysis 7: S Vineland Ave & Whitesbridge Ave

AM 2024+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.2	0.0	0.0	0.0	2.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	139	0	130	0	31	0	282
Grp Sat Flow (s), veh/h/ln	0	1641	0	1424	0	1754	0	1868
Q Serve Time (g_s), s	0.0	9.2	0.0	4.2	0.0	2.0	0.0	7.1
Cycle Q Clear Time (g_c), s	0.0	9.2	0.0	4.2	0.0	2.0	0.0	7.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.67	0.00	1.00	0.00	0.29	0.00	0.01
Lane Grp Cap (c), veh/h	0	280	0	934	0	133	0	1251
V/C Ratio (X)	0.00	0.50	0.00	0.14	0.00	0.23	0.00	0.23
Avail Cap (c_a), veh/h	0	625	0	934	0	462	0	1251
Upstream Filter (I)	0.00	1.00	0.00	0.61	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	45.4	0.0	7.8	0.0	52.3	0.0	7.7
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.2	0.0	0.9	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	46.8	0.0	8.0	0.0	53.2	0.0	8.1
1st-Term Q (Q1), veh/ln	0.0	3.6	0.0	1.1	0.0	0.8	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.7	0.0	1.1	0.0	0.9	0.0	2.5
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.09	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	18.1
HCM 7th LOS	B

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	67	161	5	9	101	39	4	59	18	83	47	43
Future Vol, veh/h	67	161	5	9	101	39	4	59	18	83	47	43
Peak Hour Factor	0.63	0.63	0.63	0.62	0.62	0.62	0.59	0.59	0.59	0.58	0.58	0.58
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	106	256	8	15	163	63	7	100	31	143	81	74
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay, s/veh	13.8	11.7	10.7	11.6
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	52%	0%	100%	0%	0%	100%	0%	0%	100%	27%
Vol Right, %	0%	0%	48%	0%	0%	100%	0%	0%	100%	0%	0%	73%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	39	38	67	161	5	9	101	39	83	31	59
LT Vol	4	0	0	67	0	0	9	0	0	83	0	0
Through Vol	0	39	20	0	161	0	0	101	0	0	31	16
RT Vol	0	0	18	0	0	5	0	0	39	0	0	43
Lane Flow Rate	7	67	64	106	256	8	15	163	63	143	54	101
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.014	0.132	0.121	0.208	0.464	0.013	0.03	0.309	0.107	0.289	0.102	0.176
Departure Headway (Hd)	7.639	7.139	6.804	7.036	6.536	5.836	7.327	6.827	6.127	7.27	6.77	6.257
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	466	499	524	508	549	610	486	525	581	492	527	570
Service Time	5.426	4.926	4.592	4.805	4.305	3.605	5.104	4.604	3.904	5.045	4.545	4.032
HCM Lane V/C Ratio	0.015	0.134	0.122	0.209	0.466	0.013	0.031	0.31	0.108	0.291	0.102	0.177
HCM Control Delay, s/veh	10.5	11	10.5	11.7	14.9	8.7	10.3	12.7	9.6	13	10.3	10.4
HCM Lane LOS	B	B	B	B	B	A	B	B	A	B	B	B
HCM 95th-tile Q	0	0.5	0.4	0.8	2.4	0	0.1	1.3	0.4	1.2	0.3	0.6

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

AM 2024+Project

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	152	46	24	162	75	31	299	11	42	319	28
Future Volume (veh/h)	23	152	46	24	162	75	31	299	11	42	319	28
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	40	262	79	34	228	106	42	404	15	59	449	39
Peak Hour Factor	0.58	0.58	0.58	0.71	0.71	0.71	0.74	0.74	0.74	0.71	0.71	0.71
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	71	336	256	55	317	242	65	2056	76	87	1990	172
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.04	0.18	0.18	0.03	0.17	0.17	0.04	0.59	0.58	0.11	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.4	47.0	28.5	63.6	46.3	29.4	62.2	10.9	10.9	57.1	0.5	0.5
Ln Grp LOS	E	D	C	E	D	C	E	B	B	E	A	A
Approach Vol, veh/h	381			368			461			547		
Approach Delay, s/veh	44.4			43.0			15.6			6.6		
Approach LOS	D			D			B			A		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4	3	5	6	8	7				
Case No	2.0	4.0	3.0	2.0	2.0	4.0	3.0	2.0				
Phs Duration (G+Y+Rc), s	9.8	68.8	23.7	7.7	8.4	70.2	22.6	8.8				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	13.1	32.1	36.1	9.1	9.1	36.1	36.1	9.1				
Max Allow Headway (MAH), s	4.1	4.0	4.1	4.1	4.1	4.0	4.1	4.1				
Max Q Clear (g_c+I1), s	5.8	7.9	16.7	4.3	4.8	2.0	14.7	4.6				
Green Ext Time (g_e), s	0.1	1.4	1.1	0.0	0.0	1.7	1.1	0.0				
Prob of Phs Call (p_c)	0.84	1.00	1.00	0.65	0.72	1.00	1.00	0.71				
Prob of Max Out (p_x)	0.02	0.00	0.00	0.34	0.73	0.00	0.00	0.60				
Left-Turn Movement Data												
Assigned Mvmt	1			3			5			7		
Mvmt Sat Flow, veh/h	1641			1641			1641			1641		
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3491			1870			3305			1870		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	129			1427			286			1426		
Left Lane Group Data												
Assigned Mvmt	1	0	0	3	5	0	0	7				

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

AM 2024+Project
11/06/2024

Lane Assignment	L (Prot)			L (Prot)			L (Prot)	
Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	59	0	0	34	42	0	0	40
Grp Sat Flow (s), veh/h/ln	1641	0	0	1641	1641	0	0	1641
Q Serve Time (g_s), s	3.8	0.0	0.0	2.3	2.8	0.0	0.0	2.6
Cycle Q Clear Time (g_c), s	3.8	0.0	0.0	2.3	2.8	0.0	0.0	2.6
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	87	0	0	55	65	0	0	71
V/C Ratio (X)	0.68	0.00	0.00	0.62	0.64	0.00	0.00	0.56
Avail Cap (c_a), veh/h	209	0	0	149	149	0	0	149
Upstream Filter (I)	0.97	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	48.3	0.0	0.0	52.5	52.1	0.0	0.0	51.6
Incr Delay (d2), s/veh	8.8	0.0	0.0	11.1	10.2	0.0	0.0	6.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	57.1	0.0	0.0	63.6	62.2	0.0	0.0	58.4
1st-Term Q (Q1), veh/ln	1.4	0.0	0.0	0.9	1.1	0.0	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.2	0.2	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	1.6	0.0	0.0	1.1	1.3	0.0	0.0	1.2
%ile Storage Ratio (RQ%)	0.22	0.00	0.00	0.30	0.32	0.00	0.00	0.30
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	8	0
Lane Assignment	T			T			T	
Lanes in Grp	0	1	1	0	0	1	1	0
Grp Vol (v), veh/h	0	205	262	0	0	241	228	0
Grp Sat Flow (s), veh/h/ln	0	1777	1870	0	0	1777	1870	0
Q Serve Time (g_s), s	0.0	5.9	14.7	0.0	0.0	0.0	12.7	0.0
Cycle Q Clear Time (g_c), s	0.0	5.9	14.7	0.0	0.0	0.0	12.7	0.0
Lane Grp Cap (c), veh/h	0	1047	336	0	0	1070	317	0
V/C Ratio (X)	0.00	0.20	0.78	0.00	0.00	0.22	0.72	0.00
Avail Cap (c_a), veh/h	0	1047	629	0	0	1070	629	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.97	1.00	0.00
Uniform Delay (d1), s/veh	0.0	10.5	43.1	0.0	0.0	0.0	43.2	0.0
Incr Delay (d2), s/veh	0.0	0.4	4.0	0.0	0.0	0.5	3.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.9	47.0	0.0	0.0	0.5	46.3	0.0
1st-Term Q (Q1), veh/ln	0.0	2.0	6.4	0.0	0.0	0.0	5.5	0.0

HCM 7th Signalized Intersection Capacity Analysis 9: S Madera Ave & W Kearney Blvd

AM 2024+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.4	0.0	0.0	0.1	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.1	6.8	0.0	0.0	0.1	5.8	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.07	0.00	0.00	0.00	0.06	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	18	0
Lane Assignment	T+R		R			T+R	R	
Lanes in Grp	0	1	1	0	0	1	1	0
Grp Vol (v), veh/h	0	214	79	0	0	247	106	0
Grp Sat Flow (s), veh/h/ln	0	1843	1427	0	0	1814	1426	0
Q Serve Time (g_s), s	0.0	5.9	4.5	0.0	0.0	0.0	6.1	0.0
Cycle Q Clear Time (g_c), s	0.0	5.9	4.5	0.0	0.0	0.0	6.1	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.07	1.00	0.00	0.00	0.16	1.00	0.00
Lane Grp Cap (c), veh/h	0	1086	256	0	0	1092	242	0
V/C Ratio (X)	0.00	0.20	0.31	0.00	0.00	0.23	0.44	0.00
Avail Cap (c_a), veh/h	0	1086	480	0	0	1092	480	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	0.97	1.00	0.00
Uniform Delay (d1), s/veh	0.0	10.5	27.9	0.0	0.0	0.0	28.2	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.7	0.0	0.0	0.5	1.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.9	28.5	0.0	0.0	0.5	29.4	0.0
1st-Term Q (Q1), veh/ln	0.0	2.1	1.7	0.0	0.0	0.0	2.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.2	1.8	0.0	0.0	0.1	2.5	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.45	0.00	0.00	0.00	0.63	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	24.8
HCM 7th LOS	C

Intersection

Intersection Delay, s/veh 18

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	114	47	20	92	43	42	149	23	41	205	19
Future Vol, veh/h	30	114	47	20	92	43	42	149	23	41	205	19
Peak Hour Factor	0.60	0.60	0.60	0.68	0.68	0.68	0.60	0.60	0.60	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	190	78	29	135	63	70	248	38	46	230	21
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	18.4	14.9	21.3	15.8
HCM LOS	C	B	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	20%	16%	13%	100%	0%
Vol Thru, %	70%	60%	59%	0%	92%
Vol Right, %	11%	25%	28%	0%	8%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	214	191	155	41	224
LT Vol	42	30	20	41	0
Through Vol	149	114	92	0	205
RT Vol	23	47	43	0	19
Lane Flow Rate	357	318	228	46	252
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.652	0.58	0.429	0.098	0.494
Departure Headway (Hd)	6.576	6.557	6.781	7.645	7.072
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	546	548	527	467	506
Service Time	4.652	4.635	4.868	5.426	4.852
HCM Lane V/C Ratio	0.654	0.58	0.433	0.099	0.498
HCM Control Delay, s/veh	21.3	18.4	14.9	11.3	16.6
HCM Lane LOS	C	C	B	B	C
HCM 95th-tile Q	4.7	3.7	2.1	0.3	2.7

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↖	
Traffic Vol, veh/h	0	143	89	60	29	11
Future Vol, veh/h	0	143	89	60	29	11
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	0	155	97	65	32	12
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	38	43	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	1035	1565	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	1035	1565	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	9.09	4.45		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1075	-	1035	-	-	
HCM Lane V/C Ratio	0.062	-	0.15	-	-	
HCM Control Delay (s/veh)	7.5	0	9.1	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-	

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	659	408	88	0	139
Future Vol, veh/h	0	659	408	88	0	139
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	0	716	443	96	0	151
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	270
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	728
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	728
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0	0		11.23		
HCM LOS	B					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	728		
HCM Lane V/C Ratio	-	-	-	0.207		
HCM Control Delay (s/veh)	-	-	-	11.2		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0.8		

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	3	0	0	0	1	110	0	1	22	0
Future Vol, veh/h	0	1	3	0	0	0	1	110	0	1	22	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	25	25	25	72	72	72	52	52	52
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	6	0	0	0	1	153	0	2	42	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	202	202	42	203	202	153	42	0	0	153	0	0
Stage 1	46	46	-	156	156	-	-	-	-	-	-	-
Stage 2	156	156	-	47	46	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	757	694	1028	755	694	893	1567	-	-	1428	-	-
Stage 1	968	856	-	847	769	-	-	-	-	-	-	-
Stage 2	847	769	-	966	856	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	755	693	1028	747	693	893	1567	-	-	1428	-	-
Mov Cap-2 Maneuver	755	693	-	747	693	-	-	-	-	-	-	-
Stage 1	966	855	-	846	768	-	-	-	-	-	-	-
Stage 2	846	768	-	957	855	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	8.96	0	0.07	0.33
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	16	-	-	917	78	-	-
HCM Lane V/C Ratio	0.001	-	-	0.009	0.001	-	-
HCM Control Delay (s/veh)	7.3	0	-	9	0	0	-
HCM Lane LOS	A	A	-	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	-	-

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	1	45	0	0	29	0
Future Vol, veh/h	0	0	0	0	0	0	1	45	0	0	29	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	25	25	25	68	68	68	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	1	66	0	0	40	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	109	109	40	109	109	66	40	0	0	66	0	0
Stage 1	40	40	-	69	69	-	-	-	-	-	-	-
Stage 2	69	69	-	40	40	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	870	781	1032	870	781	998	1570	-	-	1536	-	-
Stage 1	975	862	-	941	837	-	-	-	-	-	-	-
Stage 2	941	837	-	975	862	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	869	780	1032	869	780	998	1570	-	-	1536	-	-
Mov Cap-2 Maneuver	869	780	-	869	780	-	-	-	-	-	-	-
Stage 1	975	862	-	940	837	-	-	-	-	-	-	-
Stage 2	940	837	-	975	862	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	0		0		0.16		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	39	-	-	-	1536	-	-					
HCM Lane V/C Ratio	0.001	-	-	-	-	-	-					
HCM Control Delay (s/veh)	7.3	0	-	0	0	-	-					
HCM Lane LOS	A	A	-	A	A	-	-					
HCM 95th %tile Q(veh)	0	-	-	-	0	-	-					

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	P	
Traffic Vol, veh/h	0	1	0	231	356	1
Future Vol, veh/h	0	1	0	231	356	1
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	25	25	84	84	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	4	0	275	383	1
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	658	383	384	0	-	0
Stage 1	383	-	-	-	-	-
Stage 2	275	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	429	664	1175	-	-	-
Stage 1	689	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	429	664	1175	-	-	-
Mov Cap-2 Maneuver	429	-	-	-	-	-
Stage 1	689	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v10.45		0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1175	-	664	-	-	
HCM Lane V/C Ratio	-	-	0.006	-	-	
HCM Control Delay (s/veh)	0	-	10.5	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

AM 2029
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	323	34	57	276	22	85	62	163	48	38	14
Future Volume (veh/h)	5	323	34	57	276	22	85	62	163	48	38	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.97
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			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	12	380	58	90	341	26	105	85	217	68	52	36
Peak Hour Factor	0.42	0.85	0.59	0.63	0.81	0.85	0.81	0.73	0.75	0.71	0.73	0.39
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes				Yes				Yes
Cap, veh/h	250	690	523	364	1557	622	282	98	249	94	100	69
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
Prop Arrive On Green	0.15	0.37	0.37	0.22	0.44	0.44	0.17	0.21	0.21	0.06	0.10	0.09
Unsig. Movement Delay												
Ln Grp Delay, s/veh	41.7	31.9	24.3	37.2	20.4	9.8	43.0	0.0	57.7	63.5	0.0	51.9
Ln Grp LOS	D	C	C	D	C	A	D		E	E		D
Approach Vol, veh/h	450				457				407			
Approach Delay, s/veh	31.2				23.1				53.9			
Approach LOS	C				C				D			
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4	3	6	5	8	7				
Case No	2.0	4.0	3.0	2.0	4.0	2.0	3.0	2.0				
Phs Duration (G+Y+Rc), s	10.6	28.5	46.4	29.5	15.3	23.7	54.4	21.5				
Change Period (Y+Rc), s	4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7				
Max Green (Gmax), s	10.4	31.0	40.7	12.3	27.0	14.4	48.7	4.3				
Max Allow Headway (MAH), s	4.1	4.3	4.0	4.1	4.2	4.1	4.0	4.1				
Max Q Clear (g_c+I1), s	6.7	22.6	20.5	7.2	7.6	8.5	8.9	2.7				
Green Ext Time (g_e), s	0.0	0.7	1.5	0.1	0.2	0.1	1.5	0.0				
Prob of Phs Call (p_c)	0.89	1.00	1.00	0.94	1.00	0.97	1.00	0.32				
Prob of Max Out (p_x)	1.00	0.12	0.00	0.36	0.00	0.18	0.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1			3			5			7		
Mvmt Sat Flow, veh/h	1641			1641			1641			1641		
Through Movement Data												
Assigned Mvmt	2		4		6		8					
Mvmt Sat Flow, veh/h	459		1870		1014		3554					
Right-Turn Movement Data												
Assigned Mvmt	12		14		16		18					
Mvmt Sat Flow, veh/h	1171		1418		702		1420					
Left Lane Group Data												
Assigned Mvmt	1	0	0	3	0	5	0	7				

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

AM 2029
11/06/2024

Lane Assignment	L (Prot)			L (Prot)			L (Prot)		
Lanes in Grp	1	0	0	1	0	0	1	0	1
Grp Vol (v), veh/h	68	0	0	90	0	0	105	0	12
Grp Sat Flow (s), veh/h/ln	1641	0	0	1641	0	0	1641	0	1641
Q Serve Time (g_s), s	4.7	0.0	0.0	5.2	0.0	0.0	6.5	0.0	0.7
Cycle Q Clear Time (g_c), s	4.7	0.0	0.0	5.2	0.0	0.0	6.5	0.0	0.7
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	94	0	0	364	0	0	282	0	250
V/C Ratio (X)	0.73	0.00	0.00	0.25	0.00	0.00	0.37	0.00	0.05
Avail Cap (c_a), veh/h	157	0	0	364	0	0	282	0	250
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	53.3	0.0	0.0	36.8	0.0	0.0	42.1	0.0	41.6
Incr Delay (d2), s/veh	10.2	0.0	0.0	0.3	0.0	0.0	0.8	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
Control Delay (d), s/veh	63.5	0.0	0.0	37.2	0.0	0.0	43.0	0.0	41.7
1st-Term Q (Q1), veh/ln	1.9	0.0	0.0	2.0	0.0	0.0	2.5	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	2.1	0.0	0.0	2.0	0.0	0.0	2.6	0.0	0.3
%ile Storage Ratio (RQ%)	0.54	0.00	0.00	0.11	0.00	0.00	0.44	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data									
Assigned Mvmt	0	2	4	0	6	0	8	0	0
Lane Assignment	T			T			T		
Lanes in Grp	0	0	1	0	0	0	2	0	0
Grp Vol (v), veh/h	0	0	380	0	0	0	341	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1870	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.0	18.5	0.0	0.0	0.0	6.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	18.5	0.0	0.0	0.0	6.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	690	0	0	0	1557	0	0
V/C Ratio (X)	0.00	0.00	0.55	0.00	0.00	0.00	0.22	0.00	0.00
Avail Cap (c_a), veh/h	0	0	690	0	0	0	1557	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	28.8	0.0	0.0	0.0	20.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	3.2	0.0	0.0	0.0	0.3	0.0	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
Control Delay (d), s/veh	0.0	0.0	31.9	0.0	0.0	0.0	20.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	7.7	0.0	0.0	0.0	2.6	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

AM 2029
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.6	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	8.3	0.0	0.0	0.0	2.7	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.32	0.00	0.00	0.00	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	16	0	18	0
Lane Assignment	T+R		R	T+R		R		
Lanes in Grp	0	1	1	0	1	0	1	0
Grp Vol (v), veh/h	0	302	58	0	88	0	26	0
Grp Sat Flow (s), veh/h/ln	0	1630	1418	0	1716	0	1420	0
Q Serve Time (g_s), s	0.0	20.6	3.1	0.0	5.6	0.0	0.9	0.0
Cycle Q Clear Time (g_c), s	0.0	20.6	3.1	0.0	5.6	0.0	0.9	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.72	1.00	0.00	0.41	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	347	523	0	169	0	622	0
V/C Ratio (X)	0.00	0.87	0.11	0.00	0.52	0.00	0.04	0.00
Avail Cap (c_a), veh/h	0	448	523	0	412	0	622	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	43.9	23.9	0.0	49.4	0.0	9.6	0.0
Incr Delay (d2), s/veh	0.0	13.8	0.4	0.0	2.5	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	57.7	24.3	0.0	51.9	0.0	9.8	0.0
1st-Term Q (Q1), veh/ln	0.0	7.9	1.0	0.0	2.3	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	1.3	0.1	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	9.2	1.0	0.0	2.4	0.0	0.4	0.0
%ile Storage Ratio (RQ%)	0.00	0.24	0.09	0.00	0.05	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	37.7
HCM 7th LOS	D

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

AM 2029

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	467	15	56	407	2	17	42	160	9	16	2
Future Volume (veh/h)	2	467	15	56	407	2	17	42	160	9	16	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	2	525	17	68	496	2	23	56	213	12	21	3
Peak Hour Factor	0.89	0.89	0.89	0.82	0.82	0.82	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	16	2072	838	98	2297	9	42	69	262	30	317	45
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
Prop Arrive On Green	0.01	0.58	0.58	0.06	0.63	0.63	0.03	0.21	0.20	0.02	0.20	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	62.4	12.5	10.6	62.8	9.7	9.7	68.8	0.0	53.4	66.4	0.0	39.1
Ln Grp LOS	E	B	B	E	A	A	E		D	E		D
Approach Vol, veh/h	544			566			292			36		
Approach Delay, s/veh	12.7			16.1			54.6			48.2		
Approach LOS	B			B			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	6.2	28.7	11.1	74.0	7.0	27.9	5.2	79.9				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	15.1	33.5	14.1	37.7	10.4	38.2	4.0	47.8				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.0	4.1	4.0	4.1	4.0				
Max Q Clear (g_c+I1), s	2.9	21.2	6.9	10.7	3.7	3.3	2.1	9.0				
Green Ext Time (g_e), s	0.0	0.8	0.1	2.2	0.0	0.0	0.0	1.7				
Prob of Phs Call (p_c)	0.33	1.00	0.90	1.00	0.54	1.00	0.06	1.00				
Prob of Max Out (p_x)	0.00	0.01	0.03	0.00	0.02	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt		2			4		6		8			
Mvmt Sat Flow, veh/h		335			3554		1595		3629			
Right-Turn Movement Data												
Assigned Mvmt			12			14		16		18		
Mvmt Sat Flow, veh/h			1273			1438		228		15		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

AM 2029
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	12	0	68	0	23	0	2	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.9	0.0	4.9	0.0	1.7	0.0	0.1	0.0
Cycle Q Clear Time (g_c), s	0.9	0.0	4.9	0.0	1.7	0.0	0.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	30	0	98	0	42	0	16	0
V/C Ratio (X)	0.40	0.00	0.70	0.00	0.55	0.00	0.13	0.00
Avail Cap (c_a), veh/h	219	0	205	0	154	0	67	0
Upstream Filter (I)	1.00	0.00	0.85	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	58.2	0.0	55.4	0.0	57.8	0.0	58.9	0.0
Incr Delay (d2), s/veh	8.1	0.0	7.4	0.0	11.0	0.0	3.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	66.4	0.0	62.8	0.0	68.8	0.0	62.4	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	1.9	0.0	0.7	0.0	0.1	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.2	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.4	0.0	2.1	0.0	0.8	0.0	0.1	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.10	0.00	0.18	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	525	0	0	0	243
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	8.7	0.0	0.0	0.0	7.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	8.7	0.0	0.0	0.0	7.0
Lane Grp Cap (c), veh/h	0	0	0	2072	0	0	0	1124
V/C Ratio (X)	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.22
Avail Cap (c_a), veh/h	0	0	0	2072	0	0	0	1124
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.85
Uniform Delay (d1), s/veh	0.0	0.0	0.0	12.2	0.0	0.0	0.0	9.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	12.5	0.0	0.0	0.0	9.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.0	0.0	0.0	0.0	2.3

HCM 7th Signalized Intersection Capacity Analysis 5: N Del Norte Ave & Whitesbridge Ave

AM 2029
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.1	0.0	0.0	0.0	2.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	269	0	17	0	24	0	255
Grp Sat Flow (s), veh/h/ln	0	1608	0	1438	0	1823	0	1867
Q Serve Time (g_s), s	0.0	19.2	0.0	0.6	0.0	1.3	0.0	7.0
Cycle Q Clear Time (g_c), s	0.0	19.2	0.0	0.6	0.0	1.3	0.0	7.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.79	0.00	1.00	0.00	0.13	0.00	0.01
Lane Grp Cap (c), veh/h	0	331	0	838	0	363	0	1182
V/C Ratio (X)	0.00	0.81	0.00	0.02	0.00	0.07	0.00	0.22
Avail Cap (c_a), veh/h	0	461	0	838	0	594	0	1182
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.85
Uniform Delay (d1), s/veh	0.0	45.8	0.0	10.6	0.0	39.1	0.0	9.4
Incr Delay (d2), s/veh	0.0	7.5	0.0	0.0	0.0	0.1	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	53.4	0.0	10.6	0.0	39.1	0.0	9.7
1st-Term Q (Q1), veh/ln	0.0	7.3	0.0	0.2	0.0	0.6	0.0	2.4
2nd-Term Q (Q2), veh/ln	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	8.0	0.0	0.2	0.0	0.6	0.0	2.6
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.01	0.00	0.02	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	23.4
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

AM 2029

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	495	58	80	450	24	95	132	62	68	198	90
Future Volume (veh/h)	65	495	58	80	450	24	95	132	62	68	198	90
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.98
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	81	619	72	95	536	29	108	150	70	82	239	108
Peak Hour Factor	0.80	0.80	0.80	0.84	0.84	0.84	0.88	0.88	0.88	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	114	744	86	130	829	45	146	489	196	676	1636	661
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
Prop Arrive On Green	0.07	0.23	0.22	0.08	0.24	0.23	0.03	0.05	0.05	0.41	0.46	0.46
Unsig. Movement Delay												
Ln Grp Delay, s/veh	60.3	50.1	50.4	59.2	40.7	40.7	61.5	49.9	51.0	21.0	18.1	18.6
Ln Grp LOS	E	D	D	E	D	D	E	D	D	C	B	B
Approach Vol, veh/h	772				660				328		429	
Approach Delay, s/veh	51.3				43.4				54.0		18.8	
Approach LOS	D				D				D		B	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	4.0	2.0	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	51.3	19.8	13.1	30.7	14.2	56.9	12.0	31.9				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	17.1	29.1	15.1	34.1	16.1	30.1	13.1	36.1				
Max Allow Headway (MAH), s	4.1	4.1	4.1	4.0	4.1	4.1	4.1	4.1				
Max Q Clear (g_c+I1), s	5.6	7.5	8.5	23.2	9.5	7.0	7.6	18.2				
Green Ext Time (g_e), s	0.1	0.8	0.1	2.0	0.1	1.3	0.1	1.8				
Prob of Phs Call (p_c)	0.93	1.00	0.95	1.00	0.97	1.00	0.92	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.08	0.13	0.09	0.00	0.22	0.01				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3554			3200			3554			3422		
Right-Turn Movement Data												
Assigned Mvmt	12				14				16			
Mvmt Sat Flow, veh/h	1422				371				1436			
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

AM 2029
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	82	0	95	0	108	0	81	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	3.6	0.0	6.5	0.0	7.5	0.0	5.6	0.0
Cycle Q Clear Time (g_c), s	3.6	0.0	6.5	0.0	7.5	0.0	5.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	676	0	130	0	146	0	114	0
V/C Ratio (X)	0.12	0.00	0.73	0.00	0.74	0.00	0.71	0.00
Avail Cap (c_a), veh/h	676	0	228	0	243	0	200	0
Upstream Filter (I)	1.00	0.00	0.97	0.00	0.98	0.00	0.98	0.00
Uniform Delay (d1), s/veh	20.9	0.0	51.8	0.0	54.5	0.0	52.4	0.0
Incr Delay (d2), s/veh	0.1	0.0	7.4	0.0	7.0	0.0	7.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	21.0	0.0	59.2	0.0	61.5	0.0	60.3	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	2.6	0.0	3.1	0.0	2.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	0.3	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.3	0.0	2.8	0.0	3.4	0.0	2.4	0.0
%ile Storage Ratio (RQ%)	0.27	0.00	0.31	0.00	0.45	0.00	0.35	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	150	0	343	0	239	0	278
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	4.7	0.0	21.1	0.0	4.5	0.0	16.1
Cycle Q Clear Time (g_c), s	0.0	4.7	0.0	21.1	0.0	4.5	0.0	16.1
Lane Grp Cap (c), veh/h	0	489	0	413	0	1636	0	431
V/C Ratio (X)	0.00	0.31	0.00	0.83	0.00	0.15	0.00	0.65
Avail Cap (c_a), veh/h	0	927	0	541	0	1636	0	572
Upstream Filter (I)	0.00	0.98	0.00	0.98	0.00	1.00	0.00	0.97
Uniform Delay (d1), s/veh	0.0	49.6	0.0	42.0	0.0	18.0	0.0	39.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	8.1	0.0	0.2	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
Control Delay (d), s/veh	0.0	49.9	0.0	50.1	0.0	18.1	0.0	40.7
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	8.7	0.0	1.7	0.0	6.7

HCM 7th Signalized Intersection Capacity Analysis 6: S Madera Ave & Whitesbridge Ave

AM 2029
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.1	0.0	9.7	0.0	1.7	0.0	6.8
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.10	0.00	0.02	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	70	0	348	0	108	0	287
Grp Sat Flow (s), veh/h/ln	0	1422	0	1794	0	1436	0	1830
Q Serve Time (g_s), s	0.0	5.5	0.0	21.2	0.0	5.0	0.0	16.2
Cycle Q Clear Time (g_c), s	0.0	5.5	0.0	21.2	0.0	5.0	0.0	16.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.21	0.00	1.00	0.00	0.10
Lane Grp Cap (c), veh/h	0	196	0	417	0	661	0	443
V/C Ratio (X)	0.00	0.36	0.00	0.83	0.00	0.16	0.00	0.65
Avail Cap (c_a), veh/h	0	371	0	546	0	661	0	589
Upstream Filter (I)	0.00	0.98	0.00	0.98	0.00	1.00	0.00	0.97
Uniform Delay (d1), s/veh	0.0	50.0	0.0	42.1	0.0	18.1	0.0	39.2
Incr Delay (d2), s/veh	0.0	1.1	0.0	8.2	0.0	0.5	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	51.0	0.0	50.4	0.0	18.6	0.0	40.7
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	8.9	0.0	1.5	0.0	6.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.0	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.0	0.0	9.8	0.0	1.6	0.0	7.1
%ile Storage Ratio (RQ%)	0.00	0.32	0.00	0.10	0.00	0.42	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	42.9
HCM 7th LOS	D

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

AM 2029
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	549	56	24	482	2	66	34	69	4	15	6
Future Volume (veh/h)	4	549	56	24	482	2	66	34	69	4	15	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.96
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	5	661	67	27	542	2	92	47	96	6	22	9
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.72	0.72	0.72	0.69	0.69	0.69
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	21	2440	978	45	2546	9	126	75	153	22	95	39
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
Prop Arrive On Green	0.01	0.69	0.69	0.03	0.70	0.69	0.08	0.14	0.13	0.01	0.08	0.07
Unsig. Movement Delay												
Ln Grp Delay, s/veh	62.7	7.4	6.3	70.1	6.7	6.7	62.0	0.0	51.8	65.0	0.0	53.2
Ln Grp LOS	E	A	A	E	A	A	E		D	E		D
Approach Vol, veh/h	733			571			235			37		
Approach Delay, s/veh	7.7			9.7			55.8			55.1		
Approach LOS	A			A			E			E		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	5.6	20.7	7.3	86.4	13.2	13.1	5.5	88.1				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	4.0	44.8	5.1	46.5	18.1	30.7	4.0	47.6				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.0	4.1	4.1	4.1	4.0				
Max Q Clear (g_c+I1), s	2.4	11.9	4.0	10.6	8.6	4.0	2.4	8.3				
Green Ext Time (g_e), s	0.0	0.5	0.0	3.2	0.1	0.1	0.0	1.9				
Prob of Phs Call (p_c)	0.18	1.00	0.59	1.00	0.95	1.00	0.15	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1641	1641	1641	1641								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	538	3554	1245	3631								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1099	1424	509	13								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

AM 2029
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	6	0	27	0	92	0	5	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.4	0.0	2.0	0.0	6.6	0.0	0.4	0.0
Cycle Q Clear Time (g_c), s	0.4	0.0	2.0	0.0	6.6	0.0	0.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	22	0	45	0	126	0	21	0
V/C Ratio (X)	0.27	0.00	0.60	0.00	0.73	0.00	0.24	0.00
Avail Cap (c_a), veh/h	67	0	82	0	260	0	67	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.68	0.00
Uniform Delay (d1), s/veh	58.6	0.0	57.7	0.0	54.2	0.0	58.7	0.0
Incr Delay (d2), s/veh	6.4	0.0	12.4	0.0	7.8	0.0	4.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	65.0	0.0	70.1	0.0	62.0	0.0	62.7	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.8	0.0	2.6	0.0	0.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	0.3	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.2	0.0	0.9	0.0	2.9	0.0	0.2	0.0
%ile Storage Ratio (RQ%)	0.05	0.00	0.06	0.00	0.43	0.00	0.01	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	661	0	0	0	265
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	8.6	0.0	0.0	0.0	6.3
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	8.6	0.0	0.0	0.0	6.3
Lane Grp Cap (c), veh/h	0	0	0	2440	0	0	0	1246
V/C Ratio (X)	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.21
Avail Cap (c_a), veh/h	0	0	0	2440	0	0	0	1246
Upstream Filter (I)	0.00	0.00	0.00	0.68	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	7.2	0.0	0.0	0.0	6.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	7.4	0.0	0.0	0.0	6.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.6	0.0	0.0	0.0	1.8

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

AM 2029
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	2.7	0.0	0.0	0.0	2.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	143	0	67	0	31	0	279
Grp Sat Flow (s), veh/h/ln	0	1637	0	1424	0	1754	0	1868
Q Serve Time (g_s), s	0.0	9.9	0.0	1.9	0.0	2.0	0.0	6.3
Cycle Q Clear Time (g_c), s	0.0	9.9	0.0	1.9	0.0	2.0	0.0	6.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.67	0.00	1.00	0.00	0.29	0.00	0.01
Lane Grp Cap (c), veh/h	0	228	0	978	0	133	0	1310
V/C Ratio (X)	0.00	0.63	0.00	0.07	0.00	0.23	0.00	0.21
Avail Cap (c_a), veh/h	0	624	0	978	0	462	0	1310
Upstream Filter (I)	0.00	1.00	0.00	0.68	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	49.0	0.0	6.2	0.0	52.3	0.0	6.3
Incr Delay (d2), s/veh	0.0	2.8	0.0	0.1	0.0	0.9	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	51.8	0.0	6.3	0.0	53.2	0.0	6.7
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	0.5	0.0	0.8	0.0	2.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.1	0.0	0.5	0.0	0.9	0.0	2.1
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.04	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	16.7
HCM 7th LOS	B

Intersection

Intersection Delay, s/veh 11.6

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	171	5	9	105	9	4	50	18	40	32	38
Future Vol, veh/h	67	171	5	9	105	9	4	50	18	40	32	38
Peak Hour Factor	0.63	0.63	0.63	0.62	0.62	0.62	0.59	0.59	0.59	0.58	0.58	0.58
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	106	271	8	15	169	15	7	85	31	69	55	66
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay, s/veh	12.8	11.5	10.1	10.2
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	48%	0%	100%	0%	0%	100%	0%	0%	100%	22%
Vol Right, %	0%	0%	52%	0%	0%	100%	0%	0%	100%	0%	0%	78%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	33	35	67	171	5	9	105	9	40	21	49
LT Vol	4	0	0	67	0	0	9	0	0	40	0	0
Through Vol	0	33	17	0	171	0	0	105	0	0	21	11
RT Vol	0	0	18	0	0	5	0	0	9	0	0	38
Lane Flow Rate	7	56	59	106	271	8	15	169	15	69	37	84
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.014	0.106	0.104	0.193	0.454	0.012	0.028	0.301	0.023	0.135	0.067	0.14
Departure Headway (Hd)	7.224	6.724	6.36	6.527	6.027	5.327	6.905	6.405	5.705	7.072	6.572	6.025
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	495	532	562	550	597	671	518	561	626	506	544	594
Service Time	4.976	4.476	4.113	4.268	3.768	3.068	4.653	4.153	3.453	4.823	4.323	3.776
HCM Lane V/C Ratio	0.014	0.105	0.105	0.193	0.454	0.012	0.029	0.301	0.024	0.136	0.068	0.141
HCM Control Delay, s/veh	10.1	10.3	9.9	10.8	13.7	8.1	9.9	11.9	8.6	10.9	9.8	9.8
HCM Lane LOS	B	B	A	B	B	A	A	B	A	B	A	A
HCM 95th-tile Q	0	0.4	0.3	0.7	2.4	0	0.1	1.3	0.1	0.5	0.2	0.5

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

AM 2029
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	120	47	25	143	71	31	283	11	33	293	29
Future Volume (veh/h)	24	120	47	25	143	71	31	283	11	33	293	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
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			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	41	207	81	35	201	100	42	382	15	46	413	41
Peak Hour Factor	0.58	0.58	0.58	0.71	0.71	0.71	0.74	0.74	0.74	0.71	0.71	0.71
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes				Yes				Yes
Cap, veh/h	63	299	228	55	290	221	65	2176	85	70	2048	202
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.04	0.16	0.16	0.03	0.15	0.15	0.04	0.62	0.62	0.08	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	65.0	48.5	44.0	66.1	49.0	45.6	64.8	9.4	9.4	61.8	0.4	0.4
Ln Grp LOS	E	D	D	E	D	D	E	A	A	E	A	A
Approach Vol, veh/h	329				336				439			
Approach Delay, s/veh	49.5				49.8				14.7			
Approach LOS	D				D				B			
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	8.9	75.9	7.9	22.4	8.5	76.2	8.5	21.8				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	11.1	35.1	10.1	39.1	11.1	35.1	11.1	38.1				
Max Allow Headway (MAH), s	4.1	4.0	4.1	4.1	4.1	4.0	4.1	4.1				
Max Q Clear (g_c+I1), s	5.1	7.3	4.4	14.0	4.9	2.0	4.8	13.7				
Green Ext Time (g_e), s	0.0	1.3	0.0	1.0	0.0	1.6	0.0	1.0				
Prob of Phs Call (p_c)	0.77	1.00	0.67	1.00	0.74	1.00	0.73	1.00				
Prob of Max Out (p_x)	0.09	0.00	0.11	0.00	0.06	0.00	0.06	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3482			1870			3261			1870		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	136			1425			322			1424		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

AM 2029
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	46	0	35	0	42	0	41	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	3.1	0.0	2.4	0.0	2.9	0.0	2.8	0.0
Cycle Q Clear Time (g_c), s	3.1	0.0	2.4	0.0	2.9	0.0	2.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	70	0	55	0	65	0	63	0
V/C Ratio (X)	0.66	0.00	0.63	0.00	0.65	0.00	0.65	0.00
Avail Cap (c_a), veh/h	171	0	157	0	171	0	171	0
Upstream Filter (I)	0.97	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	51.8	0.0	54.8	0.0	54.4	0.0	54.5	0.0
Incr Delay (d2), s/veh	10.0	0.0	11.2	0.0	10.4	0.0	10.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	61.8	0.0	66.1	0.0	64.8	0.0	65.0	0.0
1st-Term Q (Q1), veh/ln	1.2	0.0	1.0	0.0	1.2	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.4	0.0	1.1	0.0	1.3	0.0	1.3	0.0
%ile Storage Ratio (RQ%)	0.19	0.00	0.32	0.00	0.34	0.00	0.33	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	194	0	207	0	224	0	201
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	1870
Q Serve Time (g_s), s	0.0	5.3	0.0	12.0	0.0	0.0	0.0	11.7
Cycle Q Clear Time (g_c), s	0.0	5.3	0.0	12.0	0.0	0.0	0.0	11.7
Lane Grp Cap (c), veh/h	0	1111	0	299	0	1116	0	290
V/C Ratio (X)	0.00	0.18	0.00	0.69	0.00	0.20	0.00	0.69
Avail Cap (c_a), veh/h	0	1111	0	651	0	1116	0	634
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.97	0.00	1.00
Uniform Delay (d1), s/veh	0.0	9.1	0.0	45.7	0.0	0.0	0.0	46.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	2.9	0.0	0.4	0.0	3.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.4	0.0	48.5	0.0	0.4	0.0	49.0
1st-Term Q (Q1), veh/ln	0.0	1.7	0.0	5.3	0.0	0.0	0.0	5.2

HCM 7th Signalized Intersection Capacity Analysis 9: S Madera Ave & W Kearney Blvd

AM 2029
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.8	0.0	5.6	0.0	0.1	0.0	5.4
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.06	0.00	0.00	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	203	0	81	0	230	0	100
Grp Sat Flow (s), veh/h/ln	0	1842	0	1425	0	1807	0	1424
Q Serve Time (g_s), s	0.0	5.3	0.0	5.8	0.0	0.0	0.0	7.3
Cycle Q Clear Time (g_c), s	0.0	5.3	0.0	5.8	0.0	0.0	0.0	7.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.07	0.00	1.00	0.00	0.18	0.00	1.00
Lane Grp Cap (c), veh/h	0	1151	0	228	0	1134	0	221
V/C Ratio (X)	0.00	0.18	0.00	0.36	0.00	0.20	0.00	0.45
Avail Cap (c_a), veh/h	0	1151	0	496	0	1134	0	483
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.97	0.00	1.00
Uniform Delay (d1), s/veh	0.0	9.1	0.0	43.1	0.0	0.0	0.0	44.2
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.9	0.0	0.4	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.4	0.0	44.0	0.0	0.4	0.0	45.6
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	2.0	0.0	0.0	0.0	2.5
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.9	0.0	2.0	0.0	0.1	0.0	2.6
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.51	0.00	0.00	0.00	0.65
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	26.5
HCM 7th LOS	C

Intersection

Intersection Delay, s/veh 13.6

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	86	38	21	75	46	36	125	23	42	172	20
Future Vol, veh/h	31	86	38	21	75	46	36	125	23	42	172	20
Peak Hour Factor	0.60	0.60	0.60	0.68	0.68	0.68	0.60	0.60	0.60	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	143	63	31	110	68	60	208	38	47	193	22
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	13.6	12.4	15.2	12.7
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	20%	20%	15%	100%	0%
Vol Thru, %	68%	55%	53%	0%	90%
Vol Right, %	13%	25%	32%	0%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	184	155	142	42	192
LT Vol	36	31	21	42	0
Through Vol	125	86	75	0	172
RT Vol	23	38	46	0	20
Lane Flow Rate	307	258	209	47	216
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.511	0.432	0.352	0.092	0.387
Departure Headway (Hd)	6.003	6.02	6.069	7.043	6.459
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	601	599	593	510	559
Service Time	4.026	4.048	4.107	4.767	4.183
HCM Lane V/C Ratio	0.511	0.431	0.352	0.092	0.386
HCM Control Delay, s/veh	15.2	13.6	12.4	10.5	13.2
HCM Lane LOS	C	B	B	B	B
HCM 95th-tile Q	2.9	2.2	1.6	0.3	1.8

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↖	↖	
Traffic Vol, veh/h	0	0	0	44	29	0
Future Vol, veh/h	0	0	0	44	29	0
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	0	0	0	48	32	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	32	32	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	1042	1581	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	1042	1581	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1581	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s/veh)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

HCM 7th TWSC
12: Whitesbridge Ave & Project Entrance

AM 2029
11/06/2024

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	540	420	0	0	0
Future Vol, veh/h	0	540	420	0	0	0
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	0	587	457	0	0	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	228
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	774
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	774
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s/veh)	-	-	-	0		
HCM Lane LOS	-	-	-	A		
HCM 95th %tile Q(veh)	-	-	-	-		

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	0	3	3	0	2	0	1	110	0	1	22	0
Future Vol, veh/h	0	3	3	0	2	0	1	110	0	1	22	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	25	25	25	72	72	72	52	52	52
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	6	6	0	8	0	1	153	0	2	42	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	206	202	42	205	202	153	42	0	0	153	0	0
Stage 1	46	46	-	156	156	-	-	-	-	-	-	-
Stage 2	160	156	-	49	46	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	752	694	1028	753	694	893	1567	-	-	1428	-	-
Stage 1	968	856	-	847	769	-	-	-	-	-	-	-
Stage 2	843	769	-	964	856	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	742	693	1028	741	693	893	1567	-	-	1428	-	-
Mov Cap-2 Maneuver	742	693	-	741	693	-	-	-	-	-	-	-
Stage 1	966	855	-	846	768	-	-	-	-	-	-	-
Stage 2	833	768	-	950	855	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	9.41		10.26		0.07		0.33	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	16	-	-	828	693	78	-	-
HCM Lane V/C Ratio	0.001	-	-	0.014	0.012	0.001	-	-
HCM Control Delay (s/veh)	7.3	0	-	9.4	10.3	7.5	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	2	5	0	0	3	52	6	0	33	0
Future Vol, veh/h	0	0	2	5	0	0	3	52	6	0	33	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	25	25	25	68	68	68	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	8	20	0	0	4	76	9	0	45	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	130	139	45	135	135	81	45	0	0	85	0	0
Stage 1	45	45	-	90	90	-	-	-	-	-	-	-
Stage 2	85	94	-	45	45	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	842	752	1025	836	756	979	1563	-	-	1511	-	-
Stage 1	969	857	-	918	821	-	-	-	-	-	-	-
Stage 2	923	817	-	969	857	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	840	749	1025	827	754	979	1563	-	-	1511	-	-
Mov Cap-2 Maneuver	840	749	-	827	754	-	-	-	-	-	-	-
Stage 1	969	857	-	915	818	-	-	-	-	-	-	-
Stage 2	920	815	-	961	857	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	8.54		9.46		0.36		0					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	87	-	-	1025	827	1511	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.008	0.024	-	-	-				
HCM Control Delay (s/veh)	7.3	0	-	8.5	9.5	0	-	-				
HCM Lane LOS	A	A	-	A	A	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-				

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			4	P	
Traffic Vol, veh/h	6	1	0	231	356	6
Future Vol, veh/h	6	1	0	231	356	6
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	25	25	84	84	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	4	0	275	383	6
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	661	386	389	0	-	0
Stage 1	386	-	-	-	-	-
Stage 2	275	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	427	662	1169	-	-	-
Stage 1	687	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	427	662	1169	-	-	-
Mov Cap-2 Maneuver	427	-	-	-	-	-
Stage 1	687	-	-	-	-	-
Stage 2	771	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v13.53		0		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1169	-	450	-	-	
HCM Lane V/C Ratio	-	-	0.062	-	-	
HCM Control Delay (s/veh)	0	-	13.5	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.2	-	-	

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

AM 2029+Project

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	330	34	189	287	22	85	62	163	48	38	14
Future Volume (veh/h)	5	330	34	189	287	22	85	62	163	48	38	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	12	388	58	300	354	26	105	85	217	68	52	36
Peak Hour Factor	0.42	0.85	0.59	0.63	0.81	0.85	0.81	0.73	0.75	0.71	0.73	0.39
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	41	740	561	335	2042	817	135	96	246	93	188	130
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.40	0.40	0.41	1.00	1.00	0.08	0.21	0.21	0.06	0.18	0.18
Unsig. Movement Delay												
Ln Grp Delay, s/veh	61.3	30.3	23.2	56.3	0.2	0.1	73.8	0.0	62.8	74.5	0.0	42.6
Ln Grp LOS	E	C	C	E	A	A	E		E	E		D
Approach Vol, veh/h	458				680				407		156	
Approach Delay, s/veh	30.2				24.9				65.7		56.5	
Approach LOS	C				C				E		E	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	10.8	29.2	28.5	51.5	13.9	26.2	7.0	73.0				
Change Period (Y+Rc), s	4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7				
Max Green (Gmax), s	7.4	30.2	25.5	36.3	10.6	27.0	4.0	57.8				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.0	4.1	4.2	4.1	4.0				
Max Q Clear (g_c+I1), s	6.9	23.6	22.5	21.0	9.5	7.3	2.9	2.0				
Green Ext Time (g_e), s	0.0	0.6	0.3	1.4	0.0	0.2	0.0	1.6				
Prob of Phs Call (p_c)	0.90	1.00	1.00	1.00	0.97	1.00	0.33	1.00				
Prob of Max Out (p_x)	1.00	0.29	1.00	0.00	1.00	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	459			1870			1019			3554		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1171			1419			705			1423		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

AM 2029+Project
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	68	0	300	0	105	0	12	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	4.9	0.0	20.5	0.0	7.5	0.0	0.9	0.0
Cycle Q Clear Time (g_c), s	4.9	0.0	20.5	0.0	7.5	0.0	0.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	93	0	335	0	135	0	41	0
V/C Ratio (X)	0.73	0.00	0.90	0.00	0.78	0.00	0.29	0.00
Avail Cap (c_a), veh/h	109	0	372	0	153	0	78	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	55.7	0.0	34.3	0.0	54.0	0.0	57.4	0.0
Incr Delay (d2), s/veh	18.7	0.0	22.0	0.0	19.8	0.0	3.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	74.5	0.0	56.3	0.0	73.8	0.0	61.3	0.0
1st-Term Q (Q1), veh/ln	1.9	0.0	5.8	0.0	3.0	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	2.0	0.0	0.7	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.4	0.0	7.9	0.0	3.7	0.0	0.4	0.0
%ile Storage Ratio (RQ%)	0.62	0.00	0.42	0.00	0.63	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	1	0	0	0	2
Grp Vol (v), veh/h	0	0	0	388	0	0	0	354
Grp Sat Flow (s), veh/h/ln	0	0	0	1870	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	19.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	19.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	0	0	740	0	0	0	2042
V/C Ratio (X)	0.00	0.00	0.00	0.52	0.00	0.00	0.00	0.17
Avail Cap (c_a), veh/h	0	0	0	740	0	0	0	2042
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	27.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.6	0.0	0.0	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
Control Delay (d), s/veh	0.0	0.0	0.0	30.3	0.0	0.0	0.0	0.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.9	0.0	0.0	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

AM 2029+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	8.4	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	302	0	58	0	88	0	26
Grp Sat Flow (s), veh/h/ln	0	1630	0	1419	0	1724	0	1423
Q Serve Time (g_s), s	0.0	21.6	0.0	3.1	0.0	5.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	21.6	0.0	3.1	0.0	5.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.72	0.00	1.00	0.00	0.41	0.00	1.00
Lane Grp Cap (c), veh/h	0	343	0	561	0	318	0	817
V/C Ratio (X)	0.00	0.88	0.00	0.10	0.00	0.28	0.00	0.03
Avail Cap (c_a), veh/h	0	418	0	561	0	397	0	817
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	46.1	0.0	22.8	0.0	42.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	16.7	0.0	0.4	0.0	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
Control Delay (d), s/veh	0.0	62.8	0.0	23.2	0.0	42.6	0.0	0.1
1st-Term Q (Q1), veh/ln	0.0	8.3	0.0	1.0	0.0	2.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	1.6	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.9	0.0	1.0	0.0	2.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	0.09	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	39.0
HCM 7th LOS	D

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

AM 2029+Project

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	545	68	56	460	59	53	67	160	93	54	6
Future Volume (veh/h)	9	545	68	56	460	59	53	67	160	93	54	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
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	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	10	612	76	68	561	72	71	89	213	124	72	8
Peak Hour Factor	0.89	0.89	0.89	0.82	0.82	0.82	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	28	1739	703	98	1679	215	101	106	254	160	423	47
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.98	0.98	0.06	0.53	0.52	0.06	0.22	0.21	0.10	0.26	0.25
Unsig. Movement Delay												
Ln Grp Delay, s/veh	65.0	1.2	1.0	62.7	16.8	16.9	63.9	0.0	55.2	64.1	0.0	34.9
Ln Grp LOS	E	A	A	E	B	B	E		E	E		C
Approach Vol, veh/h	698				701				373		204	
Approach Delay, s/veh	2.1				21.3				56.8		52.6	
Approach LOS	A				C				E		D	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	15.7	30.4	11.1	62.7	11.4	34.8	6.0	67.8				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	15.1	33.5	14.1	37.7	10.4	38.2	4.0	47.8				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.0	4.1	4.0	4.1	4.0				
Max Q Clear (g_c+I1), s	10.9	23.2	6.9	2.7	7.1	6.1	2.7	14.2				
Green Ext Time (g_e), s	0.1	0.8	0.1	3.0	0.0	0.2	0.0	2.3				
Prob of Phs Call (p_c)	0.98	1.00	0.90	1.00	0.91	1.00	0.28	1.00				
Prob of Max Out (p_x)	0.87	0.04	0.03	0.00	1.00	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	481			3554			1650			3158		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1152			1437			183			404		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

AM 2029+Project

11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	124	0	68	0	71	0	10	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	8.9	0.0	4.9	0.0	5.1	0.0	0.7	0.0
Cycle Q Clear Time (g_c), s	8.9	0.0	4.9	0.0	5.1	0.0	0.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	160	0	98	0	101	0	28	0
V/C Ratio (X)	0.78	0.00	0.70	0.00	0.71	0.00	0.36	0.00
Avail Cap (c_a), veh/h	219	0	205	0	154	0	67	0
Upstream Filter (I)	1.00	0.00	0.84	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	52.9	0.0	55.4	0.0	55.3	0.0	57.3	0.0
Incr Delay (d2), s/veh	11.2	0.0	7.3	0.0	8.7	0.0	7.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	64.1	0.0	62.7	0.0	63.9	0.0	65.0	0.0
1st-Term Q (Q1), veh/ln	3.5	0.0	1.9	0.0	2.0	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	0.2	0.0	0.2	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.0	0.0	2.1	0.0	2.3	0.0	0.3	0.0
%ile Storage Ratio (RQ%)	0.68	0.00	0.10	0.00	0.52	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	612	0	0	0	315
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	0.7	0.0	0.0	0.0	12.1
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.7	0.0	0.0	0.0	12.1
Lane Grp Cap (c), veh/h	0	0	0	1739	0	0	0	945
V/C Ratio (X)	0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.33
Avail Cap (c_a), veh/h	0	0	0	1739	0	0	0	945
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.84
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.7	0.0	0.0	0.0	16.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	1.2	0.0	0.0	0.0	16.8
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	4.4

HCM 7th Signalized Intersection Capacity Analysis 5: N Del Norte Ave & Whitesbridge Ave

AM 2029+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.3	0.0	0.0	0.0	4.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	302	0	76	0	80	0	318
Grp Sat Flow (s), veh/h/ln	0	1634	0	1437	0	1833	0	1785
Q Serve Time (g_s), s	0.0	21.2	0.0	0.2	0.0	4.1	0.0	12.2
Cycle Q Clear Time (g_c), s	0.0	21.2	0.0	0.2	0.0	4.1	0.0	12.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.71	0.00	1.00	0.00	0.10	0.00	0.23
Lane Grp Cap (c), veh/h	0	360	0	703	0	470	0	949
V/C Ratio (X)	0.00	0.84	0.00	0.11	0.00	0.17	0.00	0.34
Avail Cap (c_a), veh/h	0	468	0	703	0	597	0	949
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.84
Uniform Delay (d1), s/veh	0.0	45.0	0.0	0.7	0.0	34.7	0.0	16.1
Incr Delay (d2), s/veh	0.0	10.1	0.0	0.3	0.0	0.2	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	55.2	0.0	1.0	0.0	34.9	0.0	16.9
1st-Term Q (Q1), veh/ln	0.0	8.2	0.0	0.0	0.0	1.7	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.0	1.0	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.2	0.0	0.1	0.0	1.8	0.0	4.7
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.01	0.00	0.05	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	24.5
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

AM 2029+Project

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	597	119	80	518	24	136	132	62	68	198	90
Future Volume (veh/h)	65	597	119	80	518	24	136	132	62	68	198	90
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	81	746	149	95	617	29	155	150	70	82	239	108
Peak Hour Factor	0.80	0.80	0.80	0.84	0.84	0.84	0.88	0.88	0.88	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	113	847	169	130	1027	48	197	604	242	532	1329	537
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
Prop Arrive On Green	0.07	0.29	0.28	0.08	0.30	0.29	0.04	0.06	0.06	0.32	0.37	0.37
Unsig. Movement Delay												
Ln Grp Delay, s/veh	59.9	51.0	51.3	59.2	35.7	35.7	62.6	47.4	48.2	27.8	24.5	25.2
Ln Grp LOS	E	D	D	E	D	D	E	D	D	C	C	C
Approach Vol, veh/h	976			741			375			429		
Approach Delay, s/veh	51.9			38.7			53.9			25.3		
Approach LOS	D			D			D			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	4.0	2.0	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	41.3	23.5	13.1	37.1	17.8	47.0	11.9	38.2				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	12.5	32.0	12.9	38.0	18.9	25.6	11.9	39.0				
Max Allow Headway (MAH), s	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.0				
Max Q Clear (g_c+I1), s	6.1	7.4	8.5	29.9	12.8	7.9	7.6	19.6				
Green Ext Time (g_e), s	0.1	0.8	0.1	2.4	0.2	1.2	0.1	2.2				
Prob of Phs Call (p_c)	0.93	1.00	0.95	1.00	0.99	1.00	0.92	1.00				
Prob of Max Out (p_x)	0.09	0.00	0.74	0.40	0.19	0.00	0.77	0.01				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1641	1641	1641	1641								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	2941	3554	3450								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1426	587	1435	162								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

AM 2029+Project
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	82	0	95	0	155	0	81	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	4.1	0.0	6.5	0.0	10.8	0.0	5.6	0.0
Cycle Q Clear Time (g_c), s	4.1	0.0	6.5	0.0	10.8	0.0	5.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	532	0	130	0	197	0	113	0
V/C Ratio (X)	0.15	0.00	0.73	0.00	0.79	0.00	0.71	0.00
Avail Cap (c_a), veh/h	532	0	197	0	282	0	183	0
Upstream Filter (I)	1.00	0.00	0.95	0.00	0.98	0.00	0.92	0.00
Uniform Delay (d1), s/veh	27.7	0.0	51.8	0.0	53.8	0.0	52.4	0.0
Incr Delay (d2), s/veh	0.1	0.0	7.4	0.0	8.9	0.0	7.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	27.8	0.0	59.2	0.0	62.6	0.0	59.9	0.0
1st-Term Q (Q1), veh/ln	1.5	0.0	2.6	0.0	4.5	0.0	2.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	0.5	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.5	0.0	2.8	0.0	5.0	0.0	2.4	0.0
%ile Storage Ratio (RQ%)	0.33	0.00	0.31	0.00	0.67	0.00	0.35	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	150	0	451	0	239	0	317
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	4.6	0.0	27.8	0.0	5.2	0.0	17.6
Cycle Q Clear Time (g_c), s	0.0	4.6	0.0	27.8	0.0	5.2	0.0	17.6
Lane Grp Cap (c), veh/h	0	604	0	512	0	1329	0	529
V/C Ratio (X)	0.00	0.25	0.00	0.88	0.00	0.18	0.00	0.60
Avail Cap (c_a), veh/h	0	1017	0	601	0	1329	0	616
Upstream Filter (I)	0.00	0.98	0.00	0.92	0.00	1.00	0.00	0.95
Uniform Delay (d1), s/veh	0.0	47.2	0.0	39.1	0.0	24.2	0.0	34.5
Incr Delay (d2), s/veh	0.0	0.2	0.0	11.9	0.0	0.3	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
Control Delay (d), s/veh	0.0	47.4	0.0	51.0	0.0	24.5	0.0	35.7
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	11.3	0.0	2.0	0.0	7.1

HCM 7th Signalized Intersection Capacity Analysis 6: S Madera Ave & Whitesbridge Ave

AM 2029+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.7	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.0	0.0	13.0	0.0	2.1	0.0	7.3
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.13	0.00	0.02	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	70	0	444	0	108	0	329
Grp Sat Flow (s), veh/h/ln	0	1426	0	1751	0	1435	0	1835
Q Serve Time (g_s), s	0.0	5.4	0.0	27.9	0.0	5.9	0.0	17.6
Cycle Q Clear Time (g_c), s	0.0	5.4	0.0	27.9	0.0	5.9	0.0	17.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.34	0.00	1.00	0.00	0.09
Lane Grp Cap (c), veh/h	0	242	0	504	0	537	0	546
V/C Ratio (X)	0.00	0.29	0.00	0.88	0.00	0.20	0.00	0.60
Avail Cap (c_a), veh/h	0	408	0	592	0	537	0	637
Upstream Filter (I)	0.00	0.98	0.00	0.92	0.00	1.00	0.00	0.95
Uniform Delay (d1), s/veh	0.0	47.6	0.0	39.2	0.0	24.4	0.0	34.6
Incr Delay (d2), s/veh	0.0	0.6	0.0	12.1	0.0	0.8	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	48.2	0.0	51.3	0.0	25.2	0.0	35.7
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	11.2	0.0	1.9	0.0	7.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.7	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.9	0.0	12.9	0.0	2.0	0.0	7.6
%ile Storage Ratio (RQ%)	0.00	0.31	0.00	0.13	0.00	0.51	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	43.8
HCM 7th LOS	D

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

AM 2029+Project
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	589	111	24	508	2	103	34	69	4	15	6
Future Volume (veh/h)	4	589	111	24	508	2	103	34	69	4	15	6
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.96
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	5	710	134	27	571	2	143	47	96	6	22	9
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.72	0.72	0.72	0.69	0.69	0.69
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	21	2322	930	45	2427	8	180	93	190	22	95	39
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
Prop Arrive On Green	0.01	0.65	0.65	0.03	0.67	0.66	0.11	0.17	0.16	0.01	0.08	0.07
Unsig. Movement Delay												
Ln Grp Delay, s/veh	62.2	9.2	8.1	70.1	8.3	8.3	62.3	0.0	46.7	65.0	0.0	53.2
Ln Grp LOS	E	A	A	E	A	A	E		D	E		D
Approach Vol, veh/h	849			600			286			37		
Approach Delay, s/veh	9.3			11.1			54.5			55.1		
Approach LOS	A			B			D			E		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	5.6	24.7	7.3	82.4	17.2	13.1	5.5	84.2				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	4.0	44.8	5.1	46.5	18.1	30.7	4.0	47.6				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.1	4.1	4.1	4.1	4.0				
Max Q Clear (g_c+I1), s	2.4	11.5	4.0	12.4	12.2	4.0	2.4	9.4				
Green Ext Time (g_e), s	0.0	0.5	0.0	3.8	0.2	0.1	0.0	2.0				
Prob of Phs Call (p_c)	0.18	1.00	0.59	1.00	0.99	1.00	0.15	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	0.22	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	539			3554			1245			3632		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1101			1424			509			13		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

AM 2029+Project
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	6	0	27	0	143	0	5	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.4	0.0	2.0	0.0	10.2	0.0	0.4	0.0
Cycle Q Clear Time (g_c), s	0.4	0.0	2.0	0.0	10.2	0.0	0.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	22	0	45	0	180	0	21	0
V/C Ratio (X)	0.27	0.00	0.60	0.00	0.79	0.00	0.24	0.00
Avail Cap (c_a), veh/h	67	0	82	0	260	0	67	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.59	0.00
Uniform Delay (d1), s/veh	58.6	0.0	57.7	0.0	52.1	0.0	58.7	0.0
Incr Delay (d2), s/veh	6.4	0.0	12.4	0.0	10.2	0.0	3.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	65.0	0.0	70.1	0.0	62.3	0.0	62.2	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.8	0.0	4.0	0.0	0.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	0.5	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.2	0.0	0.9	0.0	4.5	0.0	0.2	0.0
%ile Storage Ratio (RQ%)	0.05	0.00	0.06	0.00	0.68	0.00	0.01	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	710	0	0	0	279
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	10.4	0.0	0.0	0.0	7.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.4	0.0	0.0	0.0	7.4
Lane Grp Cap (c), veh/h	0	0	0	2322	0	0	0	1187
V/C Ratio (X)	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.24
Avail Cap (c_a), veh/h	0	0	0	2322	0	0	0	1187
Upstream Filter (I)	0.00	0.00	0.00	0.59	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	9.0	0.0	0.0	0.0	7.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	9.2	0.0	0.0	0.0	8.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.3	0.0	0.0	0.0	2.3

HCM 7th Signalized Intersection Capacity Analysis 7: S Vineland Ave & Whitesbridge Ave

AM 2029+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.4	0.0	0.0	0.0	2.5
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	143	0	134	0	31	0	294
Grp Sat Flow (s), veh/h/ln	0	1641	0	1424	0	1754	0	1868
Q Serve Time (g_s), s	0.0	9.5	0.0	4.3	0.0	2.0	0.0	7.4
Cycle Q Clear Time (g_c), s	0.0	9.5	0.0	4.3	0.0	2.0	0.0	7.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.67	0.00	1.00	0.00	0.29	0.00	0.01
Lane Grp Cap (c), veh/h	0	283	0	930	0	133	0	1248
V/C Ratio (X)	0.00	0.51	0.00	0.14	0.00	0.23	0.00	0.24
Avail Cap (c_a), veh/h	0	625	0	930	0	462	0	1248
Upstream Filter (I)	0.00	1.00	0.00	0.59	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	45.3	0.0	8.0	0.0	52.3	0.0	7.8
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.2	0.0	0.9	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	46.7	0.0	8.1	0.0	53.2	0.0	8.3
1st-Term Q (Q1), veh/ln	0.0	3.7	0.0	1.1	0.0	0.8	0.0	2.5
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.8	0.0	1.2	0.0	0.9	0.0	2.6
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.10	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	18.2
HCM 7th LOS	B

Intersection

Intersection Delay, s/veh 12.7

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	71	171	5	9	105	39	4	60	18	84	48	44
Future Vol, veh/h	71	171	5	9	105	39	4	60	18	84	48	44
Peak Hour Factor	0.63	0.63	0.63	0.62	0.62	0.62	0.59	0.59	0.59	0.58	0.58	0.58
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	113	271	8	15	169	63	7	102	31	145	83	76
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay, s/veh	14.5	12	10.9	11.9
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	53%	0%	100%	0%	0%	100%	0%	0%	100%	27%
Vol Right, %	0%	0%	47%	0%	0%	100%	0%	0%	100%	0%	0%	73%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	4	40	38	71	171	5	9	105	39	84	32	60
LT Vol	4	0	0	71	0	0	9	0	0	84	0	0
Through Vol	0	40	20	0	171	0	0	105	0	0	32	16
RT Vol	0	0	18	0	0	5	0	0	39	0	0	44
Lane Flow Rate	7	68	64	113	271	8	15	169	63	145	55	103
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.015	0.137	0.124	0.222	0.497	0.013	0.03	0.325	0.109	0.296	0.105	0.183
Departure Headway (Hd)	7.749	7.249	6.917	7.091	6.591	5.891	7.414	6.914	6.214	7.368	6.868	6.355
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	459	492	515	504	543	603	480	517	572	485	519	561
Service Time	5.543	5.043	4.711	4.867	4.367	3.667	5.201	4.701	4.001	5.151	4.651	4.138
HCM Lane V/C Ratio	0.015	0.138	0.124	0.224	0.499	0.013	0.031	0.327	0.11	0.299	0.106	0.184
HCM Control Delay, s/veh	10.7	11.2	10.7	11.9	15.8	8.7	10.4	13	9.8	13.3	10.5	10.6
HCM Lane LOS	B	B	B	B	C	A	B	B	A	B	B	B
HCM 95th-tile Q	0	0.5	0.4	0.8	2.7	0	0.1	1.4	0.4	1.2	0.3	0.7

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

AM 2029+Project

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	157	48	25	168	78	32	305	11	43	325	29
Future Volume (veh/h)	24	157	48	25	168	78	32	305	11	43	325	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	41	271	83	35	237	110	43	412	15	61	458	41
Peak Hour Factor	0.58	0.58	0.58	0.71	0.71	0.71	0.74	0.74	0.74	0.71	0.71	0.71
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	63	340	259	55	331	252	66	2066	75	89	1994	178
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.04	0.18	0.18	0.03	0.18	0.18	0.04	0.59	0.58	0.11	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	65.0	49.3	41.6	66.1	47.5	43.4	64.7	11.3	11.3	59.2	0.5	0.5
Ln Grp LOS	E	D	D	E	D	D	E	B	B	E	A	A
Approach Vol, veh/h	395			382			470			560		
Approach Delay, s/veh	49.3			48.0			16.2			6.9		
Approach LOS	D			D			B			A		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	10.2	72.0	7.9	24.9	8.6	73.6	8.4	24.3				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	14.1	33.1	9.1	39.1	10.1	37.1	10.1	38.1				
Max Allow Headway (MAH), s	4.1	4.0	4.1	4.1	4.1	4.0	4.1	4.1				
Max Q Clear (g_c+I1), s	6.1	8.3	4.4	17.9	5.0	2.0	4.8	15.7				
Green Ext Time (g_e), s	0.1	1.4	0.0	1.2	0.0	1.8	0.0	1.2				
Prob of Phs Call (p_c)	0.86	1.00	0.67	1.00	0.75	1.00	0.73	1.00				
Prob of Max Out (p_x)	0.01	0.00	0.44	0.00	0.26	0.00	0.21	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt		2			4		6		8			
Mvmt Sat Flow, veh/h		3494			1870		3295		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			127		1427		294		1427			
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

AM 2029+Project
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	61	0	35	0	43	0	41	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	4.1	0.0	2.4	0.0	3.0	0.0	2.8	0.0
Cycle Q Clear Time (g_c), s	4.1	0.0	2.4	0.0	3.0	0.0	2.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	89	0	55	0	66	0	63	0
V/C Ratio (X)	0.69	0.00	0.63	0.00	0.65	0.00	0.65	0.00
Avail Cap (c_a), veh/h	214	0	143	0	157	0	157	0
Upstream Filter (I)	0.96	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	50.4	0.0	54.8	0.0	54.4	0.0	54.5	0.0
Incr Delay (d2), s/veh	8.8	0.0	11.2	0.0	10.3	0.0	10.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.2	0.0	66.1	0.0	64.7	0.0	65.0	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	1.0	0.0	1.2	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	1.1	0.0	1.4	0.0	1.3	0.0
%ile Storage Ratio (RQ%)	0.24	0.00	0.32	0.00	0.35	0.00	0.33	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	209	0	271	0	246	0	237
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	1870
Q Serve Time (g_s), s	0.0	6.3	0.0	15.9	0.0	0.0	0.0	13.7
Cycle Q Clear Time (g_c), s	0.0	6.3	0.0	15.9	0.0	0.0	0.0	13.7
Lane Grp Cap (c), veh/h	0	1051	0	340	0	1075	0	331
V/C Ratio (X)	0.00	0.20	0.00	0.80	0.00	0.23	0.00	0.72
Avail Cap (c_a), veh/h	0	1051	0	651	0	1075	0	634
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.96	0.00	1.00
Uniform Delay (d1), s/veh	0.0	10.9	0.0	45.0	0.0	0.0	0.0	44.6
Incr Delay (d2), s/veh	0.0	0.4	0.0	4.3	0.0	0.5	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
Control Delay (d), s/veh	0.0	11.3	0.0	49.3	0.0	0.5	0.0	47.5
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	7.0	0.0	0.0	0.0	6.0

HCM 7th Signalized Intersection Capacity Analysis 9: S Madera Ave & W Kearney Blvd

AM 2029+Project
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.4	0.0	0.1	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.3	0.0	7.4	0.0	0.1	0.0	6.3
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.07	0.00	0.00	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	218	0	83	0	253	0	110
Grp Sat Flow (s), veh/h/ln	0	1844	0	1427	0	1812	0	1427
Q Serve Time (g_s), s	0.0	6.3	0.0	5.8	0.0	0.0	0.0	7.9
Cycle Q Clear Time (g_c), s	0.0	6.3	0.0	5.8	0.0	0.0	0.0	7.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.07	0.00	1.00	0.00	0.16	0.00	1.00
Lane Grp Cap (c), veh/h	0	1090	0	259	0	1096	0	252
V/C Ratio (X)	0.00	0.20	0.00	0.32	0.00	0.23	0.00	0.44
Avail Cap (c_a), veh/h	0	1090	0	496	0	1096	0	484
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.96	0.00	1.00
Uniform Delay (d1), s/veh	0.0	10.9	0.0	40.9	0.0	0.0	0.0	42.2
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.7	0.0	0.5	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
Control Delay (d), s/veh	0.0	11.3	0.0	41.6	0.0	0.5	0.0	43.4
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	1.9	0.0	0.0	0.0	2.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.4	0.0	2.0	0.0	0.1	0.0	2.7
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.51	0.00	0.00	0.00	0.70
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	27.3
HCM 7th LOS	C

Intersection

Intersection Delay, s/veh 19.6

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	31	117	48	21	96	46	43	151	23	42	210	20
Future Vol, veh/h	31	117	48	21	96	46	43	151	23	42	210	20
Peak Hour Factor	0.60	0.60	0.60	0.68	0.68	0.68	0.60	0.60	0.60	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	195	80	31	141	68	72	252	38	47	236	22
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	20.2	16.1	23.5	16.9
HCM LOS	C	C	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	20%	16%	13%	100%	0%
Vol Thru, %	70%	60%	59%	0%	91%
Vol Right, %	11%	24%	28%	0%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	217	196	163	42	230
LT Vol	43	31	21	42	0
Through Vol	151	117	96	0	210
RT Vol	23	48	46	0	20
Lane Flow Rate	362	327	240	47	258
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.686	0.617	0.467	0.104	0.526
Departure Headway (Hd)	6.83	6.797	7.015	7.901	7.325
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	532	532	513	454	494
Service Time	4.863	4.833	5.071	5.635	5.058
HCM Lane V/C Ratio	0.68	0.615	0.468	0.104	0.522
HCM Control Delay, s/veh	23.5	20.2	16.1	11.6	17.9
HCM Lane LOS	C	C	C	B	C
HCM 95th-tile Q	5.2	4.2	2.5	0.3	3

Intersection						
Int Delay, s/veh	5.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	143	89	60	29	11
Future Vol, veh/h	0	143	89	60	29	11
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	0	155	97	65	32	12
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	38	43	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	1035	1565	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	1035	1565	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	9.09	4.45		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1075	-	1035	-	-	
HCM Lane V/C Ratio	0.062	-	0.15	-	-	
HCM Control Delay (s/veh)	7.5	0	9.1	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-	

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	679	424	88	0	139
Future Vol, veh/h	0	679	424	88	0	139
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	0	738	461	96	0	151
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	278
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	719
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	719
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0	0		11.33		
HCM LOS				B		
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	719		
HCM Lane V/C Ratio	-	-	-	0.21		
HCM Control Delay (s/veh)	-	-	-	11.3		
HCM Lane LOS	-	-	-	B		
HCM 95th %tile Q(veh)	-	-	-	0.8		

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	1	4	0	0	0	1	120	0	1	24	0
Future Vol, veh/h	0	1	4	0	0	0	1	120	0	1	24	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	25	25	25	72	72	72	52	52	52
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2	8	0	0	0	1	167	0	2	46	0
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	219	219	46	220	219	167	46	0	0	167	0	0
Stage 1	50	50	-	169	169	-	-	-	-	-	-	-
Stage 2	169	169	-	51	50	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	737	679	1023	736	679	878	1562	-	-	1411	-	-
Stage 1	963	853	-	832	758	-	-	-	-	-	-	-
Stage 2	832	758	-	962	853	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	735	677	1023	726	677	878	1562	-	-	1411	-	-
Mov Cap-2 Maneuver	735	677	-	726	677	-	-	-	-	-	-	-
Stage 1	962	852	-	832	758	-	-	-	-	-	-	-
Stage 2	832	758	-	951	852	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s/v	8.92		0		0.06		0.3					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	15	-	-	928	-	72	-					
HCM Lane V/C Ratio	0.001	-	-	0.011	-	0.001	-					
HCM Control Delay (s/veh)	7.3	0	-	8.9	0	7.6	0					
HCM Lane LOS	A	A	-	A	A	A	A					
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-					

Intersection												
Int Delay, s/veh	0.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	1	50	0	0	32	0
Future Vol, veh/h	0	0	0	0	0	0	1	50	0	0	32	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	25	25	25	25	25	25	68	68	68	73	73	73
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	1	74	0	0	44	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	120	120	44	120	120	74	44	0	0	74	0	0
Stage 1	44	44	-	76	76	-	-	-	-	-	-	-
Stage 2	76	76	-	44	44	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	855	770	1026	855	770	988	1565	-	-	1526	-	-
Stage 1	970	858	-	933	831	-	-	-	-	-	-	-
Stage 2	933	831	-	970	858	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	854	769	1026	854	769	988	1565	-	-	1526	-	-
Mov Cap-2 Maneuver	854	769	-	854	769	-	-	-	-	-	-	-
Stage 1	970	858	-	932	831	-	-	-	-	-	-	-
Stage 2	932	831	-	970	858	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0	0.14	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	35	-	-	-	1526	-	-
HCM Lane V/C Ratio	0.001	-	-	-	-	-	-
HCM Control Delay (s/veh)	7.3	0	-	0	0	-	-
HCM Lane LOS	A	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0	-	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	0	282	549	2
Future Vol, veh/h	0	1	0	282	549	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	25	25	84	84	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	4	0	336	590	2

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	927	591	592	0	-	0
Stage 1	591	-	-	-	-	-
Stage 2	336	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	298	507	983	-	-	-
Stage 1	553	-	-	-	-	-
Stage 2	724	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	298	507	983	-	-	-
Mov Cap-2 Maneuver	298	-	-	-	-	-
Stage 1	553	-	-	-	-	-
Stage 2	724	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v12.16		0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	983	-	507	-	-
HCM Lane V/C Ratio	-	-	0.008	-	-
HCM Control Delay (s/veh)	0	-	12.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

AM 2044
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	457	48	81	391	31	93	67	178	53	42	15
Future Volume (veh/h)	7	457	48	81	391	31	93	67	178	53	42	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	1.00		0.98
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			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	17	538	81	129	483	36	115	92	237	75	58	38
Peak Hour Factor	0.42	0.85	0.59	0.63	0.81	0.85	0.81	0.73	0.75	0.71	0.73	0.39
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	187	722	548	305	1629	651	147	103	266	102	208	136
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
Prop Arrive On Green	0.11	0.39	0.39	0.19	0.46	0.46	0.09	0.23	0.22	0.06	0.20	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	45.8	37.3	11.6	42.3	20.0	8.7	66.6	0.0	60.4	68.3	0.0	39.6
Ln Grp LOS	D	D	B	D	B	A	E		E	E		D
Approach Vol, veh/h	636				648				444		171	
Approach Delay, s/veh	34.2				23.8				62.0		52.2	
Approach LOS	C				C				E		D	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4	3	5	6	8	7				
Case No	2.0	4.0	3.0	2.0	2.0	4.0	3.0	2.0				
Phs Duration (G+Y+Rc), s	11.1	30.1	48.4	25.4	14.3	26.9	56.7	17.1				
Change Period (Y+Rc), s	4.6	4.6	5.7	5.7	4.6	4.6	5.7	5.7				
Max Green (Gmax), s	8.4	31.0	42.7	12.3	12.4	27.0	51.0	4.0				
Max Allow Headway (MAH), s	4.1	4.3	4.0	4.1	4.1	4.1	4.0	4.1				
Max Q Clear (g_c+I1), s	7.2	24.5	30.5	10.0	9.9	7.4	11.8	3.1				
Green Ext Time (g_e), s	0.0	0.7	2.0	0.1	0.1	0.2	2.2	0.0				
Prob of Phs Call (p_c)	0.91	1.00	1.00	0.98	0.97	1.00	1.00	0.42				
Prob of Max Out (p_x)	1.00	0.34	0.00	1.00	1.00	0.00	0.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1				3		5		7			
Mvmt Sat Flow, veh/h	1641				1641		1641		1641			
Through Movement Data												
Assigned Mvmt			2		4				6		8	
Mvmt Sat Flow, veh/h			456		1870				1045		3554	
Right-Turn Movement Data												
Assigned Mvmt			12		14				16		18	
Mvmt Sat Flow, veh/h			1174		1419				684		1421	
Left Lane Group Data												
Assigned Mvmt	1		0		0		3		5		0	

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

AM 2044
11/06/2024

Lane Assignment	L (Prot)			L (Prot)			L (Prot)	
Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	75	0	0	129	115	0	0	17
Grp Sat Flow (s), veh/h/ln	1641	0	0	1641	1641	0	0	1641
Q Serve Time (g_s), s	5.2	0.0	0.0	8.0	7.9	0.0	0.0	1.1
Cycle Q Clear Time (g_c), s	5.2	0.0	0.0	8.0	7.9	0.0	0.0	1.1
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	102	0	0	305	147	0	0	187
V/C Ratio (X)	0.74	0.00	0.00	0.42	0.78	0.00	0.00	0.09
Avail Cap (c_a), veh/h	128	0	0	305	185	0	0	187
Upstream Filter (I)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	53.0	0.0	0.0	41.3	51.2	0.0	0.0	45.6
Incr Delay (d2), s/veh	15.3	0.0	0.0	0.9	15.4	0.0	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
Control Delay (d), s/veh	68.3	0.0	0.0	42.3	66.6	0.0	0.0	45.8
1st-Term Q (Q1), veh/ln	2.0	0.0	0.0	3.1	3.1	0.0	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.0	0.1	0.6	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	2.5	0.0	0.0	3.2	3.7	0.0	0.0	0.4
%ile Storage Ratio (RQ%)	0.63	0.00	0.00	0.17	0.63	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	8	0
Lane Assignment	T			T				
Lanes in Grp	0	0	1	0	0	0	2	0
Grp Vol (v), veh/h	0	0	538	0	0	0	483	0
Grp Sat Flow (s), veh/h/ln	0	0	1870	0	0	0	1777	0
Q Serve Time (g_s), s	0.0	0.0	28.5	0.0	0.0	0.0	9.8	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	28.5	0.0	0.0	0.0	9.8	0.0
Lane Grp Cap (c), veh/h	0	0	722	0	0	0	1629	0
V/C Ratio (X)	0.00	0.00	0.75	0.00	0.00	0.00	0.30	0.00
Avail Cap (c_a), veh/h	0	0	722	0	0	0	1629	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	30.4	0.0	0.0	0.0	19.5	0.0
Incr Delay (d2), s/veh	0.0	0.0	6.9	0.0	0.0	0.0	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
Control Delay (d), s/veh	0.0	0.0	37.3	0.0	0.0	0.0	20.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	11.8	0.0	0.0	0.0	3.7	0.0

HCM 7th Signalized Intersection Capacity Analysis

4: Siskiyou Ave & Whitesbridge Ave

AM 2044
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	1.4	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	13.1	0.0	0.0	0.0	3.8	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.51	0.00	0.00	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	18	0
Lane Assignment	T+R		R			T+R	R	
Lanes in Grp	0	1	1	0	0	1	1	0
Grp Vol (v), veh/h	0	329	81	0	0	96	36	0
Grp Sat Flow (s), veh/h/ln	0	1630	1419	0	0	1729	1421	0
Q Serve Time (g_s), s	0.0	22.5	3.0	0.0	0.0	5.4	1.1	0.0
Cycle Q Clear Time (g_c), s	0.0	22.5	3.0	0.0	0.0	5.4	1.1	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.72	1.00	0.00	0.00	0.40	1.00	0.00
Lane Grp Cap (c), veh/h	0	370	548	0	0	344	651	0
V/C Ratio (X)	0.00	0.89	0.15	0.00	0.00	0.28	0.06	0.00
Avail Cap (c_a), veh/h	0	448	548	0	0	415	651	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	43.3	11.0	0.0	0.0	39.1	8.5	0.0
Incr Delay (d2), s/veh	0.0	17.1	0.6	0.0	0.0	0.4	0.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	60.4	11.6	0.0	0.0	39.6	8.7	0.0
1st-Term Q (Q1), veh/ln	0.0	8.6	1.3	0.0	0.0	2.2	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	1.8	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	10.3	1.4	0.0	0.0	2.2	0.5	0.0
%ile Storage Ratio (RQ%)	0.00	0.27	0.12	0.00	0.00	0.05	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	38.8
HCM 7th LOS	D

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

AM 2044

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	659	21	91	664	3	19	46	175	10	18	2
Future Volume (veh/h)	3	659	21	91	664	3	19	46	175	10	18	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	3	740	24	111	810	4	25	61	233	13	24	3
Peak Hour Factor	0.89	0.89	0.89	0.82	0.82	0.82	0.75	0.75	0.75	0.75	0.75	0.75
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	18	1915	774	148	2241	11	43	73	279	32	344	43
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.01	0.54	0.54	0.03	0.20	0.20	0.03	0.22	0.21	0.02	0.21	0.20
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.4	16.7	13.1	63.6	28.0	28.0	69.4	0.0	55.1	66.6	0.0	38.0
Ln Grp LOS	E	B	B	E	C	C	E		E	E		D
Approach Vol, veh/h	767			925			319			40		
Approach Delay, s/veh	16.8			32.3			56.2			47.3		
Approach LOS	B			C			E			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	6.3	30.2	14.8	68.7	7.2	29.4	5.3	78.2				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	15.1	33.5	14.1	37.7	10.4	38.2	4.0	47.8				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.0	4.1	4.0	4.1	4.0				
Max Q Clear (g_c+I1), s	2.9	23.0	10.1	16.6	3.8	3.4	2.2	25.0				
Green Ext Time (g_e), s	0.0	0.8	0.1	3.2	0.0	0.1	0.0	3.0				
Prob of Phs Call (p_c)	0.35	1.00	0.98	1.00	0.57	1.00	0.10	1.00				
Prob of Max Out (p_x)	0.00	0.04	1.00	0.00	0.02	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	334			3554			1625			3626		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1275			1437			203			18		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

AM 2044
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	13	0	111	0	25	0	3	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.9	0.0	8.1	0.0	1.8	0.0	0.2	0.0
Cycle Q Clear Time (g_c), s	0.9	0.0	8.1	0.0	1.8	0.0	0.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	32	0	148	0	43	0	18	0
V/C Ratio (X)	0.41	0.00	0.75	0.00	0.58	0.00	0.17	0.00
Avail Cap (c_a), veh/h	219	0	205	0	154	0	67	0
Upstream Filter (I)	1.00	0.00	0.69	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	58.2	0.0	56.9	0.0	57.8	0.0	58.8	0.0
Incr Delay (d2), s/veh	8.4	0.0	6.7	0.0	11.6	0.0	4.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	66.6	0.0	63.6	0.0	69.4	0.0	63.4	0.0
1st-Term Q (Q1), veh/ln	0.4	0.0	3.4	0.0	0.7	0.0	0.1	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.3	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.4	0.0	3.6	0.0	0.9	0.0	0.1	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.17	0.00	0.20	0.00	0.01	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	740	0	0	0	397
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	14.6	0.0	0.0	0.0	23.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	14.6	0.0	0.0	0.0	23.0
Lane Grp Cap (c), veh/h	0	0	0	1915	0	0	0	1098
V/C Ratio (X)	0.00	0.00	0.00	0.39	0.00	0.00	0.00	0.36
Avail Cap (c_a), veh/h	0	0	0	1915	0	0	0	1098
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.69
Uniform Delay (d1), s/veh	0.0	0.0	0.0	16.1	0.0	0.0	0.0	27.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	16.7	0.0	0.0	0.0	28.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	5.3	0.0	0.0	0.0	10.8

HCM 7th Signalized Intersection Capacity Analysis

5: N Del Norte Ave & Whitesbridge Ave

AM 2044
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	5.5	0.0	0.0	0.0	11.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	294	0	24	0	27	0	417
Grp Sat Flow (s), veh/h/ln	0	1609	0	1437	0	1829	0	1867
Q Serve Time (g_s), s	0.0	21.0	0.0	0.9	0.0	1.4	0.0	23.0
Cycle Q Clear Time (g_c), s	0.0	21.0	0.0	0.9	0.0	1.4	0.0	23.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.79	0.00	1.00	0.00	0.11	0.00	0.01
Lane Grp Cap (c), veh/h	0	352	0	774	0	387	0	1154
V/C Ratio (X)	0.00	0.84	0.00	0.03	0.00	0.07	0.00	0.36
Avail Cap (c_a), veh/h	0	461	0	774	0	596	0	1154
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.69
Uniform Delay (d1), s/veh	0.0	45.2	0.0	13.0	0.0	37.9	0.0	27.4
Incr Delay (d2), s/veh	0.0	9.9	0.0	0.1	0.0	0.1	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	55.1	0.0	13.1	0.0	38.0	0.0	28.0
1st-Term Q (Q1), veh/ln	0.0	8.0	0.0	0.3	0.0	0.6	0.0	11.4
2nd-Term Q (Q2), veh/ln	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.0	0.0	0.3	0.0	0.6	0.0	11.6
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.02	0.00	0.02	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	30.5
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

AM 2044

11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	699	82	131	734	40	113	157	74	82	237	107
Future Volume (veh/h)	93	699	82	131	734	40	113	157	74	82	237	107
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.97	1.00		0.98	1.00		0.98
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			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	116	874	102	156	874	48	128	178	84	99	286	129
Peak Hour Factor	0.80	0.80	0.80	0.84	0.84	0.84	0.88	0.88	0.88	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	152	1012	118	192	1165	64	166	542	217	461	1179	476
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.10	0.10	0.12	0.34	0.33	0.03	0.05	0.05	0.28	0.33	0.33
Unsig. Movement Delay												
Ln Grp Delay, s/veh	72.3	60.8	60.8	69.5	38.6	38.5	65.4	51.4	52.6	33.3	29.6	30.8
Ln Grp LOS	E	E	E	E	D	D	E	D	D	C	C	C
Approach Vol, veh/h	1092				1078				390		514	
Approach Delay, s/veh	62.0				43.1				56.2		30.6	
Approach LOS	E				D				E		C	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	4.0	2.0	3.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	37.7	22.3	18.0	42.0	16.2	43.8	15.1	44.9				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	13.5	28.3	14.9	43.7	16.5	25.3	11.6	47.0				
Max Allow Headway (MAH), s	4.1	4.1	4.1	4.0	4.1	4.1	4.1	4.0				
Max Q Clear (g_c+I1), s	7.5	8.9	13.1	34.3	11.3	9.9	10.4	29.2				
Green Ext Time (g_e), s	0.1	0.9	0.1	2.8	0.1	1.4	0.0	3.3				
Prob of Phs Call (p_c)	0.96	1.00	0.99	1.00	0.99	1.00	0.98	1.00				
Prob of Max Out (p_x)	0.16	0.00	1.00	0.33	0.37	0.00	1.00	0.05				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	3554			3199			3554			3419		
Right-Turn Movement Data												
Assigned Mvmt	12				14				16			
Mvmt Sat Flow, veh/h	1424				373				1434			
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

6: S Madera Ave & Whitesbridge Ave

AM 2044
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	99	0	156	0	128	0	116	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	5.5	0.0	11.1	0.0	9.3	0.0	8.4	0.0
Cycle Q Clear Time (g_c), s	5.5	0.0	11.1	0.0	9.3	0.0	8.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	461	0	192	0	166	0	152	0
V/C Ratio (X)	0.21	0.00	0.81	0.00	0.77	0.00	0.76	0.00
Avail Cap (c_a), veh/h	461	0	216	0	238	0	171	0
Upstream Filter (I)	1.00	0.00	0.94	0.00	0.96	0.00	0.94	0.00
Uniform Delay (d1), s/veh	33.0	0.0	51.7	0.0	56.6	0.0	56.8	0.0
Incr Delay (d2), s/veh	0.2	0.0	17.8	0.0	8.8	0.0	15.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	33.3	0.0	69.5	0.0	65.4	0.0	72.3	0.0
1st-Term Q (Q1), veh/ln	2.1	0.0	4.4	0.0	3.9	0.0	3.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.0	0.0	0.4	0.0	0.7	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.1	0.0	5.3	0.0	4.3	0.0	4.2	0.0
%ile Storage Ratio (RQ%)	0.45	0.00	0.59	0.00	0.58	0.00	0.61	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	178	0	486	0	286	0	454
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	5.8	0.0	32.3	0.0	7.0	0.0	27.2
Cycle Q Clear Time (g_c), s	0.0	5.8	0.0	32.3	0.0	7.0	0.0	27.2
Lane Grp Cap (c), veh/h	0	542	0	562	0	1179	0	605
V/C Ratio (X)	0.00	0.33	0.00	0.86	0.00	0.24	0.00	0.75
Avail Cap (c_a), veh/h	0	865	0	660	0	1179	0	709
Upstream Filter (I)	0.00	0.96	0.00	0.94	0.00	1.00	0.00	0.94
Uniform Delay (d1), s/veh	0.0	51.0	0.0	51.2	0.0	29.1	0.0	35.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	9.6	0.0	0.5	0.0	3.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	51.4	0.0	60.8	0.0	29.6	0.0	38.6
1st-Term Q (Q1), veh/ln	0.0	2.6	0.0	15.2	0.0	2.8	0.0	11.0

HCM 7th Signalized Intersection Capacity Analysis 6: S Madera Ave & Whitesbridge Ave

AM 2044
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.5	0.0	0.1	0.0	0.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.6	0.0	16.7	0.0	2.9	0.0	11.6
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.17	0.00	0.03	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	84	0	490	0	129	0	468
Grp Sat Flow (s), veh/h/ln	0	1424	0	1795	0	1434	0	1830
Q Serve Time (g_s), s	0.0	6.9	0.0	32.3	0.0	7.9	0.0	27.2
Cycle Q Clear Time (g_c), s	0.0	6.9	0.0	32.3	0.0	7.9	0.0	27.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.21	0.00	1.00	0.00	0.10
Lane Grp Cap (c), veh/h	0	217	0	568	0	476	0	623
V/C Ratio (X)	0.00	0.39	0.00	0.86	0.00	0.27	0.00	0.75
Avail Cap (c_a), veh/h	0	347	0	667	0	476	0	730
Upstream Filter (I)	0.00	0.96	0.00	0.94	0.00	1.00	0.00	0.94
Uniform Delay (d1), s/veh	0.0	51.5	0.0	51.2	0.0	29.4	0.0	35.1
Incr Delay (d2), s/veh	0.0	1.1	0.0	9.5	0.0	1.4	0.0	3.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	52.6	0.0	60.8	0.0	30.8	0.0	38.5
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	15.4	0.0	2.6	0.0	11.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.5	0.0	0.2	0.0	0.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.5	0.0	16.9	0.0	2.8	0.0	11.9
%ile Storage Ratio (RQ%)	0.00	0.40	0.00	0.17	0.00	0.70	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	49.4
HCM 7th LOS	D

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

AM 2044
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	896	91	34	688	3	84	43	88	5	20	8
Future Volume (veh/h)	7	896	91	34	688	3	84	43	88	5	20	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.96
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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	8	1080	110	38	773	3	117	60	122	7	29	12
Peak Hour Factor	0.83	0.83	0.83	0.89	0.89	0.89	0.72	0.72	0.72	0.69	0.69	0.69
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	25	2333	935	59	2458	10	153	86	176	24	100	41
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.01	0.22	0.22	0.04	0.68	0.67	0.09	0.16	0.15	0.01	0.08	0.07
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.2	29.0	19.2	68.3	8.6	8.6	60.7	0.0	51.2	65.3	0.0	53.2
Ln Grp LOS	E	C	B	E	A	A	E		D	E		D
Approach Vol, veh/h	1198			814			299			48		
Approach Delay, s/veh	28.3			11.4			54.9			54.9		
Approach LOS	C			B			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0				
Phs Duration (G+Y+Rc), s	5.7	23.2	8.3	82.8	15.2	13.7	5.8	85.3				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	4.0	44.8	5.1	46.5	18.1	30.7	4.0	47.6				
Max Allow Headway (MAH), s	4.1	4.3	4.1	4.0	4.1	4.1	4.1	4.0				
Max Q Clear (g_c+I1), s	2.5	14.6	4.7	33.8	10.4	4.6	2.6	12.5				
Green Ext Time (g_e), s	0.0	0.7	0.0	4.5	0.2	0.1	0.0	2.9				
Prob of Phs Call (p_c)	0.21	1.00	0.72	1.00	0.98	1.00	0.23	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.00	0.04	0.00	1.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1641	1641	1641	1641								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	541	3554	1241	3630								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1099	1424	513	14								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

7: S Vineland Ave & Whitesbridge Ave

AM 2044
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	7	0	38	0	117	0	8	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	0.5	0.0	2.7	0.0	8.4	0.0	0.6	0.0
Cycle Q Clear Time (g_c), s	0.5	0.0	2.7	0.0	8.4	0.0	0.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	24	0	59	0	153	0	25	0
V/C Ratio (X)	0.30	0.00	0.65	0.00	0.76	0.00	0.32	0.00
Avail Cap (c_a), veh/h	67	0	82	0	260	0	67	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.58	0.00
Uniform Delay (d1), s/veh	58.5	0.0	57.1	0.0	53.1	0.0	59.1	0.0
Incr Delay (d2), s/veh	6.7	0.0	11.2	0.0	7.6	0.0	4.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	65.3	0.0	68.3	0.0	60.7	0.0	63.2	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	1.1	0.0	3.3	0.0	0.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	0.3	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.2	0.0	1.3	0.0	3.6	0.0	0.3	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.08	0.00	0.54	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	2	0	0	0	1
Grp Vol (v), veh/h	0	0	0	1080	0	0	0	378
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	31.8	0.0	0.0	0.0	10.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	31.8	0.0	0.0	0.0	10.5
Lane Grp Cap (c), veh/h	0	0	0	2333	0	0	0	1203
V/C Ratio (X)	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.31
Avail Cap (c_a), veh/h	0	0	0	2333	0	0	0	1203
Upstream Filter (I)	0.00	0.00	0.00	0.58	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	28.6	0.0	0.0	0.0	7.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.0	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
Control Delay (d), s/veh	0.0	0.0	0.0	29.0	0.0	0.0	0.0	8.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	14.9	0.0	0.0	0.0	3.2

HCM 7th Signalized Intersection Capacity Analysis 7: S Vineland Ave & Whitesbridge Ave

AM 2044
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	15.0	0.0	0.0	0.0	3.5
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	182	0	110	0	41	0	398
Grp Sat Flow (s), veh/h/ln	0	1640	0	1424	0	1754	0	1867
Q Serve Time (g_s), s	0.0	12.6	0.0	7.5	0.0	2.6	0.0	10.5
Cycle Q Clear Time (g_c), s	0.0	12.6	0.0	7.5	0.0	2.6	0.0	10.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.67	0.00	1.00	0.00	0.29	0.00	0.01
Lane Grp Cap (c), veh/h	0	262	0	935	0	142	0	1264
V/C Ratio (X)	0.00	0.69	0.00	0.12	0.00	0.29	0.00	0.31
Avail Cap (c_a), veh/h	0	625	0	935	0	462	0	1264
Upstream Filter (I)	0.00	1.00	0.00	0.58	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	47.9	0.0	19.1	0.0	52.0	0.0	7.9
Incr Delay (d2), s/veh	0.0	3.3	0.0	0.1	0.0	1.1	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
Control Delay (d), s/veh	0.0	51.2	0.0	19.2	0.0	53.2	0.0	8.6
1st-Term Q (Q1), veh/ln	0.0	4.9	0.0	2.3	0.0	1.1	0.0	3.4
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.2	0.0	2.3	0.0	1.2	0.0	3.7
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.19	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	26.4
HCM 7th LOS	C

Intersection

Intersection Delay, s/veh 22.9

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	114	291	9	13	150	13	5	60	22	48	38	45
Future Vol, veh/h	114	291	9	13	150	13	5	60	22	48	38	45
Peak Hour Factor	0.63	0.63	0.63	0.62	0.62	0.62	0.59	0.59	0.59	0.58	0.58	0.58
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	181	462	14	21	242	21	8	102	37	83	66	78
Number of Lanes	1	1	1	1	1	1	1	2	0	1	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	3	3
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	3	3	3	3
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	3	3	3	3
HCM Control Delay, s/veh	11.8	16.5	12	12.2
HCM LOS	D	C	B	B

Lane	NBLn1	NBLn2	NBLn3	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2	SBLn3
Vol Left, %	100%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%
Vol Thru, %	0%	100%	48%	0%	100%	0%	0%	100%	0%	0%	100%	22%
Vol Right, %	0%	0%	52%	0%	0%	100%	0%	0%	100%	0%	0%	78%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	5	40	42	114	291	9	13	150	13	48	25	58
LT Vol	5	0	0	114	0	0	13	0	0	48	0	0
Through Vol	0	40	20	0	291	0	0	150	0	0	25	13
RT Vol	0	0	22	0	0	9	0	0	13	0	0	45
Lane Flow Rate	8	68	71	181	462	14	21	242	21	83	44	99
Geometry Grp	6	6	6	6	6	6	6	6	6	6	6	6
Degree of Util (X)	0.02	0.152	0.152	0.366	0.87	0.024	0.047	0.503	0.04	0.192	0.095	0.202
Departure Headway (Hd)	8.561	8.061	7.694	7.28	6.78	6.08	7.988	7.488	6.788	8.345	7.845	7.298
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	418	445	466	498	536	592	448	481	527	430	456	491
Service Time	6.314	5.814	5.447	4.98	4.48	3.78	5.736	5.236	4.536	6.095	5.595	5.048
HCM Lane V/C Ratio	0.019	0.153	0.152	0.363	0.862	0.024	0.047	0.503	0.04	0.193	0.096	0.202
HCM Control Delay, s/veh	11.5	12.3	11.8	14.1	39.5	8.9	11.1	17.6	9.8	13.1	11.4	11.9
HCM Lane LOS	B	B	B	B	E	A	B	C	A	B	B	B
HCM 95th-tile Q	0.1	0.5	0.5	1.7	9.5	0.1	0.1	2.8	0.1	0.7	0.3	0.7

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

AM 2044
11/06/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	171	67	36	204	101	37	345	14	39	350	34
Future Volume (veh/h)	34	171	67	36	204	101	37	345	14	39	350	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
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			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1870	1723	1723	1870	1723	1723	1870	1723	1723	1870	1723
Adj Flow Rate, veh/h	59	295	116	51	287	142	50	466	19	55	493	48
Peak Hour Factor	0.58	0.58	0.58	0.71	0.71	0.71	0.74	0.74	0.74	0.71	0.71	0.71
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes				Yes				Yes
Cap, veh/h	86	373	285	76	361	276	75	1987	81	81	1879	182
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.05	0.20	0.20	0.05	0.19	0.19	0.05	0.57	0.56	0.10	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	65.0	49.4	42.8	66.0	50.1	44.8	66.1	13.3	13.3	62.0	0.6	0.6
Ln Grp LOS	E	D	D	E	D	D	E	B	B	E	A	A
Approach Vol, veh/h	470				480				535			
Approach Delay, s/veh	49.7				50.2				18.2			
Approach LOS	D				D				B			
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	9.9	72.6	9.6	27.9	9.5	73.0	10.3	27.2				
Change Period (Y+Rc), s	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9				
Max Green (Gmax), s	14.0	33.2	14.0	39.2	14.0	33.2	14.0	39.2				
Max Allow Headway (MAH), s	4.1	4.0	4.1	4.1	4.1	4.0	4.1	4.1				
Max Q Clear (g_c+I1), s	5.9	10.0	5.7	20.0	5.6	2.0	6.2	19.5				
Green Ext Time (g_e), s	0.1	1.6	0.1	1.4	0.1	1.9	0.1	1.5				
Prob of Phs Call (p_c)	0.84	1.00	0.82	1.00	0.81	1.00	0.86	1.00				
Prob of Max Out (p_x)	0.01	0.00	0.01	0.00	0.00	0.00	0.01	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1641	1641	1641	1641								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3476	1870	3267	1870								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	141	1428	317	1428								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

9: S Madera Ave & W Kearney Blvd

AM 2044
11/06/2024

Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	55	0	51	0	50	0	59	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	3.9	0.0	3.7	0.0	3.6	0.0	4.2	0.0
Cycle Q Clear Time (g_c), s	3.9	0.0	3.7	0.0	3.6	0.0	4.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	81	0	76	0	75	0	86	0
V/C Ratio (X)	0.68	0.00	0.67	0.00	0.67	0.00	0.68	0.00
Avail Cap (c_a), veh/h	204	0	204	0	204	0	204	0
Upstream Filter (I)	0.90	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	53.2	0.0	56.3	0.0	56.4	0.0	55.9	0.0
Incr Delay (d2), s/veh	8.8	0.0	9.7	0.0	9.8	0.0	9.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	62.0	0.0	66.0	0.0	66.1	0.0	65.0	0.0
1st-Term Q (Q1), veh/ln	1.5	0.0	1.5	0.0	1.4	0.0	1.7	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.2	0.0	0.2	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.7	0.0	1.7	0.0	1.6	0.0	1.9	0.0
%ile Storage Ratio (RQ%)	0.23	0.00	0.47	0.00	0.42	0.00	0.48	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	238	0	295	0	267	0	287
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	0	1777	0	1870
Q Serve Time (g_s), s	0.0	7.9	0.0	18.0	0.0	0.0	0.0	17.5
Cycle Q Clear Time (g_c), s	0.0	7.9	0.0	18.0	0.0	0.0	0.0	17.5
Lane Grp Cap (c), veh/h	0	1016	0	373	0	1022	0	361
V/C Ratio (X)	0.00	0.23	0.00	0.79	0.00	0.26	0.00	0.79
Avail Cap (c_a), veh/h	0	1016	0	625	0	1022	0	625
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.90	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.7	0.0	45.7	0.0	0.0	0.0	46.1
Incr Delay (d2), s/veh	0.0	0.5	0.0	3.8	0.0	0.6	0.0	4.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.3	0.0	49.4	0.0	0.6	0.0	50.1
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	7.9	0.0	0.0	0.0	7.8

HCM 7th Signalized Intersection Capacity Analysis 9: S Madera Ave & W Kearney Blvd

AM 2044
11/06/2024

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.4	0.0	0.2	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.0	0.0	8.3	0.0	0.2	0.0	8.2
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.08	0.00	0.00	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	247	0	116	0	274	0	142
Grp Sat Flow (s), veh/h/ln	0	1841	0	1428	0	1807	0	1428
Q Serve Time (g_s), s	0.0	8.0	0.0	8.5	0.0	0.0	0.0	10.7
Cycle Q Clear Time (g_c), s	0.0	8.0	0.0	8.5	0.0	0.0	0.0	10.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.08	0.00	1.00	0.00	0.18	0.00	1.00
Lane Grp Cap (c), veh/h	0	1052	0	285	0	1039	0	276
V/C Ratio (X)	0.00	0.24	0.00	0.41	0.00	0.26	0.00	0.51
Avail Cap (c_a), veh/h	0	1052	0	477	0	1039	0	477
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.90	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.7	0.0	41.8	0.0	0.0	0.0	43.4
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.9	0.0	0.6	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.3	0.0	42.8	0.0	0.6	0.0	44.8
1st-Term Q (Q1), veh/ln	0.0	2.9	0.0	0.0	0.0	0.0	0.0	3.6
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.2	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.1	0.0	0.1	0.0	0.2	0.0	3.7
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.94
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	29.3
HCM 7th LOS	C

Intersection

Intersection Delay, s/veh 13.9

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	123	55	36	128	78	43	150	28	54	220	25
Future Vol, veh/h	45	123	55	36	128	78	43	150	28	54	220	25
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	134	60	39	139	85	47	163	30	59	239	27
Number of Lanes	0	1	0	0	1	0	0	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay, s/veh	13.5	13.8	13.8	14.4
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	19%	20%	15%	100%	0%
Vol Thru, %	68%	55%	53%	0%	90%
Vol Right, %	13%	25%	32%	0%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	221	223	242	54	245
LT Vol	43	45	36	54	0
Through Vol	150	123	128	0	220
RT Vol	28	55	78	0	25
Lane Flow Rate	240	242	263	59	266
Geometry Grp	4a	2	2	5	5
Degree of Util (X)	0.418	0.414	0.442	0.116	0.483
Departure Headway (Hd)	6.264	6.147	6.05	7.106	6.523
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	574	584	594	508	557
Service Time	4.31	4.194	4.096	4.806	4.223
HCM Lane V/C Ratio	0.418	0.414	0.443	0.116	0.478
HCM Control Delay, s/veh	13.8	13.5	13.8	10.7	15.2
HCM Lane LOS	B	B	B	B	C
HCM 95th-tile Q	2.1	2	2.3	0.4	2.6

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	49	32	0
Future Vol, veh/h	0	0	0	49	32	0
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	0	0	0	53	35	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	-	35	35	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.22	4.12	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	0	1038	1577	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	1038	1577	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s/v	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1577	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s/veh)	0	-	0	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %tile Q(veh)	0	-	-	-	-	

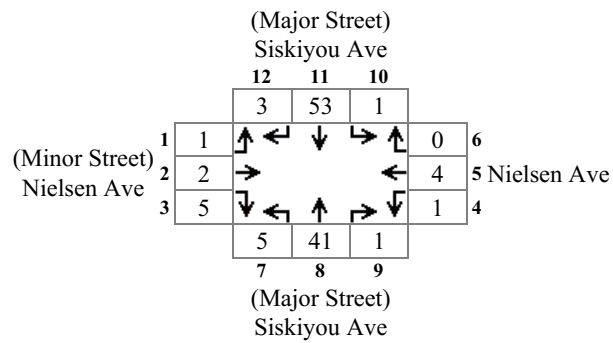
HCM 7th TWSC
12: Whitesbridge Ave & Project Entrance

AM 2044
11/06/2024

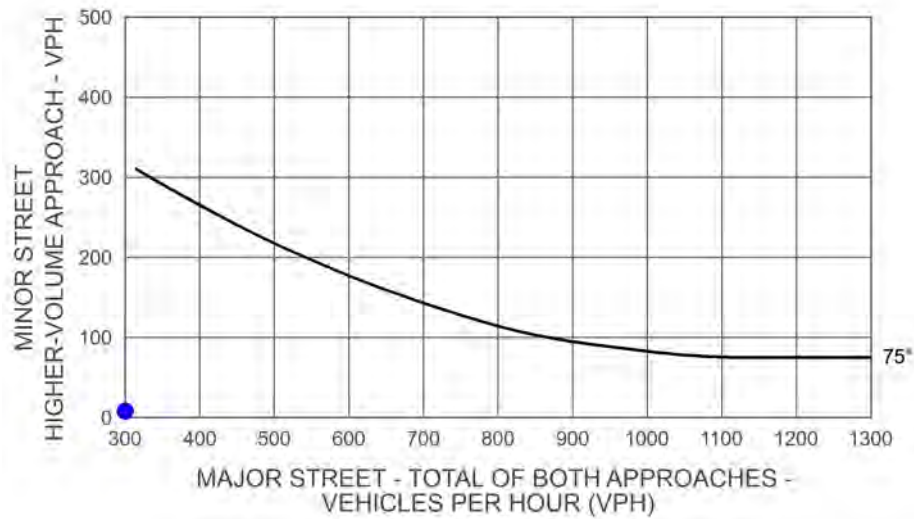
Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↗
Traffic Vol, veh/h	0	764	593	0	0	0
Future Vol, veh/h	0	764	593	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	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	0	830	645	0	0	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	-	0	-	0	-	322
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	0	-	-	-	0	673
Stage 1	0	-	-	-	0	-
Stage 2	0	-	-	-	0	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	-	-	-	673
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Approach	EB	WB		SB		
HCM Control Delay, s/v	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1		
Capacity (veh/h)	-	-	-	-		
HCM Lane V/C Ratio	-	-	-	-		
HCM Control Delay (s/veh)	-	-	-	0		
HCM Lane LOS	-	-	-	A		
HCM 95th %tile Q(veh)	-	-	-	-		

Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 1

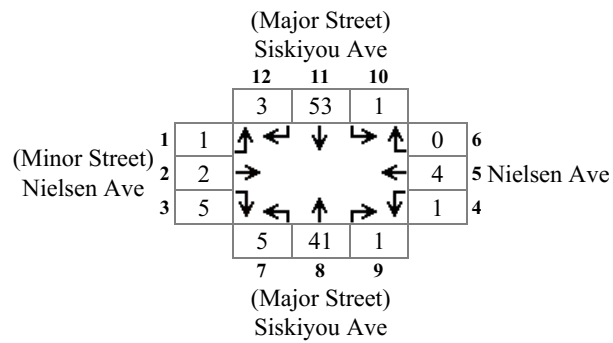


Major Total: 104
Minor High Volume: 8

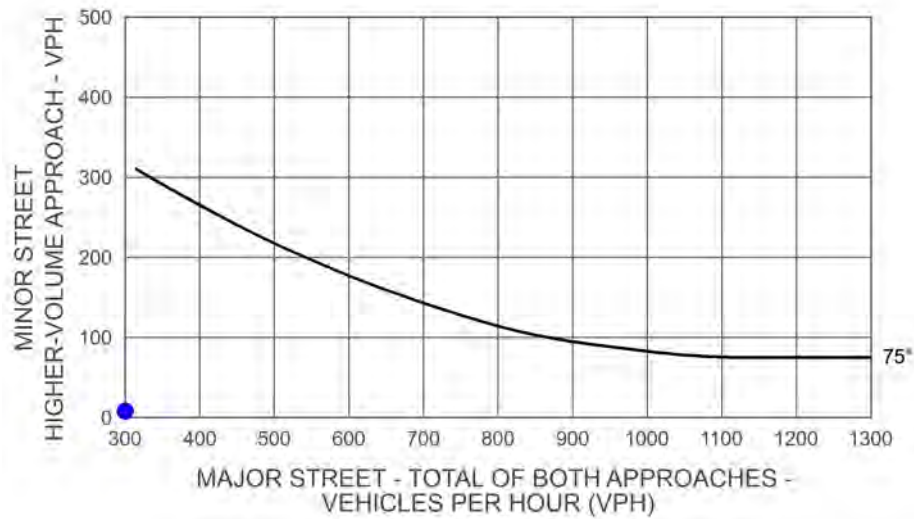


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 1

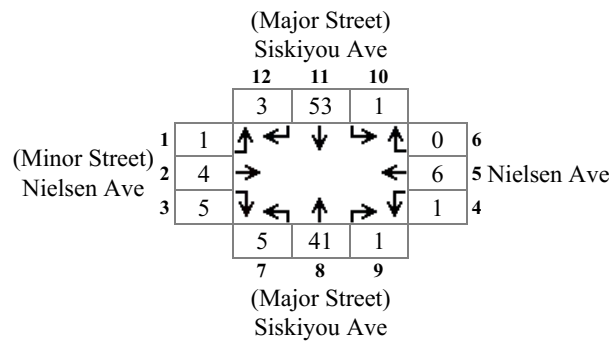


Major Total: 104
Minor High Volume: 8

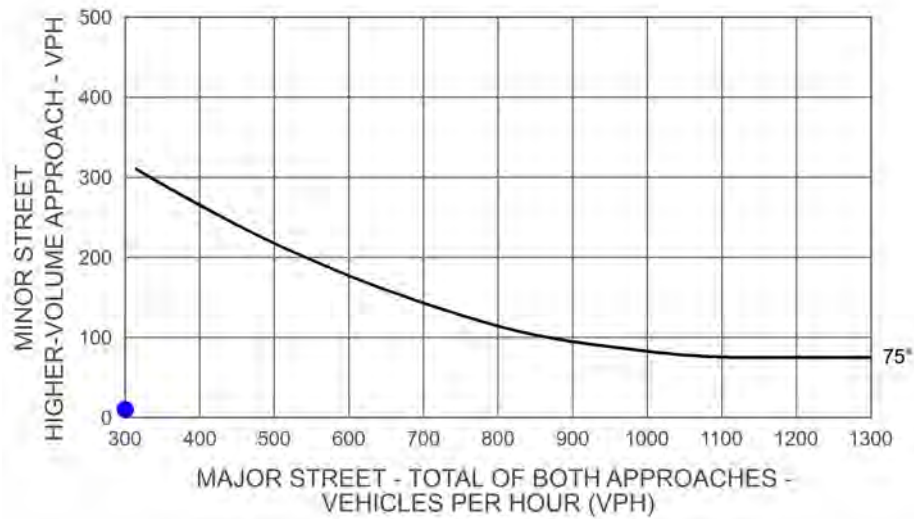


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Existing+Project
Intersection #: 1

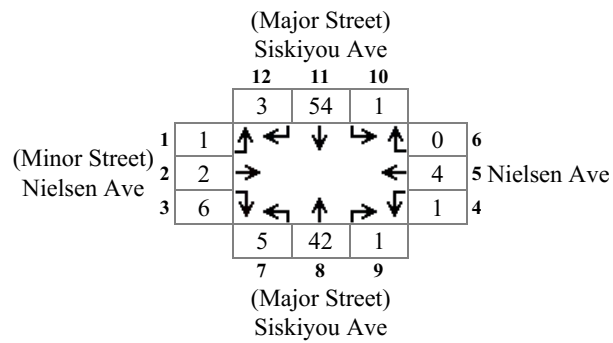


Major Total: 104
Minor High Volume: 10

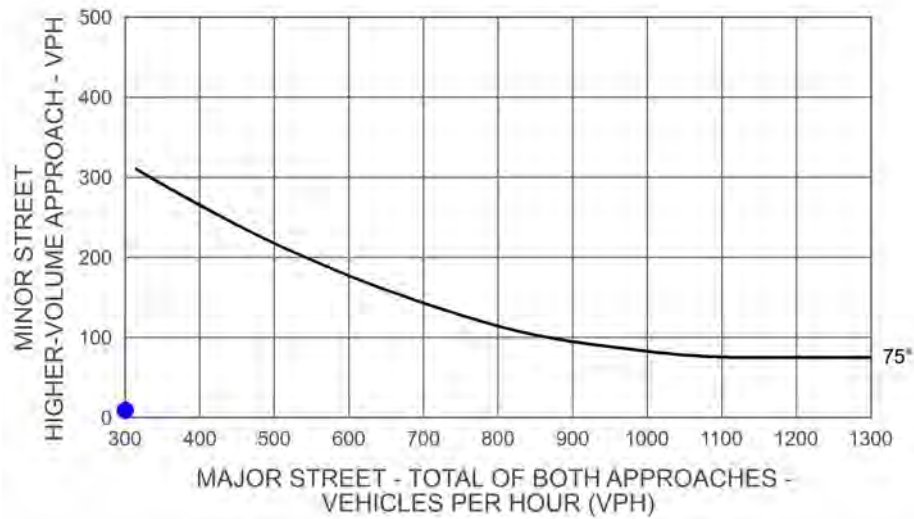


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 1



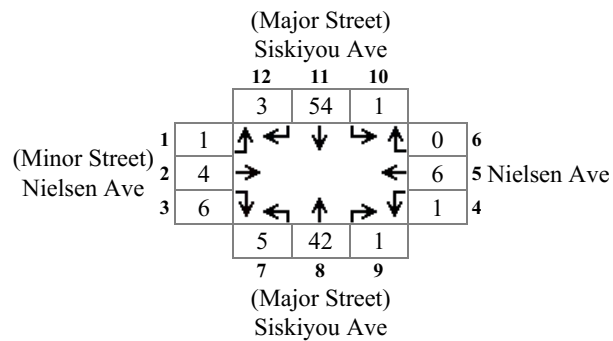
Major Total: 106
Minor High Volume: 9



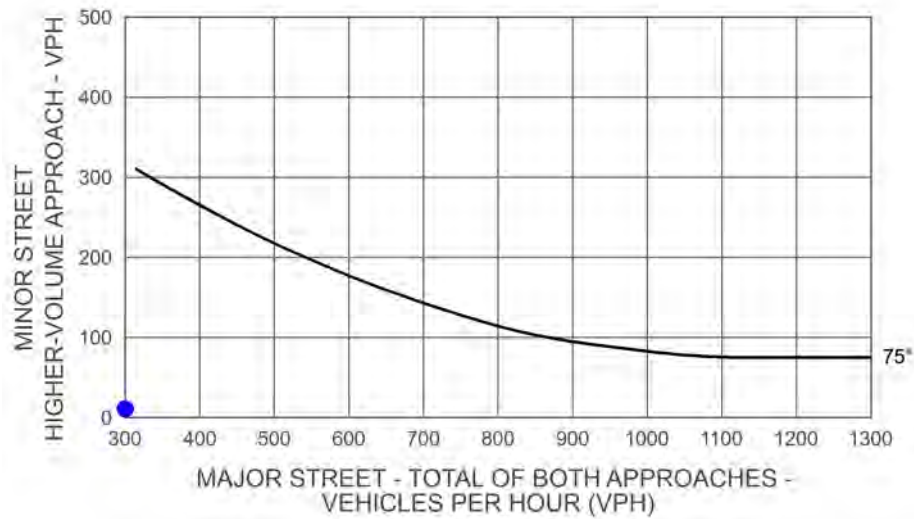
Rural Peak Hour Signal Warrant

Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project
Intersection #: 1

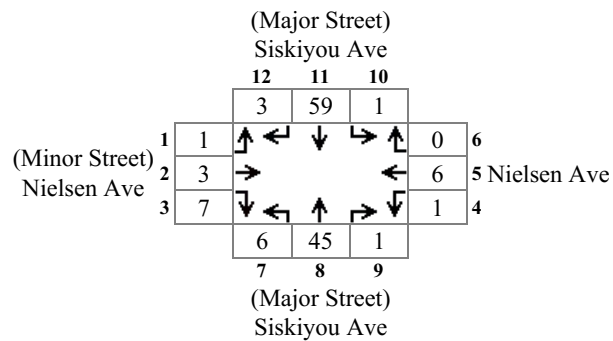


Major Total: 106
Minor High Volume: 11

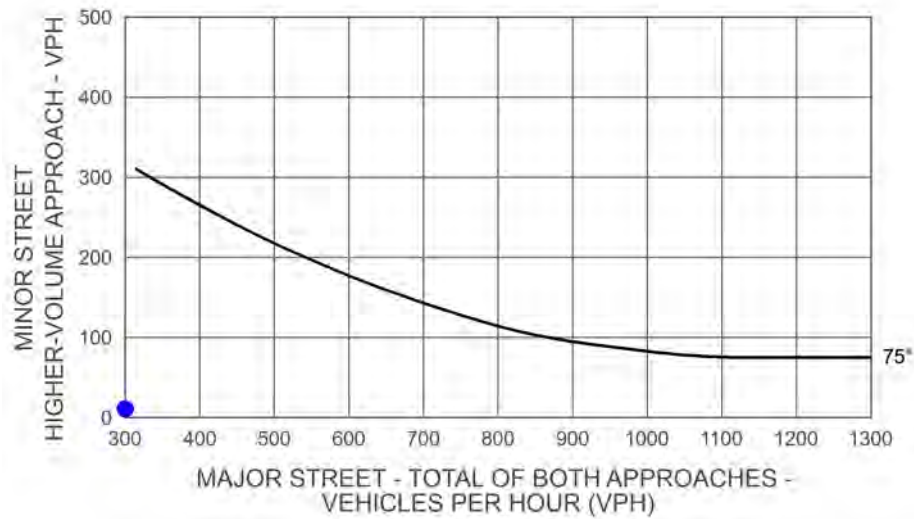


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 1

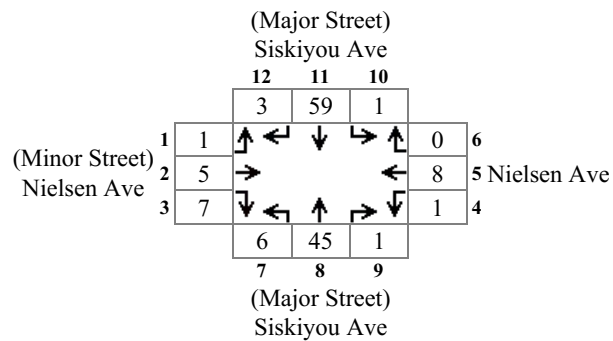


Major Total: 115
Minor High Volume: 11

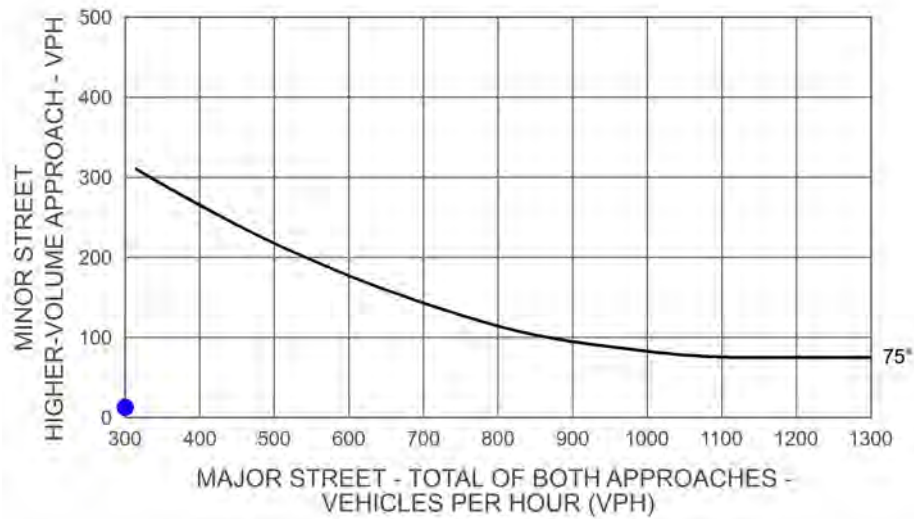


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project
Intersection #: 1

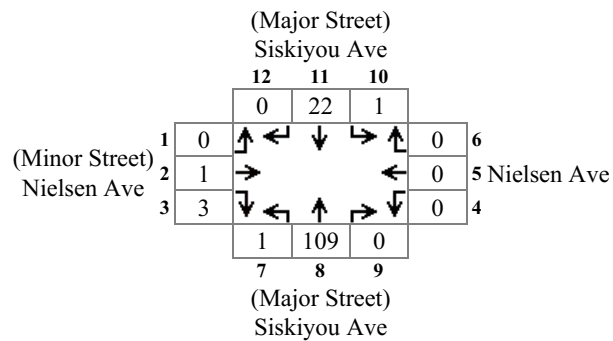


Major Total: 115
Minor High Volume: 13

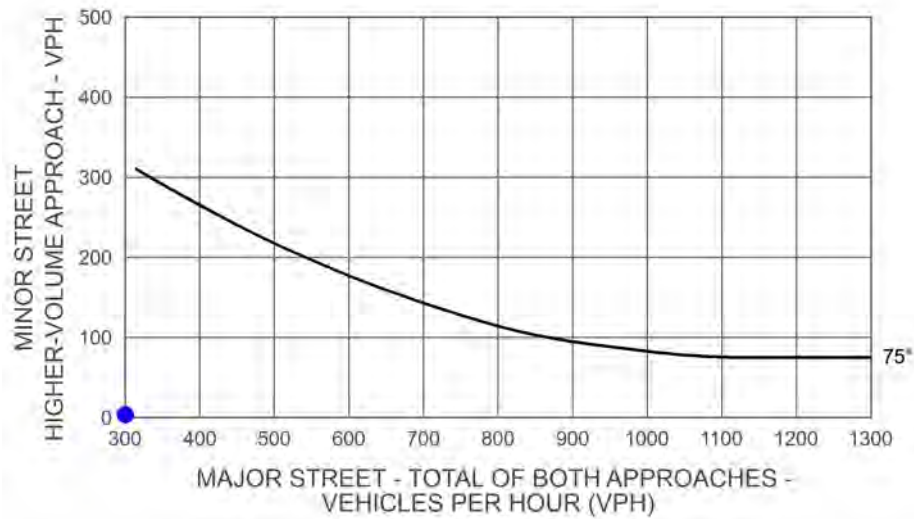


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 1

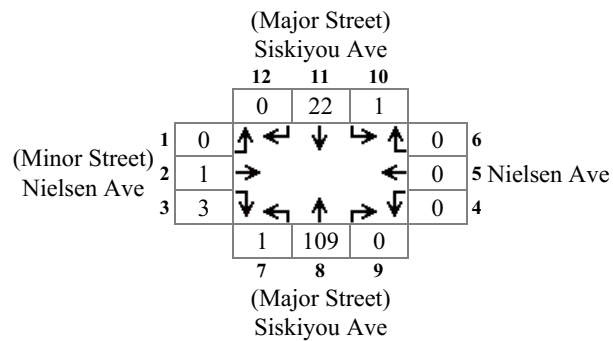


Major Total: 133
Minor High Volume: 4

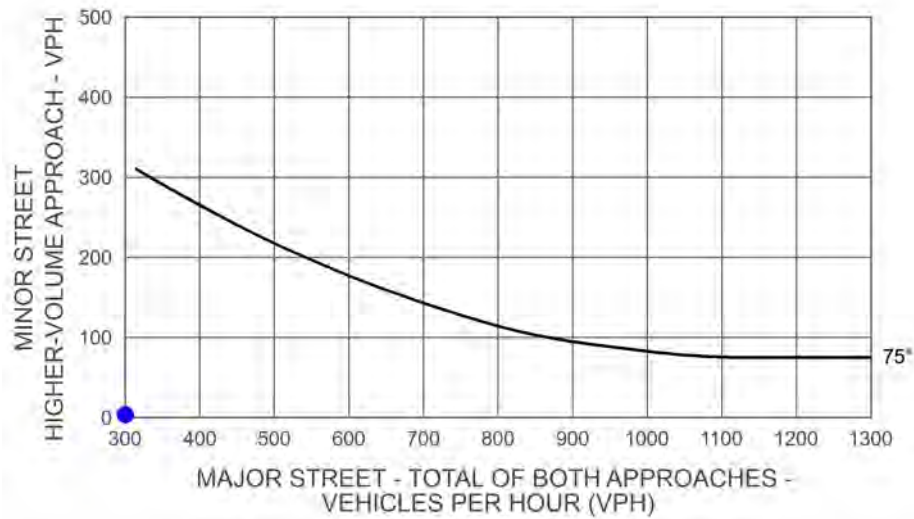


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 1

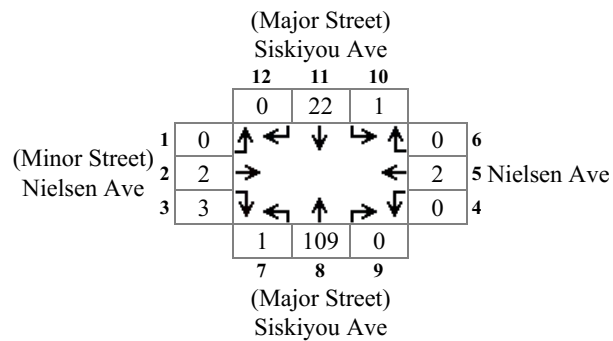


Major Total: 133
Minor High Volume: 4

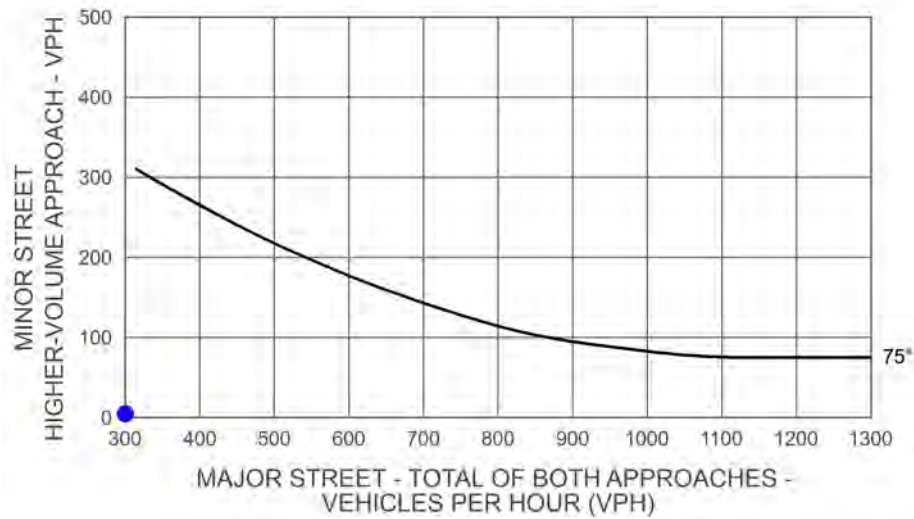


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Existing+Project
Intersection #: 1

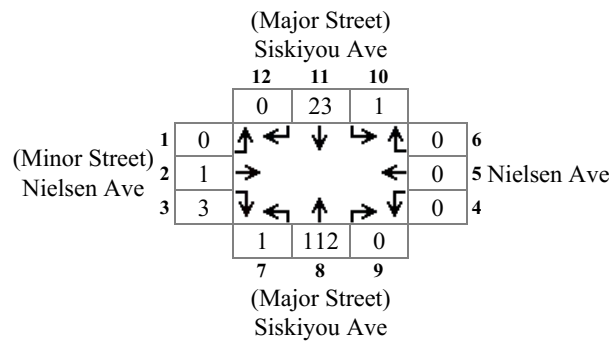


Major Total: 133
Minor High Volume: 5

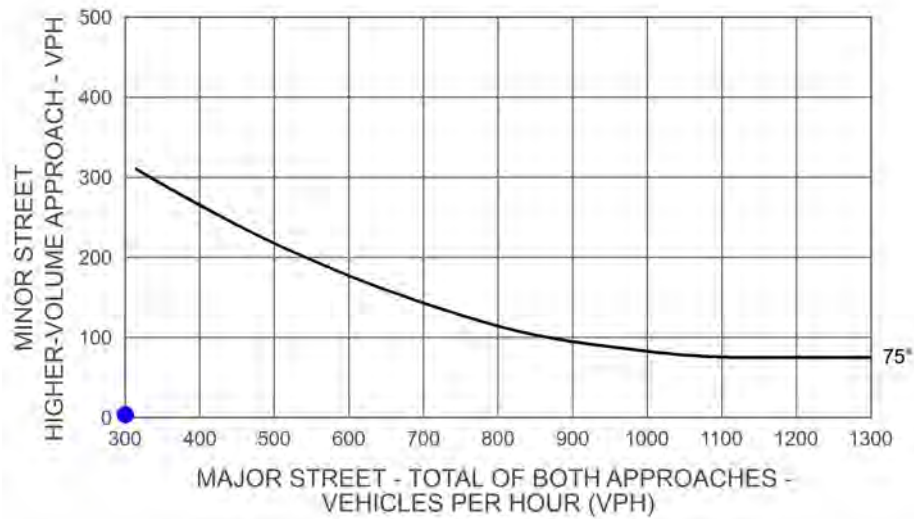


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 1

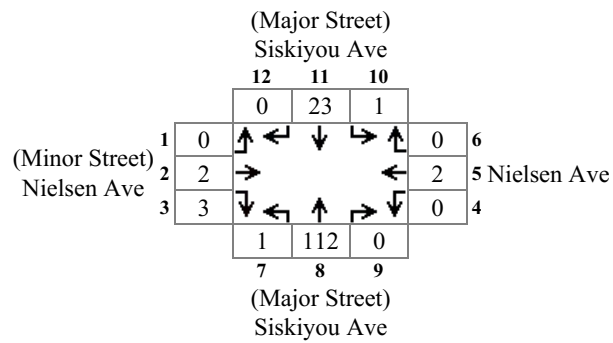


Major Total: 137
Minor High Volume: 4

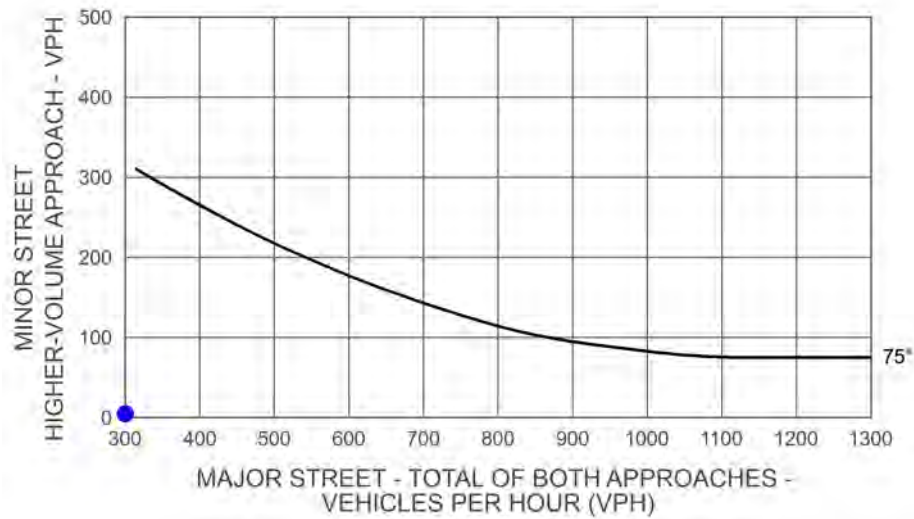


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Future+Project
Intersection #: 1

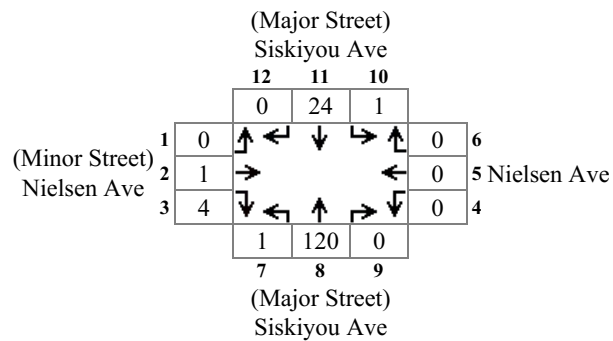


Major Total: 137
Minor High Volume: 5

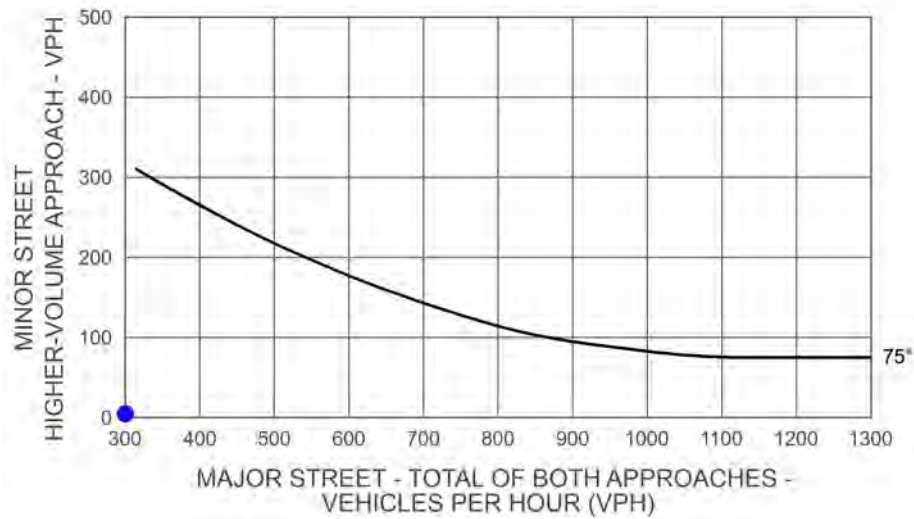


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 1

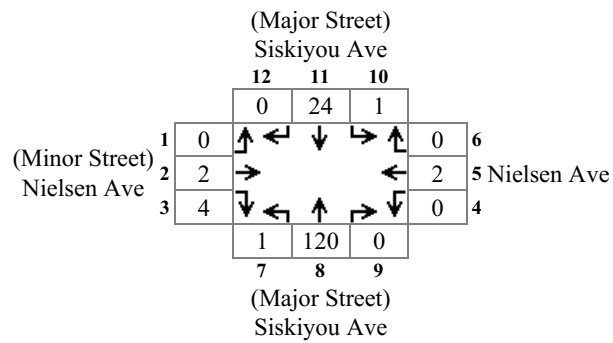


Major Total: 146
Minor High Volume: 5

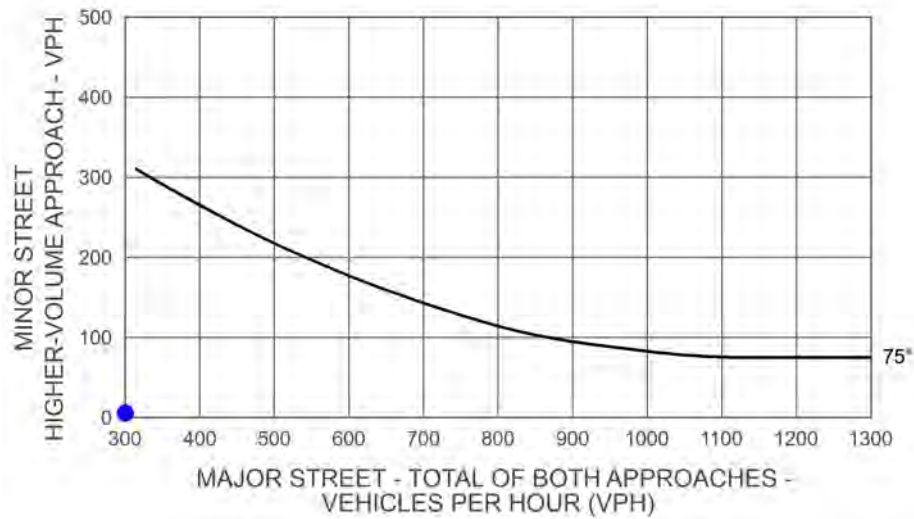


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Future+Project
Intersection #: 1

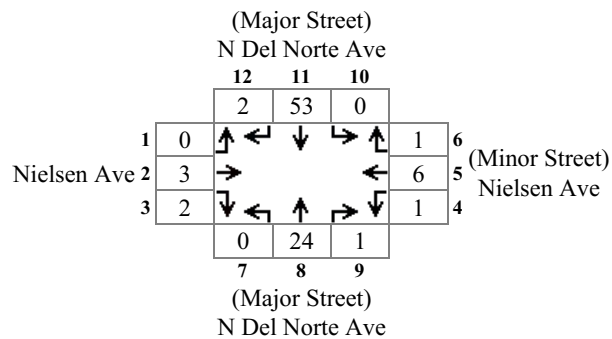


Major Total: 146
Minor High Volume: 6

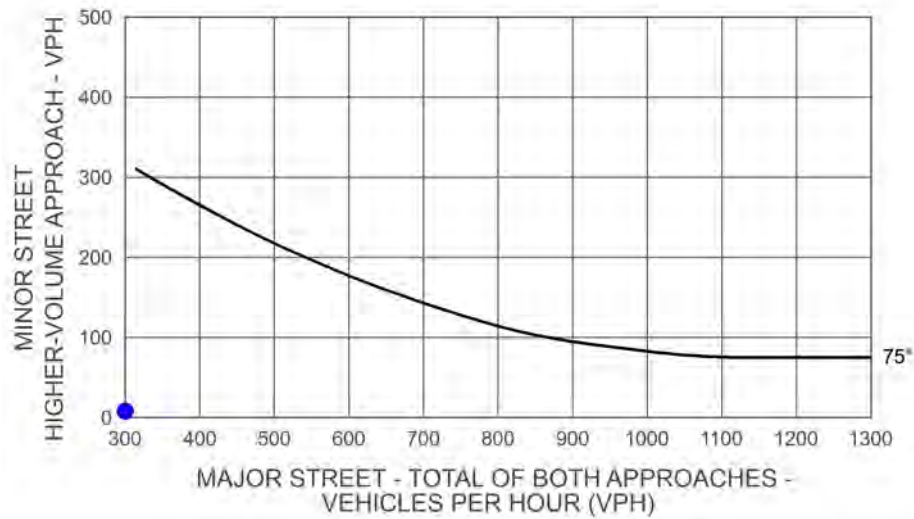


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 2

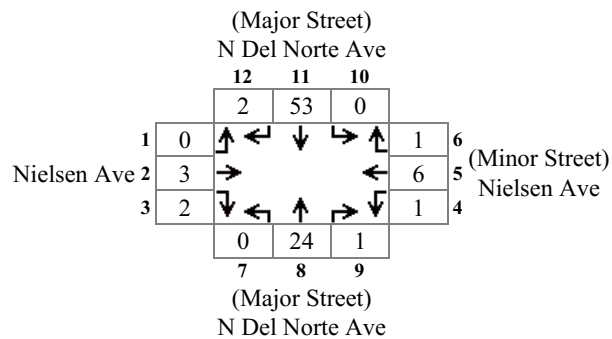


Major Total: 80
Minor High Volume: 8

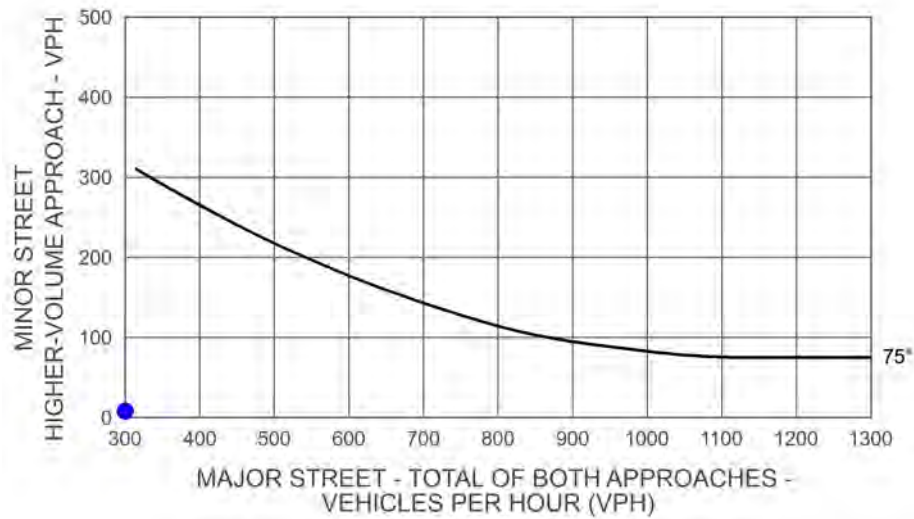


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 2

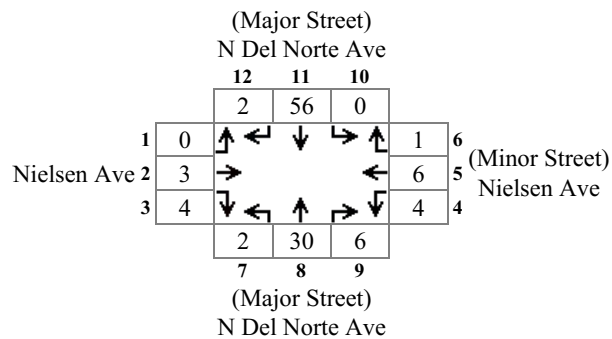


Major Total: 80
Minor High Volume: 8

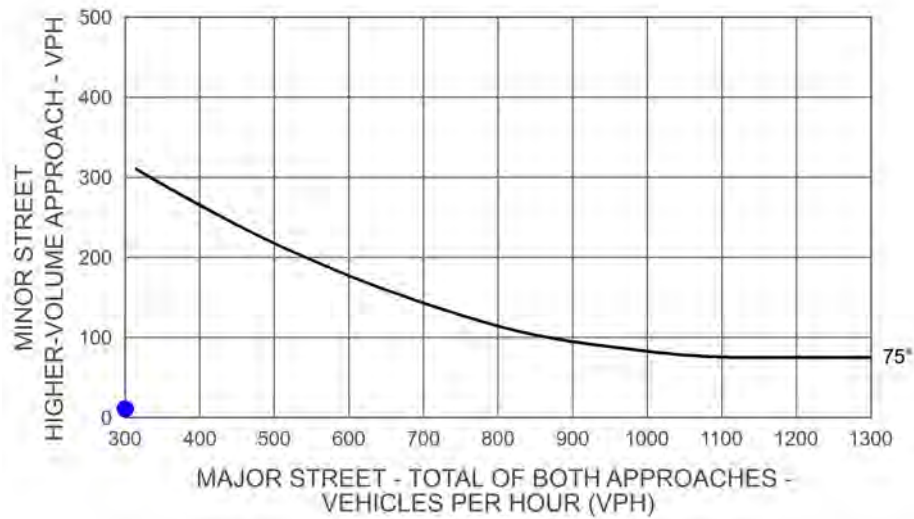


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Existing+Project
Intersection #: 2

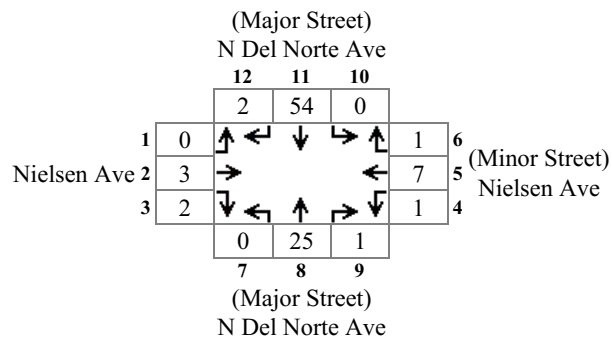


Major Total: 96
Minor High Volume: 11

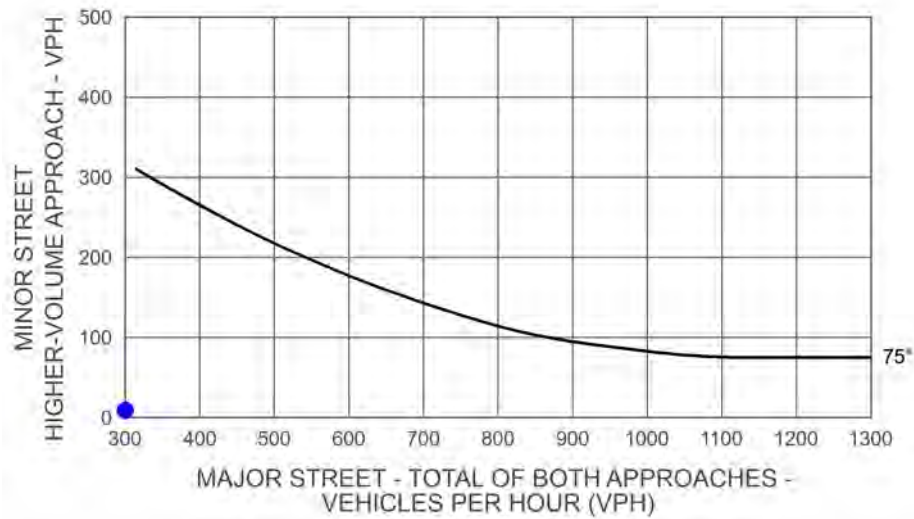


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 2

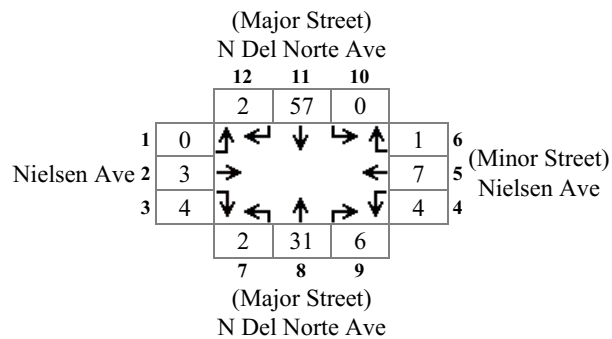


Major Total: 82
Minor High Volume: 9

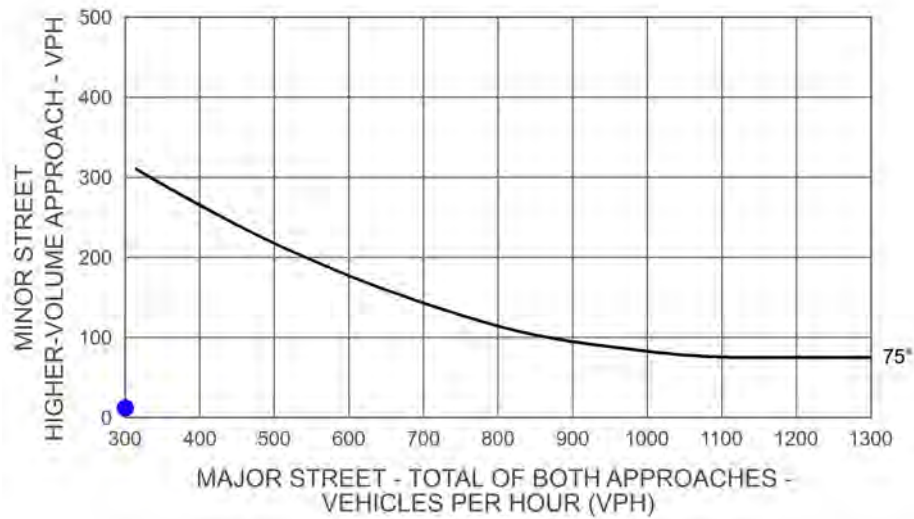


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project
Intersection #: 2

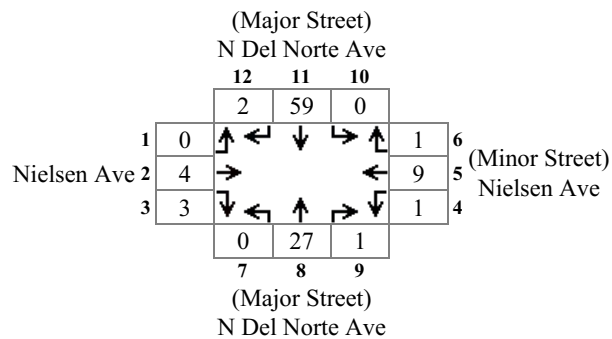


Major Total: 98
Minor High Volume: 12

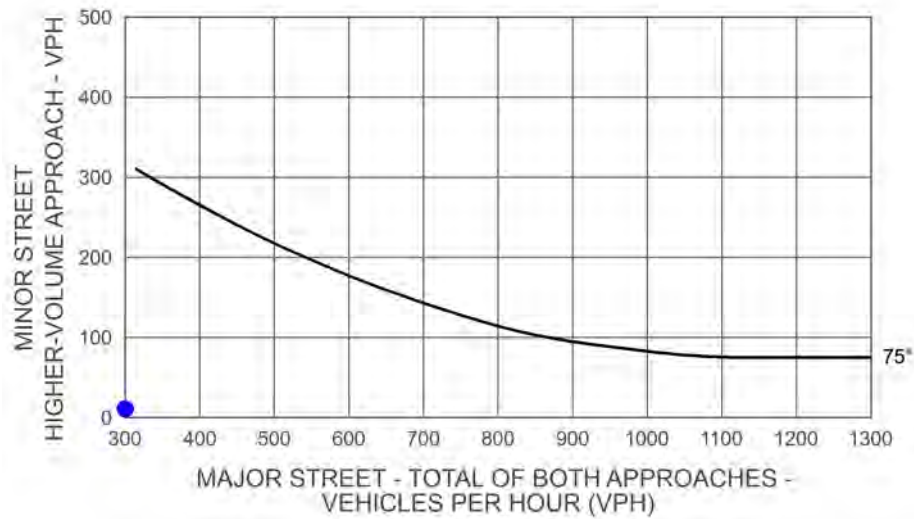


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 2

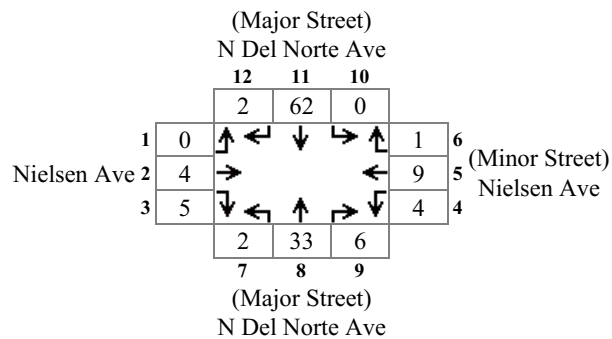


Major Total: 89
Minor High Volume: 11

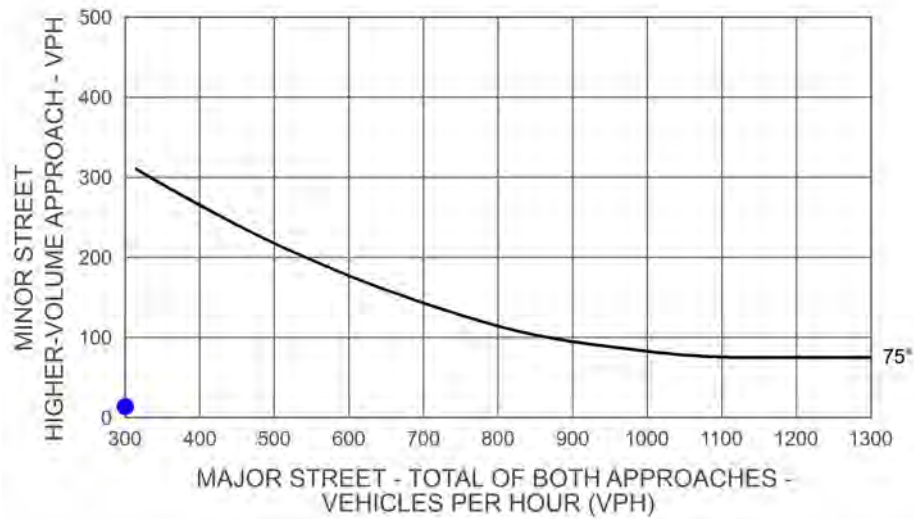


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project
Intersection #: 2

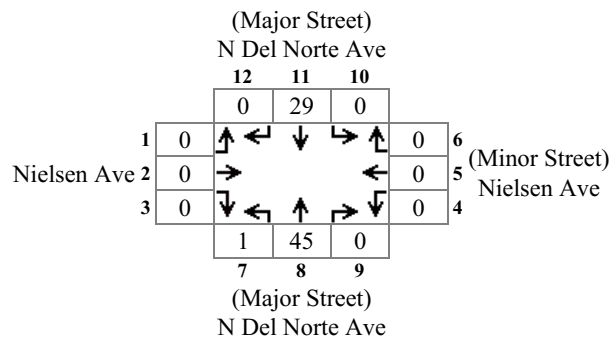


Major Total: 105
Minor High Volume: 14

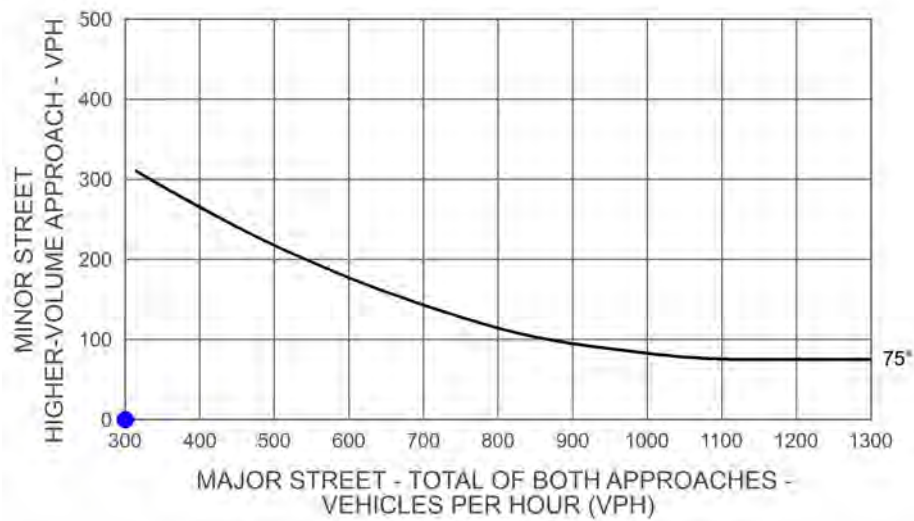


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 2

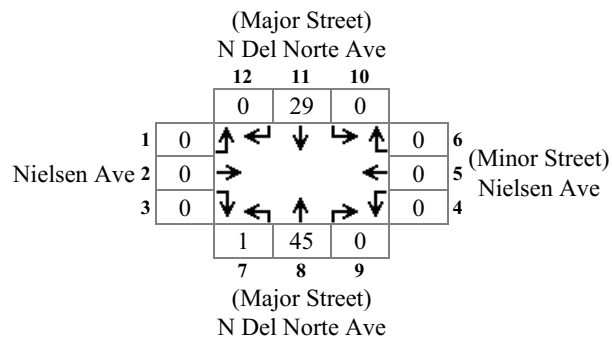


Major Total: 75
Minor High Volume: 0

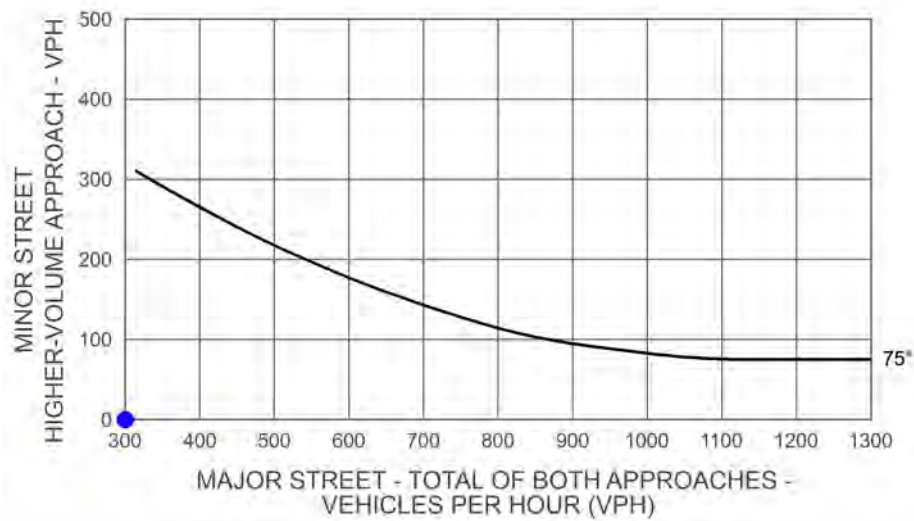


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 2

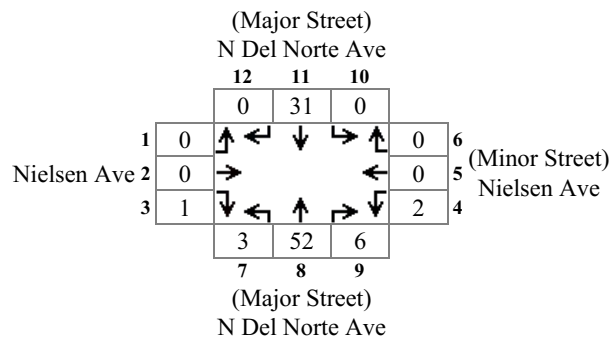


Major Total: 75
Minor High Volume: 0

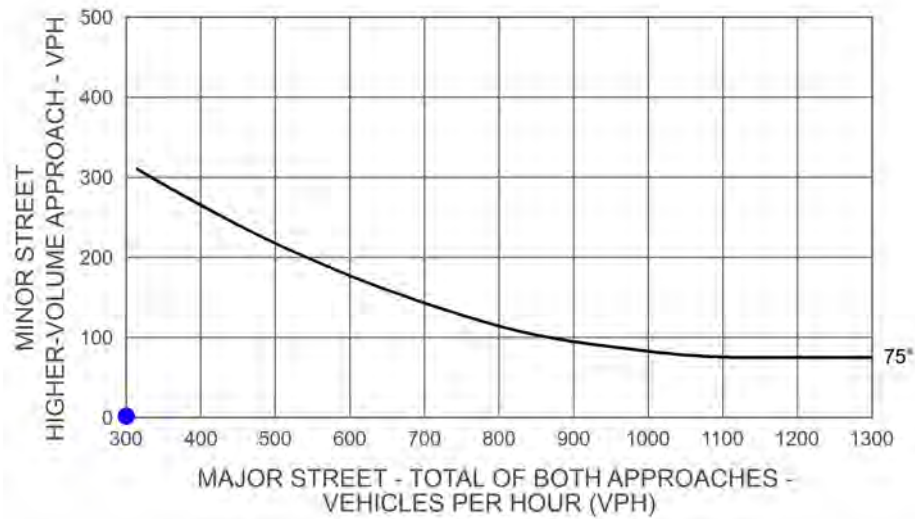


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Existing+Project
Intersection #: 2

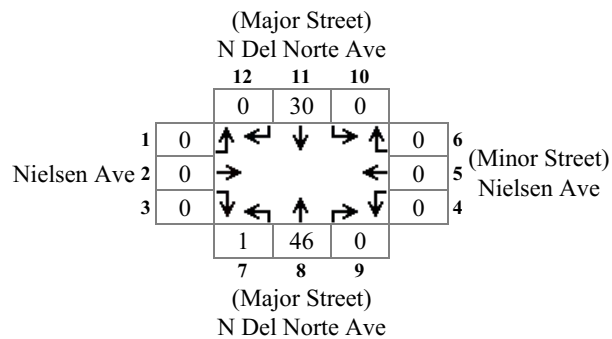


Major Total: 92
Minor High Volume: 2

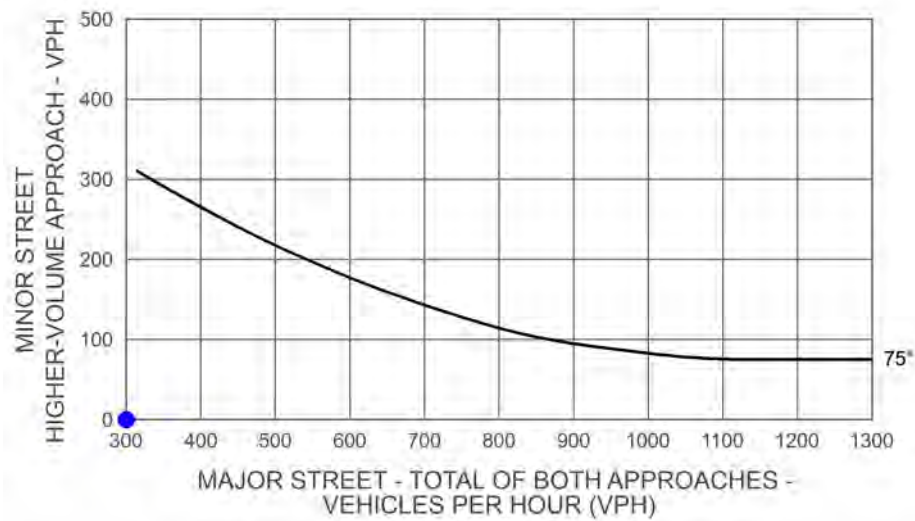


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

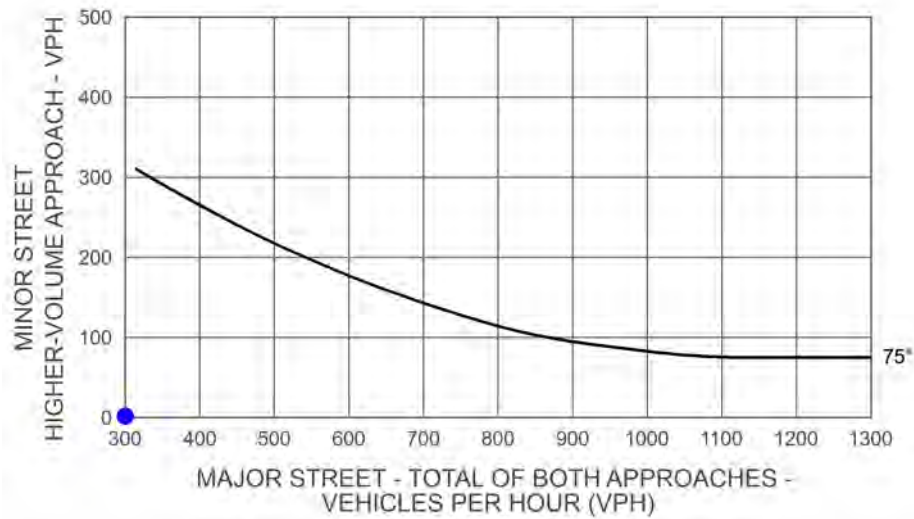
Scenario: AM Future
Intersection #: 2



Major Total: 77
Minor High Volume: 0

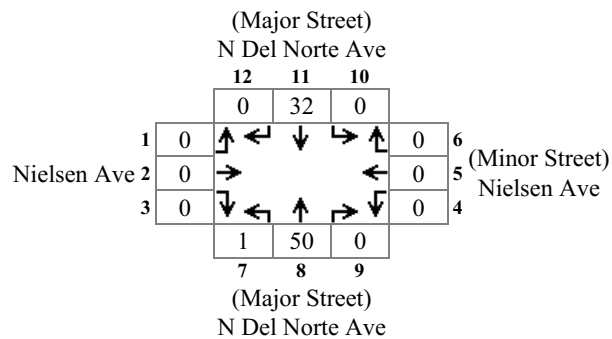


Scenario:AM Future+Project
Intersection #:2

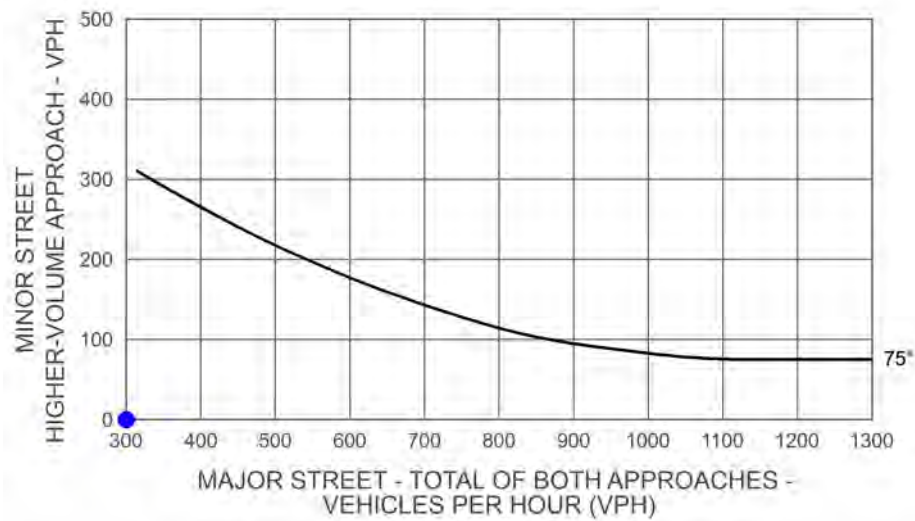


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

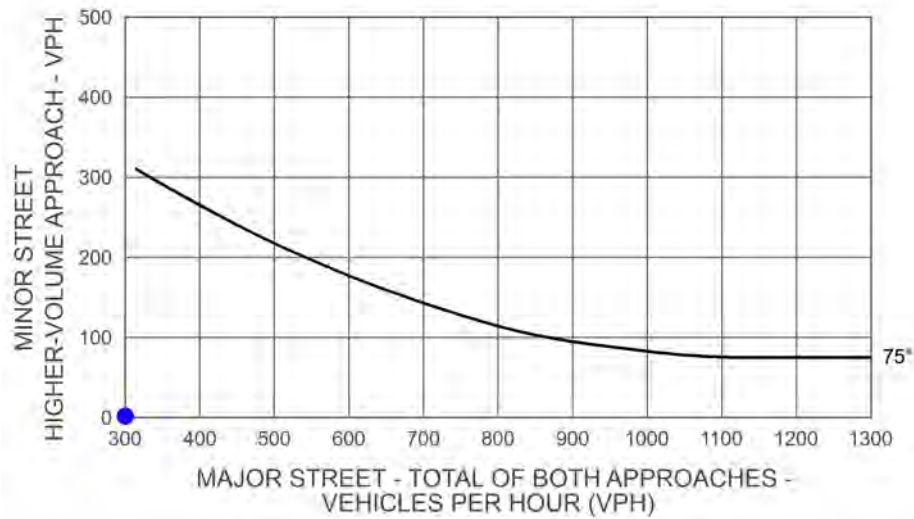
Scenario: AM Future
Intersection #: 2



Major Total: 83
Minor High Volume: 0

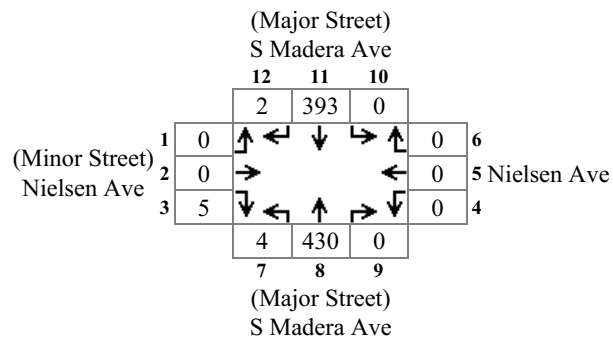


Scenario:AM Future+Project
Intersection #:2



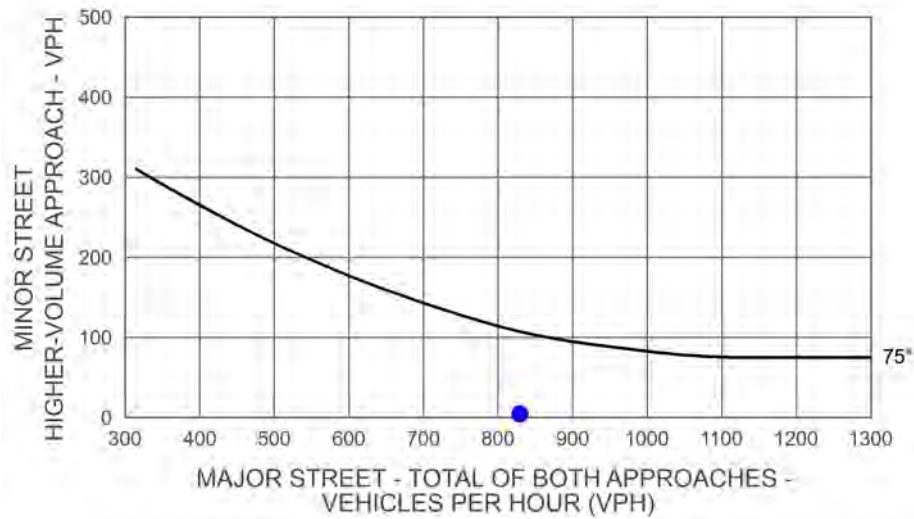
Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 3



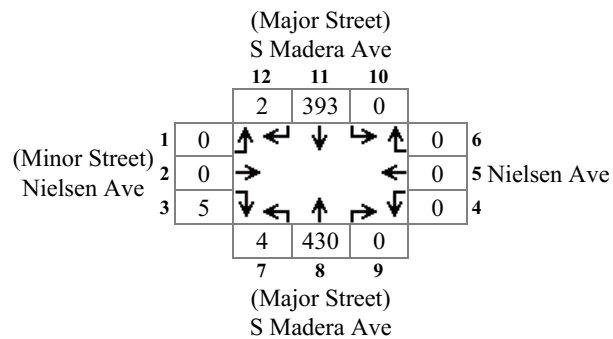
Major Total: 829

Minor High Volume: 5



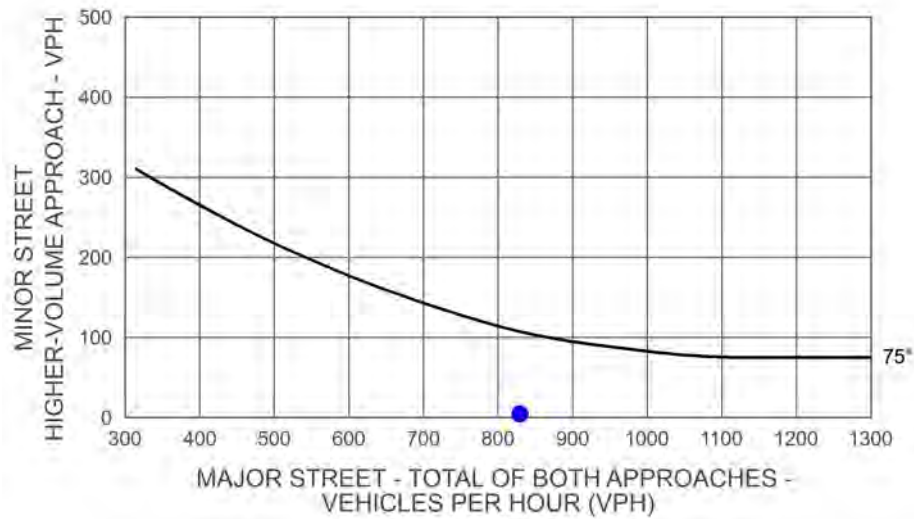
Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 3



Major Total: 829

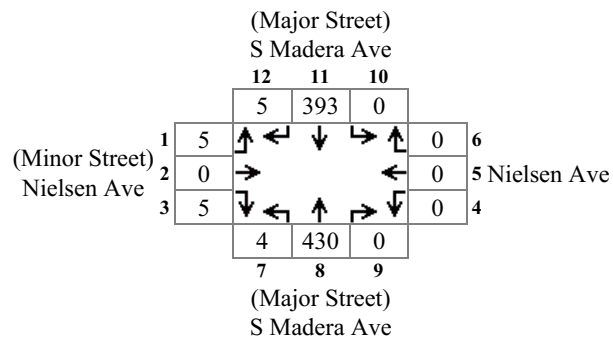
Minor High Volume: 5



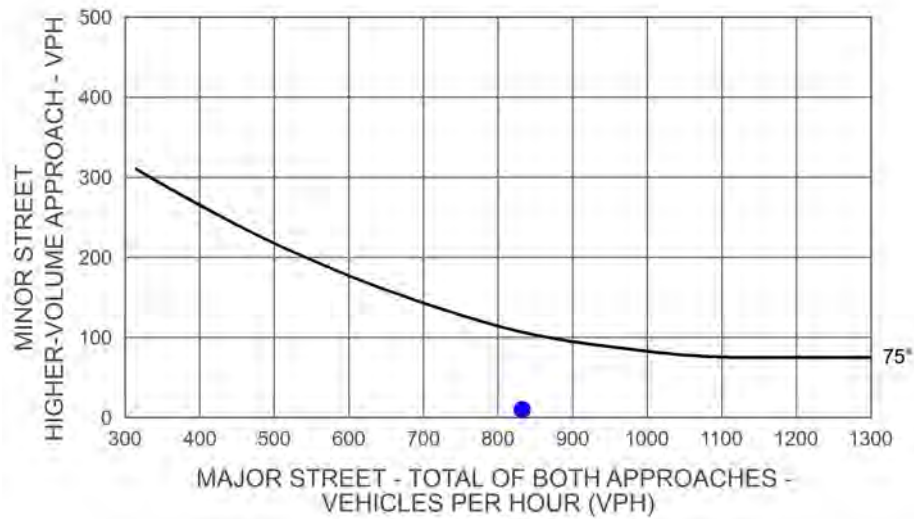
Rural Peak Hour Signal Warrant

Intersection Does Not Meet Signal Warrant

Scenario: PM Existing+Project
Intersection #: 3

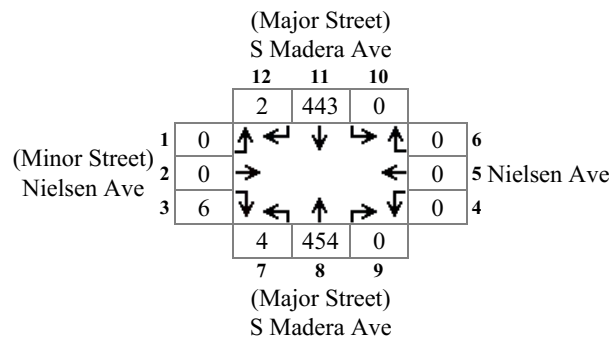


Major Total: 832
Minor High Volume: 10

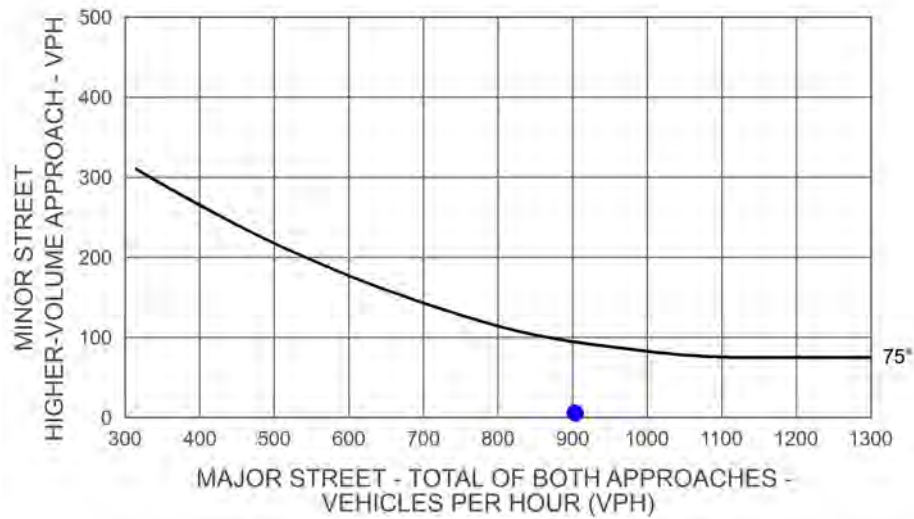


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

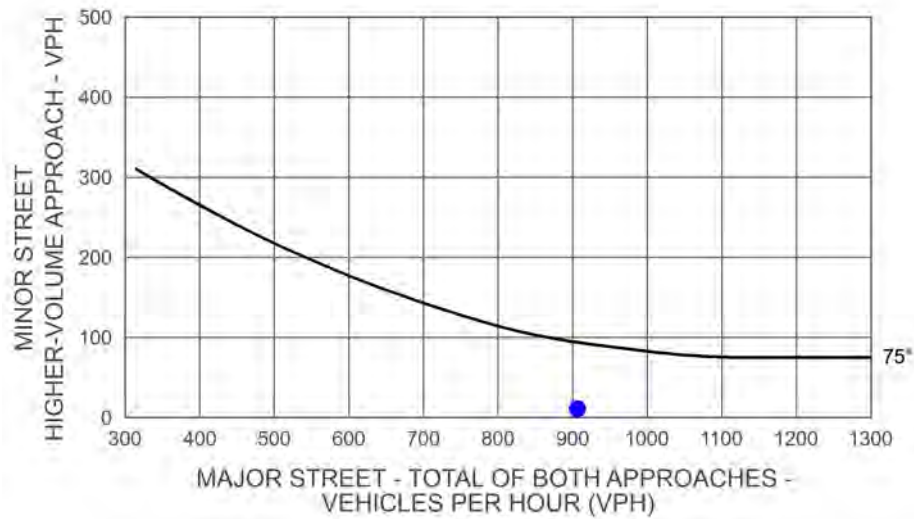
Scenario: PM Future
Intersection #: 3



Major Total: 903
Minor High Volume: 6

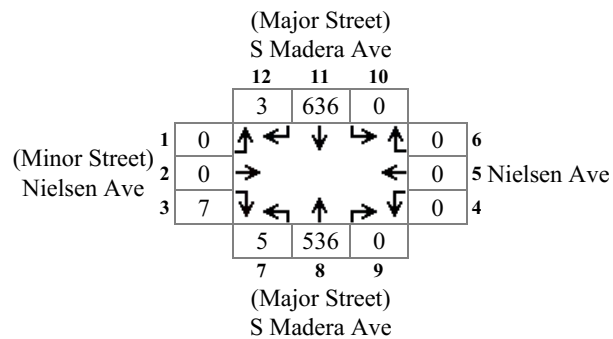


Scenario: PM Future+Project
Intersection #: 3

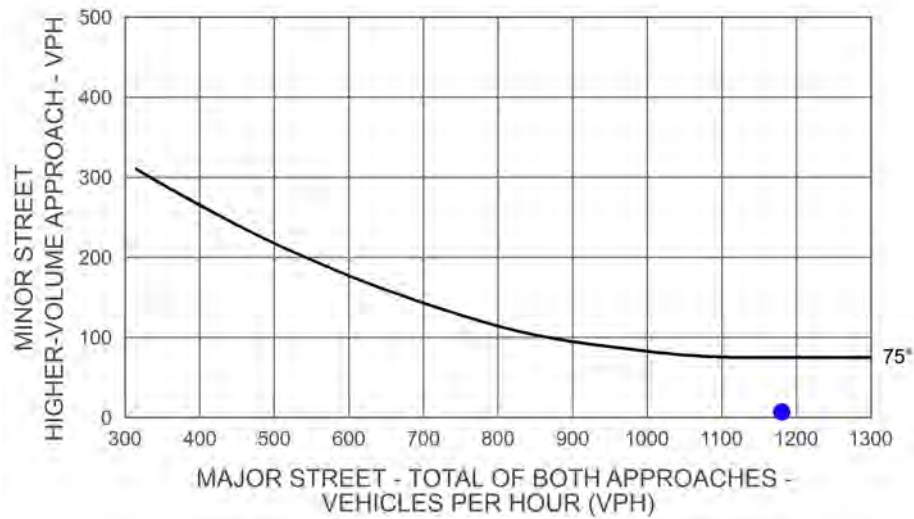


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 3

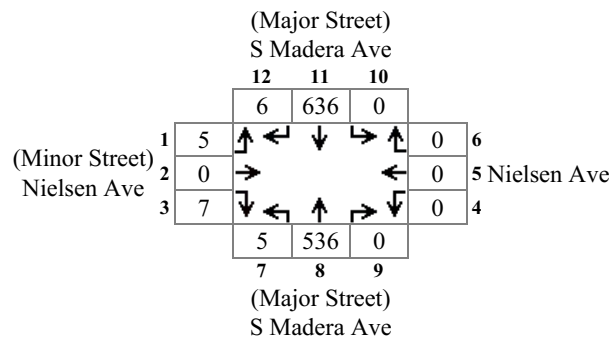


Major Total: 1180
Minor High Volume: 7

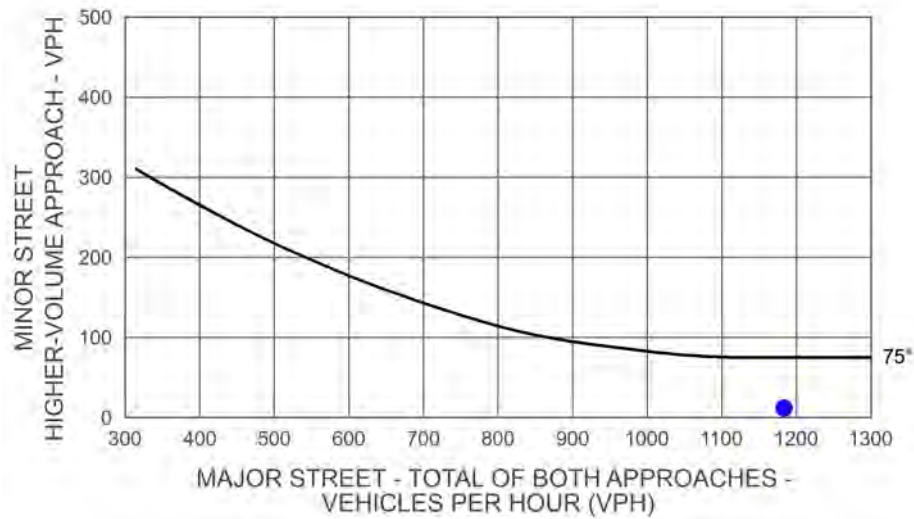


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project
Intersection #: 3

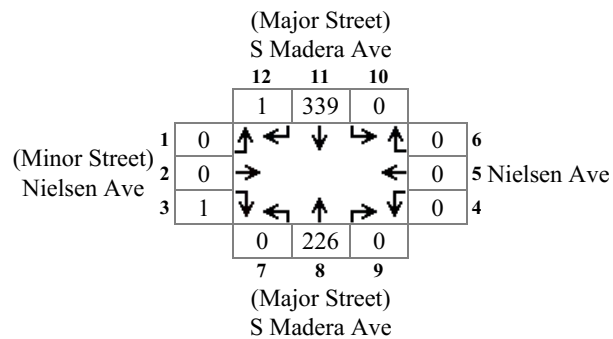


Major Total: 1183
Minor High Volume: 12

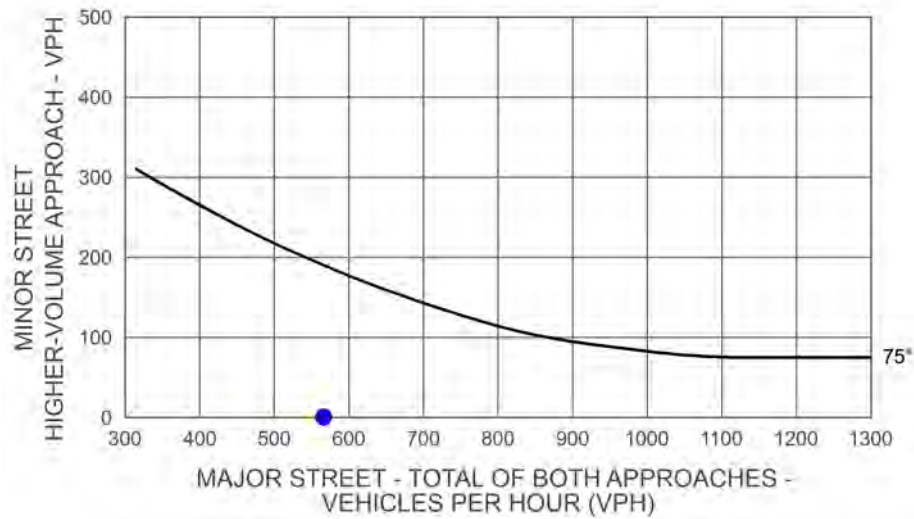


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 3

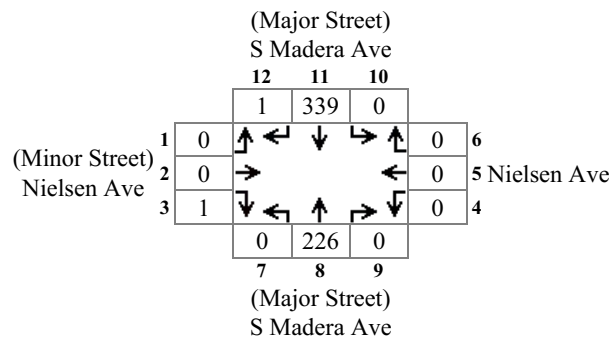


Major Total: 566
Minor High Volume: 1

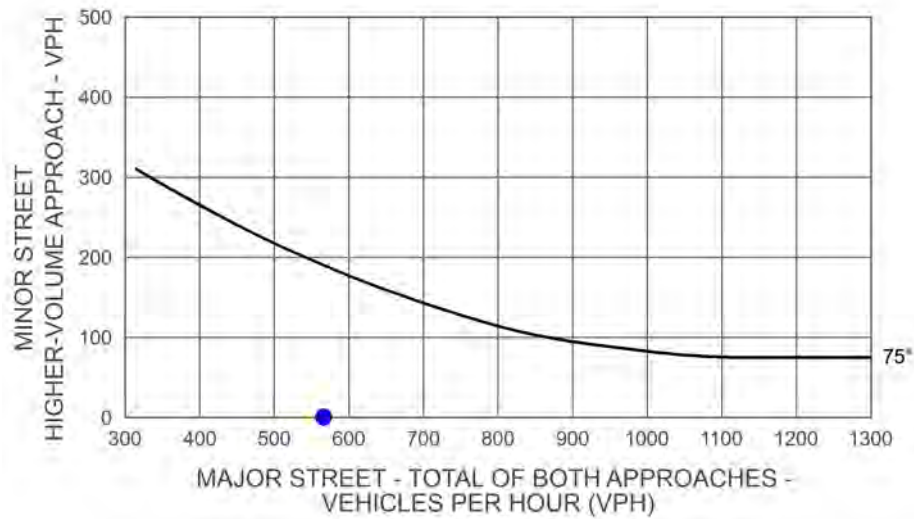


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 3

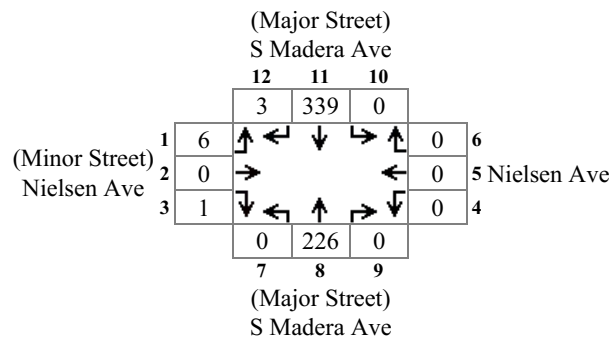


Major Total: 566
Minor High Volume: 1

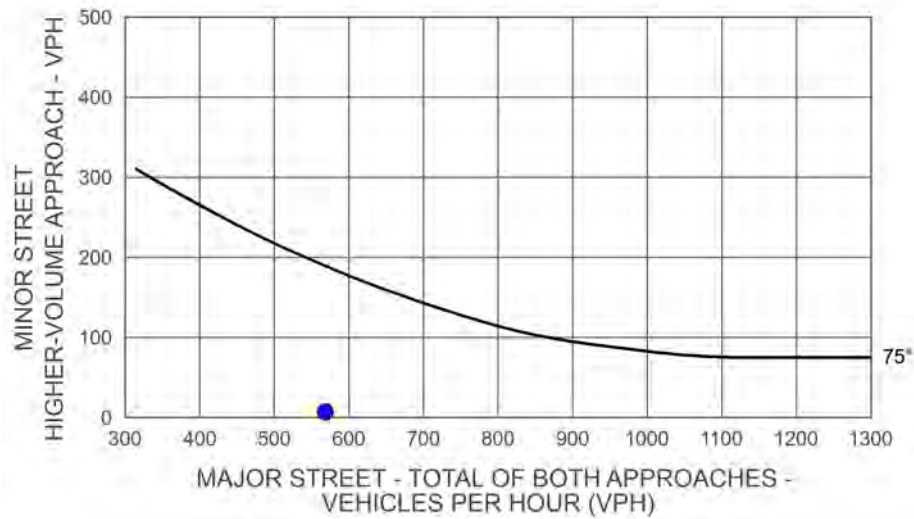


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Existing+Project
Intersection #: 3

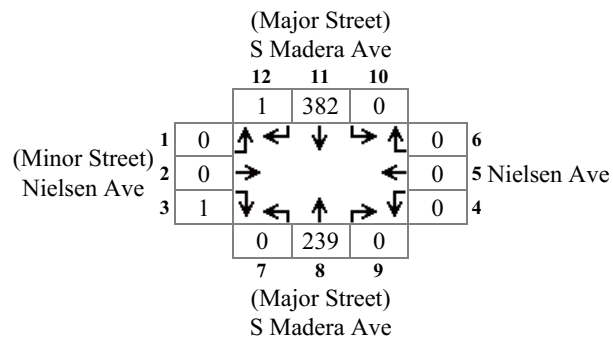


Major Total: 568
Minor High Volume: 7



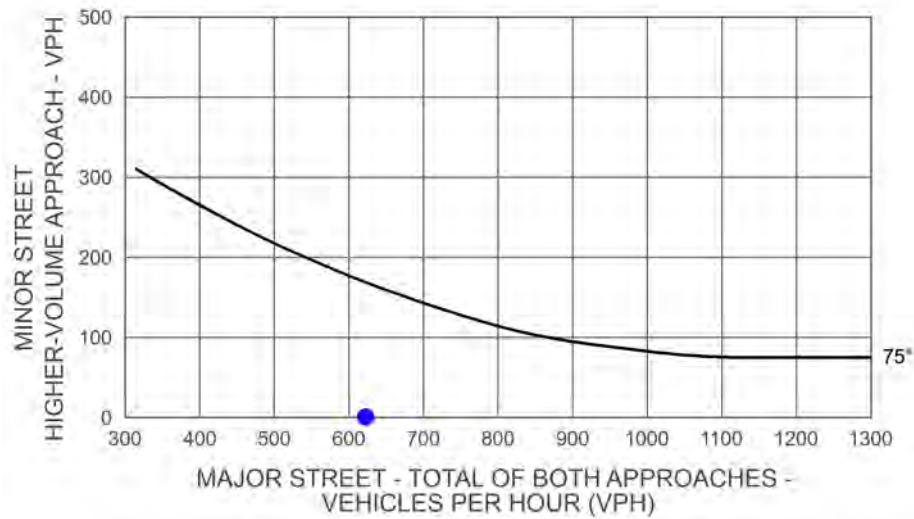
Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 3



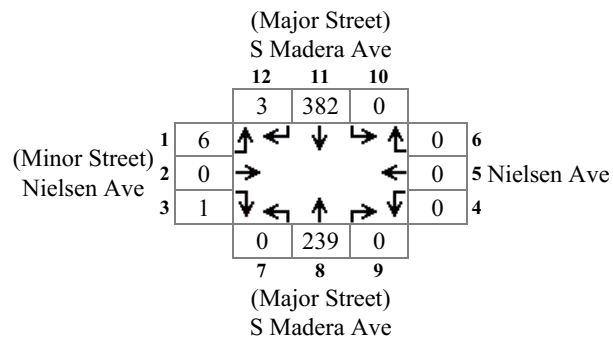
Major Total: 622

Minor High Volume: 1



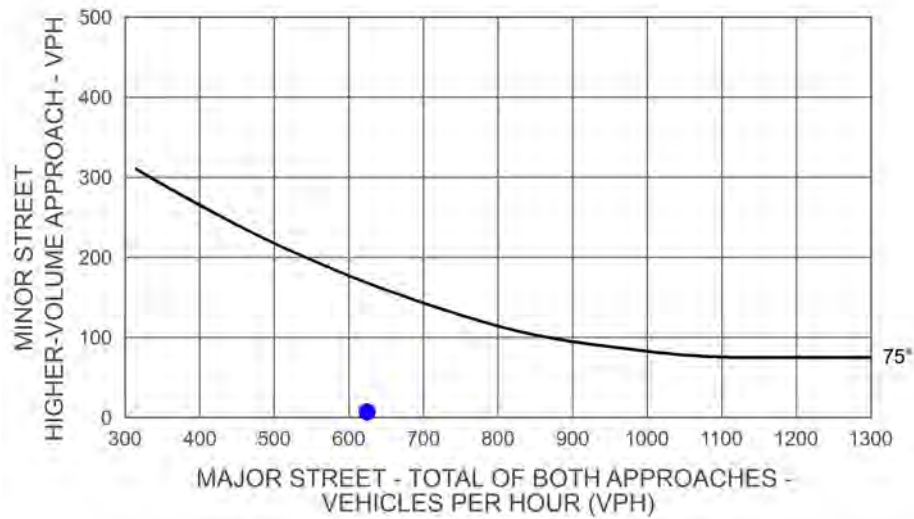
Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Future+Project
Intersection #: 3



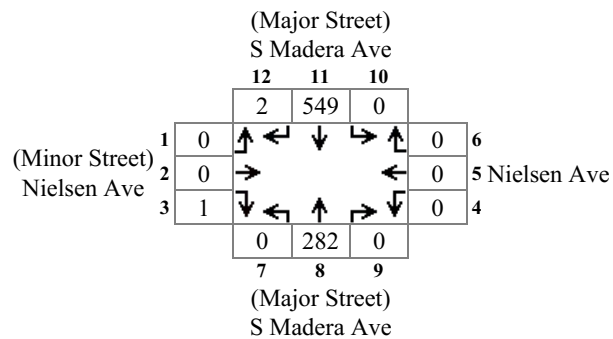
Major Total: 624

Minor High Volume: 7



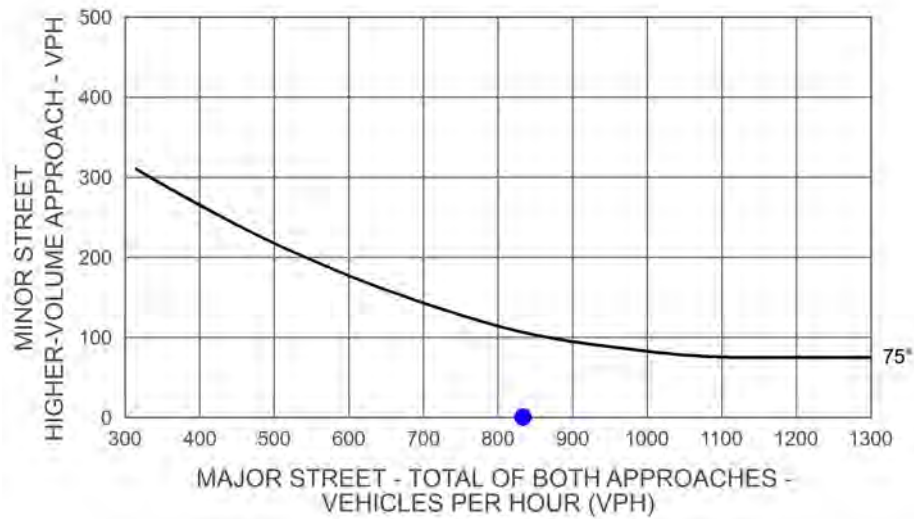
Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 3



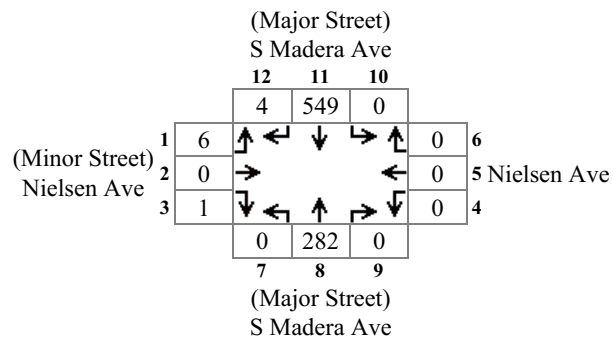
Major Total: 833

Minor High Volume: 1

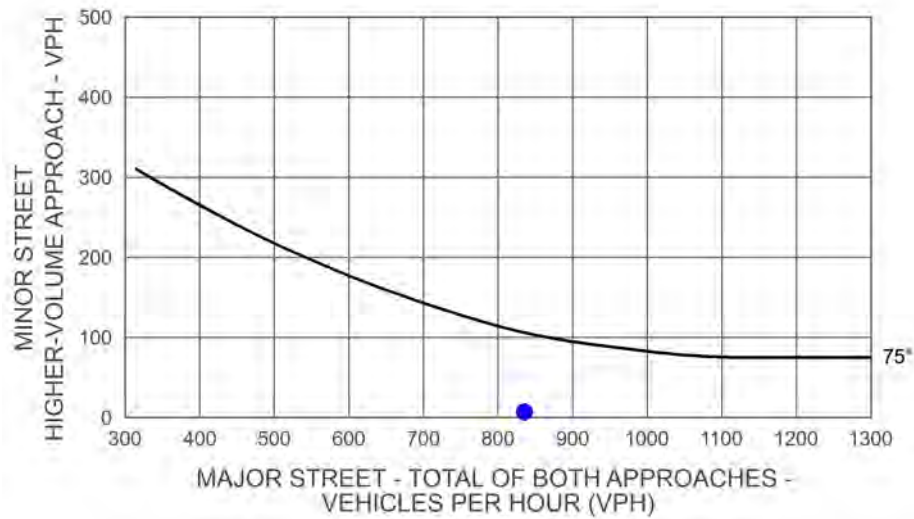


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Future+Project
Intersection #: 3

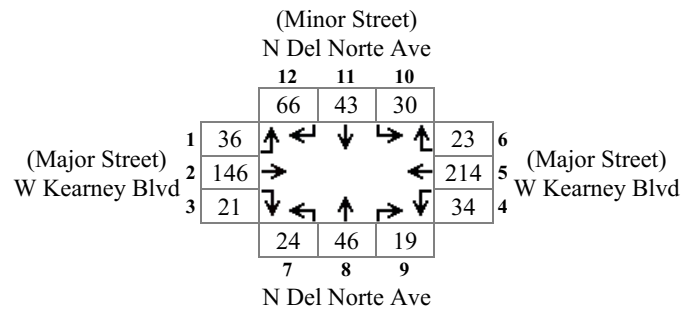


Major Total: 835
Minor High Volume: 7

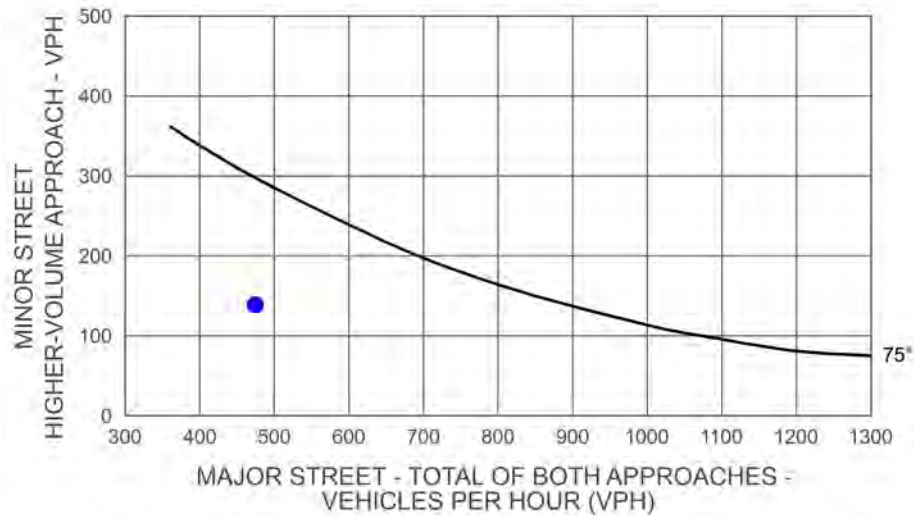


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 8

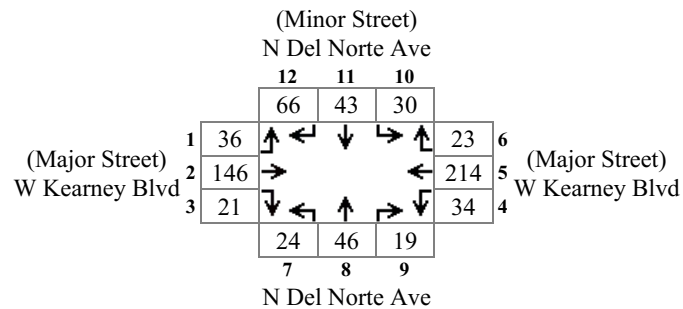


Major Total: 474
Minor High Volume: 139

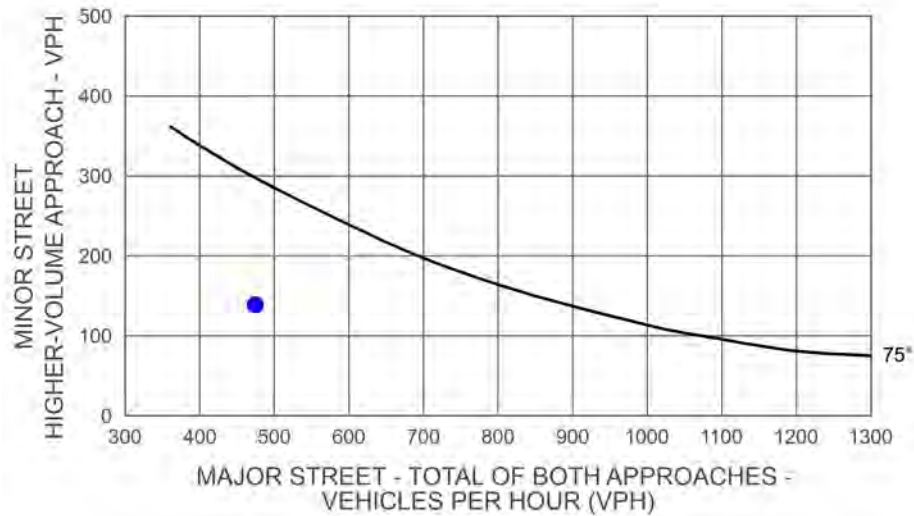


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 8

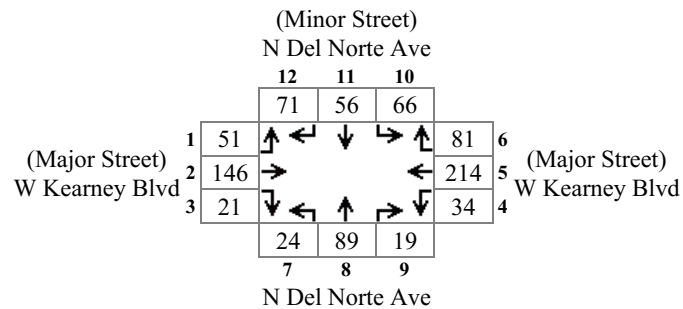


Major Total: 474
Minor High Volume: 139

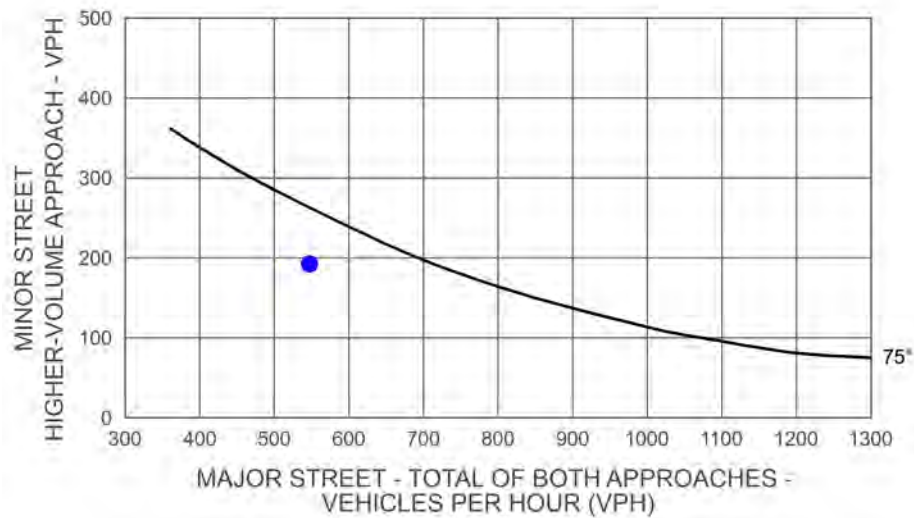


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Existing+Project
Intersection #: 8

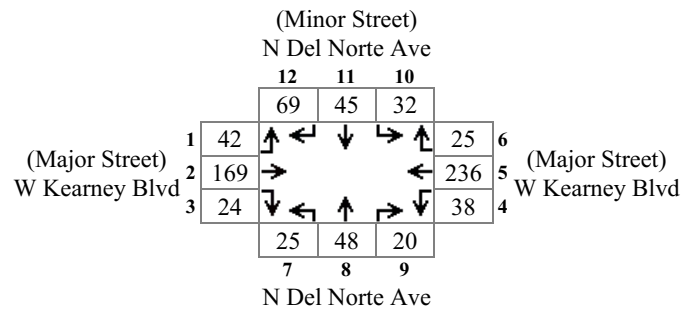


Major Total: 547
Minor High Volume: 193

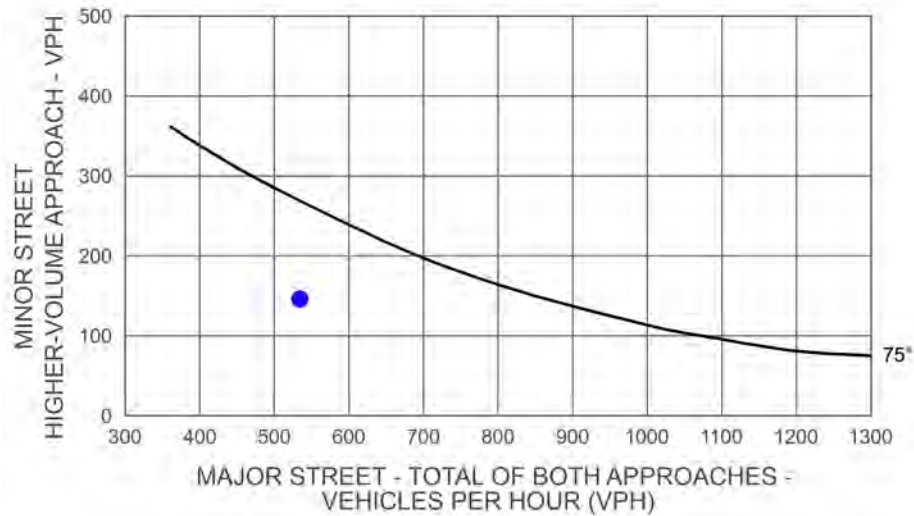


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 8

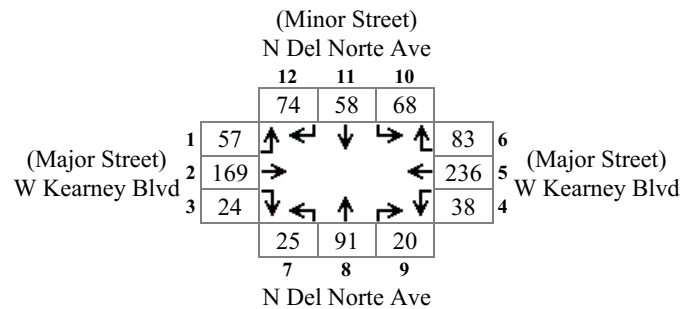


Major Total: 534
Minor High Volume: 146

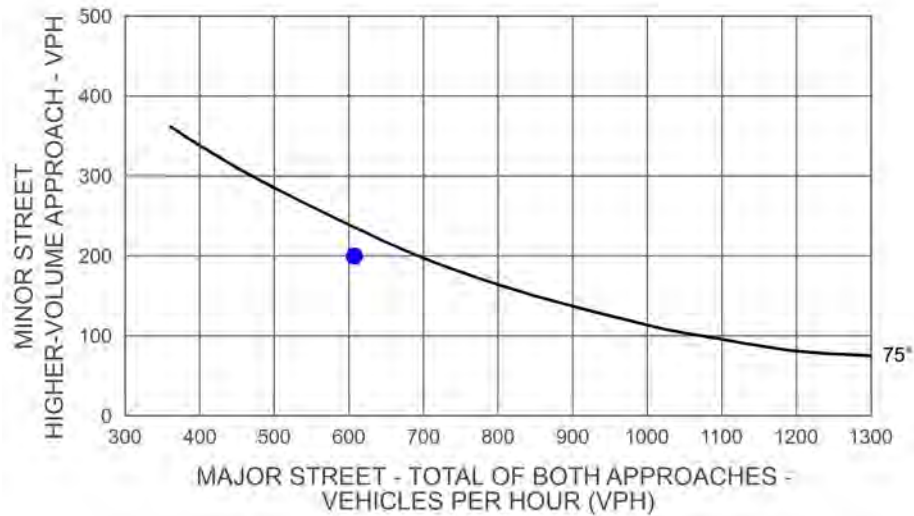


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Future+Project
Intersection #: 8

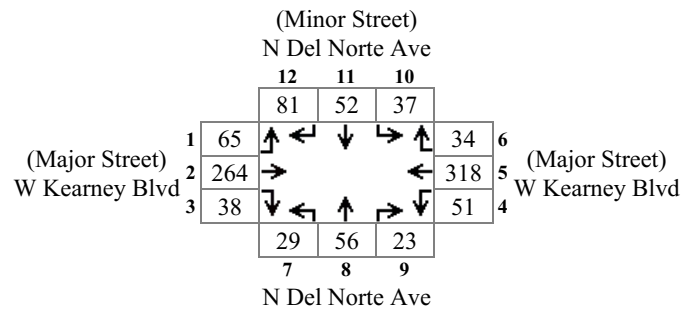


Major Total: 607
Minor High Volume: 200

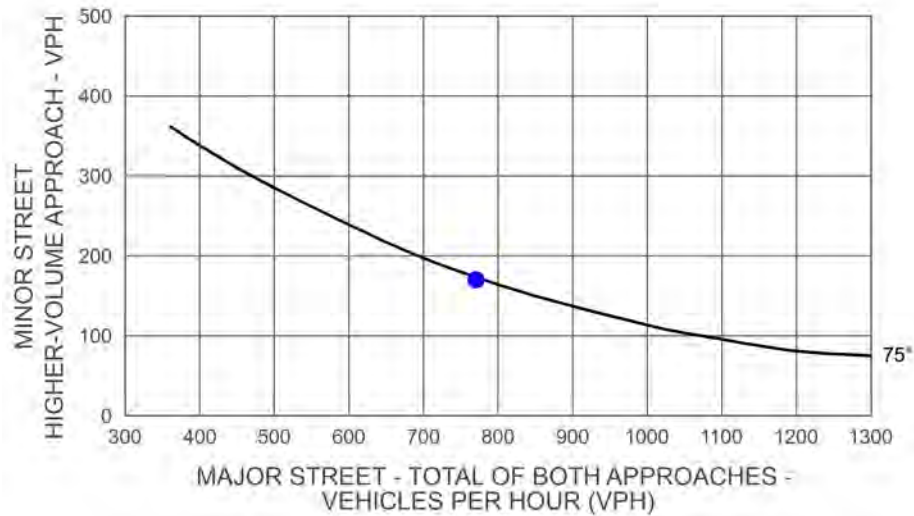


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 8

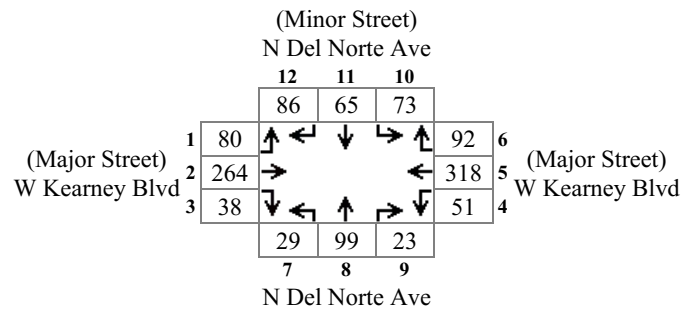


Major Total: 770
Minor High Volume: 170

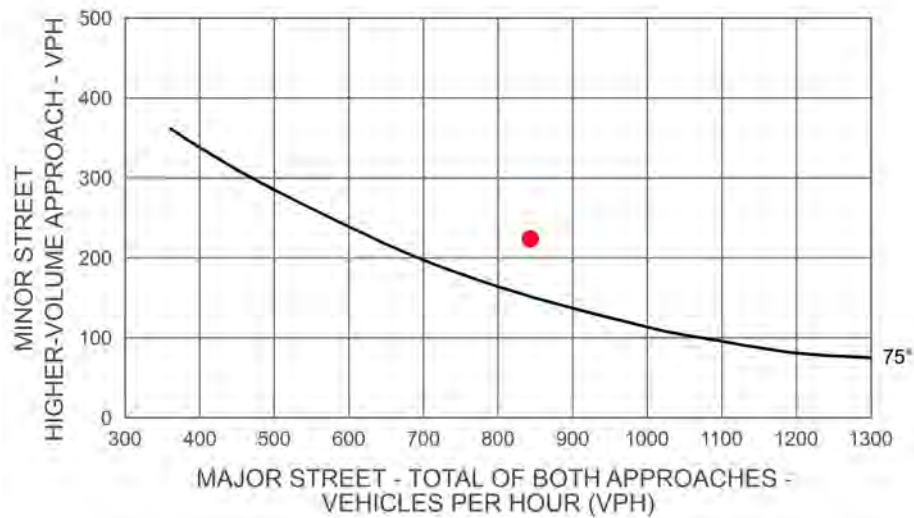


Rural Peak Hour Signal Warrant Intersection Meets Signal Warrant

Scenario: PM Future+Project
Intersection #: 8



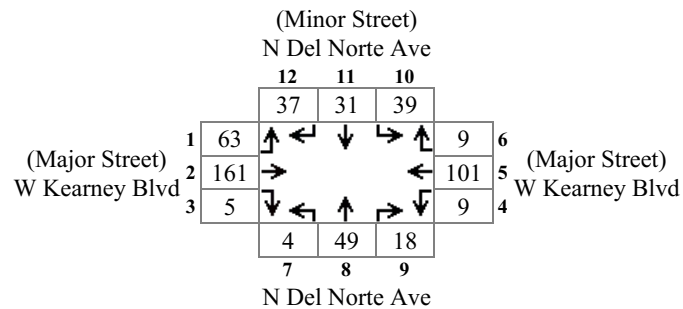
Major Total: 843
Minor High Volume: 224



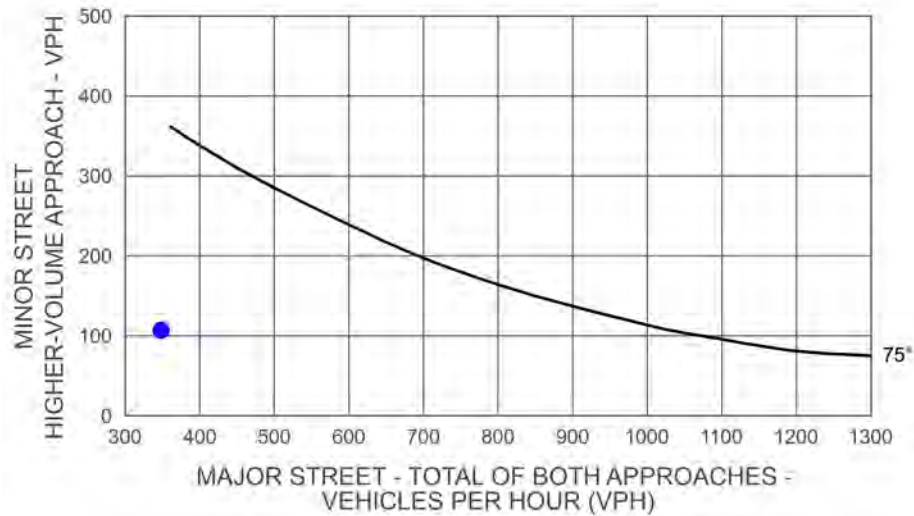
Rural Peak Hour Signal Warrant

Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 8



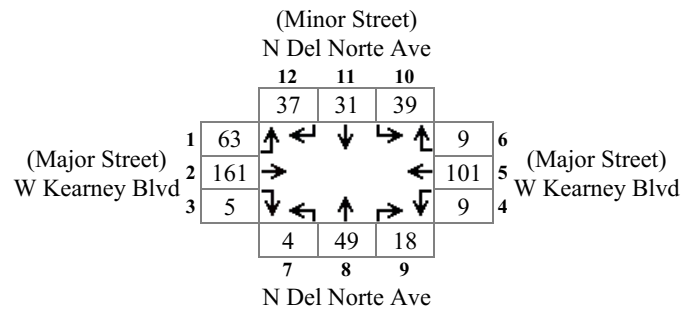
Major Total: 348
Minor High Volume: 107



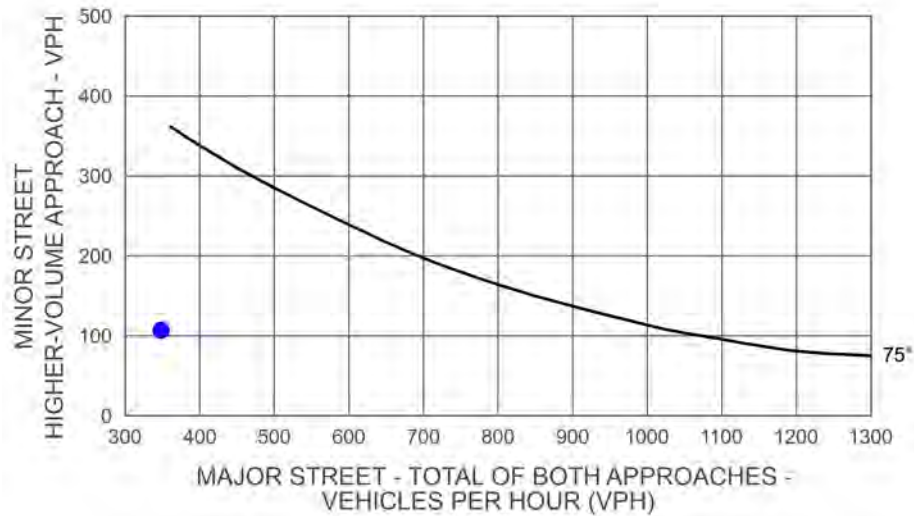
Rural Peak Hour Signal Warrant

Intersection Does Not Meet Signal Warrant

Scenario: AM Existing
Intersection #: 8

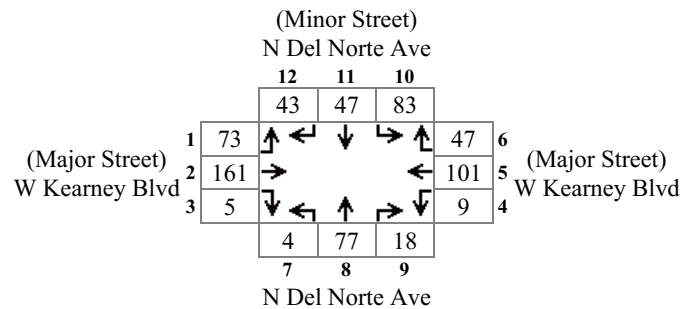


Major Total: 348
Minor High Volume: 107

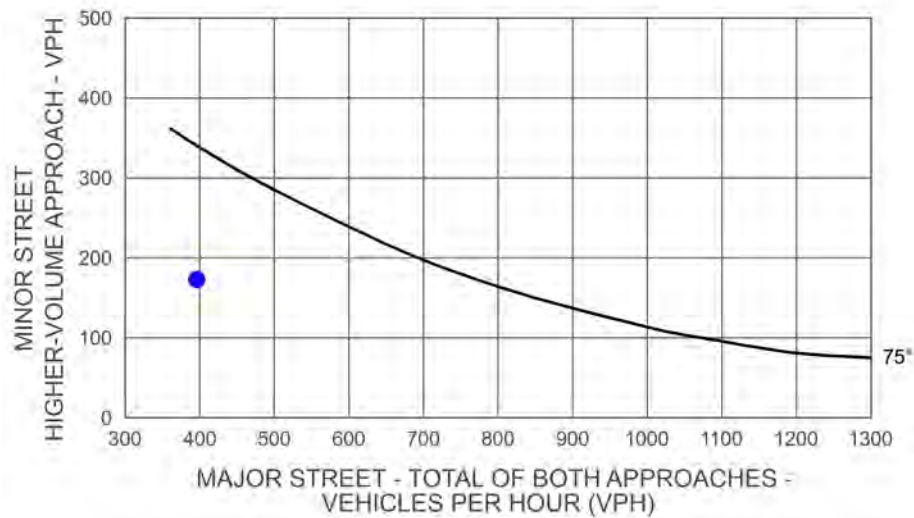


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Existing+Project
Intersection #: 8

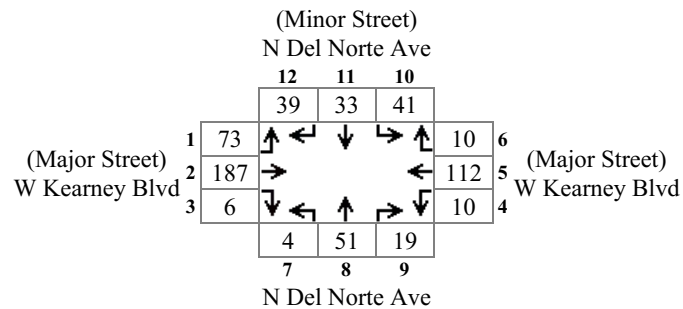


Major Total: 396
Minor High Volume: 173

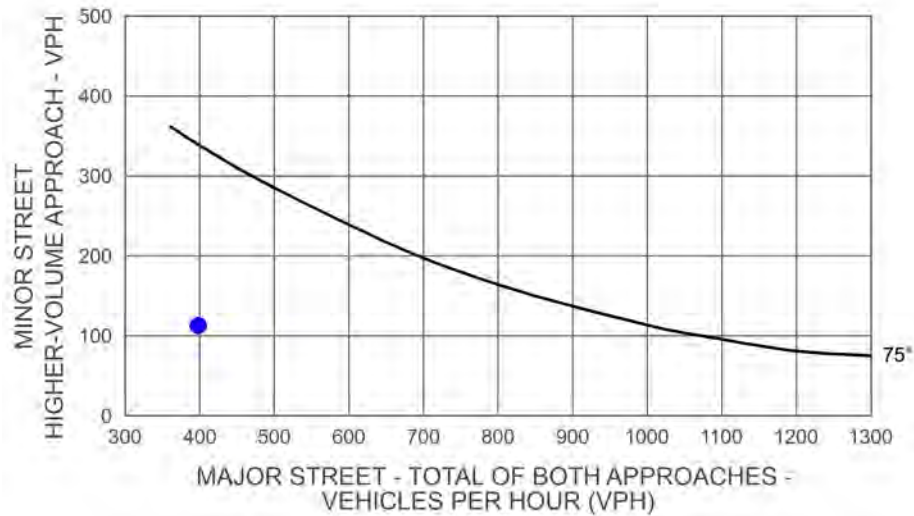


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 8

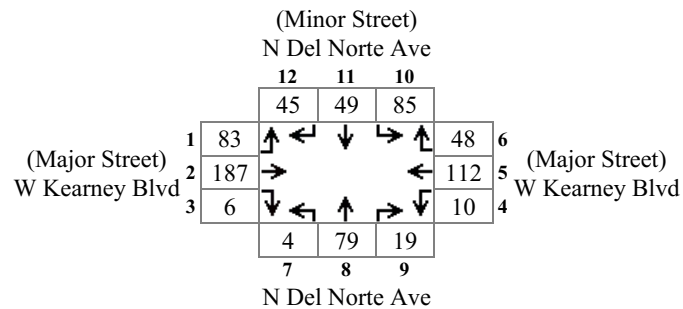


Major Total: 398
Minor High Volume: 113

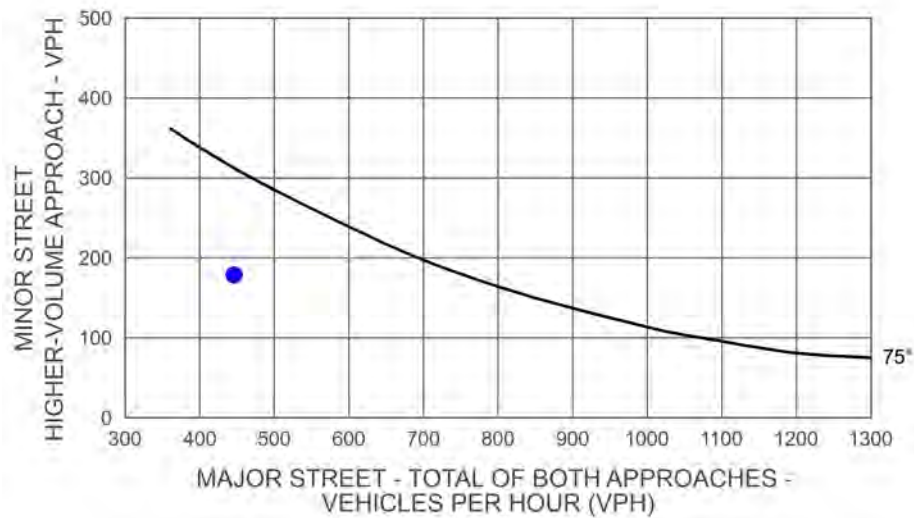


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Future+Project
Intersection #: 8

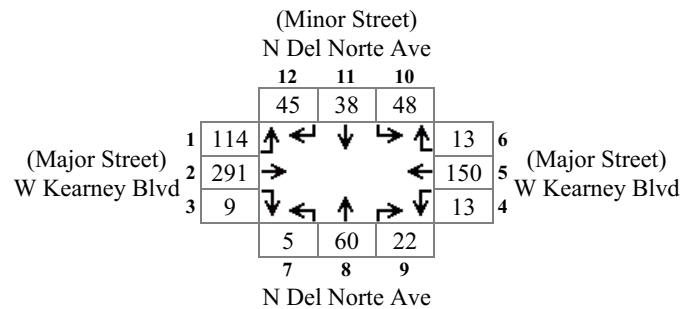


Major Total: 446
Minor High Volume: 179

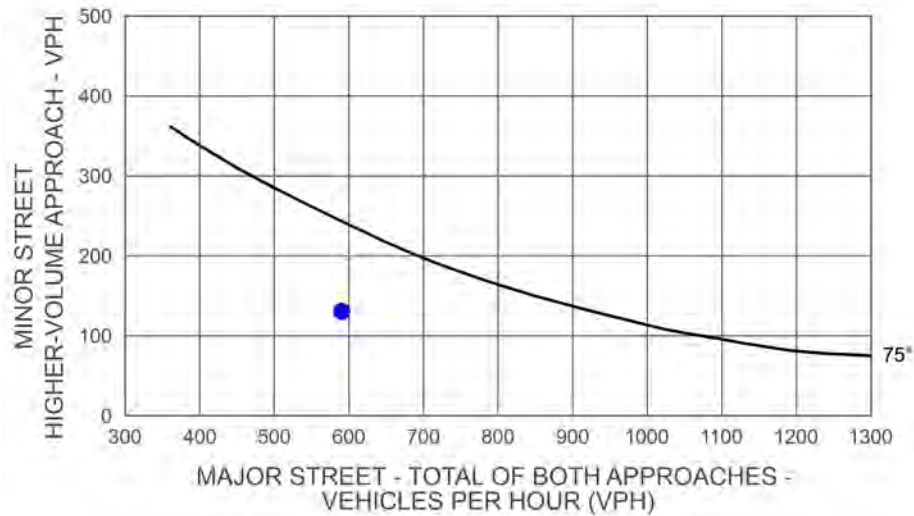


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 8

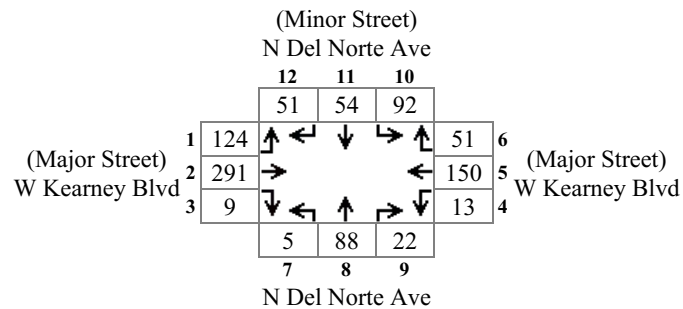


Major Total: 590
Minor High Volume: 131

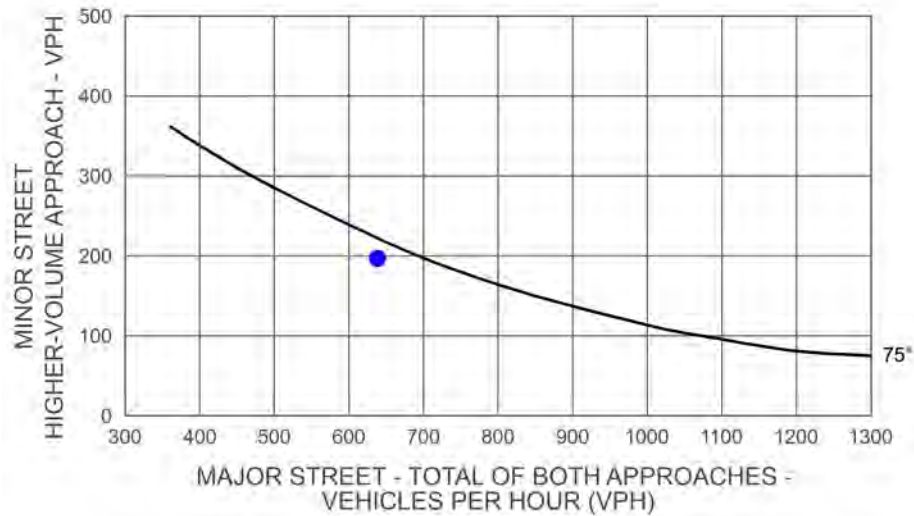


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Future+Project
Intersection #: 8

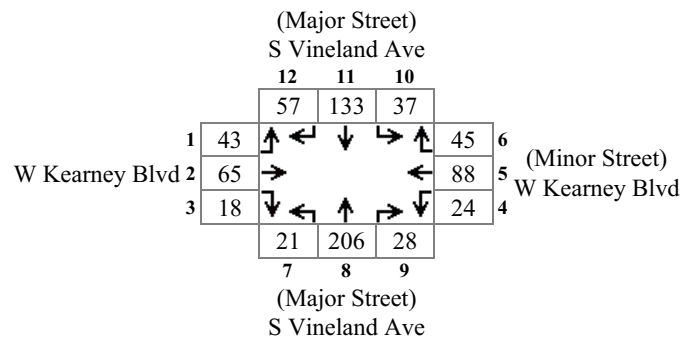


Major Total: 638
Minor High Volume: 197

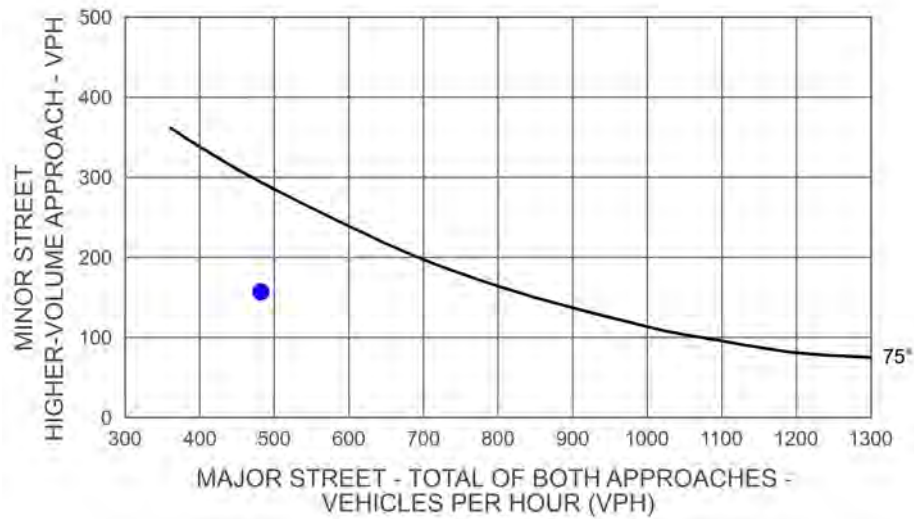


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 10

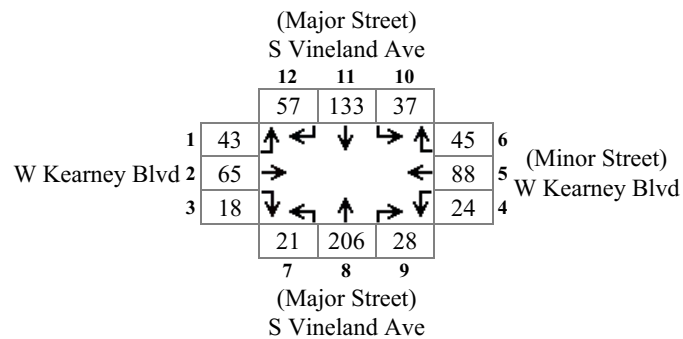


Major Total: 482
Minor High Volume: 157

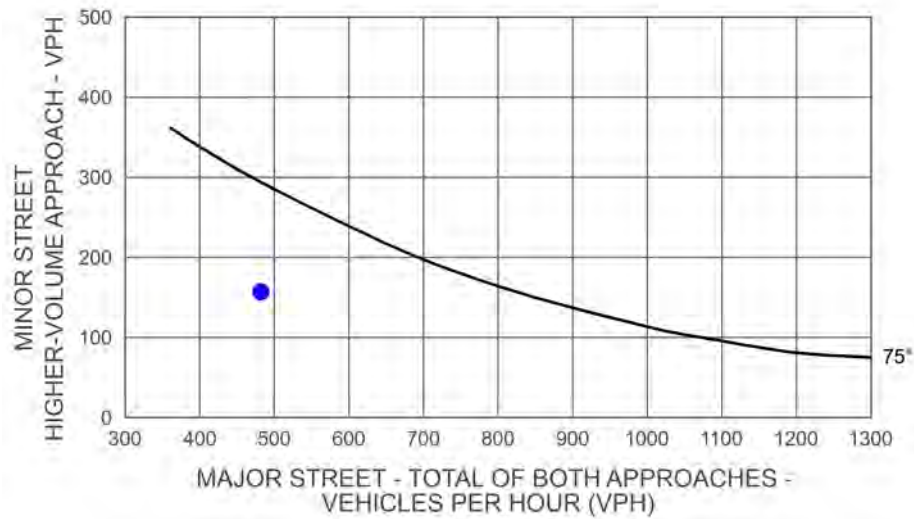


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Existing
Intersection #: 10

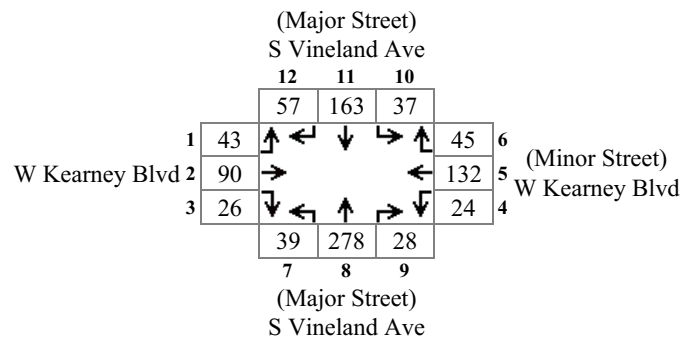


Major Total: 482
Minor High Volume: 157

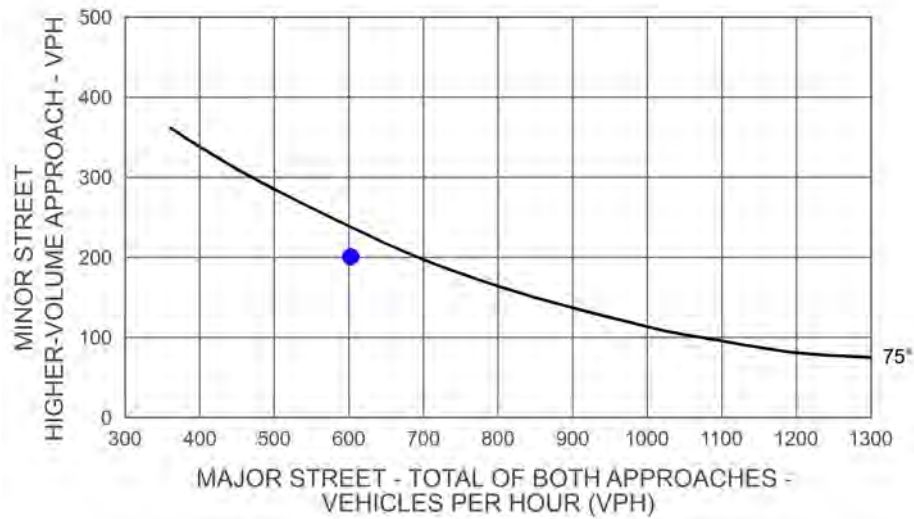


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Existing+Project
Intersection #: 10

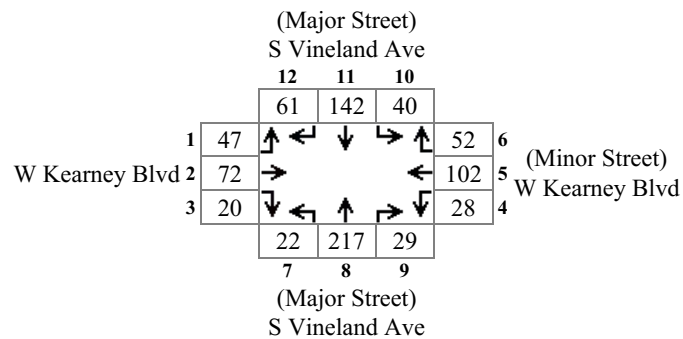


Major Total: 602
Minor High Volume: 201

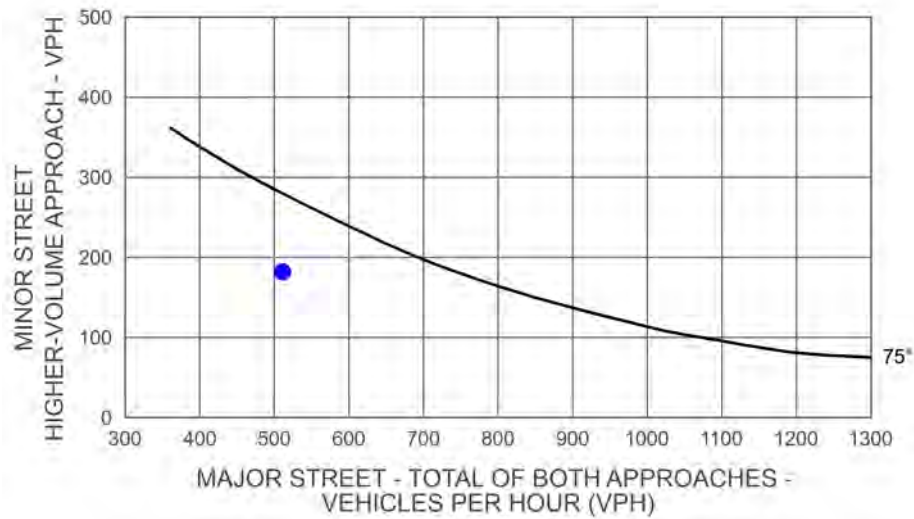


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: PM Future
Intersection #: 10

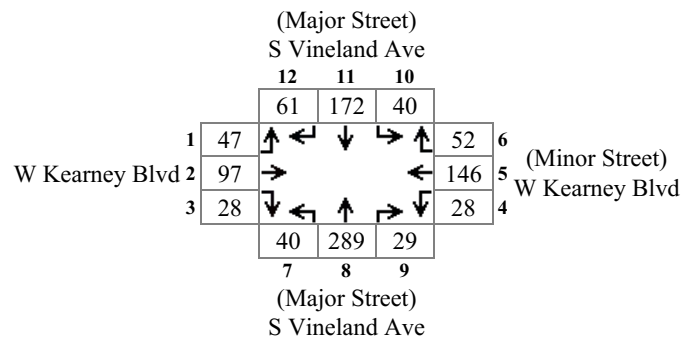


Major Total: 511
Minor High Volume: 182

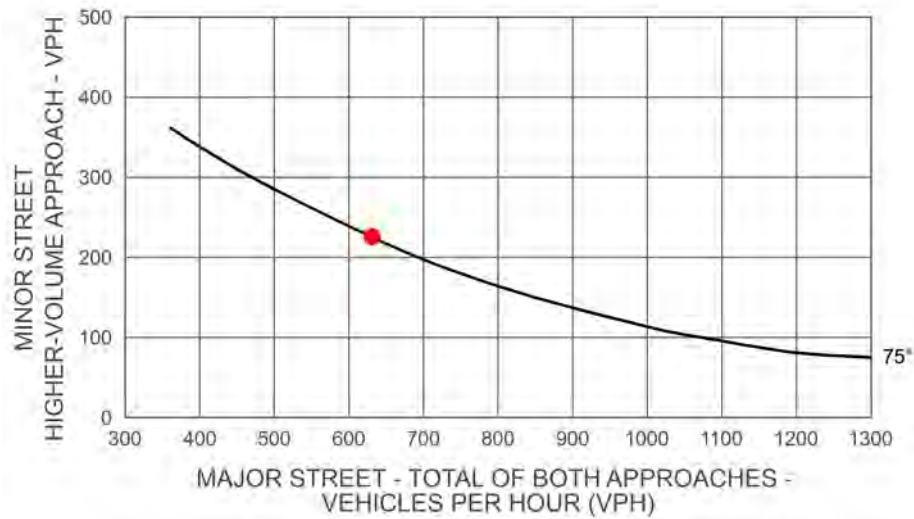


Rural Peak Hour Signal Warrant Intersection Meets Signal Warrant

Scenario: PM Future+Project
Intersection #: 10

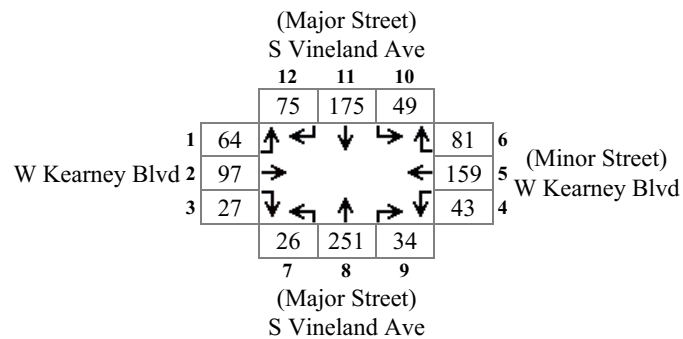


Major Total: 631
Minor High Volume: 226

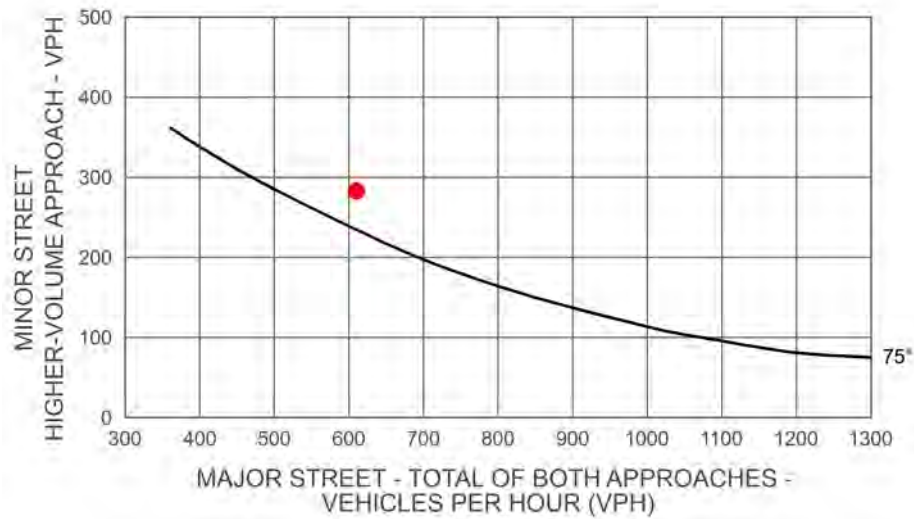


Rural Peak Hour Signal Warrant Intersection Meets Signal Warrant

Scenario: PM Future
Intersection #: 10

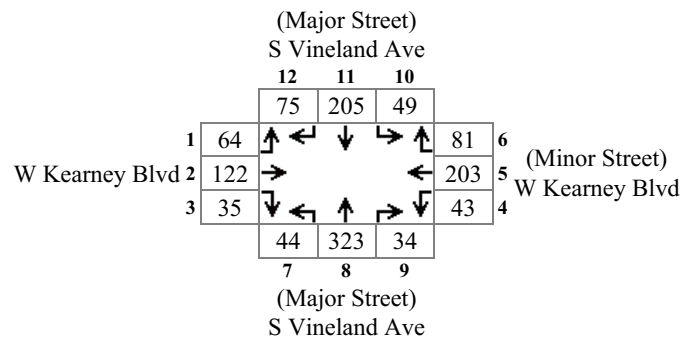


Major Total: 610
Minor High Volume: 283

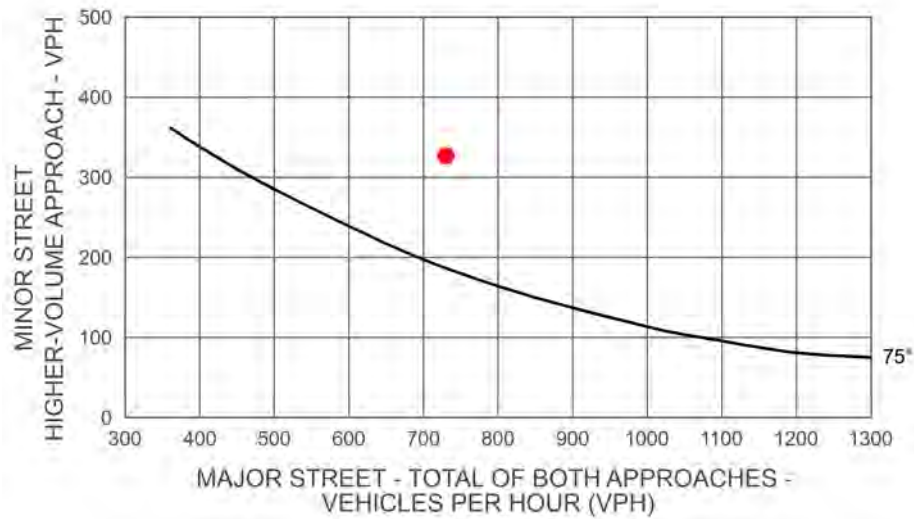


Rural Peak Hour Signal Warrant Intersection Meets Signal Warrant

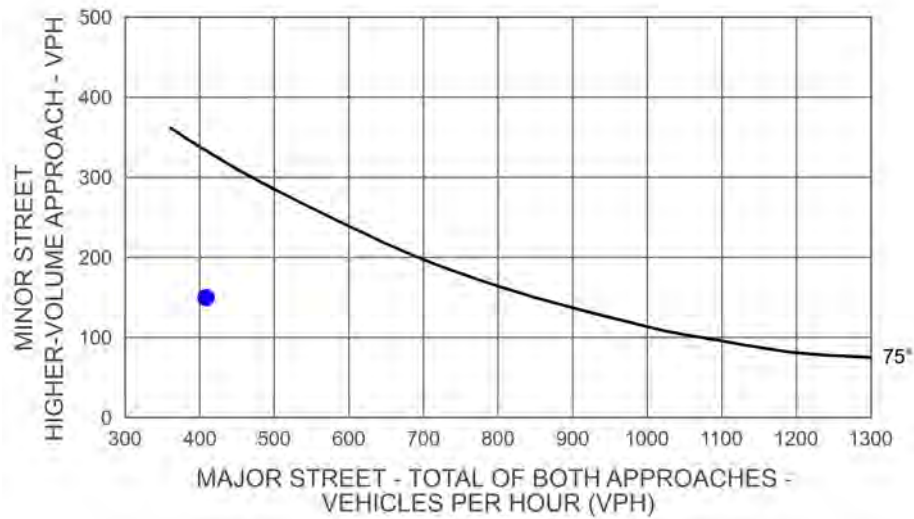
Scenario: PM Future+Project
Intersection #: 10



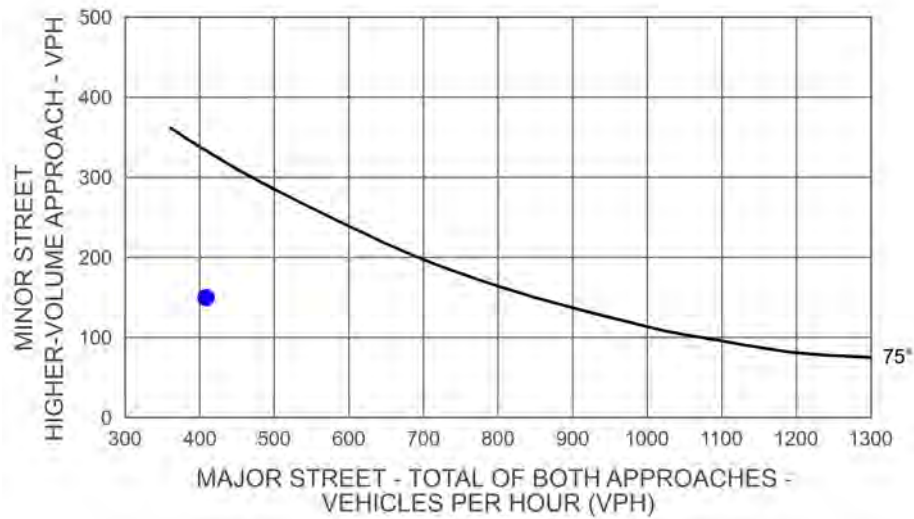
Major Total: 730
Minor High Volume: 327



Scenario:AM Existing
Intersection #:10

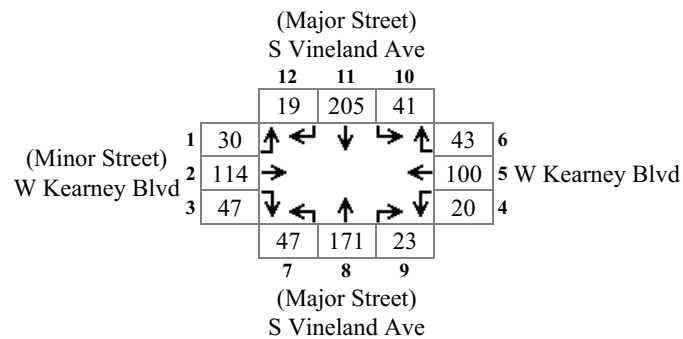


Scenario:AM Existing
Intersection #:10

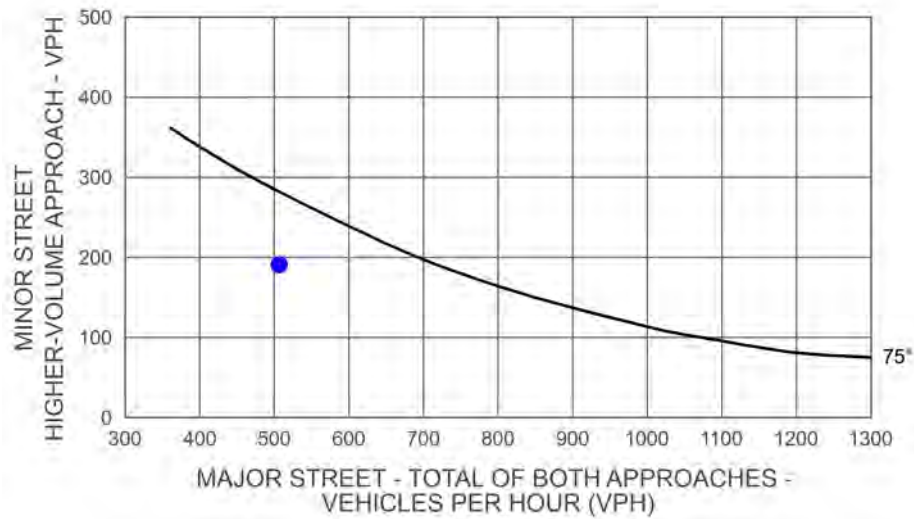


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Existing+Project
Intersection #: 10

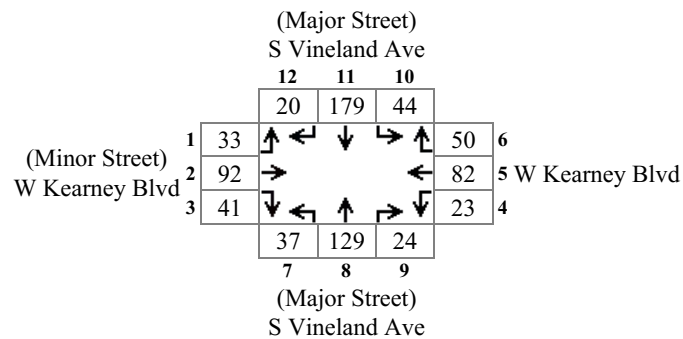


Major Total: 506
Minor High Volume: 191

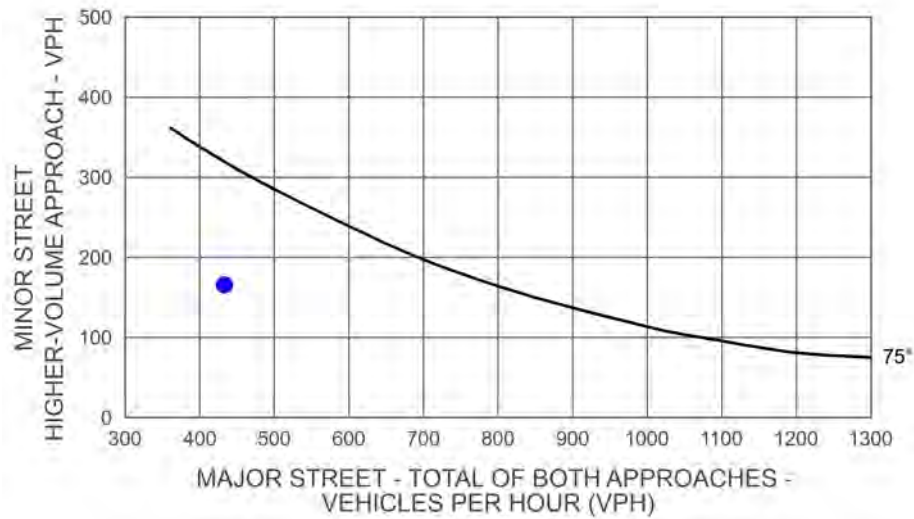


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 10

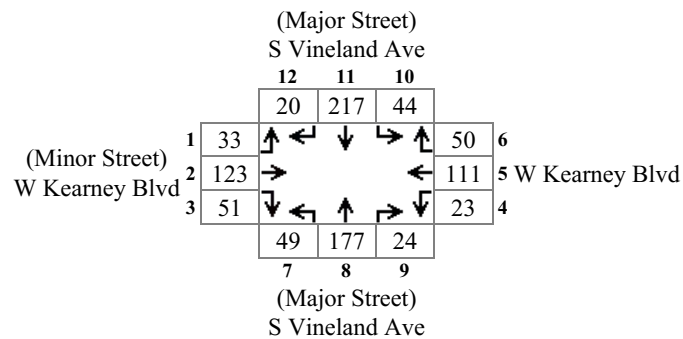


Major Total: 433
Minor High Volume: 166

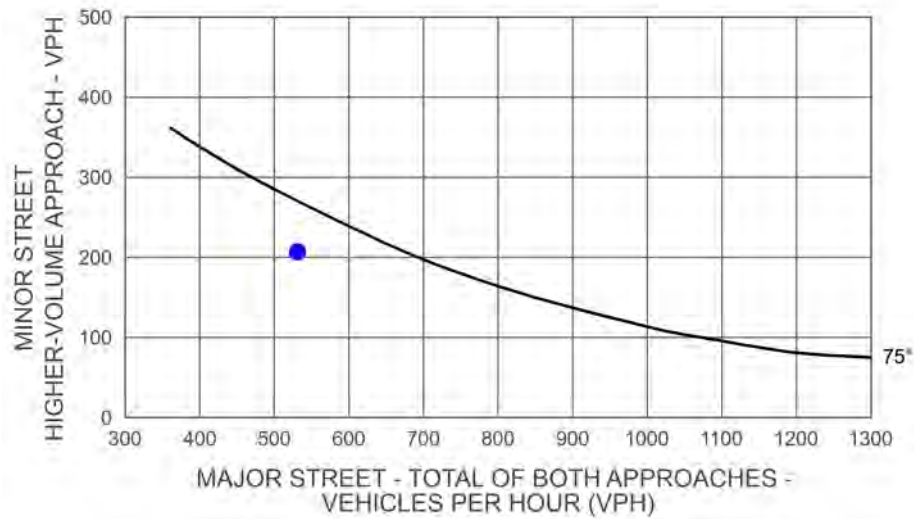


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Future+Project
Intersection #: 10

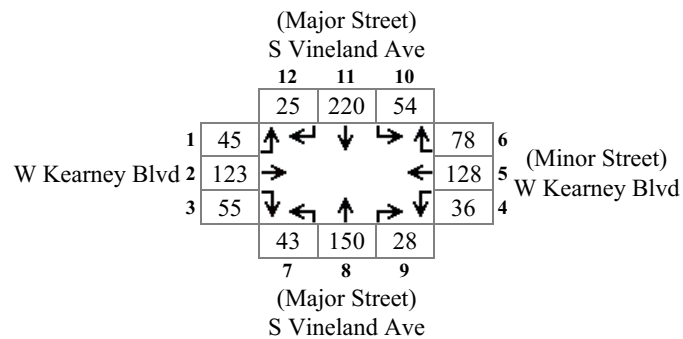


Major Total: 531
Minor High Volume: 207

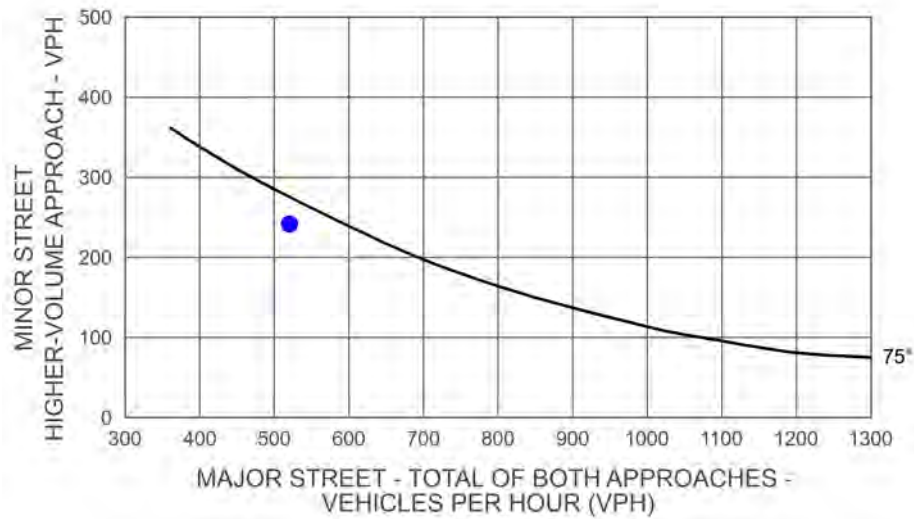


Rural Peak Hour Signal Warrant Intersection Does Not Meet Signal Warrant

Scenario: AM Future
Intersection #: 10

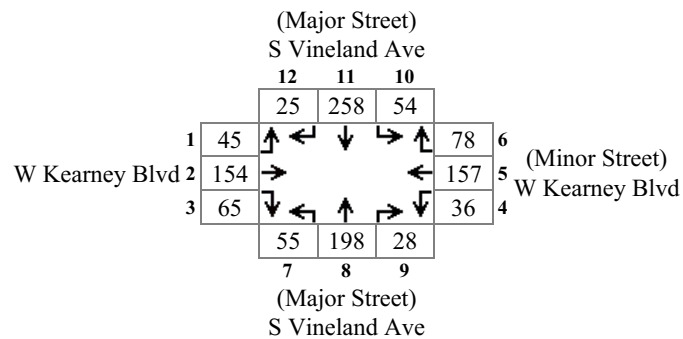


Major Total: 520
Minor High Volume: 242

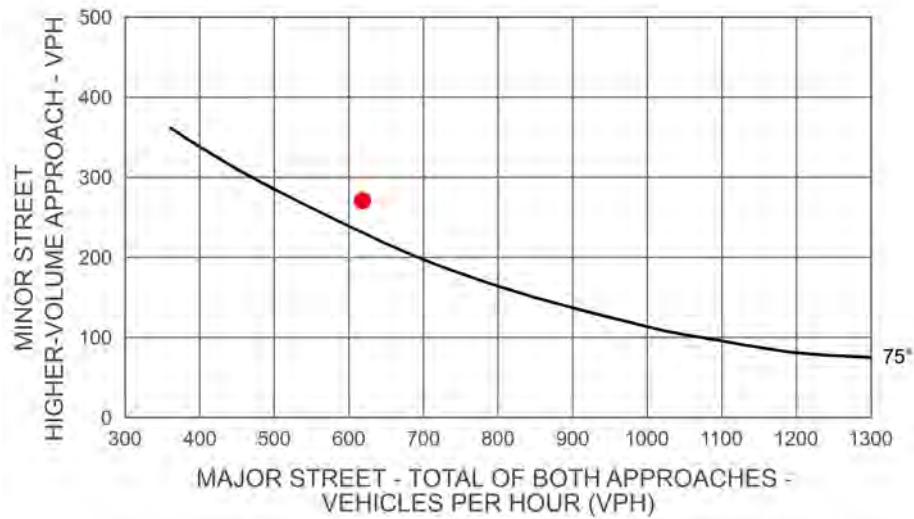


Rural Peak Hour Signal Warrant Intersection Meets Signal Warrant

Scenario: AM Future+Project
Intersection #: 10



Major Total: 618
Minor High Volume: 271





Fresno COG Vehicle Miles Traveled Analysis Summary Report

Report Date: 5/6/2024

Project Information

Name:	Kerman Mixed-Use Development (Single-Family Housing Component)
Jurisdiction	City of Kerman
TAZ ID	1611

Project Land Use

Residential	Single-family:	200	DU	Multi-family:	0	DU
	Total:	200	DU	Percent Affordable:	0	%
Non-Residential	Office:	0	TSF	Others:		TSF

Project VMT Results

Single-Family

Project VMT per Capita:	26.0
County Average VMT per Capita:	16.1
County Average VMT per Capita (13% threshold):	14.0



Fresno COG Vehicle Miles Traveled Analysis Summary Report

Report Date: 5/6/2024

Project Information

Name:	Kerman Mixed-Use Development (Multifamily Housing Component)
Jurisdiction	City of Kerman
TAZ ID	1611

Project Land Use

Residential	Single-family:	0	DU	Multi-family:	100	DU
	Total:	100	DU	Percent Affordable:	0	%
Non-Residential	Office:	0	TSF	Others:		TSF

Project VMT Results

Multifamily

Project VMT per Capita:	20.9
County Average VMT per Capita:	16.1
County Average VMT per Capita (13% threshold):	14.0



Fresno COG Vehicle Miles Traveled Analysis Summary Report

Report Date: 5/6/2024

Project Information

Name: Kerman Mixed-Use Development (Retail Component)

Jurisdiction: City of Kerman

TAZ ID: 1611

Project Land Use

Residential	Single-family:	0	DU	Multi-family:	0	DU
	Total:	0	DU	Percent Affordable:	0	%
Non-Residential	Retail:	Strip Retail Plaza, Fast-food with Drive-Through			Others:	TSF

Project VMT Results

Retail Component

Regional VMT without Project: 23,332,228

Regional VMT with Project: 23,321,660

Retail Component is likely to have a less than significant impact on regional VMT