APPENDIX D13

Draft Traffic Study

DRAFT Kaiser Redlands Expansion Transportation Study

Prepared for:
City of Redlands

February 2025

OC22-0875.01

FEHR PEERS

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Executive Summary

Fehr & Peers has completed a transportation analysis for the proposed expansion of the Kaiser campus (Project) in Redlands, California. The current Project site contains a 120,000 square foot Kaiser Medical Office Building (MOB). The Project will be an expansion of the remaining undeveloped land on the property site. The expansion consists of various medical facilities and land uses.

This study presents the Level of Service (LOS) analysis consistent with City of Redlands Measure U Growth Management Initiative. This study also presents Vehicle Miles Traveled (VMT) analysis for the Project and is consistent with requirements of Senate Bill 743 (SB 743), the Office of Planning and Research's (OPR's) *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018), and the *City of Redlands CEQA Assessment VMT Analysis Guidelines* (2020) (City's VMT Analysis Guidelines).

Project Description

The Project is located on the northwest corner of California Street and Lugonia Avenue bounded by California Street to the east, an existing Ashley Furniture Distribution Center to the west, Almond Avenue to the north, and Lugonia Avenue to the south. The expansion is proposed to occur in four phases:

Phase One

- 165,000 sf maximum, 4-story Ambulatory Surgery Center/Medical Office Building 2 (ASC/MOB 2) (shown as MOB 2/ASC in the site plan)

Phase Two

- 400,000 square feet of Hospital comprising of 213 beds
- 35,000 square foot Central Utility Plant (shown as CUP in the site plan).
- 464,000 square feet (6 level- 1218 parking stalls, 70 handicap stalls) Medical Center Parking Structure

Phase Three

- 83,000 square feet of MOB (shown as MOB 3 in the site plan)

Phase Four

- 180,000 square foot expansion to the Phase Tow Hospital comprising of an additional 108 beds, 5 stories, and basement

Access to the Project will be provided by the two existing full access driveways located along California Street and Lugonia Avenue. The full buildout of the Project proposes three additional driveways, one on Lugonia Avenue (west of the existing Lugonia Avenue driveway) and two on Almond Avenue. All driveways will provide full access to the Project, but the two most west driveways on Almond Avenue and Lugonia Avenue will primarily service ambulances and delivery trucks.

Vehicle Miles Traveled (VMT) Analysis

A summary of the VMT assessment is provided below:

- The VMT assessment determined that the Project is forecasted to generate VMT at a rate higher than the City's threshold.
- The Project has unique characteristics as a Kaiser facility – it only serves patients who are Kaiser members. The regional travel model may not fully capture this, and data provided by Kaiser shows that trip lengths for existing Kaiser members and employees would be reduced by providing an expanded campus in Redlands.

Mitigation Measures

Mitigation measures were identified to reduce project generated commute VMT below the City level of significance.

- Implement Commute Trip Reduction Marketing
- Provide Employer Sponsored Rideshare Program
- Provide End-of-Trip Bike Facilities for Commuters
- Provide Employer-Sponsored Vanpool Program

Even with the maximum VMT reduction provided by available mitigation measures, the Project would generate VMT greater than the City's threshold of significance.

Level of Service (LOS) Analysis

The following scenarios were analyzed for the LOS analysis:

- Existing (2024) Baseline Conditions
- Existing (2024) Plus Project Conditions

Within the Existing (2024) Baseline Conditions scenario, the following intersections operate with acceptable conditions.

1. California Street and San Bernardino Avenue
2. California Street and Almond Avenue
3. California Street and Lugonia Avenue
4. California Street and Orange Tree Lane
5. California Street and I-10 Westbound Ramps
6. California Street and I-10 Eastbound Ramps
7. California Street and Redlands Boulevard
8. Mountain View Avenue and Almond Avenue

The LOS Analysis showed that during the Existing (2024) Conditions, two study intersections have deficient operations during the PM peak hour:

9. Mountain View Avenue and I-10 Westbound Ramps
10. Mountain View Avenue and I-10 Eastbound Ramps

In the Existing (2024) Plus Project Conditions scenario, the following intersections and Project driveways operate with acceptable conditions based on City guidelines:

1. California Street and San Bernardino Avenue
2. California Street and Almond Avenue
4. California Street and Orange Tree Lane
6. California Street and I-10 Eastbound Ramps
8. Mountain View Avenue and Almond Avenue
9. Mountain View Avenue and I-10 Westbound Ramps
B. Driveway B and Lugonia Avenue
C. Driveway C and Lugonia Avenue
D. Driveway D and Almond Avenue
E. Driveway E and Almond Avenue

The LOS Analysis showed that during the Existing (2024) Plus Project Conditions scenario, three study intersections and one project driveway operate below acceptable conditions. To address these issues, Fehr & Peers identified optimized signal timing at the study intersections and completed a signal warrant at the Project driveway. The deficient study intersections and Project driveway are listed below:

3. California Street and Lugonia Avenue
5. California Street and I-10 Westbound Ramps
10. Mountain View Avenue and I-10 Eastbound Ramps
A. California Street and Driveway A

With the identified signal timing improvements at intersections 3, 5, and 10, and with the installation of a new traffic signal at California Street and Driveway A, all deficient intersections operate acceptably.

1. Introduction

Fehr & Peers has completed a transportation analysis for the proposed expansion of the Kaiser campus (Project) in Redlands, California. The current Project site contains a 120,000 square foot Kaiser Medical Office Building (MOB). The Project will be an expansion on the remaining undeveloped land on the property site. The expansion consists of various medical facilities and land uses.

This chapter outlines the project description, geographic scope of the transportation impact analysis, and analysis scenarios.

Project Description

The Project is located on the northwest corner of California Street Lugonia Avenue bounded by California Street to the east, an existing Ashley Furniture Distribution Center to the west, Almond Avenue to the north, and Lugonia Avenue to the south. The expansion is proposed to occur in four phases:

Phase One

- 165,000 sf maximum, 4-story Ambulatory Surgery Center/Medical Office Building 2 (ASC/MOB 2) (shown as MOB 2/ASC in the site plan)

Phase Two

- 400,000 square feet of Hospital comprising of 213 beds
- 35,000 square foot Central Utility Plant (shown as CUP in the site plan).
- 464,000 square feet (6 level- 1218 parking stalls, 70 handicap stalls) Medical Center Parking Structure

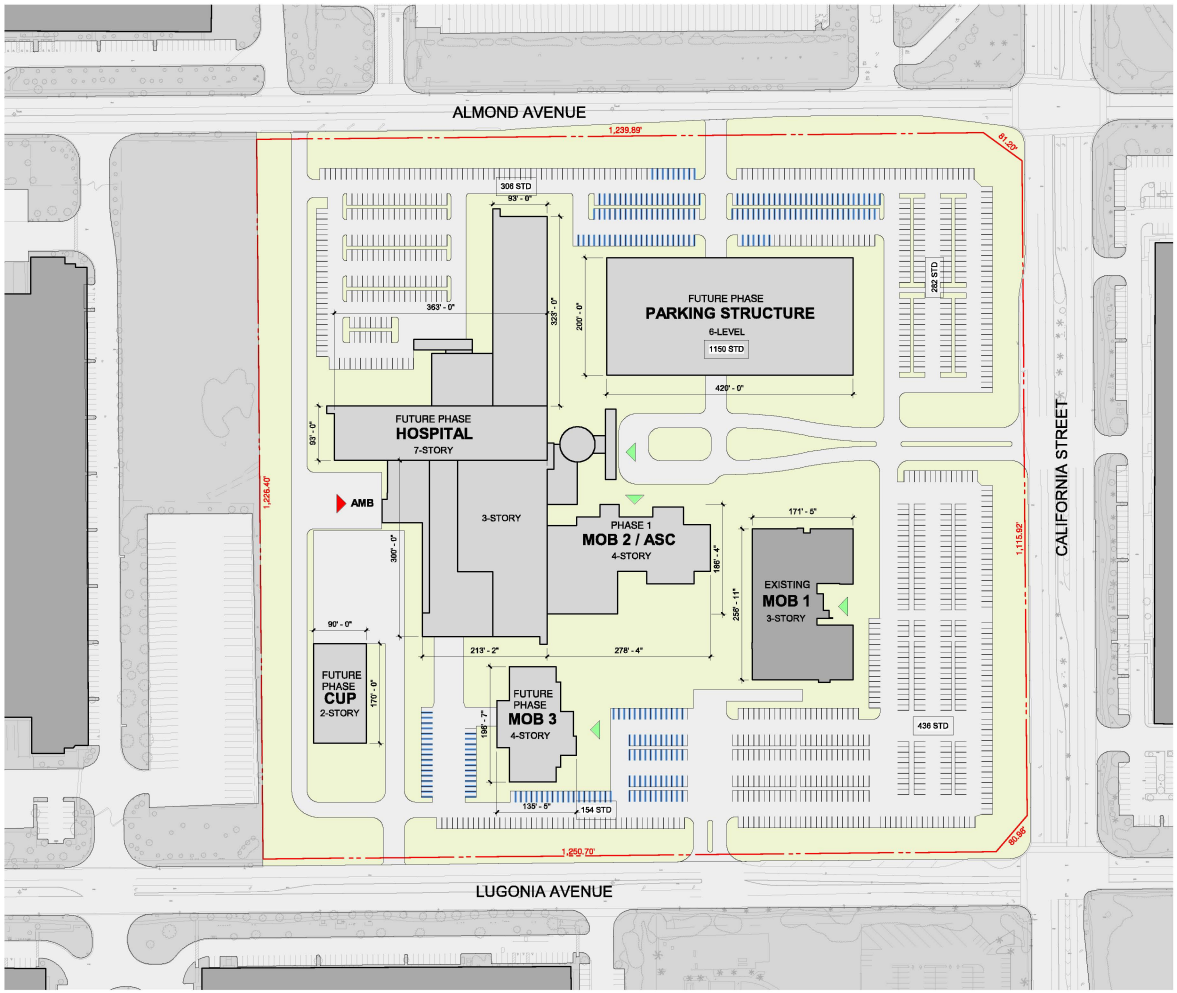
Phase Three

- 83,000 square feet of MOB (shown as MOB 3 in the site plan)

Phase Four

- 180,000 square foot expansion to the Phase Two Hospital comprising of an additional 108 beds, 5 stories, and basement

Access to the Project will be provided by the two existing full access driveways located along California Street and Lugonia Avenue. The full buildout of the Project proposes three additional driveways, one on Lugonia Avenue (west of the existing Lugonia Avenue driveway) and two on Almond Avenue. All driveways will provide full access to the Project, but the two most west driveways on Almond Avenue and Lugonia Avenue will primarily service ambulances and delivery trucks.



***NOTE: ALL DRIVE AISLES MAINTAIN AT LEAST 24'-0" IN WIDTH*

1 ARCHITECTURAL SITE PLAN AND PARKING
1" = 100'-0"

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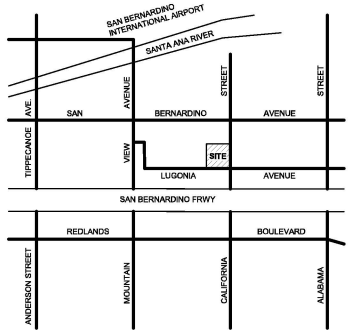


VICINITY MAP
N.T.S.

SITE DEVELOPMENT INFORMATION

Site Analysis	
- Site area gross	1,590,580 sf
- Existing built site area	420,000 sf
Remaining site area	1,170,580 sf
Development Analysis	BGSF
- MOB 2 / ASC	165,000 sf
- Hospital - Phase 1 / 213 Beds	400,000 sf
- CUP	35,000 sf
- MOB 3	83,000 sf
- Hospital - Phase 2 / 108 Beds	180,000 sf
New Development	943,000 sf

PRELIMINARY PLANNING REVIEW
As indicated
MAY 16, 2022

CO ARCHITECTS

KAISER PERMANENTE

REDLANDS MEDICAL CENTER

Sheet: **A 1.26**
CITY OF REDLANDS
Site Development Plan Number:
OWNER: Kaiser Foundation Hospitals PHONE: -
ADDRESS: -
ARCHITECT, ENGINEER, DESIGNER: CO Architects, -
ADDRESS: 5756 Wilshire Boulevard, Suite 500, Los Angeles CA 90036 (Architect) PHONE: 323.525.0500 (Architect)
TYPE OF DEVELOPMENT: XXXXX LOCATION: 1301 California Street, Redlands, CA 92374
ZONE: CR ZONE ACCESSOR'S PARCEL NUMBER: 0167-441-07

Figure 1
Project Site Plan

Study Area

The City of Redlands does not currently have traffic study guidelines that detail the requirements for LOS analysis. However, the City has adopted Measure U which includes the following policies:

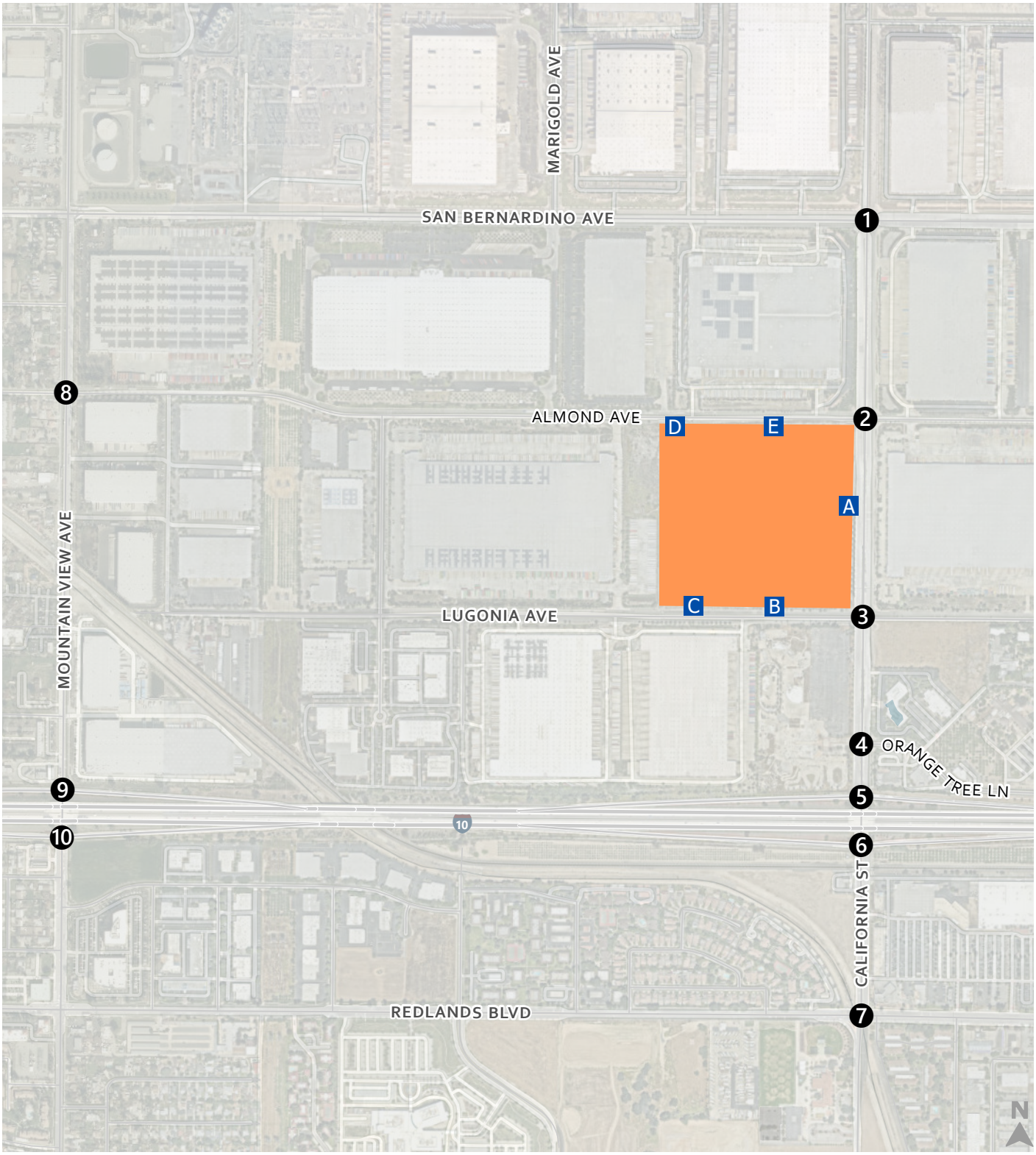
- Maintain LOS C or better as the standard for all intersections presently at LOS C or better
- Within the area identified in GP Figure 5-1, including that unincorporated County area identified on GP Figure 5-1 as the "donut hole", maintain LOS C or better; however, accept a reduced LOS on a case by case basis upon approval by a four-fifths (4/5ths) vote of the total authorized membership of the City Council
- Exemptions from Traffic and Socio-Economic Study Requirements Only. Development projects that directly further the primary institutional purposes of churches, **hospitals**, schools (including private schools and universities), and organizations such as the YMCA and YWCA, **on sites held by such entities as of March 1, 1997**, are exempt from the traffic level of service requirements and the requirement for a socio-economic study established by this initiative measure so long as such development projects are either 1) non-residential in character, or 2) provide only dormitory, staff housing or senior congregate care facilities for those exempt entities.

As the Project proposes to construct hospital and supporting facilities, and has been owned by Kaiser since 1991, it has been determined that the Project is exempt from providing mitigation at local intersections through Measure U. However, the Project will be responsible for any improvements required at their Project driveways to ensure safe ingress and egress from the site.

The Project study intersections are listed below. In addition, the project driveways were also studied. **Figure 2** shows the Project Study Area.

1. California Street and San Bernardino Avenue
2. California Street and Almond Avenue
3. California Street and Lugonia Avenue
4. California Street and Orange Tree Lane
5. California Street and I-10 Westbound Ramps
6. California Street and I-10 Eastbound Ramps
7. California Street and Redlands Boulevard
8. Mountain View Avenue and Almond Avenue
9. Mountain View Avenue and I-10 Westbound Ramps
10. Mountain View Avenue and I-10 Eastbound Ramps

No additional intersections were studied as part of this analysis. Although estimated traffic volumes assigned to the study intersections show that peak hour traffic volumes will be added to other nearby intersections, it is expected that volumes will only be added to major through movements, and will not degrade the overall intersection operations.



Study Intersections
Project Driveways
Project Site

Figure 2

Study Area

Analysis Scenarios

LOS Intersection Analysis

Fehr & Peers studied peak hour intersection LOS at the previously identified study intersections for the following scenarios:

- Existing (2024) Baseline Conditions- Existing 2022 and 2024 traffic turning movement counts. 2022 counts were compared to 2024 volumes. No substantial difference in traffic volumes was observed, so no adjustments were made to 2022 counts.
- Existing (2024) Plus Project Conditions – Existing Without Project Conditions traffic volumes plus traffic generated by the Project Phases 1-4.

2. Significance Criteria and Analysis Methodologies

The transportation study methodology includes a combination of quantitative and qualitative evaluations of the roadway, bicycle, pedestrian, and transit components of the transportation system.

VMT Analysis Methodology

According to the City's VMT Analysis Guidelines, there are three types of screening that can be applied to effectively screen projects from project-level assessment.

- Transit Priority Area (TPA Screening)
- Low VMT Area Screening
- Project Type Screening

Projects which are not eligible for any of the screening criteria are required to complete a VMT analysis using the San Bernardino County travel demand model to determine if they have a significant VMT impact.

The Project does not meet any criteria to be screened from a VMT Analysis, therefore a full VMT analysis was performed through the SBTAM+ model, in line with the City's VMT Analysis Guidelines.

SBTAM+ was used to forecast intersection and roadway segment volumes, estimate existing and future VMT, and to perform an evacuation assessment. SBTAM+ is consistent with the 2024 Southern California Association of Governments Regional Transportation Plan/Sustainable Communities Strategies (SCAG RTP/SCS); it has a base year of 2019 and a forecast year of 2050.

Since the existing land use within the site's Traffic Analysis Zone (TAZ) does not accurately represent the employment of the full expansion, use of data from the existing TAZ was not appropriate for project analyses. Therefore, Fehr & Peers isolated the project into its own TAZ so that the project VMT could be estimated while accounting for socio-economic (SED) data that is consistent with the full buildout of the Kaiser expansion.

When calculating VMT for a project, the VMT methodology should match the methodology used to establish the Baseline VMT metrics and impact thresholds. For non-residential projects in the City of Redlands, Baseline VMT is defined as a measurement of Home-Based Work VMT per employee, which reflects all commute trips for places of employment within the San Bernardino County area. All Home-Based Work auto vehicle VMT attracted by the Project is divided by the total employment to get the efficiency metric of Home-Based Work VMT per employee. Following the VMT analysis, the Home-Based

Work VMT per employee of the Project was then compared to the San Bernardino County Baseline VMT to determine if it exceeds the City's impact threshold

Thresholds of Significance

The City's VMT Analysis guidelines state the Project would result in a significant project-generated VMT impact if either of the following conditions are met:

1. The baseline project generated VMT per service population exceeds a level 15 percent below the San Bernardino County regional average VMT per service population, or
2. For projects that are inconsistent with the City's General plan, the cumulative project generated VMT per service exceeds a level 15 percent below the San Bernardino County regional average VMT per service population.

Level of Service (LOS) Analysis Methodology

Fehr & Peers used the Synchro 11 software package to facilitate the HCM calculations.

Intersection operating conditions in the study area were evaluated using the Transportation Research Board (TRB) *Highway Capacity Manual* (HCM) *7th Edition* methodology, which is considered the state-of-the-practice methodology for evaluating intersection operations.[1] The HCM 7h Edition methodology for signalized intersections estimates the average control delay for vehicles at the intersection. After the quantitative delay estimates are complete, the methodology assigns a qualitative letter grade that represents the operations of the intersection. These grades range from LOS A (minimal delay) to LOS F (excessive congestion). LOS E represents at-capacity operations. Descriptions of the LOS letter grades for signalized and unsignalized intersections are provided in **Table 1**.

Table 1: Intersection Level of Service (LOS) Grades

Level of Service	Description	Signalized Delay (Seconds)	Unsignalized Delay (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length	≤ 10.0	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths	> 10.0 to 20.0	> 10.0 to 15.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear	> 20.0 to 35.0	> 15.0 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable	> 35.0 to 55.0	> 25.0 to 35.0

[1] Synchro 12 prepares delay estimates and reports referencing the HCM 7th Edition Methodology for isolated intersection analysis used in this study.

Level of Service	Description	Signalized Delay (Seconds)	Unsignalized Delay (Seconds)
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences	> 55.0 to 80.0	> 35.0 to 50.0
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths	> 80.0	> 50.0

Source: Highway Capacity Manual 7th Edition (Transportation Research Board, 2022).

3. Existing Conditions

This chapter describes transportation facilities in the Project study area, including the surrounding roadway network, transit, pedestrian, and bicycle facilities in the project site vicinity. Existing (2024) Project site conditions, traffic forecasts, and intersection operations are also described.

Existing Roadway Facilities

Regional access to the site is provided by Interstate 10 (I-10). Local access to the site is provided by California Street, Lugonia Avenue, Almond Avenue, and Mountain View Avenue. The section below discusses the roadways that would provide access to the site and are most likely to be affected by the proposed Project.

Regional Access Facilities

- Interstate 10 Freeway (I-10): I-10 is the main east-west facility through San Bernardino County. It extends the entire length of San Bernardino County, from its western border with Los Angeles County to its eastern border with Riverside County. I-10 is an eight- to ten-lane divided freeway near the Project and provides access to the Project at the Mountain View Avenue and California Street interchanges.
- SR-210: 210 provides regional north-south access in the Project vicinity. It is a six- to eight-lane divided freeway near the Project and provides access to the Project at the San Bernardino Avenue and Lugonia Avenue interchanges.

Local Access Roads

- California Street: California Street is a four-to-six lane north-south facility directly to the East of the Project site that provides access to I-10 and the areas south of the I-10.
- Lugonia Avenue: Lugonia Avenue is a three- to four-lane east-west facility immediately South of the Project site.
- Almond Avenue: Almond Avenue is a four- to six-lane east-west facility directly North of the Project site.
- Mountain View Avenue: Mountain View Avenue is a four- to six-lane east-west facility to the South of the Project site that provides access to I-10 and the areas south of the I-10.

Bicycle Facilities

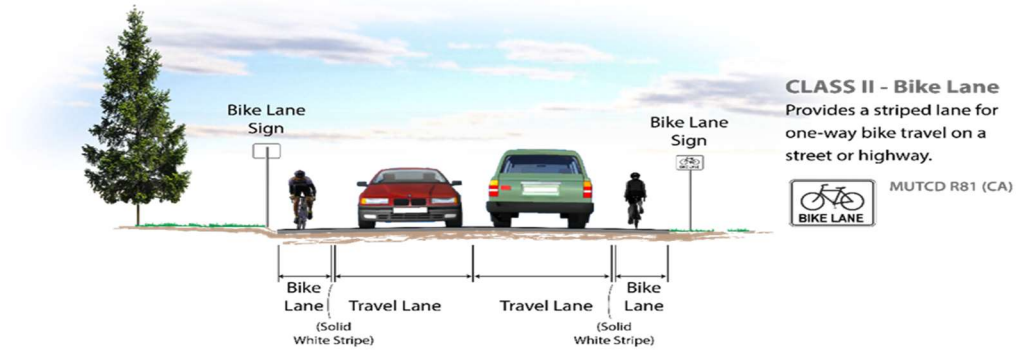
According to the Connected City chapter of *General Plan 2035*, the City's existing bicycle network is comprised of over 36 miles of bicycle paths, made up of Class I, Class II, and Class III bicycle lanes. These facilities are described below.

Class I Bikeways (Bike Paths)

Class I bicycle facilities are completely separated facilities designed for the exclusive use of bicyclists and pedestrians.

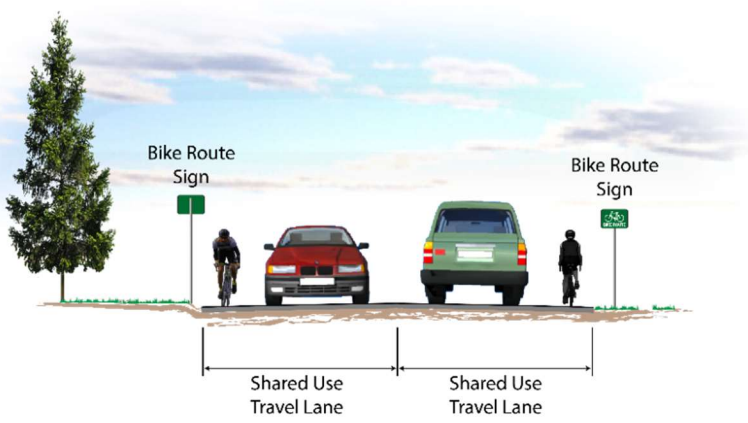
Class II Bikeways (Bike Lanes)

Class II bicycle facilities are striped lanes that provide bike travel along a street or highway and can be either located next to a curb or parking lane.



Class III Bikeways (Bike Routes)

Class III Bikeways are routes designated by signs or pavement markings, like sharrows for bicyclists in a shared-use vehicular travel lane of a roadway. While bicyclists have no exclusive use or priority, signage by the side of the street and sometimes stenciled on the roadway surface alerts motorists to bicyclists sharing the roadway space and denotes that the street is an official bike route.

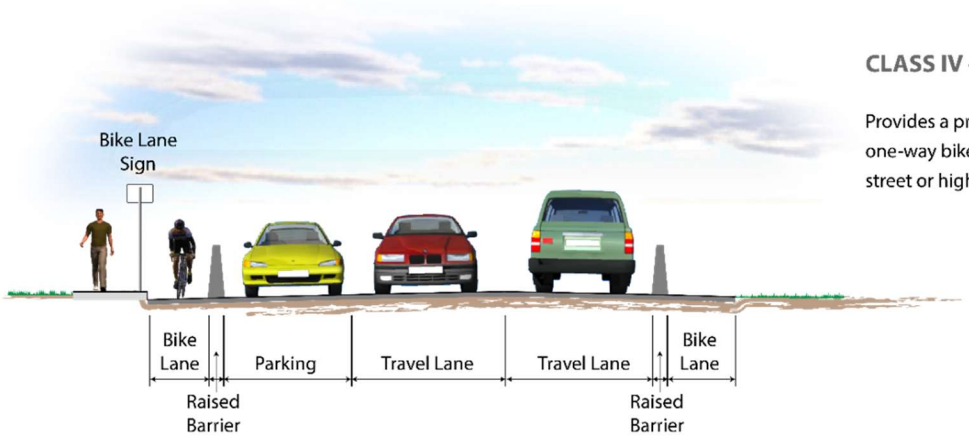


CLASS III - Bike Route
Provides a shared use with pedestrians or motor vehicle traffic, typically on lower volume roadways.

MUTCD D11-1

Class IV Bikeways (Cycle Tracks)

Class IV bicycle facilities, sometimes called cycle tracks or separated bikeways, are protected bike lanes that provide a right-of-way designated exclusively for bicycle travel within a roadway, protected from vehicular traffic by physical barriers (e.g., grade separation, flexible posts, inflexible physical barriers, on-street parking). California Assembly Bill 1193 (AB 1193) legalized and established design standards for Class IV bikeways in 2015.



CLASS IV - Separated Bikeway (Cycle Track)
Provides a protected lane for one-way bike travel on a street or highway.

Currently, the nearest bicycle facility near the Project site is a Class I bicycle facility located on California Street north of San Bernardino Avenue. The Connected City chapter identifies proposed Multi-Use trails, one located at the Southeast corner of the Project site along California Street that would connect to the Orange Blossom Trail, an existing Class I Bicycle facility that is planned for improvements and completion to connect to more trails throughout the City.

Pedestrian Facilities

Within the study area, sidewalk facilities are provided along California Street, Lugonia Avenue, and sections of Almond Avenue. Sidewalks are not present along the section of Almond Avenue that is directly attached to the Project site.

At existing signalized intersections, adjacent to the Project, crosswalks and pedestrian push-button actuated signals are provided. Mid-block crosswalks and crosswalks at unsignalized intersections are not provided.

Existing Transit Service

Transit service in the area is offered by Metrolink and Omnitrans. The Project site is not adjacent to any existing public transit services. Detailed transit information is described below.

Metrolink

Commuter train service in the City of Redlands is provided by Metrolink, which operates six commuter rail lines throughout Southern California. Metrolink offers the Arrow train service, which provides passenger rail travel from Redlands to San Bernardino. Within the City, there are three Metrolink stations; the Redlands- Esri Station, Redlands- Downtown Station, and Redlands- University Station. The Arrow train service connects to the San Bernardino- Downtown Station which operates the San Bernardino Line, which links San Bernardino to Union Station in downtown Los Angeles.

Omnitrans

OmniTrans Transit Agency provides local transit service throughout San Bernardino County, including the City of Redlands. Bus transit services are available in the city through fixed-route and demand-response services. Bus routes that run through the city connect to the neighboring cities of San Bernardino, Colton, Highland, Mentone, Yucaipa, Fontana, Grand Terrace, Loma Linda, and Rialto.

The following transit routes operate within the study area:

- Route 8: Route 8 connects San Bernardino and Yucaipa via Loma Linda. This route operates every 60 minutes daily with Monday through Friday service between 5:00 AM and 10:30 PM, Saturdays between 7:00 AM and 7:30 PM, and Sundays between 7:30 AM and 7:00 PM. Route 8 runs along major City streets such as Orange Street and Lugonia Avenue.
- Route 15: Route 15 serves Fontana and Redlands via Rialto and San Bernardino. This route operates every 60 minutes daily with Monday through Friday service between 4:00 AM and 10:30 PM, Saturdays between 5:30 AM and 7:30 PM, and Sundays between 5:30 AM and 7:30 PM. Route 15 runs along major City streets such as Orange Street, San Bernardino Avenue, Alabama Street, and Lugonia Avenue.
- Route 19: Route 19 serves Redlands and Fontana via Colton and Grand Terrace. This route operates with a frequency of 30 minutes and 60 minutes depending on the time of day during the weekdays and every 60 minutes on the weekends. Service during Monday through Friday occurs between 5:00 AM and 10:30 PM, on Saturdays between 5:00 AM and 10:00 PM, and on Sundays between 6:30 AM and 7:30 PM. Route 19 runs along City streets Brookside Avenue, Eureka Street, and Citrus Avenue.

No transit service is currently provided or planned for the roadways directly serving the project site.

Existing Year (2024) Traffic Volumes

Data Collection

Fehr & Peers collected peak hour (7:00 – 9:00 AM and 4:00 – 6:00 PM) multimodal traffic counts at intersections 1 through 6, under fair weather conditions, on Tuesday May 10th, 2022. Fehr & Peers collected traffic counts at intersections 7, 8, and 9 on Tuesday January 30th, 2024.

Existing (2024) Intersection Operations

The Existing (2024) volumes, shown in **Figure 3**, and existing lane configurations were used to evaluate operations at the study locations under peak hour conditions. Signal timing data was obtained from the appropriate jurisdictions for all signalized intersections.

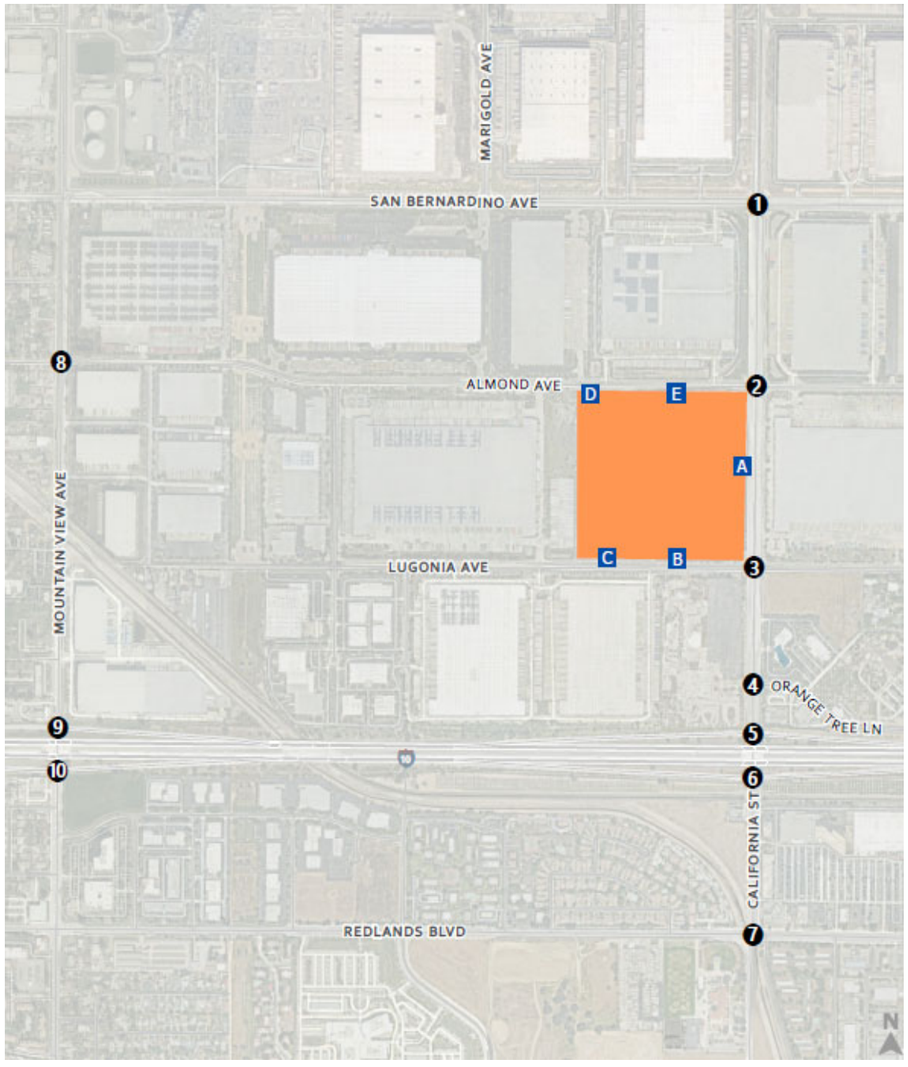
The LOS results are summarized in **Table 2** and detailed LOS worksheets are provided in **Appendix C**.

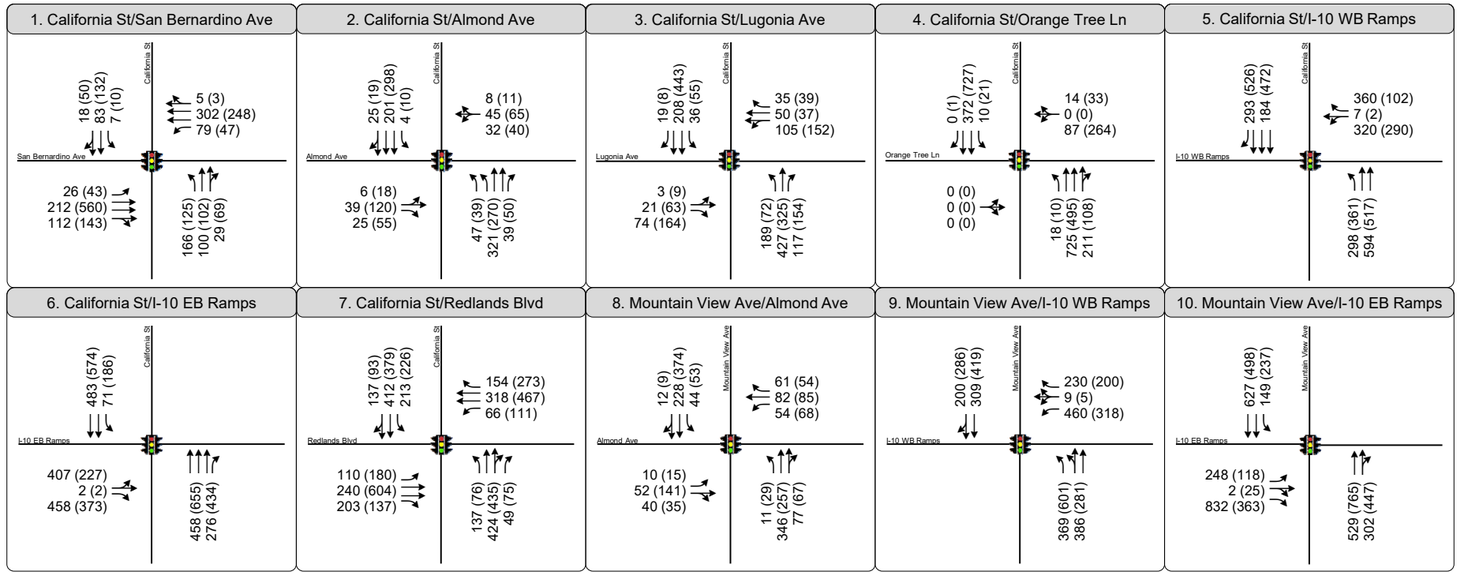
Table 2: Existing (2024) Intersection Level of Service

Intersection	Jurisdiction	Control	Peak Hour	Existing (2024) Average Delay / LOS
1. California Street and San Bernardino Avenue	City of Redlands	Signalized	AM	B / 18.8
			PM	B /17.6
2. California Street and Almond Avenue	City of Redlands	Signalized	AM	A / 8.9
			PM	A / 9.7
3. California Street and Lugonia Avenue	City of Redlands	Signalized	AM	B / 13.3
			PM	B / 12.7
4. California Street and Orange Tree Lane	City of Redlands	Signalized	AM	A / 7.2
			PM	B/ 11.5
5. California Street and I-10 WB Ramps	City of Redlands	Signalized	AM	B / 19.8
			PM	C / 22.1
6. California Street and I-10 EB Ramps	City of Redlands	Signalized	AM	C / 21.3
			PM	C / 21.4
7. California Street and Redlands Boulevard	City of Redlands	Signalized	AM	C / 21.7
			PM	C / 22.8
8. Mountain View Avenue and Almond Avenue	City of Redlands	Signalized	AM	A / 9.6
			PM	B / 10.7
9. Mountain View Avenue and I-10 WB Ramps	City of Redlands	Signalized	AM	C / 22.0
			PM	**D / 39.6**
10. Mountain View Avenue and I-10 EB Ramps	City of Redlands	Signalized	AM	C / 24.3
			PM	**D / 48.2**

Notes:
1. Whole intersection weighted average stopped delay expressed in seconds per vehicle for signalized intersections. Worst lane delay expressed in seconds per vehicle for side-street-stop-control intersections.
2. Delay operations were calculated using HCM 7th methodologies.
3. **Bold** represents a LOS deficiency.

Source: Fehr & Peers, 2024.





LEGEND

# Study Intersection	AM (PM) Peak Hour Traffic Volume
Project Driveways	Lane Configuration
Project Site	Stop Sign
	Signalized

Figure 3
Peak Hour Traffic Volumes and Lane Configurations
Existing (2024) Conditions

4. Project Characteristics

This chapter provides an overview of the proposed Project components and addresses the proposed Project's trip generation, distribution, and assignment characteristics, allowing for an evaluation of the Project's effect on the surrounding roadway network. The amount of traffic associated with the Project was estimated using a three-step process:

1. **Trip Generation** – The *amount* of vehicle traffic entering/exiting the project site was estimated.
2. **Trip Distribution** – The *direction* trips would use to approach and depart the site was projected.

Project Trip Generation

Trip generation refers to the process of estimating the amount of vehicular traffic a project would add to the surrounding roadway system. Estimates for the proposed Project were created for the daily condition and for the peak one-hour period during the morning (AM) and evening (PM) commute when traffic volumes on the adjacent streets are typically the highest.

The number of weekday morning and evening peak hour trips generated by the Project were estimated using methods published in *Trip Generation, 11th Edition (Institute of Transportation Engineers [ITE], 2021)*. A combination of Medical-Dental Office Building (ITE Code 720), Hospital (ITE Code 610), and Utility (ITE Code 170) trip generation rates were used to estimate daily and peak hour trips for the Project. **Table 3** shows the trip generation rates for ITE Codes 720, 610, and 170.

Table 3: Trip Generation Rates

ITE Code	Land Use	Daily Rate	AM Peak Hour			PM Peak Hour		
			In	Out	Rate	In	Out	Rate
720	Medical-Dental Office Building	36.00	79%	21%	3.10	30%	70%	3.93
610	Hospital	22.32	72%	28%	1.79	33%	67%	1.69
170	Utility (Central Utility Plant)	12.29	87%	13%	2.33	18%	82%	2.16

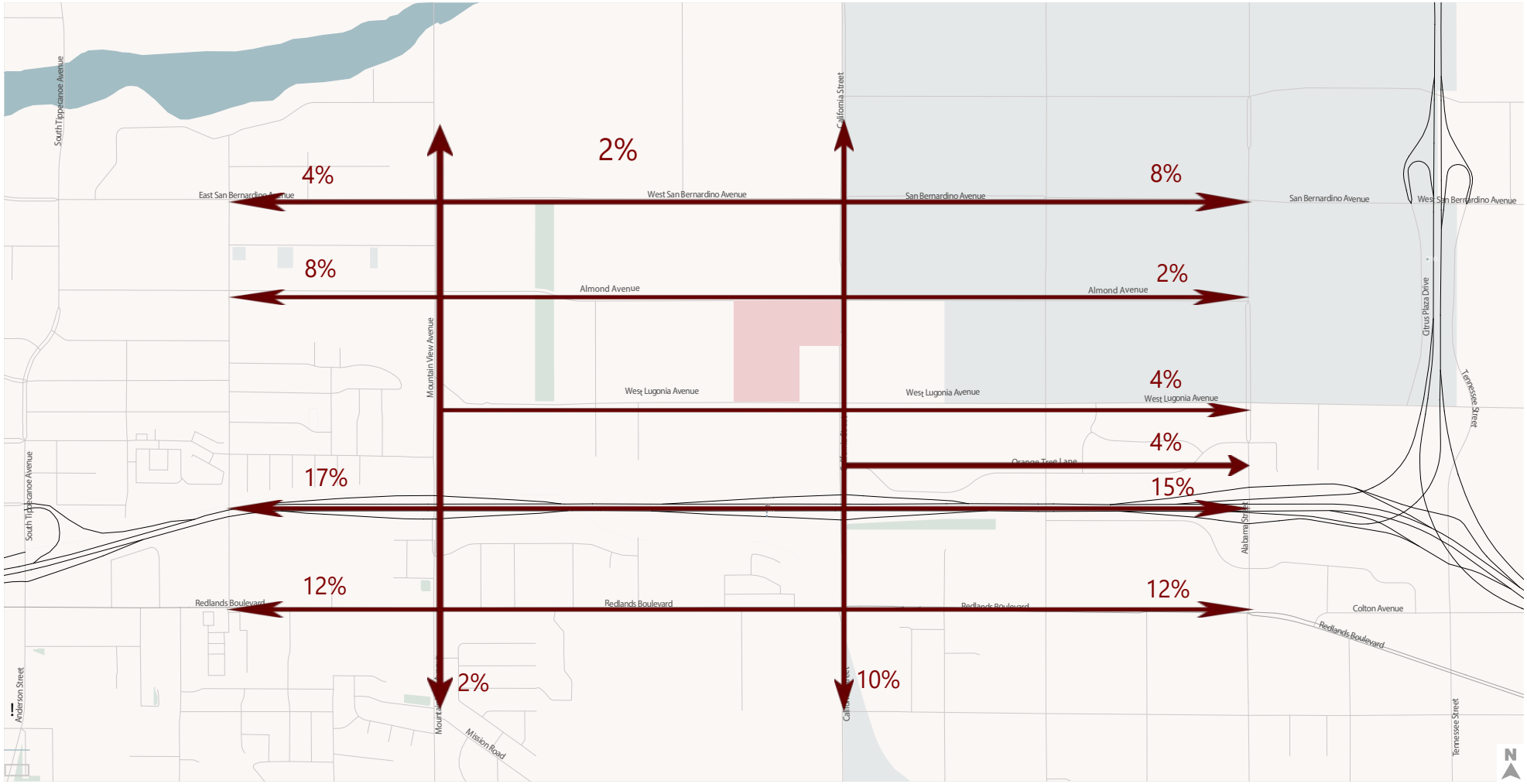
Source: Trip Generation Manual 11th Edition (Institute of Transportation Engineers, 2021).

Trip generation is presented in Appendix A with the project scoping memorandum. The project is expected to generation 16,093 daily trips, 1,343 AM peak hour trips and 1,517 PM peak hours trips.

Project Trip Distribution

Trip distribution refers to the directions of approach and departure that vehicles use to travel to and from the Project site. Surrounding land uses, existing roadway network characteristics, local knowledge of the study area, and professional judgment were used to develop the trip distributions.

The trip distributions for the Project are shown in **Figure 4**.



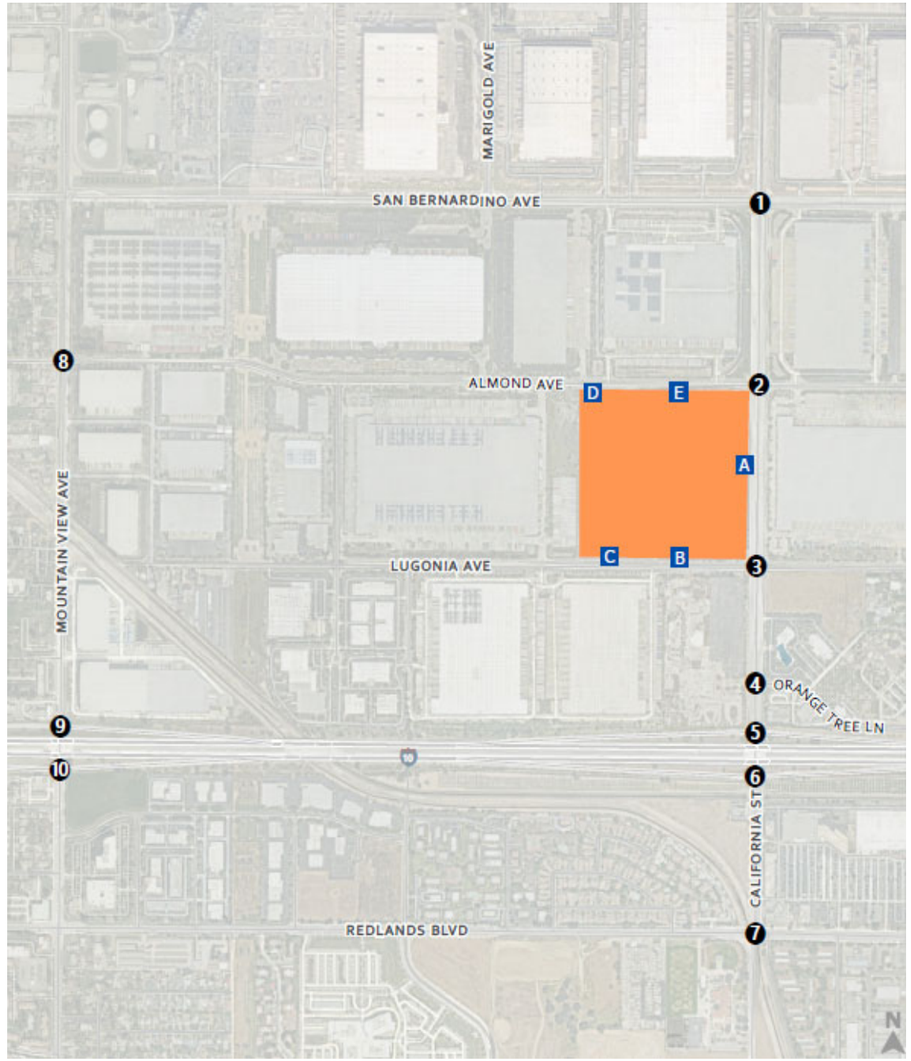
Legend

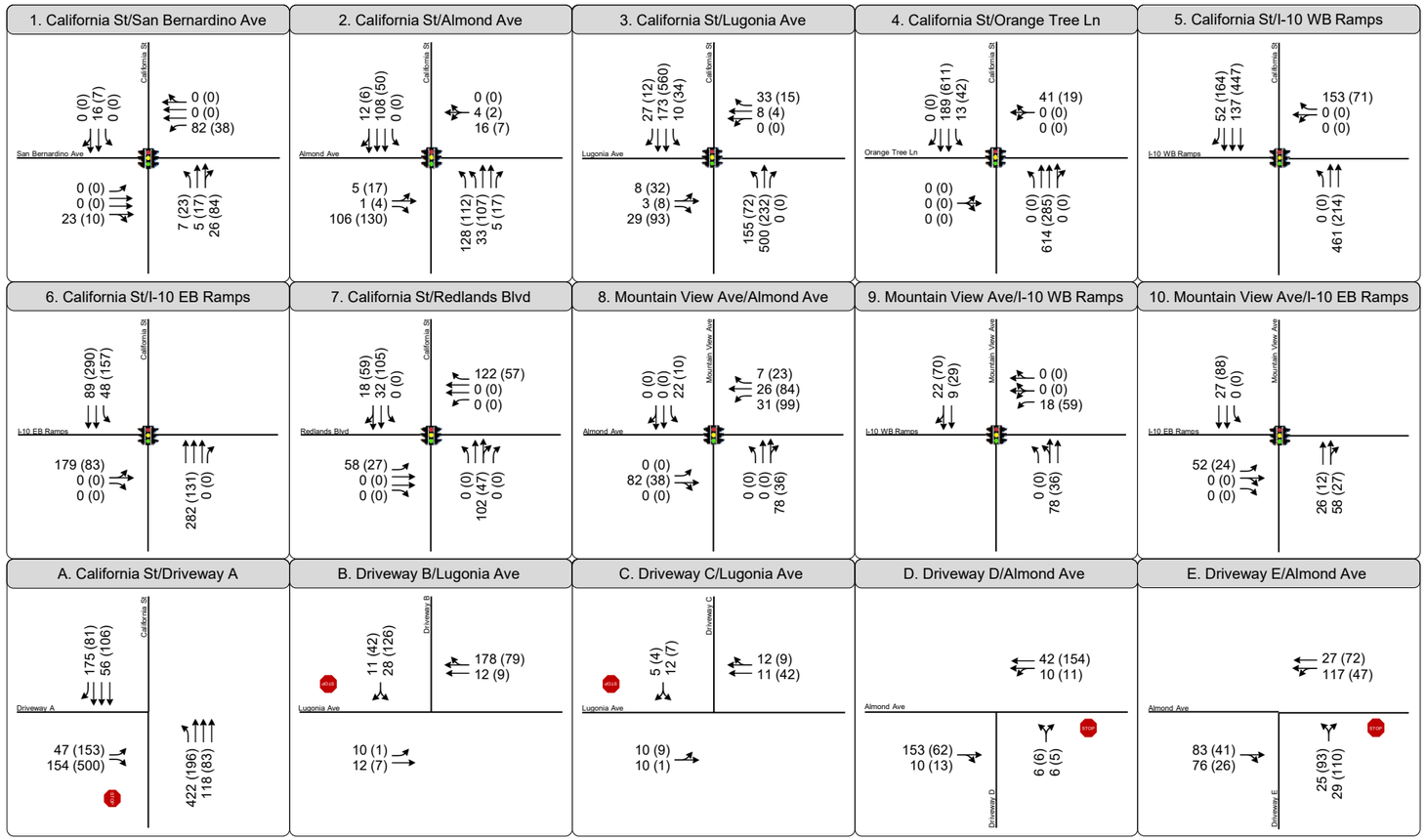
Project Site

Project Distribution

Figure 4

Project Trip Distribution





LEGEND

- Study Intersection
- Project Driveways
- Project Site
- AM (PM) Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Figure 5
Project Trip Assignment

5. Vehicle Miles Traveled

Travel Demand Model

Consistent with the City's VMT Analysis Guidelines, the latest version of the San Bernardino Transportation Analysis Model, SBTAM+, was utilized to estimate VMT in the study area. SBTAM+ is based off the SCAG regional travel demand model (which utilizes the 2024 SCAG RTP/SCS and forecasts traffic volumes on roadway segments for the entire six-county SCAG region). The SCAG model was refined to provide additional detail for San Bernardino County and was calibrated for use in San Bernardino County by ensuring that the model can replicate existing traffic volumes on County roadways after refinement. The SBTAM+ Base Year model is validated to 2019 with a Future Year model of 2050 and is considered the most appropriate tool for testing changes in land use and roadway network in San Bernardino County.

The Project was isolated into its own Traffic Analysis Zone (TAZ). SBTAM+ land use inputs are referred to as Socioeconomic Data (SED). SED includes population demographics like numbers of residents, age of residents, vehicle ownership, and income, and employment categories like retail, manufacturing, public administration, and agriculture. The SED employment categories used in SBTAM+ are based on the employment descriptions documented in the North American Industry Classification System (NAICS). Since the existing land use within the site's TAZ does not accurately represent the employment of the full expansion, use of data from the existing TAZ was not appropriate for project analyses. Therefore, Fehr & Peers isolated the project into its own TAZ so that the project VMT could be estimated while accounting for socio-economic (SED) data that is consistent with the full buildout of the Kaiser expansion.

Table 4 shows the SED that was utilized to represent the Project.

Table 4: Project SED Information

Project TAZ SED	Health and Education Employment
Project TAZ (53836301)	1,321

Source: Fehr & Peers, 2024.

Analysis Scenarios

As recommended in the City's VMT Analysis guidelines, the VMT estimates were prepared under the following scenarios:

- Future Year (2050) No Project Conditions
- Future Year (2050) Plus Project Conditions

The No Project Conditions model runs were used to determine the project-generated thresholds of significance documented in the City's VMT Analysis guidelines. The Plus Project Conditions model runs were used to determine VMT associated with the Project.

VMT Results

This section summarizes the results of the project-generated (PA method) VMT and project-effect on VMT (boundary method) modeling for the four study scenarios.

Project-Generated VMT

Project-generated VMT estimates were prepared using the Home-Based Work (HBW) method for the Base Year and Future Year Plus Project scenarios. HBW project-generated VMT estimates are presented in **Table 5.** For this analysis, HBW VMT represents VMT per employee (commute VMT). Under Base Year and future year scenarios the VMT per employee exceeds the City threshold.

Table 5: Project-Generated PA VMT Estimates

VMT Metrics for Non-Residential Projects	Home-Based Work VMT per Employee
Project VMT Estimates (2050)	**22.8**
San Bernardino County Baseline VMT (2050)	23.8
Threshold: 15% Below San Bernardino County Baseline VMT	**20.2**
Percent Higher than VMT Threshold	**12%**
VMT Exceeds Threshold?	**Yes**

Note: VMT per Employee = Commute (Attraction Home-Based-Work) VMT for Project.
Source: *Fehr & Peers, 2024*

Project-generated VMT estimates were prepared using the HBW method for the Base Year and Future Year Plus Project scenarios. HBW project-generated VMT estimates are presented in **Table 5.** For this analysis, HBW VMT represents VMT per employee (commute VMT). Under Base Year and future year scenarios the VMT per employee exceeds the City threshold.

Additional Data

In addition to the VMT analysis completed by Fehr & Peers using the SBTAM+ model, Kaiser has provided additional information to support how the expansion of the Kaiser facility in Redlands, California may still reduce the VMT of their employees and patients by showcasing how this new location would result in shorter trips compared to other Kaiser locations their employees and patients currently go to. Kaiser has provided the following additional information:

- Locations of other facilities currently used by Kaiser patients.
- Locations of patients served by the current Kaiser facility in Redlands, California.

- Locations of employees and staff employed by this facility.

The data showed that for 164,156 Kaiser members, the distance to a facility in Redlands would be shorter than the current distance traveled to the Fontana Kaiser facility. For 69,788 members, the distance to Redlands would be an increase compared to the Fontana facility. For employees and physicians, the average miles traveled to the expanded Redlands Campus would be shorter than current distances traveled to Fontana and Ontario Kaiser facilities.

The data provided by Kaiser can be found within **Appendix D**.

6. Existing (2024) Plus Project Conditions

Existing (2024) Intersection Operations

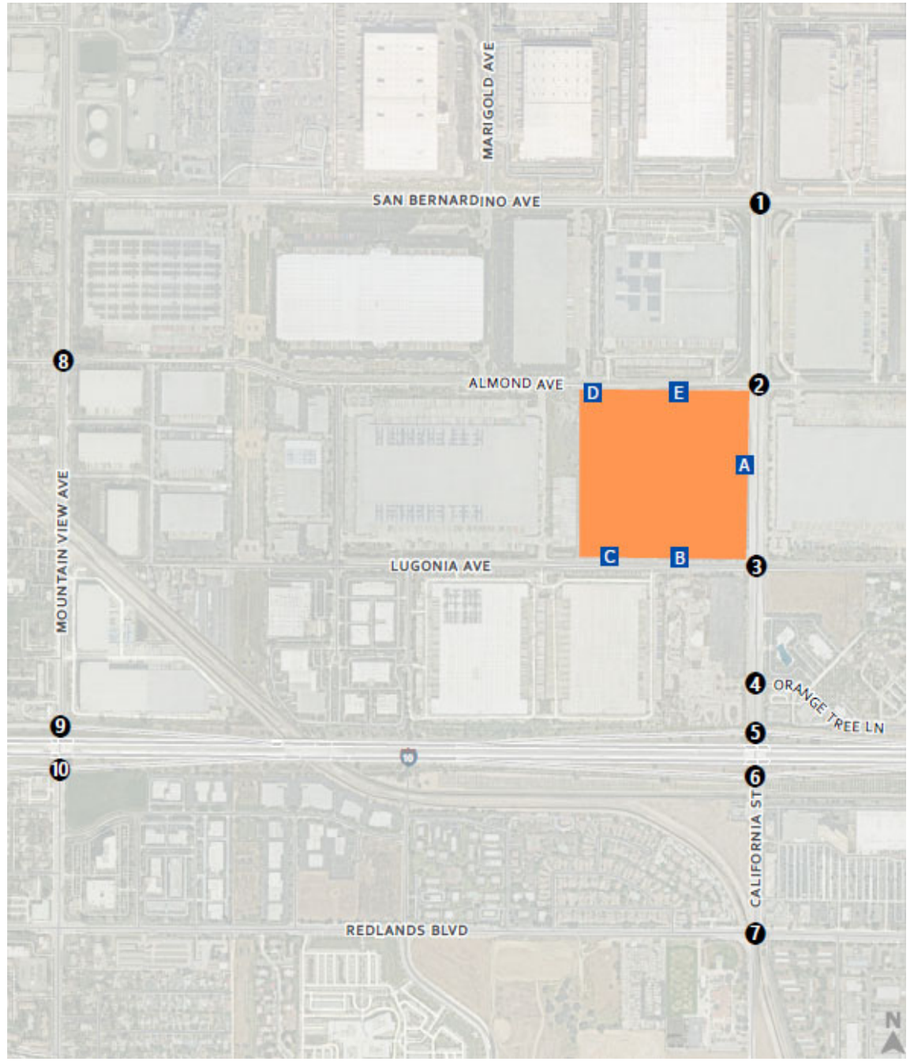
The lane configurations and traffic volumes presented on **Figure 6** and existing signal timings were used to evaluate operations at the study intersections and Project Driveways under Existing (2024) Plus Project peak hour conditions. The results of each scenarios' intersection operations are summarized in **Table 6** and detailed LOS worksheets are provided in **Appendix C**.

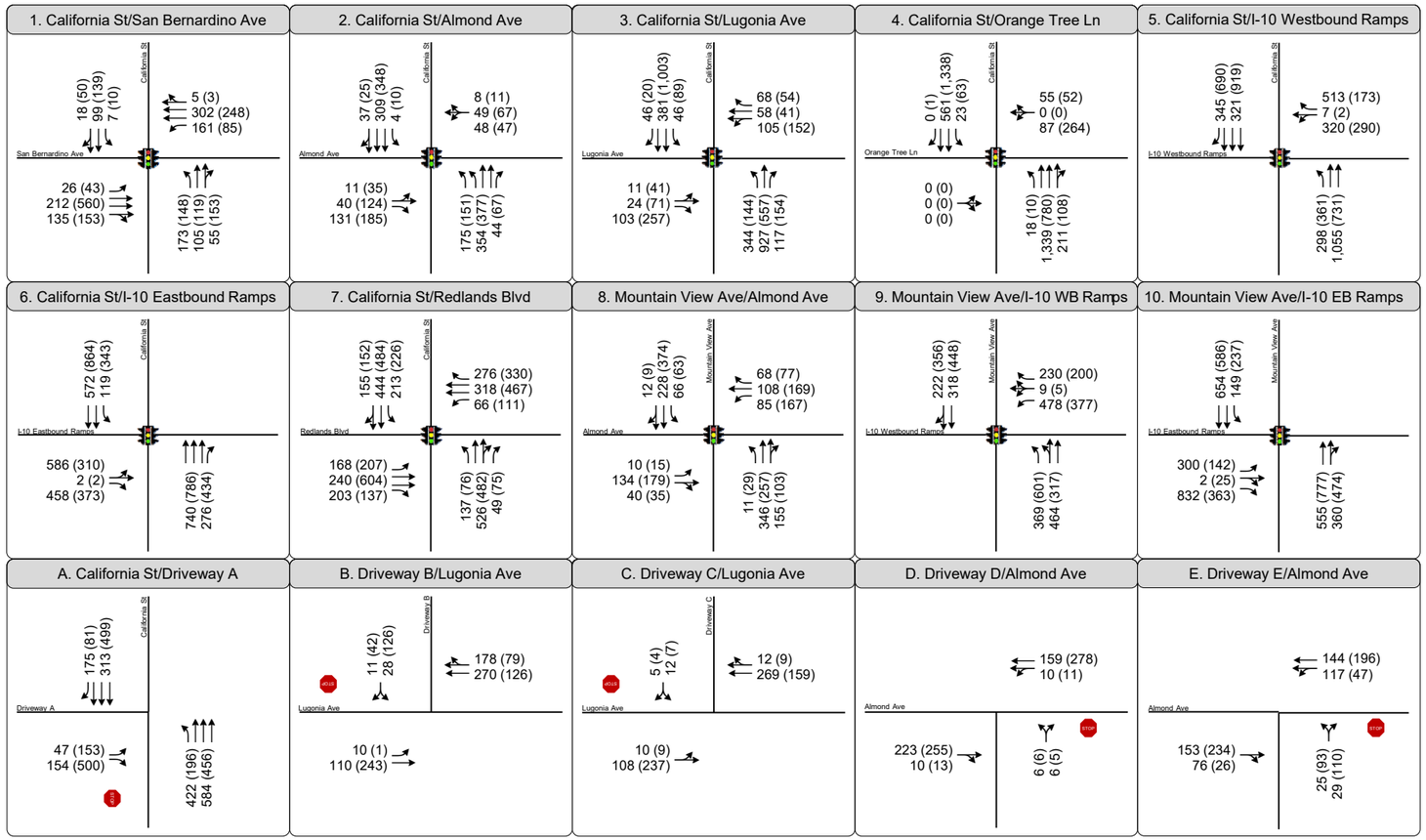
Table 6: Existing (2024) Plus Project Intersection Level of Service

Intersection	Jurisdiction	Control	Peak Hour	Existing Year Plus Project Conditions Average Delay / LOS
1. California Street and San Bernardino Avenue	City of Redlands	Signalized	AM	C / 20.4
			PM	B / 19.0
2. California Street and San Bernardino Avenue	City of Redlands	Signalized	AM	B / 10.2
			PM	B / 11.0
3. California Street and Lugonia Avenue	City of Redlands	Signalized	AM	**D / 40.1**
			PM	B / 18.8
4. California Street and Orange Tree Lane	City of Redlands	Signalized	AM	A / 7.7
			PM	B / 15.3
5. California Street and I-10 WB Ramps	City of Redlands	Signalized	AM	C / 23.6
			PM	**D / 38.3**
6. California Street and 1-10 EB Ramps	City of Redlands	Signalized	AM	C / 26.2
			PM	C / 22.4
7. California Street and Redlands Blvd	City of Redlands	Signalized	AM	C / 25.1
			PM	C / 24.2
8. Mountain View Avenue and Almond Avenue	City of Redlands	Signalized	AM	B / 11.4
			PM	B / 12.9
9. Mountain View Ave and I-10 WB Ramps	City of Redlands	Signalized	AM	C / 22.1
			PM	**D / 39.1**
10. Mountain View and I-10 EB Ramps	City of Redlands	Signalized	AM	C / 28.0
			PM	**D / 51.7**
11. California St and Driveway A	City of Redlands	TWSC	AM	**F / >180**
			PM	**F / 153.1**
12. Lugonia Ave and Driveway B	City of Redlands	TWSC	AM	B / 12.7
			PM	B / 13.2
13. Lugonia Ave and Driveway C	City of Redlands	TWSC	AM	B / 11.3
			PM	B / 10.7
14. Almond Ave and Driveway D	City of Redlands	TWSC	AM	B / 10.7
			PM	B / 11.1
15. Almond Ave and Driveway E	City of Redlands	TWSC	AM	B / 12.6
			PM	B / 14.2

1. Whole intersection weighted average stopped delay expressed in seconds per vehicle for signalized intersections. Worst lane delay expressed in seconds per vehicle for side-street-stop-control intersections.
2. Delay operations were calculated using HCM 7th methodologies.

Bold represents a LOS deficiency. Source: Fehr & Peers, 2024.





LEGEND

- Study Intersection
- Project Driveways
- Project Site
- AM (PM) Peak Hour Traffic Volume
- Lane Configuration
- Stop Sign
- Signalized

Figure 6
Peak Hour Traffic Volumes and Lane Configurations
Existing (2024) Plus Project Conditions

7. Site Access and Parking

Vehicle Access

Access to the Project will be provided by the two existing full access driveways located along California Street and Lugonia Avenue. The full buildout of the Project proposes three additional driveways, one on Lugonia Avenue (west of the existing Lugonia Avenue driveway) and two on Almond Avenue. All driveways will provide full access to the Project, but the two most west driveways on Almond Avenue and Lugonia Avenue will primarily service ambulances and delivery trucks.

As noted in Chapter 6, all Project driveways operate acceptably under Plus Project conditions and would facilitate acceptable ingress/egress to the site except for the driveway on California Street. Chapter 8 presented below presents recommend proposed improvements. As the driveway on California Street meets signal warrants and a signal would provide acceptable operations, new signalization of the driveway is recommended to facilitate vehicle access.

Emergency Vehicle Access

Several factors determine whether a project has sufficient access for emergency vehicles, including:

1. Number of access points (both public and emergency access only)
2. Width of access points
3. Width of internal roadways

The site plan provides five vehicle access points on Lugonia Avenue, Almond Avenue, and California Street. If one of these roadways was blocked obstructed, emergency vehicles would have an alternative route to access the site. Based on preliminary site plan information, project driveways and drive aisles provide a minimum of 24-feet clear travel area which is sufficient for emergency vehicle access and circulation.

Pedestrian, Bicycle, and Transit Access

There are insufficient details on the provided project site plan to fully evaluate pedestrian, bicycle and transit access and circulation to and within the site. It is expected that sidewalks would be constructed along the Almond Avenue project frontage where there are current sidewalk gaps. Sidewalks should be provided connecting building entrances to the public pedestrian system. There are no bike or transit facilities existing or planned on or adjacent to the Project site.

As noted, no transit service is currently provided or planned for the roadways directly serving the project site. However, if future transit service were provided Omnitrans has indicated bus service would most likely run along California Avenue. Any future potential bus stop would require a minimum area of 8’ by 5’

on the sidewalk, although a larger area of 10' by 25' would be preferred to allow for the installation of amenities such as a bus shelter. Final design of the project site and sidewalk on California Street should be done in coordination with the City of Redlands and Omnitrans staff and should take the requirements for bus stops into consideration.

Parking

The City of Redlands Parking Standards (Section EV4.0201) provide requirements for on-site parking in the City. These requirements are presented in **Table 7.**

Table 7: Required Parking

Use	Parking Requirements
Hospitals	1 space/patient bed plus 1 space for every employee and staff member on largest shift
Medical, dental offices	1 space/200 square feet of gross floor area; minimum of 5 spaces per office

The project is being built out over four phases. The parking required for each phase is noted below.

Existing

- 120,000 sf Medical Office Building: 600 spaces required

Phase One

- 165,000 sf Medical Office Building: 825 spaces required

Phase Two

- 400,000 square feet of Hospital comprising of 213 beds: 213 spaces required for patients, see below for employees
- 35,000 square foot Central Utility Plant (shown as CUP in the site plan): no parking required

Phase Three

- 83,000 square feet of Medical Office Building: 415 spaces required

Phase Four

- 180,000 square foot expansion to the Phase Two Hospital comprising of an additional 108 beds: 108 spaces required for patients, see below for employees

Data provided by Kaiser indicates that a total of 1,321 employees are expected to be on-site daily. It is expected that 550 employees would be part of the largest shift of the hospital. Therefore, the combined

parking required by the existing MOB and buildout of all four phases, including an estimated 550 spaces for hospital employees under the largest shift, would be a combined **2,711 spaces.**

The project proposes to include a total of **2,803 spaces.** As the proposed parking supply is expected to exceed the required parking, sufficient parking is planned for the site.

8. Mitigation and Improvements

VMT Mitigation

Fehr & Peers reviewed potential mitigation strategies that can be adopted for this project, recognizing that the most effective strategies will target Project employees and commute VMT. Quantification of VMT mitigation measures is based on the methods described in the *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity* published by the California Air Pollution Control Officers Association. Adjustments were made based on Project site context and Project features. Measures were analyzed together, and a multiplicative dampening reduction was applied to mitigation measures that address the same trip types.

Table 8 describes the mitigation measures that can be incorporated into the Project and the maximum VMT reduction available to this Project.

Table 8: VMT Mitigation Measures

Strategy	Description	Maximum VMT Reduction
Implement Commute Trip Reduction Marketing	This measure will implement a marketing strategy to promote the project site employer's commute trip reduction program. Information sharing and marketing promote and educate employees about their travel choices to the employment location beyond driving such as carpooling, taking transit, walking, and biking, thereby reducing VMT and GHG emissions.	4% of HBW VMT
Provide Employee Rideshare Program	This measure will implement a ridesharing program for employees with similar commutes with funding requirements for employers. Ridesharing encourages carpooled vehicle trips in place of single-occupied vehicle trips, thereby reducing the number of trips, VMT, and GHG emissions. Existing programs including IE Commuter can be leveraged for this measure.	4% of HBW VMT

Strategy	Description	Maximum VMT Reduction
Provide End-of-Trip Bicycle Facilities	This measure will install and maintain end-of-trip facilities for employee use. End-of-trip facilities include bike parking, bike lockers, showers, and personal lockers. The provision and maintenance of secure bike parking and related facilities encourages commuting by bicycle, thereby reducing VMT and GHG emissions.	0.3% of HBW VMT
Provide Employer-Sponsored Vanpool	This measure will implement an employer-sponsored vanpool service. Vanpooling is a flexible form of public transportation that provides groups of 5 to 15 people with a cost-effective and convenient rideshare option for commuting. The mode shift from long-distance, single-occupied vehicles to shared vehicles reduces overall commute VMT, thereby reducing GHG emissions. It was assumed that up to 2% of employees would participate in the vanpool program.	1.6% of HBW VMT
Multiplicative Dampening	*Adjustment to overall VMT reduction as measures overlap and target the same type of trips.*	*-0.6%*
	TOTAL:	**9.9% of HBW VMT**

Source: California Air Pollution Control Officers Association, 2021. Fehr & Peers, 2024.

Implementation of these measures will be detailed and monitored in the Project's Mitigation Monitoring and Reporting Plan (MMRP). The developer shall coordinate implementation of these measures and can leverage existing regional programs that provide employer services for commute trip reduction programs.

Additional mitigation measures exist to address VMT impacts, however the other options available were either deemed inappropriate or infeasible for this project. These include measures such as increasing the density of the project, which would be incompatible with the project description, or measures such as implementing a subsidized transit program, which is not appropriate with no nearby transit service provided. Other mitigation strategies like a school bus program or unbundling residential parking do not apply to this type of project. Furthermore, paying into a regional fee program or VMT bank could fund mitigation measures not applicable to this project type and location, but as this type of regional program does not currently exist, this was also deemed infeasible.

As noted above, Project HBW VMT is projected to be 12% higher than the City's VMT threshold. Therefore, even with the mitigation described the maximum VMT mitigation would not fully mitigate the Project's VMT impact.

LOS Improvements

This section summarizes proposed improvements for Existing Year (2024) Plus Project Conditions. Improvements were proposed at a study location if it is forecast to operate below the previous LOS standard (if the LOS Standard declined under LOS C) during either the AM or PM peak hour.

Existing Year (2024) Plus Project Intersection Improvements

As seen Chapter 6, under Existing (2024) Plus Project conditions, three study locations operate below the City of Redland's acceptable LOS standard. Consistent with the City's guidelines, improvements were recommended that improved operations to acceptable conditions (below LOS C must remain the same or improve if decreased). Detailed LOS worksheets are provided in **Appendix C**.

The following improvements address deficiencies identified in the Existing Plus Project conditions analysis, which represents the build out of all four phases of the expansion. Improvements to intersections 3, 5, and 10 should be completed before the construction of Phase 4 of the expansion. The new traffic signal at Driveway A should be completed before the construction of Phase 2 of the expansion. As documented in **Appendix E**, the intersection meets peak hour signal warrants with Phase 2 of the expansion.

Intersection 3: California Street and Lugonia Avenue

This intersection is forecasted to operate at LOS D during the AM Peak Hour with Plus Project conditions. The Project adds 26.7 seconds of average delay to the intersection.

The following improvements are recommended:

- The signal timing is uncoordinated so the AM signal timing should be optimized.

With improvements, the intersection is forecasted to operate at LOS C in the AM peak hour.

Intersection 5: California Street and I-10 WB Ramps

This intersection is forecasted to operate at LOS C during the PM Peak Hour with Plus Project conditions. The Project adds 16.2 seconds of average delay to the intersection.

The following improvements are recommended:

- Optimize PM signal timing. The signal timing already operates coordinated so the split phases are advised to be optimized.

With improvements, the intersection is forecasted to operate at LOS C in the PM peak hour.

Intersection 10: Mountain View Avenue and I-10 EB Ramps

This intersection is forecasted to still operate at LOS D during the PM Peak Hour with Plus Project conditions. The Project adds 3.5 seconds of average delay to the intersection.

The following improvements are recommended:

- Optimize PM signal timing. The signal timing already operates coordinated so the split phases are advised to be optimized.

With improvements, the intersection is forecasted to operate at LOS B in the PM peak hour.

Driveway A: California Street and Driveway A

This Project driveway is forecasted to operate at LOS F during both AM and PM Peak hour with Plus Project Conditions. As a result, a signal warrant analysis was completed to determine if the driveway and intersection would benefit from the addition of a traffic signal. The driveway and intersection meets the signal warrant requirements. The Signal Warrant can be found in **Appendix E.**

With improvements, the intersection is forecasted to operate at LOS A in the AM peak hour and LOS B in the PM peak hour.

Intersection LOS Comparison

Table 9 compares delay and LOS for Existing (2024) Plus Project with and without the proposed improvements described above.

Table 9: Existing Year (2024) Plus Project Intersection LOS with Improvements

Intersection	Control	Peak Hour	Existing Plus Project LOS / Average Delay	Existing Plus Project with Improvements LOS / Average Delay
3. California Street and Lugonia Avenue	Signalized	AM	**D / 40.0**	C / 30.7
		PM	B / 18.8	B /18.8
5. California Street and I-10 WB Ramps	Signalized	AM	C / 23.6	C / 23.6
		PM	**D / 38.3**	C / 29.9
10. Mountain View Avenue and I-10 EB Ramps	Signalized	AM	C / 28.0	C / 28.0
		PM	**D / 51.7**	B /18.4
11. California Street and Driveway A	TWSC/ Signalized	AM	**F / >180**	A / 7.5
		PM	**F / 153.1**	B / 16.0

Notes:
1. Whole intersection weighted average stopped delay expressed in seconds per vehicle for signalized intersections. Worst lane delay expressed in seconds per vehicle for side-street-stop-control intersections.
2. Delay operations were calculated using HCM 7th methodologies.
3. **Bold** represents a LOS deficiency.

Source: Fehr & Peers, 2024.

Appendix A: Scoping Memorandum

FEHR PEERS

Memorandum

Date: August 16, 2024

To: City of Redlands Planning Division
35 El Cajon Street, Suite 15A
Redlands, CA 92373

From: Delia Votcsch, P.E.

Subject: Kaiser Permanente Redlands Medical Office/Ambulatory Surgery Center Traffic Study Scoping Assessment

OC22-0875

Fehr & Peers is conducting a traffic study in support of the proposed 948,000 square foot multi-phased expansion of the Kaiser Permanente (Kaiser) Redlands Medical Center (Project) in Redlands, California. This memorandum proposes the scoping information and parameters for the traffic study per the requirements set in the *City of Redlands CEQA Assessment VMT Analysis Guidelines (2020)* and the City of Redlands Measure U Growth Management Initiative.

This memo was previously submitted and has been revised per the comments provided by the City of Redlands on October 7, 2022 and subsequent communication with City staff since 2022.

The remainder of this memorandum is divided into the following sections: Project Description, VMT Screening Assessment, and Level of Service (LOS) Traffic Study.

Project Description

The Project is located on the northwest corner of the California Street and Lugonia Avenue bounded by California Street to the east, an existing Ashley Furniture HomeStore to the west, Almond Avenue to the north, and Lugonia Avenue to the south. The Project site is shown in **Attachment 1** and is currently partially developed by a 120,000 square foot Kaiser Medical Office Building (MOB). The exiting development is shown as MOB1 in the site plan.

The expansion consists of various medical facilities/land uses and is proposed to occur in four phases. The Project will be analyzed by phase to determine which transportation improvements will be recommended at each phase of the Project.

Phase One

- 165,000 sf maximum, 4- story Ambulatory Surgery Center/Medical Office Building 2 (ASC/MOB 2) (shown as MOB 2/ASC in the site plan)

Phase Two

- 400,000 square feet of Hospital comprising of 213 beds
- 35,000 square foot Central Utility Plant (shown as CUP in the site plan)
- 464,000 square feet (6 level – 1218 parking stalls, 70 handicap stalls) Medical Center Parking Structure

Phase Three

- 83,000 square feet of MOB (shown as MOB3 in the site plan)

Phase Four

- 180,000 square foot expansion to the Phase Two Hospital comprising of an additional 108 beds, 5 levels and basement

Access to the Project will be provided by the two existing full access driveways along California Street and Lugonia Avenue. The Project proposes three additional driveways, two on Almond Avenue and one on Lugonia Avenue (west of the existing Lugonia Avenue driveway). While all driveways will be full access the westerly driveways on Almond Avenue and Lugonia Avenue will primarily service ambulances and delivery trucks.

VMT Assessment

According to the *City of Redlands CEQA Assessment VMT Analysis Guidelines (2020)*, there are three types of screening that can be applied to effectively screen projects from project-level assessment.

- Transit Priority Area (TPA Screening)
- Low VMT Area Screening
- Project Type Screening

Fehr & Peers will review the Project under the City's guideline screening criteria and determine if the Project may be screened from VMT Assessment. If the Project is not eligible for screening, we will conduct a VMT Assessment consistent with the methodologies presented in the City's guidelines.

LOS Traffic Study

The City of Redlands does not currently have traffic study guidelines that detail the requirements for LOS analysis. However, the City has adopted Measure U which includes the following policies:

> *5.20a Maintain LOS C or better as the standard for all intersections presently at LOS C or better*
>
> *5.20b Within the area identified in GP Figure 5-1, including that unincorporated County area identified on GP Figure 5-1 as the "donut hole", maintain LOS C or better; however, accept a reduced LOS on a case by case basis upon approval by a four-fifths (4/5ths) vote of the total authorized membership of the City Council*
>
> *Section 2-B Exemptions: Exemptions from Traffic and Socio-Economic Study Requirements Only. Development projects that directly further the primary institutional purposes of churches, **hospitals**, schools (including private schools and universities), and organizations such as the YMCA and YWCA, **on sites held by such entities as of March 1, 1997**, are exempt from the traffic level of service requirements and the requirement for a socio-economic study established by this initiative measure so long as such development projects are either 1) non-residential in character, or 2) provide only dormitory, staff housing or senior congregate care facilities for those exempt entities.*

As the Project proposes to construct hospital and supporting facilities, and has been owned by Kaiser since 1991, it has been determined that the Project is exempt from mitigation at location intersections though Measure U.

Existing traffic counts have been collected at off-site intersections and existing Level of Service will be calculated as described below. This information will be provided to the City for informational purposes only and no off-site intersection improvements will be recommended as part of this study.

Analysis Methodologies

Fehr & Peers will use methodologies consistent with the Highway Capacity Manual (HCM) 7th Edition (Transportation Research Board, 2022) to evaluate all proposed study locations' intersection operations. The HCM 7th Edition methodology for signalized intersections estimates the average control delay for vehicles at the intersection. After the quantitative delay estimates are complete, the methodology assigns a qualitative letter grade which represents the operations of the intersection. These grades range from level of service (LOS) A (minimal delay) to LOS F (congested conditions). LOS E represents at-capacity operations. Descriptions of the LOS letter grades for signalized intersections are provided in **Table 1**.

Table 1: HCM Intersection Level of Service Criteria

Analysis Scenarios

The existing baseline and existing plus project conditions will be provided for all study intersections for informational purposes only. Project trip assignment will also be provided for all study intersections.

- Existing (2024) Baseline Conditions – 2022 and 2024 traffic turning movement counts. 2022 counts will be compared to 2024 volumes to determine if any changes in traffic volume have occurred in the study area and if any adjustments to 2022 counts should be made. *Intersection turning movement volumes and LOS will be provided for all study intersections.*
- Existing (2024) With Phase 1-4 Conditions – Existing Without Project Conditions traffic volumes plus traffic generated by the Project Phases 1-4. *Intersection turning movement volumes will be provided at all intersections for this scenario, but Kaiser will only be responsible for improvements at site access locations necessary for safe ingress/egreess from the site.*

Trip Generation

Trip generation rates from *Trip Generation, 11th Edition* (Institute of Transportation Engineers [ITE], 2021) were used to estimate the daily, AM peak hour, and PM peak hour trips associated with the Project and are provided in **Table 2**. ITE trip generation rates for Medical-Dental Office Building (ITE Code 720) and Hospital (ITE 610) were used to estimate project trips. No existing credits or reductions were applied to the Project's trip generation estimates.

As presented in **Table 2,** the Project is expected to generate approximately 16,093 daily trips, including approximately 1,343 trips (1,020 inbound/323 outbound) during the AM peak hour, and approximately 1,517 trips (471 inbound/1,046 outbound) during the PM peak hour.

Table 2: Project Trip Generation Estimates

Land Use	ITE Land Code	Quantity	Unit	Trip Generation Rates							Estimated Trip Generation						
				Daily	AM Peak			PM Peak			Daily Trips	AM Peak			PM Peak		
				Rate	Rate	% In	% Out	Rate	% In	% Out		In	Out	Total	In	Out	Total
Phase 1																	
Medical-Dental Office Building	720	165	1000 Sq. Ft. GFA	36.00	3.10	79%	21%	3.93	30%	70%	5,940	404	108	512	194	454	648
										Project Trips Total	***5,940***	***404***	***108***	***512***	***194***	***454***	***648***
Phase 2																	
Hospital	610	213	Beds	22.32	1.79	72%	28%	1.69	33%	67%	4,754	274	107	381	119	241	360
Utility (Central Utility Plant)[1]	--	35	1000 Sq. Ft. GFA	--	--	--	--	--	--	--	--	--	--	--	--	--	--
										Project Trips Total	***4,754***	***274***	***107***	***381***	***119***	***241***	***360***
Phase 3																	
Medical-Dental Office Building	720	83	1000 Sq. Ft. GFA	36.00	3.10	79%	21%	3.93	30%	70%	2,988	203	54	257	98	228	326
										Project Trips Total	***2,988***	***203***	***54***	***257***	***98***	***228***	***326***
Phase 4																	
Hospital	610	108	Beds	22.32	1.79	72%	28%	1.69	33%	67%	2,411	139	54	193	60	123	183
										Project Trips Total	***2,411***	***139***	***54***	***193***	***60***	***123***	***183***
										Proposed Project	***16,093***	***1,020***	***323***	***1,343***	***471***	***1,046***	***1,517***

Notes:

Sources: Institute of Transportation Engineers (ITE), Trip Generation, 11th Edition, Volume 4, 2021.

Notes: 1. The Central Utility Plant will house hospital equipment and devices. As such, no additional vehicle trips from the site will be generated from this section of the expansion and only hospital employees would access the building.

Trip Distribution

Project trip distribution refers to the directions of approach and departure that vehicles would use to travel to and from the project site. Surrounding land uses, existing roadway network characteristics, local knowledge of the study area, and professional judgement were used to develop the trip distribution. The proposed trip distributions for the Project land uses are shown in **Figure 1**. The trip distribution has been updated based on the City's comments.

Once the scoping memorandum has been accepted by the City, the trip distribution will be applied and the project trip assignment will be developed. These turning movements will show the project trips at every study intersection and the project driveways and will be submitted with the draft traffic study.

Study Locations

Based on the proposed trip distribution and regional/local access to the site, we anticipate that project traffic will primarily utilize the following major intersections to access the site and affect their intersection operations. Seven intersections are proposed to be included in the LOS Assessment are listed below and shown in **Figure 2**:

1. California Street and San Bernardino Avenue
2. California Street and Almond Avenue
3. California Street and Lugonia Avenue
4. California Street and Orange Tree Lane
5. California Street and I-10 Westbound Ramps
6. California Street and I-10 Eastbound Ramps
7. California Street and Redlands Boulevard
8. Mountain View Avenue and Almond Avenue
9. Mountain View Avenue and I-10 Westbound Ramps
10. Mountain View Avenue and I-10 Eastbound Ramps

The Project's driveways will also be reviewed to determine what, if any, traffic control measures would be warranted to allow for pedestrian, bicyclist, and vehicular access.

Data Collection

Fehr & Peers collected peak hour (7:00 – 9:00 AM and 4:00 – 6:00 PM) multimodal traffic counts at intersections 1 through 6, under fair weather conditions, on Tuesday May 10th, 2022. Fehr & Peers collected traffic counts at intersections 7, 8, and 9 in early 2024.

Fehr & Peers will collect the following information in a field visit to the study area:

- Lane configurations
- Signal phasing
- Land uses in the study area
- Existing pedestrian and bicycle facilities
- On-street parking conditions
- Transit service

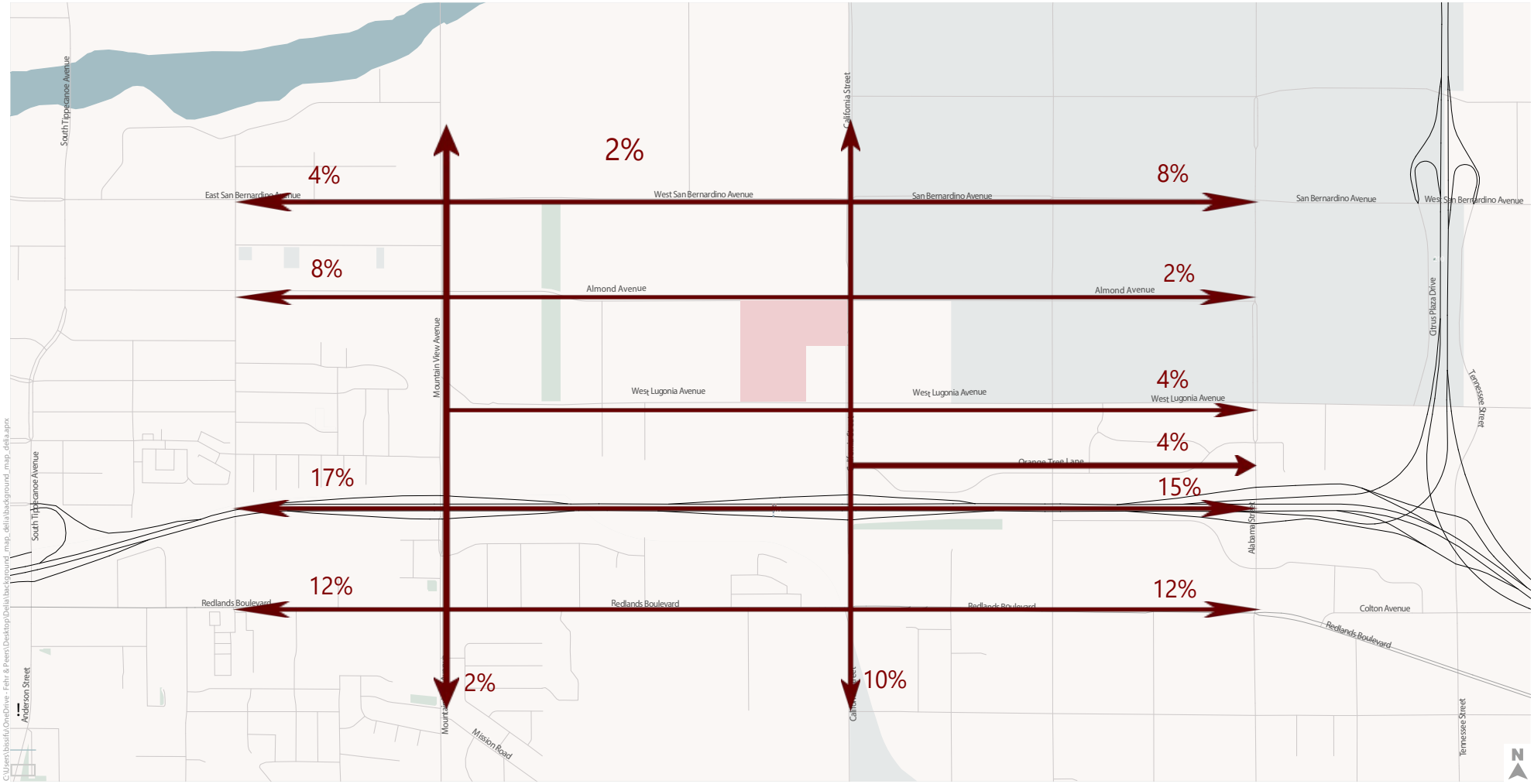
Figures

Figure 1 – Project Trip Distribution

Figure 2 – Study Area

Attachments

Attachment One – Project Site Plan



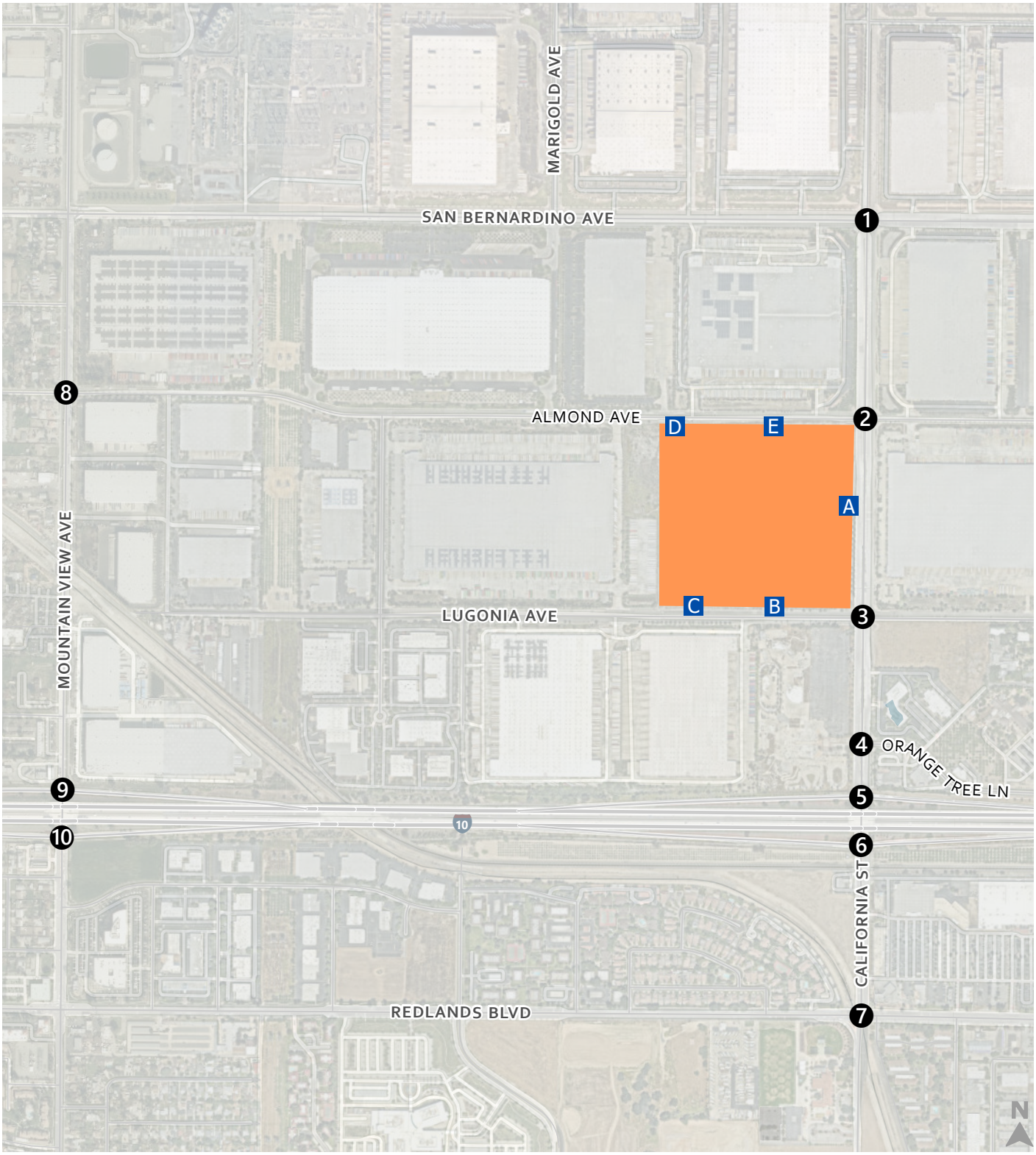
Legend

Project Site

Project Distribution

Figure 2

Project Distribution



Study Intersections
Project Driveways
Project Site

Figure 2

Study Area

Appendix B: Existing Traffic Counts

INTERSECTION TURNING MOVEMENT COUNTS

T42321

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 10, 22

LOCATION: Redlands
NORTH & SOUTH: California
EAST & WEST: San Bernardino

PROJECT #: SC3384
LOCATION #: 1
CONTROL: SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

N ▲ S ▼ ◄ W E ►

☐ Add U-Turns to Left Turns

		NORTHBOUND (California)			SOUTHBOUND (California)			EASTBOUND (San Bernardino)			WESTBOUND (San Bernardino)				U-TURNS				
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	37	33	11	0	17	10	2	25	14	5	60	0	214	0	0	0	0	0
	7:15 AM	58	32	6	2	16	7	16	36	17	7	65	0	262	0	0	0	1	1
	7:30 AM	54	31	7	2	22	5	7	30	20	19	71	3	271	0	0	0	0	0
	7:45 AM	52	31	6	1	20	6	12	44	30	25	95	2	324	0	0	0	1	1
	8:00 AM	32	17	9	1	12	5	4	79	29	19	66	0	273	0	0	0	1	1
	8:15 AM	28	21	7	3	29	2	3	59	33	16	70	0	271	0	1	0	0	1
	8:30 AM	33	20	9	1	13	6	4	36	16	15	68	3	224	0	0	0	0	0
	8:45 AM	24	26	6	4	22	9	5	44	16	22	53	1	232	0	0	0	3	3
	VOLUMES	318	211	61	14	151	50	53	353	175	128	548	9	2,071	0	1	0	6	7
	APPROACH %	54%	36%	10%	7%	70%	23%	9%	61%	30%	19%	80%	1%						
	APP/DEPART	590	/	274	215	/	448	581	/	433	685	/	916	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	166	100	29	7	83	18	26	212	112	79	302	5	1,139					
	APPROACH %	56%	34%	10%	6%	77%	17%	7%	61%	32%	20%	78%	1%						
	PEAK HR FACTOR		0.802			0.794			0.781			0.791		0.879					
	APP/DEPART	295	/	132	108	/	272	350	/	249	386	/	486	0					
PM	4:00 PM	37	16	21	4	23	18	7	95	46	12	79	0	358	0	0	0	0	0
	4:15 PM	44	30	16	2	24	17	13	121	41	10	60	3	381	0	1	0	0	1
	4:30 PM	24	31	13	4	49	21	10	133	31	11	73	2	402	1	2	0	0	3
	4:45 PM	32	17	22	3	36	7	11	117	31	13	53	1	343	0	1	0	0	1
	5:00 PM	36	34	15	1	29	12	7	152	46	9	63	0	404	0	0	0	0	0
	5:15 PM	33	20	19	2	18	10	15	158	35	14	59	0	383	0	0	0	0	0
	5:30 PM	36	15	11	0	17	5	14	152	47	16	50	1	364	0	0	1	1	2
	5:45 PM	31	17	11	0	14	13	7	106	33	14	61	1	308	0	0	0	1	1
	VOLUMES	273	180	128	16	210	103	84	1,034	310	99	498	8	2,943	1	4	1	2	8
	APPROACH %	47%	31%	22%	5%	64%	31%	6%	72%	22%	16%	82%	1%						
	APP/DEPART	581	/	275	329	/	618	1,428	/	1,176	605	/	874	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	125	102	69	10	132	50	43	560	143	47	248	3	1,532					
	APPROACH %	42%	34%	23%	5%	69%	26%	6%	75%	19%	16%	83%	1%						
	PEAK HR FACTOR		0.871			0.649			0.897			0.866		0.948					
	APP/DEPART	296	/	151	192	/	323	746	/	636	298	/	422	0					

California

NORTH SIDE

San Bernardino WEST SIDE EAST SIDE **San Bernardino**

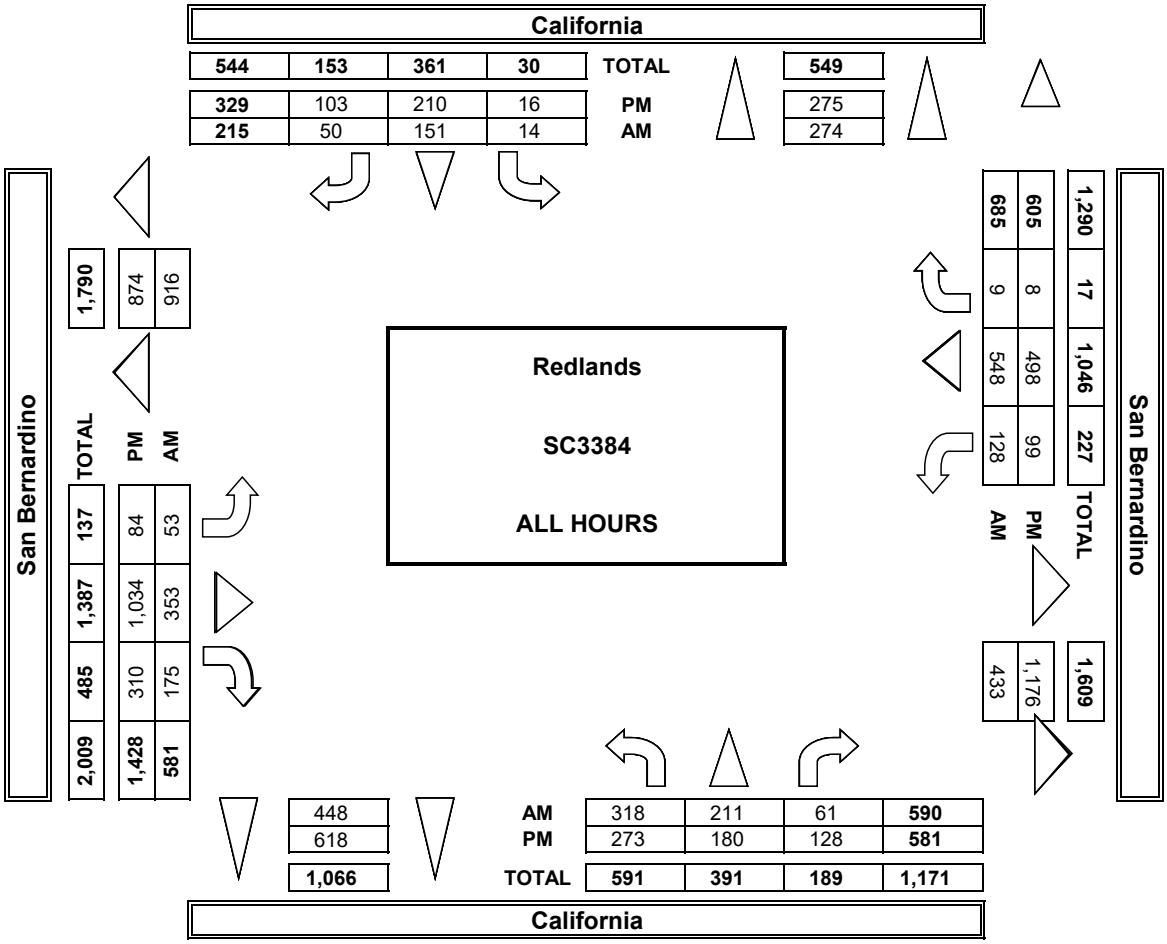
SOUTH SIDE

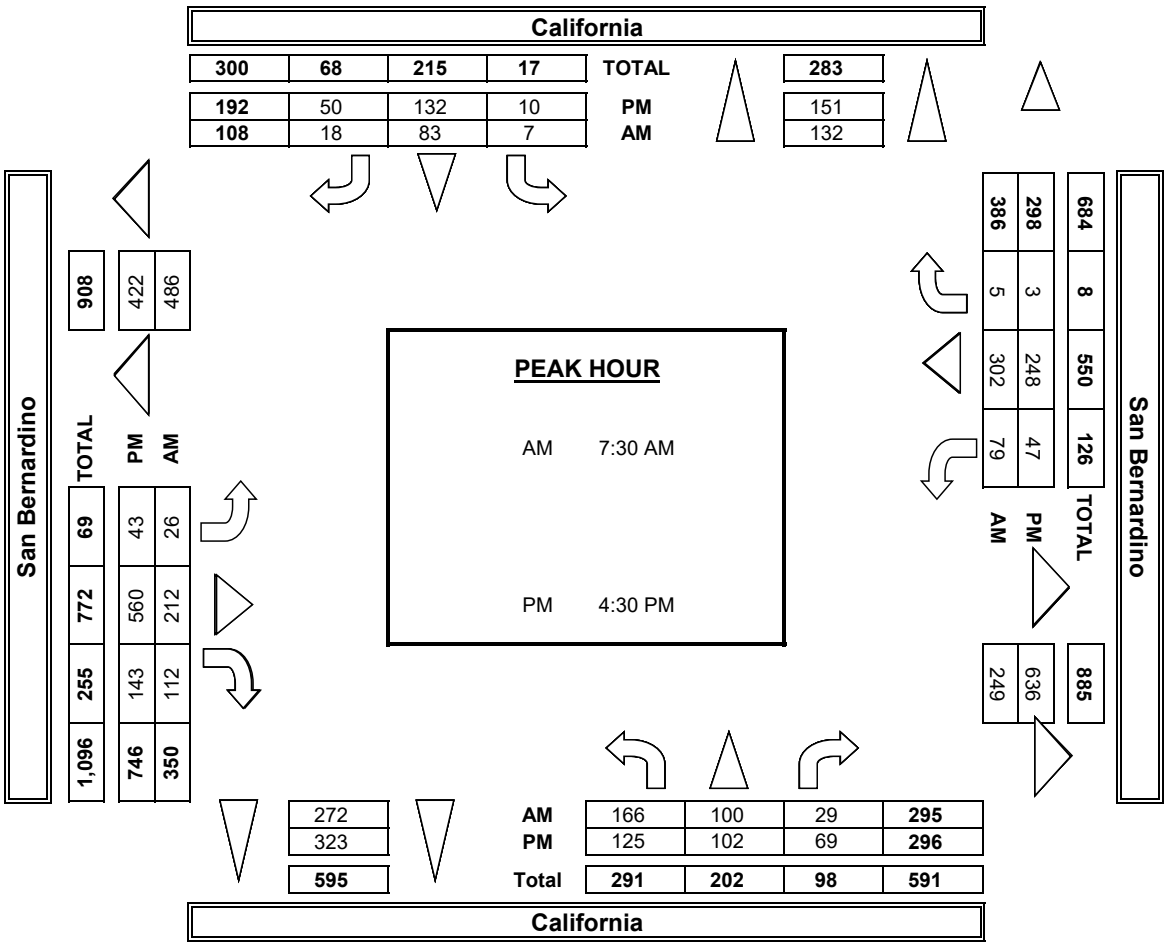
California

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	7:30 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	1	0	0	1	2	0	0	0	0	0	1	0	0	1	2
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	2	0	0	0	2	1	0	0	0	1	1	0	0	0	1
	TOTAL	4	0	1	1	6	1	0	0	0	1	3	0	1	1	5
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:30 PM	0	0	0	5	5	0	0	0	0	0	0	0	0	5	5
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	1	0	5	6	0	0	0	0	0	0	1	0	5	6
	5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:30 PM	0	0	0	4	4	0	0	0	0	0	0	0	0	4	4
	5:45 PM	0	1	0	4	5	0	0	0	0	0	0	1	0	4	5
	TOTAL	0	2	0	18	20	0	0	0	0	0	0	2	0	18	20

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T42321

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 10, 22

LOCATION: Redlands
NORTH & SOUTH: California
EAST & WEST: Almond

PROJECT #: SC3384
LOCATION #: 2
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — N ▲ / ◄ W / E ► / S ▼

☐ Add U-Turns to Left Turns

		NORTHBOUND (California)			SOUTHBOUND (California)			EASTBOUND (Almond)			WESTBOUND (Almond)				U-TURNS				
	LANES:	NL 2	NT 2	NR 1	SL 1	ST 3	SR 0	EL 0	ET 1	ER 1	WL 0	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	7	81	12	1	30	3	0	6	4	6	5	0	155	0	0	0	0	0
	7:15 AM	17	92	5	0	38	3	2	8	4	7	6	1	183	0	0	0	0	0
	7:30 AM	10	90	10	0	52	6	1	5	7	11	16	3	211	0	0	0	0	0
	7:45 AM	9	83	12	3	60	12	1	16	4	4	14	2	220	0	0	0	0	0
	8:00 AM	11	56	12	1	51	4	2	10	10	10	9	2	178	0	0	0	0	0
	8:15 AM	5	51	6	1	74	3	2	6	9	5	6	0	168	0	0	0	0	0
	8:30 AM	8	63	13	0	38	5	2	11	8	6	11	1	166	0	0	0	0	0
	8:45 AM	8	53	6	0	50	6	3	11	7	6	11	1	162	0	0	0	0	0
	VOLUMES	75	569	76	6	393	42	13	73	53	55	78	10	1,443	0	0	0	0	0
	APPROACH %	10%	79%	11%	1%	89%	10%	9%	53%	38%	38%	55%	7%						
	APP/DEPART	720	/	592	441	/	501	139	/	155	143	/	195	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	47	321	39	4	201	25	6	39	25	32	45	8	792					
	APPROACH %	12%	79%	10%	2%	87%	11%	9%	56%	36%	38%	53%	9%						
	PEAK HR FACTOR		0.893			0.767			0.795			0.708		0.900					
	APP/DEPART	407	/	335	230	/	258	70	/	82	85	/	117	0					
PM	4:00 PM	1	75	16	3	64	5	1	29	4	12	18	5	233	0	0	0	0	0
	4:15 PM	6	76	9	1	66	6	3	18	4	11	22	1	223	0	0	0	0	0
	4:30 PM	10	62	13	3	88	3	4	28	12	16	21	4	264	0	0	0	0	0
	4:45 PM	12	65	16	0	74	4	2	28	16	6	13	5	241	0	0	0	0	0
	5:00 PM	4	76	11	2	78	4	8	32	13	5	16	2	251	0	0	0	0	0
	5:15 PM	13	67	10	5	58	8	4	32	14	13	15	0	239	1	0	0	0	1
	5:30 PM	4	52	13	3	63	7	5	27	16	9	17	3	219	0	0	0	0	0
	5:45 PM	20	52	13	0	61	5	4	22	15	7	12	2	213	0	0	0	0	0
	VOLUMES	70	526	101	17	552	42	31	216	94	79	134	22	1,884	1	0	0	0	1
	APPROACH %	10%	75%	14%	3%	90%	7%	9%	63%	28%	34%	57%	9%						
	APP/DEPART	697	/	579	611	/	726	341	/	334	235	/	245	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	39	270	50	10	298	19	18	120	55	40	65	11	995					
	APPROACH %	11%	75%	14%	3%	91%	6%	9%	62%	28%	34%	56%	9%						
	PEAK HR FACTOR		0.965			0.870			0.910			0.707		0.942					
	APP/DEPART	359	/	299	327	/	394	193	/	180	116	/	122	0					

California

NORTH SIDE

Almond WEST SIDE EAST SIDE **Almond**

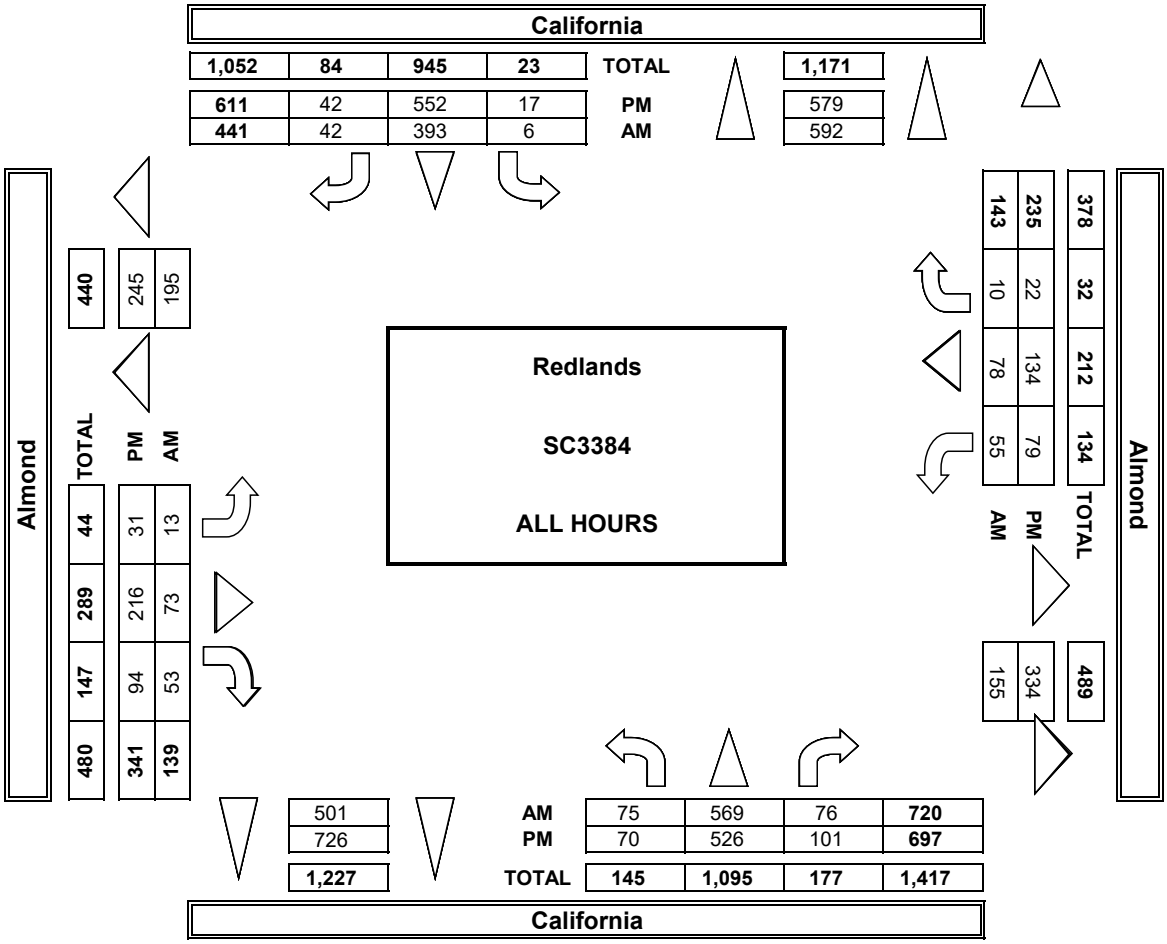
SOUTH SIDE

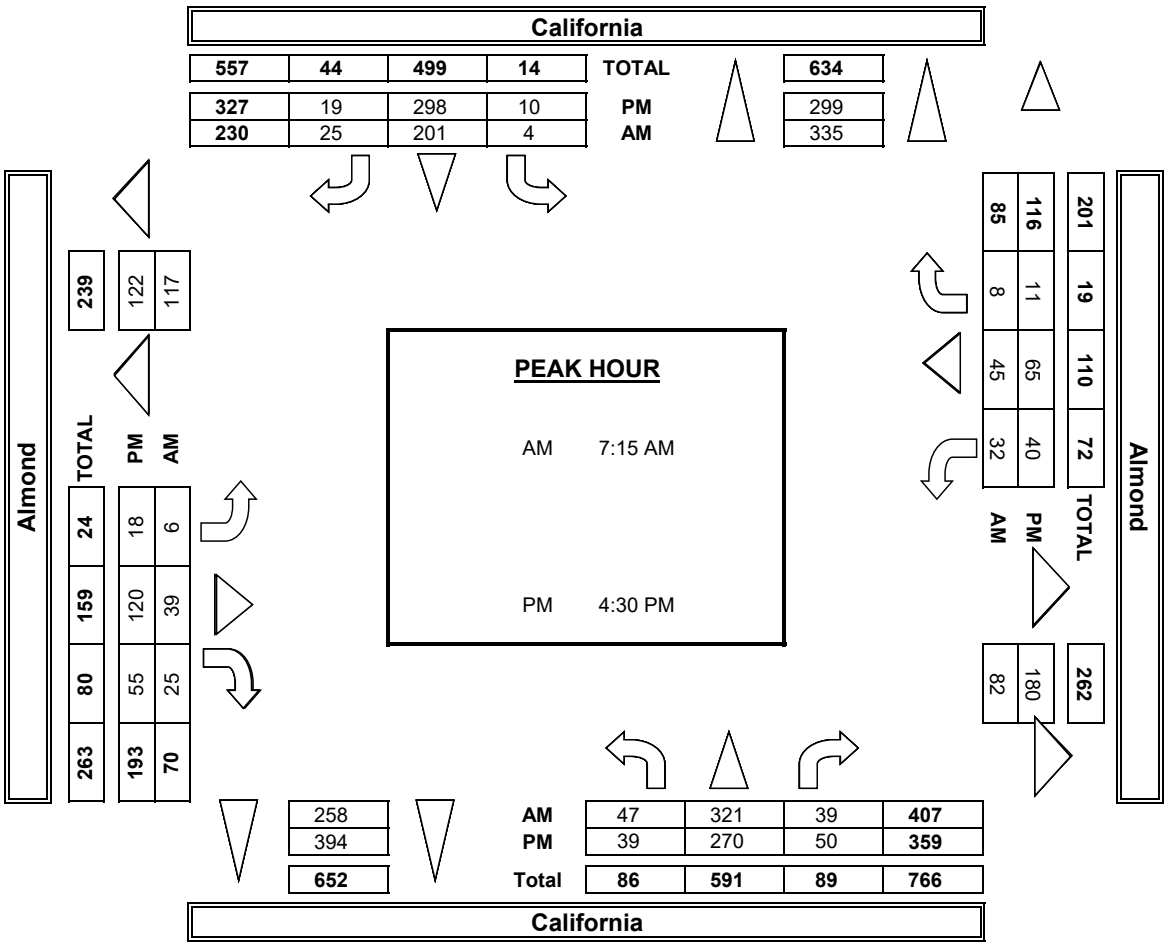
California

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
	8:15 AM	14	0	0	1	15	0	0	0	0	0	14	0	0	1	15
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	14	0	1	2	17	0	0	0	0	0	14	0	1	2	17
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
	4:30 PM	0	0	1	5	6	0	0	1	0	1	0	0	0	5	5
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	0	0	0	5	5	0	0	0	0	0	0	0	0	5	5
	5:15 PM	0	0	1	1	2	0	0	0	1	1	0	0	1	0	1
	5:30 PM	0	0	0	4	4	0	0	0	0	0	0	0	0	4	4
	5:45 PM	0	1	0	4	5	0	0	0	0	0	0	1	0	4	5
	TOTAL	1	1	2	19	23	0	0	1	1	2	1	1	1	18	21

AimTD LLC

TURNING MOVEMENT COUNTS





T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 10, 22	LOCATION:	Redlands	PROJECT #: SC3384
	NORTH & SOUTH:	California	LOCATION #: 3
	EAST & WEST:	Lugonia	CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☐ Add U-Turns to Left Turns

		NORTHBOUND (California)			SOUTHBOUND (California)			EASTBOUND (Lugonia)			WESTBOUND (Lugonia)				U-TURNS				
	LANES:	NL 1	NT 1	NR 1	SL 1	ST 2	SR 1	EL 0	ET 1	ER 1	WL 0	WT 2	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	25	105	8	1	38	1	0	7	16	17	7	2	227	0	0	0	0	0
	7:15 AM	26	120	18	3	44	1	0	7	28	22	11	12	292	1	0	0	0	1
	7:30 AM	30	121	17	2	59	1	0	2	22	27	15	5	301	0	0	0	0	0
	7:45 AM	42	128	23	7	53	4	1	6	23	28	19	8	342	0	0	0	0	0
	8:00 AM	48	89	30	5	55	5	1	5	17	23	13	5	296	1	0	0	0	1
	8:15 AM	52	101	28	13	67	6	1	4	15	20	10	11	328	0	1	0	0	1
	8:30 AM	47	109	36	11	33	4	0	6	19	34	8	11	318	1	0	0	0	1
	8:45 AM	36	104	33	7	59	4	0	6	26	24	18	12	329	2	0	0	0	2
	VOLUMES	306	877	193	49	408	26	3	43	166	195	101	66	2,433	5	1	0	0	6
	APPROACH %	22%	64%	14%	10%	84%	5%	1%	20%	78%	54%	28%	18%						
	APP/DEPART	1,376	/	947	483	/	774	212	/	284	362	/	428	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	189	427	117	36	208	19	3	21	74	105	50	35	1,284					
	APPROACH %	26%	58%	16%	14%	79%	7%	3%	21%	76%	55%	26%	18%						
	PEAK HR FACTOR		0.949			0.765			0.817			0.864		0.939					
	APP/DEPART	733	/	466	263	/	389	98	/	173	190	/	256	0					
PM	4:00 PM	30	84	24	18	102	2	2	18	37	38	15	11	381	0	0	0	0	0
	4:15 PM	21	85	43	11	97	1	3	13	34	30	9	8	355	0	0	0	0	0
	4:30 PM	11	71	27	18	130	4	3	13	49	44	8	13	391	0	0	0	0	0
	4:45 PM	18	80	47	15	108	2	0	17	36	37	12	7	379	0	0	0	0	0
	5:00 PM	22	89	37	11	108	1	3	20	45	41	8	11	396	5	0	0	0	5
	5:15 PM	13	67	25	9	90	2	1	13	32	42	11	3	308	1	0	0	0	1
	5:30 PM	18	74	53	15	91	2	0	10	36	35	8	6	348	0	0	0	0	0
	5:45 PM	23	81	35	8	89	2	1	9	22	34	20	5	329	1	0	0	0	1
	VOLUMES	156	631	291	105	815	16	13	113	291	301	91	64	2,887	7	0	0	0	7
	APPROACH %	14%	59%	27%	11%	87%	2%	3%	27%	70%	66%	20%	14%						
	APP/DEPART	1,078	/	708	936	/	1,414	417	/	509	456	/	256	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	72	325	154	55	443	8	9	63	164	152	37	39	1,521					
	APPROACH %	13%	59%	28%	11%	88%	2%	4%	27%	69%	67%	16%	17%						
	PEAK HR FACTOR		0.924			0.832			0.868			0.877		0.960					
	APP/DEPART	551	/	373	506	/	764	236	/	272	228	/	112	0					

California

NORTH SIDE

Lugonia WEST SIDE EAST SIDE **Lugonia**

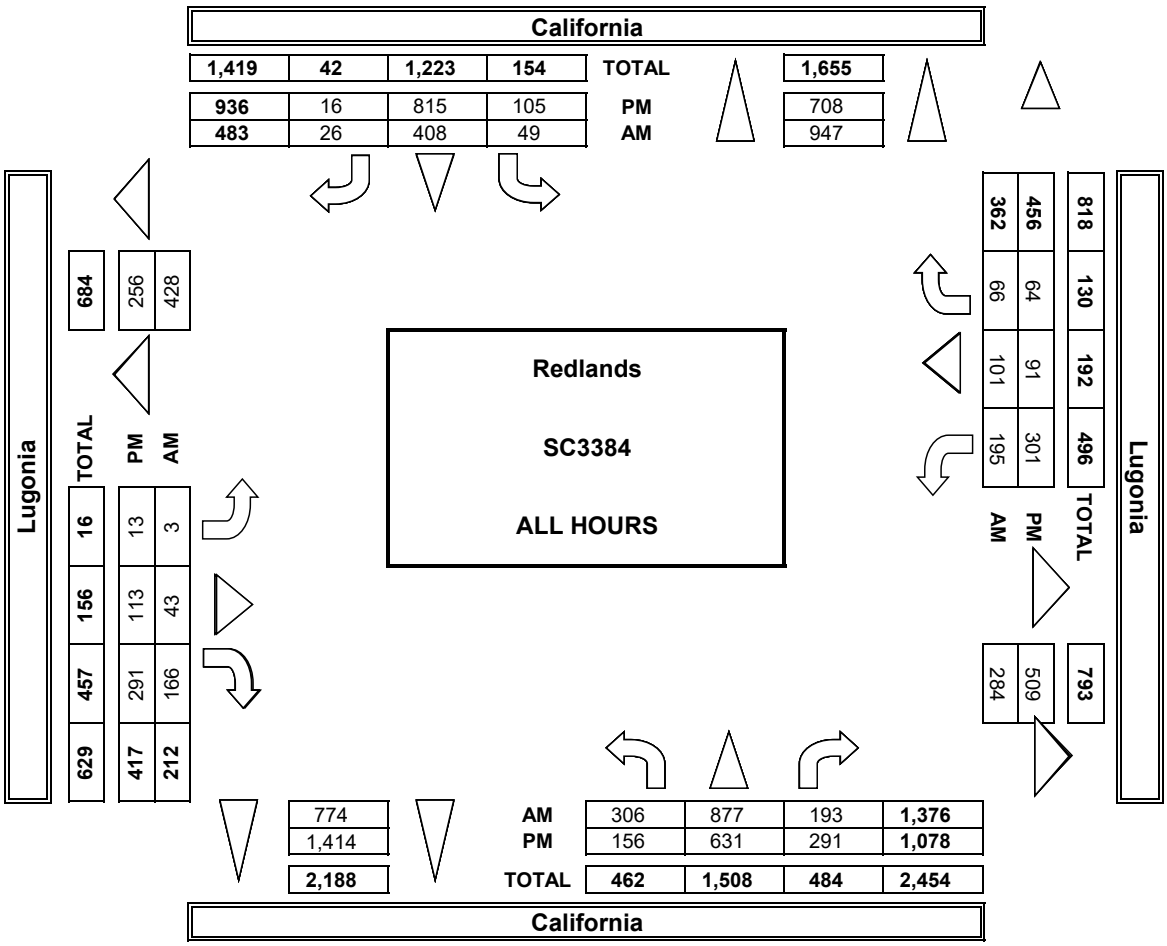
SOUTH SIDE

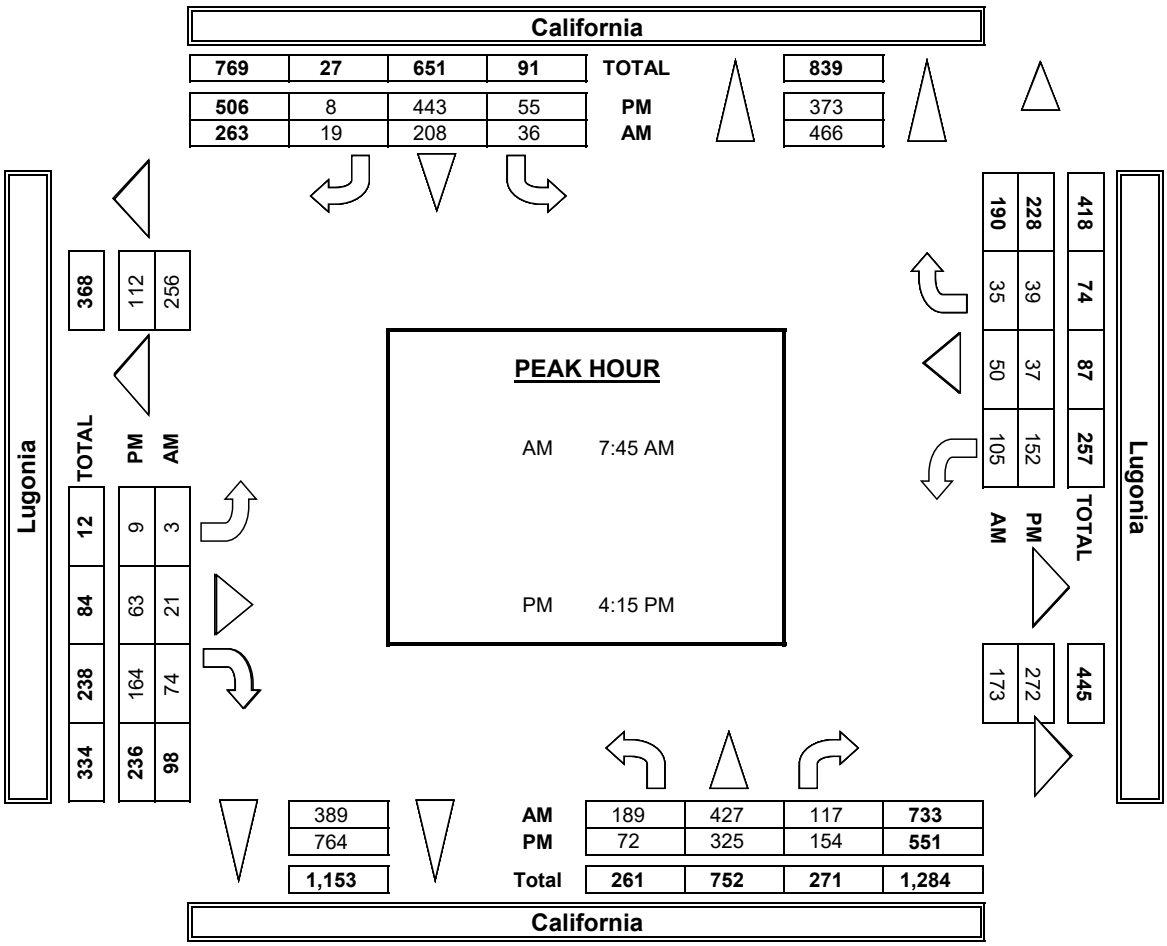
California

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
	8:15 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	1	2	3	0	0	1	0	1	0	0	0	2	2
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	4:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	4:30 PM	0	0	1	5	6	0	0	1	0	1	0	0	0	5	5
	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:00 PM	5	0	5	0	10	0	0	0	0	0	5	0	5	0	10
	5:15 PM	1	0	1	2	4	1	0	0	2	3	0	0	1	0	1
	5:30 PM	0	0	0	4	4	0	0	0	0	0	0	0	0	4	4
	5:45 PM	1	0	1	4	6	0	0	0	0	0	1	0	1	4	6
	TOTAL	7	0	9	15	31	1	0	1	2	4	6	0	8	13	27

AimTD LLC

TURNING MOVEMENT COUNTS





T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 10, 22

LOCATION: Redlands
NORTH & SOUTH: California
EAST & WEST: Orange Tree

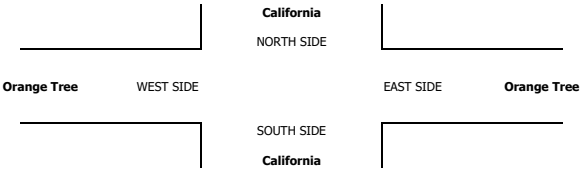
PROJECT #: SC3384
LOCATION #: 4
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — N ▲ / ◄ W / E ► / S ▼

☐ Add U-Turns to Left Turns

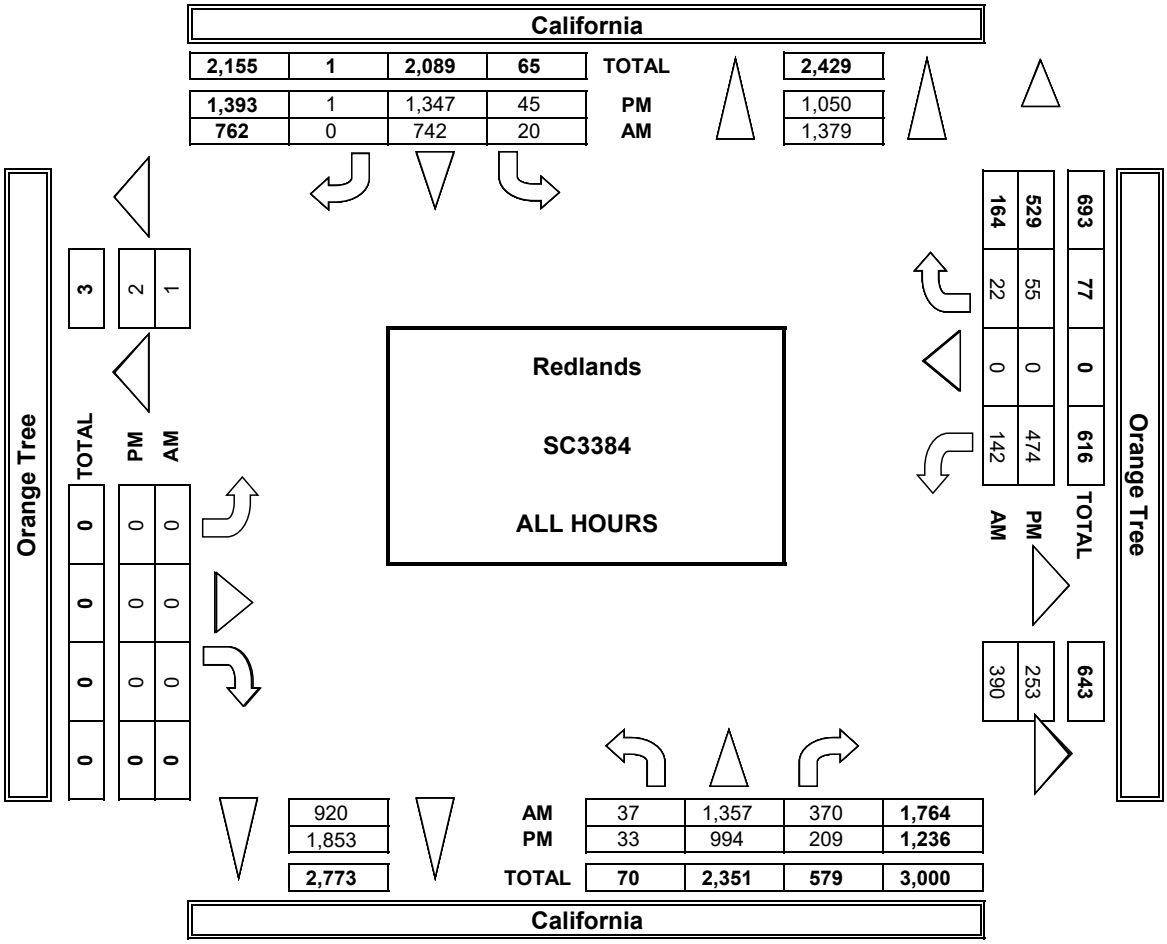
		NORTHBOUND (California)			SOUTHBOUND (California)			EASTBOUND (Orange Tree)			WESTBOUND (Orange Tree)				U-TURNS				
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 2	SR 1	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	8	139	21	0	70	0	0	0	0	12	0	1	251	8	0	0	0	8
AM	7:15 AM	5	158	37	0	91	0	0	0	0	14	0	2	307	4	0	0	0	4
AM	7:30 AM	3	166	42	4	104	0	0	0	0	10	0	1	330	3	0	0	0	3
AM	7:45 AM	5	192	69	2	90	0	0	0	0	24	0	2	384	5	0	0	0	5
AM	8:00 AM	4	168	42	5	96	0	0	0	0	13	0	3	331	4	0	0	0	4
AM	8:15 AM	5	177	45	2	96	0	0	0	0	22	0	6	353	5	0	0	0	5
AM	8:30 AM	4	188	55	1	90	0	0	0	0	28	0	3	369	4	0	0	0	4
AM	8:45 AM	3	169	59	6	105	0	0	0	0	19	0	4	365	3	0	0	0	3
AM	VOLUMES	37	1,357	370	20	742	0	0	0	0	142	0	22	2,690	36	0	0	0	36
AM	APPROACH %	2%	77%	21%	3%	97%	0%	0%	0%	0%	87%	0%	13%						
AM	APP/DEPART	1,764	/	1,379	762	/	920	0	/	390	164	/	1	0					
AM	BEGIN PEAK HR		7:45 AM																
AM	VOLUMES	18	725	211	10	372	0	0	0	0	87	0	14	1,437					
AM	APPROACH %	2%	76%	22%	3%	97%	0%	0%	0%	0%	86%	0%	14%						
AM	PEAK HR FACTOR		0.897			0.946			0.000			0.815		0.936					
AM	APP/DEPART	954	/	739	382	/	477	0	/	221	101	/	0	0					
PM	4:00 PM	6	127	30	8	158	0	0	0	0	59	0	3	391	6	0	0	0	6
PM	4:15 PM	3	138	32	6	157	1	0	0	0	59	0	8	404	3	0	0	0	3
PM	4:30 PM	0	100	31	4	222	0	0	0	0	58	0	3	418	0	0	0	0	0
PM	4:45 PM	5	137	26	3	167	0	0	0	0	58	0	9	405	5	0	0	0	5
PM	5:00 PM	2	120	19	8	181	0	0	0	0	89	0	13	432	2	1	0	0	3
PM	5:15 PM	5	106	30	10	171	0	0	0	0	68	0	6	396	5	0	0	0	5
PM	5:30 PM	4	141	20	4	159	0	0	0	0	57	0	7	392	4	0	0	0	4
PM	5:45 PM	8	125	21	2	132	0	0	0	0	26	0	6	320	7	0	0	0	7
PM	VOLUMES	33	994	209	45	1,347	1	0	0	0	474	0	55	3,158	32	1	0	0	33
PM	APPROACH %	3%	80%	17%	3%	97%	0%	0%	0%	0%	90%	0%	10%						
PM	APP/DEPART	1,236	/	1,050	1,393	/	1,853	0	/	253	529	/	2	0					
PM	BEGIN PEAK HR		4:15 PM																
PM	VOLUMES	10	495	108	21	727	1	0	0	0	264	0	33	1,659					
PM	APPROACH %	2%	81%	18%	3%	97%	0%	0%	0%	0%	89%	0%	11%						
PM	PEAK HR FACTOR		0.886			0.829			0.000			0.728		0.960					
PM	APP/DEPART	613	/	529	749	/	1,001	0	/	128	297	/	1	0					

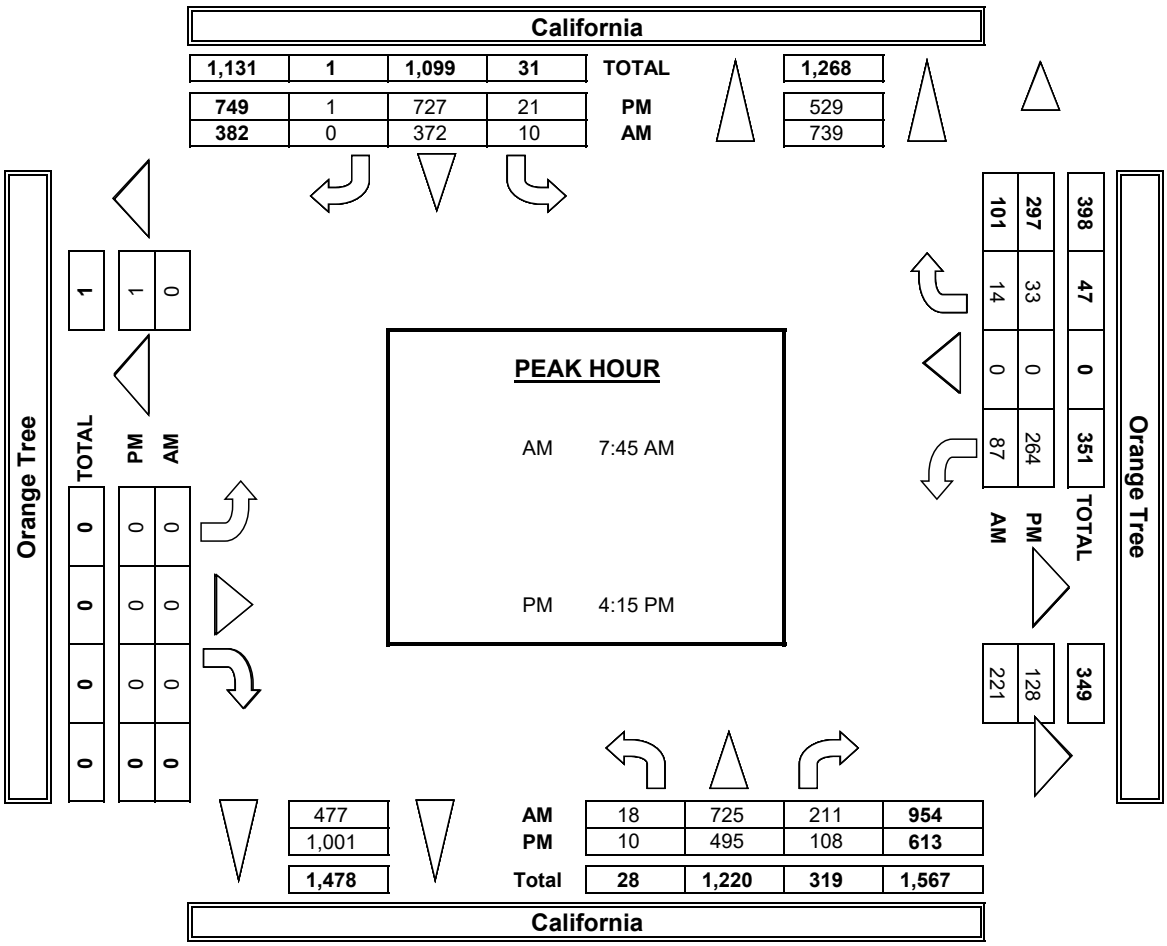


	ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
AM	8:15 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
AM	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM	TOTAL	1	0	0	1	2	0	0	0	0	0	1	0	0	1	2
PM	4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	4:15 PM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
PM	4:30 PM	5	1	5	2	13	0	0	1	0	1	5	1	4	2	12
PM	4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM	5:00 PM	0	0	6	0	6	0	0	1	0	1	0	0	5	0	5
PM	5:15 PM	1	0	2	0	3	1	0	1	0	2	0	0	1	0	1
PM	5:30 PM	0	2	4	0	6	0	2	0	0	2	0	0	4	0	4
PM	5:45 PM	0	0	5	2	7	0	0	0	2	2	0	0	5	0	5
	TOTAL	6	3	23	4	36	1	2	3	2	8	5	1	20	2	28

AimTD LLC

TURNING MOVEMENT COUNTS





T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 10, 22

LOCATION: Redlands
NORTH & SOUTH: California
EAST & WEST: I-10 WB Ramps

PROJECT #: SC3384
LOCATION #: 5
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

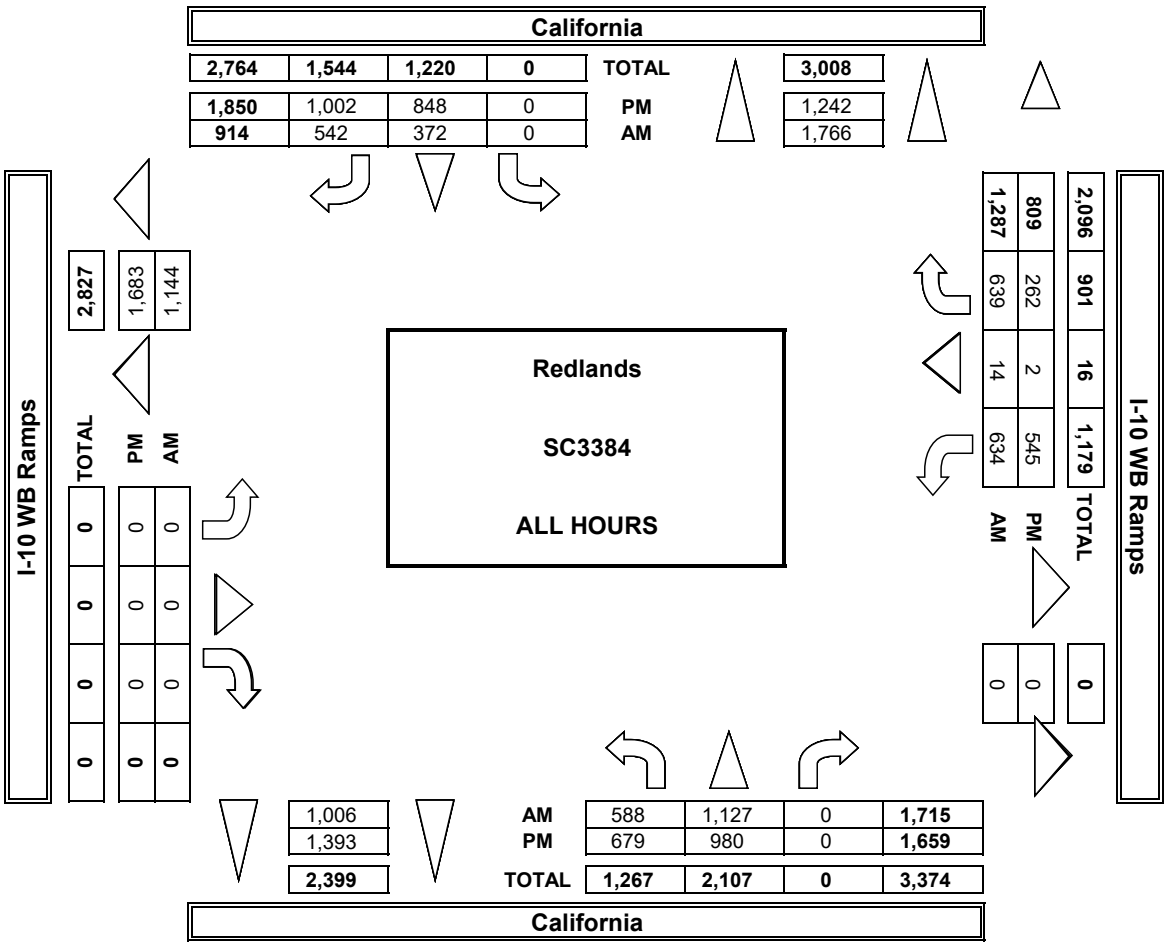
☐ Add U-Turns to Left Turns

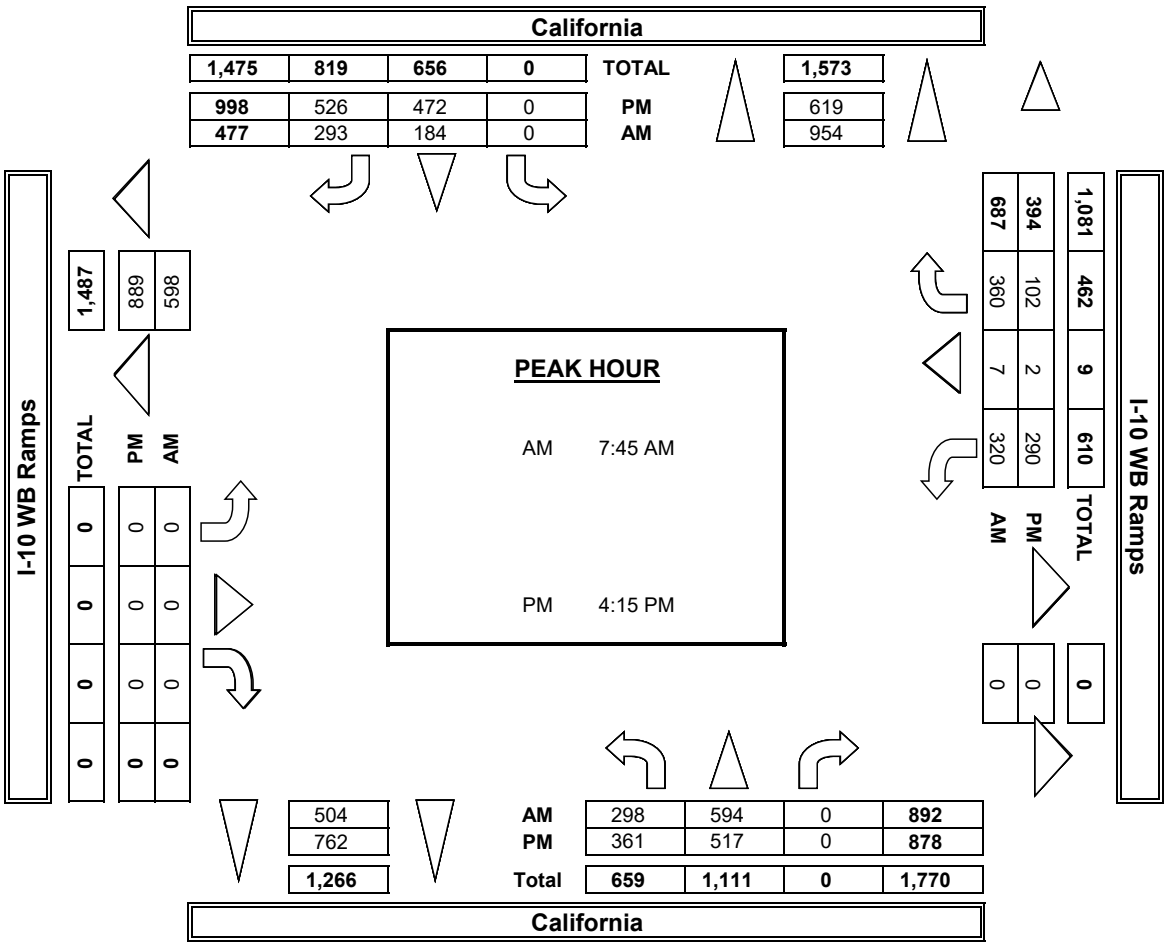
		NORTHBOUND (California)			SOUTHBOUND (California)			EASTBOUND (I-10 WB Ramps)			WESTBOUND (I-10 WB Ramps)				U-TURNS				
	LANES:	NL 1	NT 2	NR X	SL X	ST 3	SR 1	EL X	ET X	ER X	WL 0.5	WT 0.5	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	81	122	0	0	33	57	0	0	0	57	1	48	399	0	0	0	0	0
	7:15 AM	65	130	0	0	49	54	0	0	0	98	4	70	470	0	0	0	0	0
	7:30 AM	71	137	0	0	51	66	0	0	0	95	2	74	496	0	0	0	0	0
	7:45 AM	76	169	0	0	48	71	0	0	0	102	6	97	569	0	0	0	0	0
	8:00 AM	80	129	0	0	39	74	0	0	0	72	0	85	479	0	0	0	0	0
	8:15 AM	65	140	0	0	49	74	0	0	0	53	1	87	469	0	0	0	0	0
	8:30 AM	77	156	0	0	48	74	0	0	0	93	0	91	539	0	0	0	0	0
	8:45 AM	73	144	0	0	55	72	0	0	0	64	0	87	495	0	0	0	0	0
	VOLUMES	588	1,127	0	0	372	542	0	0	0	634	14	639	3,916	0	0	0	0	0
	APPROACH %	34%	66%	0%	0%	41%	59%	0%	0%	0%	49%	1%	50%						
	APP/DEPART	1,715	/	1,766	914	/	1,006	0	/	0	1,287	/	1,144	0					
	BEGIN PEAK HR		7:45 AM																
	VOLUMES	298	594	0	0	184	293	0	0	0	320	7	360	2,056					
	APPROACH %	33%	67%	0%	0%	39%	61%	0%	0%	0%	47%	1%	52%						
	PEAK HR FACTOR		0.910			0.970			0.000			0.838		0.903					
	APP/DEPART	892	/	954	477	/	504	0	/	0	687	/	598	0					
PM	4:00 PM	76	111	0	0	89	134	0	0	0	51	0	52	513	0	0	0	0	0
	4:15 PM	82	145	0	0	105	114	0	0	0	78	2	28	554	0	0	0	0	0
	4:30 PM	88	106	0	0	128	152	0	0	0	65	0	31	570	0	0	0	0	0
	4:45 PM	79	138	0	0	108	122	0	0	0	74	0	30	551	0	0	0	0	0
	5:00 PM	112	128	0	0	131	138	0	0	0	73	0	13	595	0	0	0	0	0
	5:15 PM	82	108	0	0	116	128	0	0	0	63	0	33	530	0	0	0	0	0
	5:30 PM	83	133	0	0	90	130	0	0	0	73	0	32	541	0	0	0	0	0
	5:45 PM	77	111	0	0	81	84	0	0	0	68	0	43	464	0	0	0	0	0
	VOLUMES	679	980	0	0	848	1,002	0	0	0	545	2	262	4,318	0	0	0	0	0
	APPROACH %	41%	59%	0%	0%	46%	54%	0%	0%	0%	67%	0%	32%						
	APP/DEPART	1,659	/	1,242	1,850	/	1,393	0	/	0	809	/	1,683	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	361	517	0	0	472	526	0	0	0	290	2	102	2,270					
	APPROACH %	41%	59%	0%	0%	47%	53%	0%	0%	0%	74%	1%	26%						
	PEAK HR FACTOR		0.915			0.891			0.000			0.912		0.954					
	APP/DEPART	878	/	619	998	/	762	0	/	0	394	/	889	0					

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:30 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
	8:15 AM	1	0	0	1	2	1	0	0	1	2	0	0	0	0	0
	8:30 AM	0	0	3	2	5	0	0	3	2	5	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	1	0	4	4	9	1	0	4	3	8	0	0	0	1	1
PM	4:00 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	4:15 PM	0	0	3	0	3	0	0	3	0	3	0	0	0	0	0
	4:30 PM	0	0	7	0	7	0	0	4	0	4	0	0	3	0	3
	4:45 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	5:00 PM	0	0	8	0	8	0	0	2	0	2	0	0	6	0	6
	5:15 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	5:30 PM	0	0	7	0	7	0	0	2	0	2	0	0	5	0	5
	5:45 PM	0	0	6	2	8	0	0	0	2	2	0	0	6	0	6
	TOTAL	0	0	34	2	36	0	0	14	2	16	0	0	20	0	20

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T42321

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 10, 22

LOCATION: Redlands
NORTH & SOUTH: California
EAST & WEST: I-10 EB Ramps

PROJECT #: SC3384
LOCATION #: 6
CONTROL: SIGNAL

NOTES:
Queue NB AM/PM

AM PM MD OTHER OTHER — ▲ N, ◄ W, E ►, S ▼

☐ Add U-Turns to Left Turns

		NORTHBOUND California			SOUTHBOUND California			EASTBOUND I-10 EB Ramps			WESTBOUND I-10 EB Ramps				U-TURNS				
	LANES:	NL X	NT 3	NR 1	SL 1	ST 2	SR X	EL 0	ET 1	ER 0	WL X	WT X	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	121	48	15	75	0	82	1	96	0	0	0	438	0	0	0	0	0
	7:15 AM	0	105	57	22	125	0	98	0	115	0	0	0	522	0	0	0	0	0
	7:30 AM	0	108	69	13	133	0	100	1	118	0	0	0	542	0	0	0	0	0
	7:45 AM	0	135	78	15	135	0	110	1	111	0	0	0	585	0	0	0	0	0
	8:00 AM	0	110	72	21	90	0	99	0	114	0	0	0	506	0	0	0	0	0
	8:15 AM	0	114	61	32	70	0	91	0	124	0	0	0	492	0	0	0	0	0
	8:30 AM	0	133	58	20	119	0	100	1	119	0	0	0	550	0	0	0	0	0
	8:45 AM	0	121	74	27	92	0	96	1	146	0	0	0	557	0	0	0	0	0
	VOLUMES	0	947	517	165	839	0	776	5	943	0	0	0	4,192	0	0	0	0	0
	APPROACH %	0%	65%	35%	16%	84%	0%	45%	0%	55%	0%	0%	0%						
	APP/DEPART	1,464	/	1,723	1,004	/	1,782	1,724	/	687	0	/	0	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	458	276	71	483	0	407	2	458	0	0	0	2,155					
	APPROACH %	0%	62%	38%	13%	87%	0%	47%	0%	53%	0%	0%	0%						
	PEAK HR FACTOR		0.862			0.923			0.976			0.000		0.921					
	APP/DEPART	734	/	865	554	/	941	867	/	349	0	/	0	0					
PM	4:00 PM	0	126	107	43	97	0	61	0	96	0	0	0	530	0	0	0	0	0
	4:15 PM	0	156	91	36	147	0	71	0	100	0	0	0	601	0	0	0	0	0
	4:30 PM	0	145	117	53	140	0	53	0	98	0	0	0	606	0	0	0	0	0
	4:45 PM	0	164	108	39	143	0	53	1	91	0	0	0	599	0	0	0	0	0
	5:00 PM	0	190	118	58	144	0	50	1	84	0	0	0	645	0	0	0	0	0
	5:15 PM	0	140	88	47	132	0	50	2	92	0	0	0	551	0	0	0	0	0
	5:30 PM	0	157	92	39	124	0	59	2	105	0	0	0	578	0	0	0	0	0
	5:45 PM	0	121	75	25	124	0	67	0	103	0	0	0	515	0	0	0	0	0
	VOLUMES	0	1,199	796	340	1,051	0	464	6	769	0	0	0	4,625	0	0	0	0	0
	APPROACH %	0%	60%	40%	24%	76%	0%	37%	0%	62%	0%	0%	0%						
	APP/DEPART	1,995	/	1,663	1,391	/	1,820	1,239	/	1,142	0	/	0	0					
	BEGIN PEAK HR		4:15 PM																
	VOLUMES	0	655	434	186	574	0	227	2	373	0	0	0	2,451					
	APPROACH %	0%	60%	40%	24%	76%	0%	38%	0%	62%	0%	0%	0%						
	PEAK HR FACTOR		0.884			0.941			0.880			0.000		0.950					
	APP/DEPART	1,089	/	882	760	/	947	602	/	622	0	/	0	0					

California
NORTH SIDE

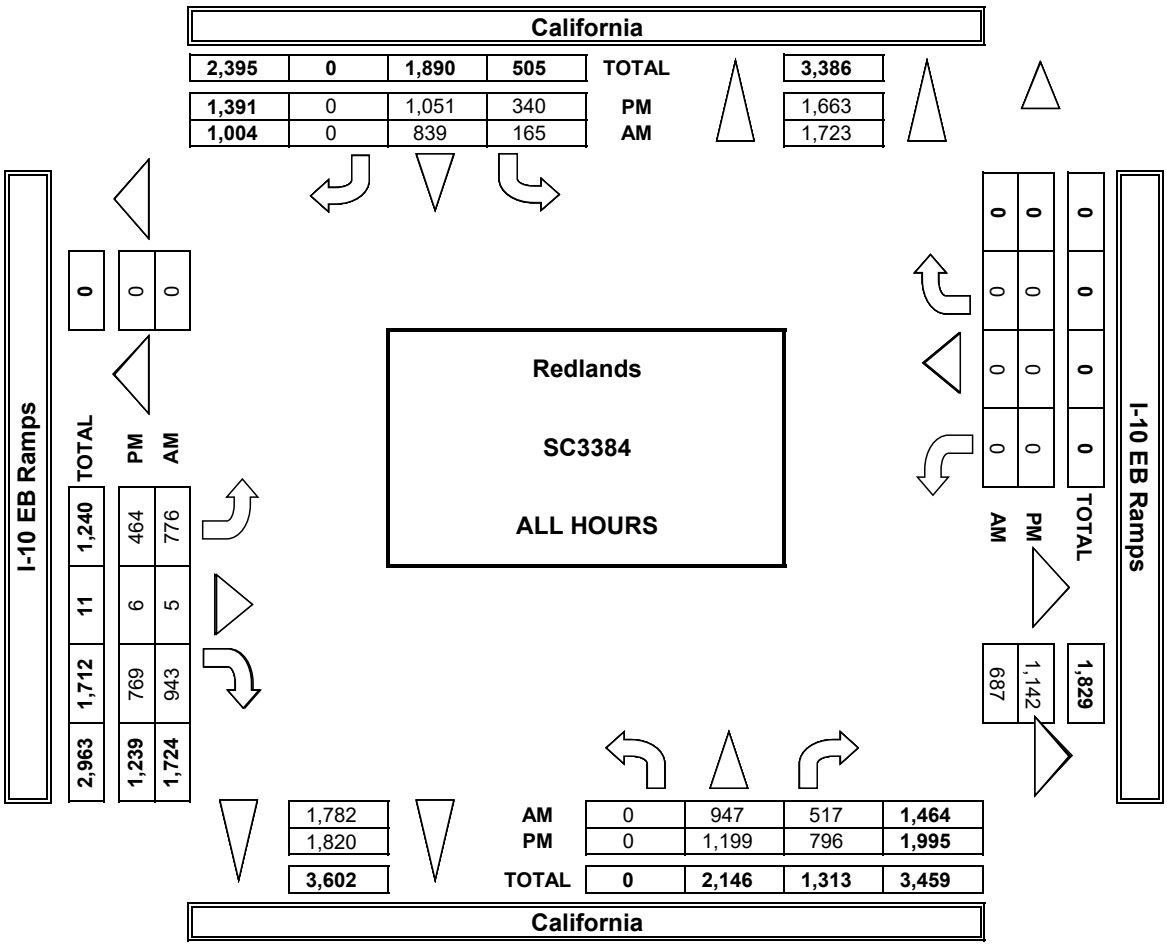
I-10 EB Ramps WEST SIDE EAST SIDE **I-10 EB Ramps**

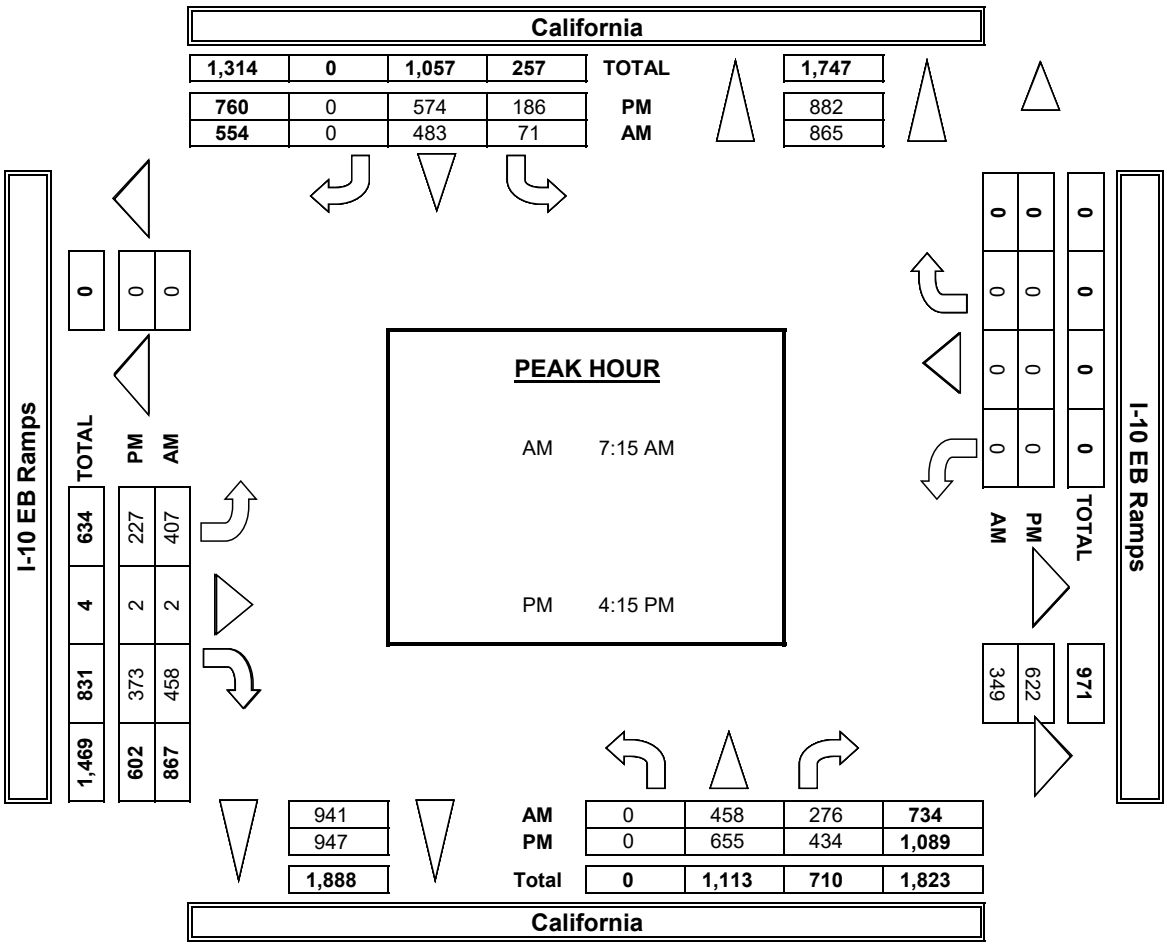
SOUTH SIDE
California

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	7:30 AM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
	7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:00 AM	0	0	1	1	2	0	0	1	0	1	0	0	0	1	1
	8:15 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	8:30 AM	0	0	3	2	5	0	0	3	2	5	0	0	0	0	0
	8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	0	0	6	4	10	0	0	6	3	9	0	0	0	1	1
PM	4:00 PM	0	0	3	0	3	0	0	2	0	2	0	0	1	0	1
	4:15 PM	0	0	3	0	3	0	0	3	0	3	0	0	0	0	0
	4:30 PM	0	0	4	1	5	0	0	4	0	4	0	0	0	1	1
	4:45 PM	0	0	6	0	6	0	0	1	0	1	0	0	5	0	5
	5:00 PM	0	0	7	0	7	0	0	2	0	2	0	0	5	0	5
	5:15 PM	0	0	2	0	2	0	0	1	0	1	0	0	1	0	1
	5:30 PM	0	0	7	0	7	0	0	3	0	3	0	0	4	0	4
	5:45 PM	0	0	5	2	7	0	0	0	2	2	0	0	5	0	5
	TOTAL	0	0	37	3	40	0	0	16	2	18	0	0	21	1	22

AimTD LLC

TURNING MOVEMENT COUNTS





T42321

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, May 10, 22

LOCATION: Redlands
NORTH & SOUTH: California
EAST & WEST: Redlands

PROJECT #: SC3384
LOCATION #: 7
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N, ◄ W, E ►, S ▼

☐ Add U-Turns to Left Turns

		NORTHBOUND (California)			SOUTHBOUND (California)			EASTBOUND (Redlands)			WESTBOUND (Redlands)				U-TURNS				
	LANES:	NL 1	NT 1.5	NR 1.5	SL 1	ST 1.5	SR 0.5	EL 1	ET 2	ER 1	WL 1	WT 2	WR 1	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	23	103	7	34	88	17	13	19	9	7	41	27	388	0	0	0	0	0
	7:15 AM	25	101	6	38	117	44	20	45	27	4	63	31	521	0	0	0	0	0
	7:30 AM	29	113	7	54	131	44	24	43	73	15	74	32	639	0	0	0	0	0
	7:45 AM	45	111	18	56	80	37	28	61	92	22	99	47	696	0	0	0	1	1
	8:00 AM	31	85	11	52	117	39	33	68	19	15	74	33	577	0	0	0	1	1
	8:15 AM	32	115	13	51	84	17	25	68	19	14	71	42	551	0	0	0	0	0
	8:30 AM	20	81	14	68	108	18	24	73	10	18	79	50	563	0	0	0	0	0
	8:45 AM	23	109	10	57	115	20	23	52	9	14	52	42	526	0	0	0	0	0
	VOLUMES	228	818	86	410	840	236	190	429	258	109	553	304	4,461	0	0	0	2	2
	APPROACH %	20%	72%	8%	28%	57%	16%	22%	49%	29%	11%	57%	31%						
	APP/DEPART	1,132	/	1,312	1,486	/	1,205	877	/	927	966	/	1,017	0					
	BEGIN PEAK HR		7:30 AM																
	VOLUMES	137	424	49	213	412	137	110	240	203	66	318	154	2,463					
	APPROACH %	22%	70%	8%	28%	54%	18%	20%	43%	37%	12%	59%	29%						
	PEAK HR FACTOR		0.876			0.832			0.764			0.801		0.885					
	APP/DEPART	610	/	688	762	/	679	553	/	504	538	/	592	0					
PM	4:00 PM	22	123	18	45	87	28	57	139	40	17	132	65	773	0	0	0	0	0
	4:15 PM	29	107	14	47	110	30	50	127	31	23	97	48	713	0	0	0	1	1
	4:30 PM	12	98	11	46	92	24	54	139	34	28	130	70	738	0	0	0	1	1
	4:45 PM	26	117	26	61	91	20	44	132	29	24	101	62	733	0	0	0	2	2
	5:00 PM	24	124	19	62	90	23	36	148	39	26	112	79	782	0	0	0	0	0
	5:15 PM	14	96	19	57	106	26	46	185	35	33	124	62	803	0	0	0	0	0
	5:30 PM	20	98	24	53	114	23	45	136	33	25	95	54	720	0	0	0	0	0
	5:45 PM	17	83	16	57	89	26	29	120	22	16	88	47	610	0	0	0	0	0
	VOLUMES	164	846	147	428	779	200	361	1,126	263	192	879	487	5,872	0	0	0	4	4
	APPROACH %	14%	73%	13%	30%	55%	14%	21%	64%	15%	12%	56%	31%						
	APP/DEPART	1,157	/	1,694	1,407	/	1,230	1,750	/	1,705	1,558	/	1,243	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	76	435	75	226	379	93	180	604	137	111	467	273	3,056					
	APPROACH %	13%	74%	13%	32%	54%	13%	20%	66%	15%	13%	55%	32%						
	PEAK HR FACTOR		0.867			0.923			0.866			0.933		0.951					
	APP/DEPART	586	/	888	698	/	624	921	/	908	851	/	636	0					

California

NORTH SIDE

Redlands WEST SIDE EAST SIDE **Redlands**

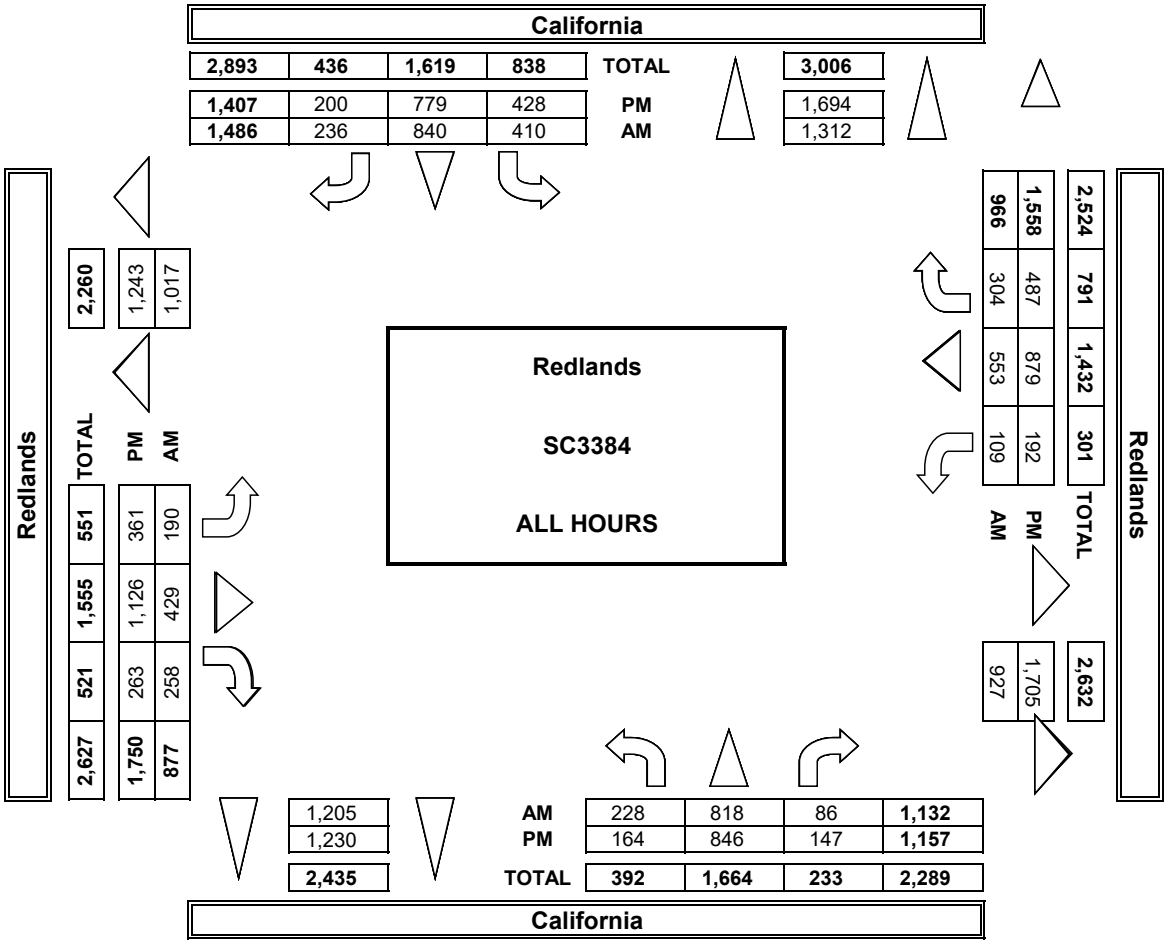
SOUTH SIDE

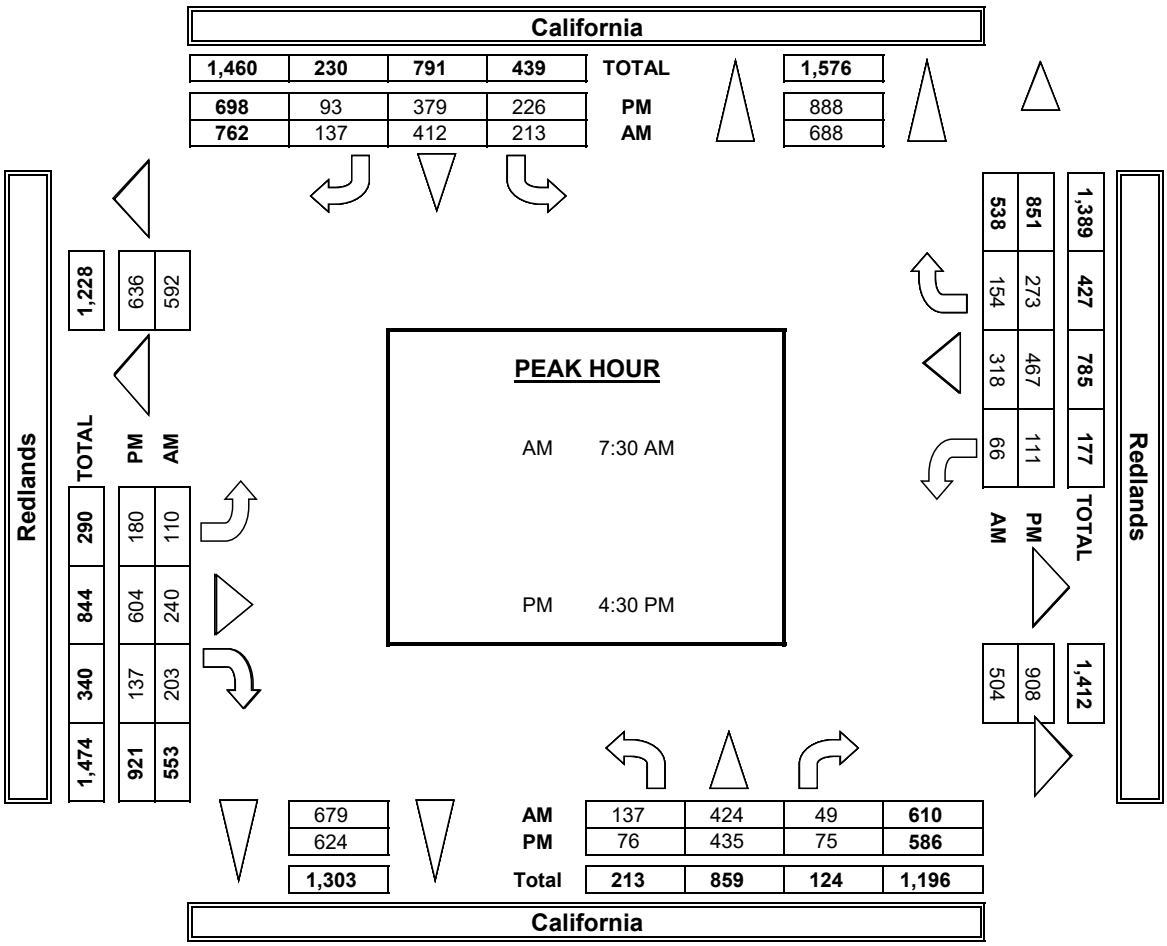
California

		ALL PED AND BIKE					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1
	7:30 AM	1	2	3	3	9	1	2	3	3	9	0	0	0	0	0
	7:45 AM	5	6	0	2	13	5	5	0	2	12	0	1	0	0	1
	8:00 AM	2	4	2	3	11	2	3	2	2	9	0	1	0	1	2
	8:15 AM	4	3	2	0	9	4	2	2	0	8	0	1	0	0	1
	8:30 AM	2	0	1	1	4	2	0	1	0	3	0	0	0	1	1
	8:45 AM	3	2	2	1	8	3	2	2	0	7	0	0	0	1	1
	TOTAL	18	17	10	10	55	17	14	10	7	48	1	3	0	3	7
PM	4:00 PM	2	0	0	0	2	2	0	0	0	2	0	0	0	0	0
	4:15 PM	3	1	2	0	6	1	0	0	0	1	2	1	2	0	5
	4:30 PM	3	1	0	0	4	3	0	0	0	3	0	1	0	0	1
	4:45 PM	2	1	0	0	3	2	1	0	0	3	0	0	0	0	0
	5:00 PM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	5:15 PM	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
	5:30 PM	3	2	0	1	6	1	1	0	1	3	2	1	0	0	3
	5:45 PM	0	1	1	1	3	0	0	1	1	2	0	1	0	0	1
	TOTAL	14	6	3	4	27	10	2	1	4	17	4	4	2	0	10

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T101823

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Jan 30, 24

LOCATION: Redlands
NORTH & SOUTH: Mountain View Ave
EAST & WEST: Almond Ave

PROJECT #: SC4423
LOCATION #: 1
CONTROL: SIGNAL

NOTES:

AM
PM
MD
OTHER
OTHER

▲ N
◄ W
E ►
S ▼

		NORTHBOUND Mountain View Ave			SOUTHBOUND Mountain View Ave			EASTBOUND E Victoria Ave			WESTBOUND Almond Ave				U-TURNS				
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 2	WR 0	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	4	106	16	7	53	2	4	6	4	9	10	12	233	0	0	0	0	0
	7:15 AM	3	100	21	10	53	4	1	6	6	20	19	16	259	0	0	0	0	0
	7:30 AM	2	85	15	9	71	4	3	9	10	9	24	18	259	0	0	0	0	0
	7:45 AM	3	82	19	15	54	1	3	21	9	9	19	17	252	0	0	0	0	0
	8:00 AM	3	79	22	10	50	3	3	16	15	16	20	10	247	0	0	0	0	0
	8:15 AM	5	85	28	8	33	0	1	15	14	20	24	16	249	0	0	0	0	0
	8:30 AM	7	62	35	6	57	2	1	12	10	15	27	8	242	0	0	0	0	0
	8:45 AM	11	62	28	8	63	4	4	19	7	12	17	13	248	0	0	0	0	0
	VOLUMES	38	661	184	73	434	20	20	104	75	110	160	110	1,989	0	0	0	0	0
	APPROACH %	4%	75%	21%	14%	82%	4%	10%	52%	38%	29%	42%	29%						
	APP/DEPART	883	/	791	527	/	619	199	/	361	380	/	218	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	11	346	77	44	228	12	10	52	40	54	82	61	1,017					
	APPROACH %	3%	80%	18%	15%	80%	4%	10%	51%	39%	27%	42%	31%						
	PEAK HR FACTOR		0.875			0.845			0.750			0.895		0.982					
	APP/DEPART	434	/	417	284	/	322	102	/	173	197	/	105	0					
PM	4:00 PM	6	68	12	12	99	0	1	22	7	28	24	25	304	0	0	0	0	0
	4:15 PM	5	59	20	10	91	1	2	20	5	15	14	19	261	0	0	0	0	0
	4:30 PM	9	64	15	9	110	2	7	37	12	26	24	15	330	0	0	0	0	0
	4:45 PM	6	80	14	10	77	3	3	29	11	13	24	4	274	0	0	0	0	0
	5:00 PM	5	50	22	16	96	1	1	43	4	18	24	19	299	0	0	0	0	0
	5:15 PM	9	63	16	18	91	3	4	32	8	11	13	16	284	0	0	0	0	0
	5:30 PM	4	66	16	12	97	5	5	35	17	13	19	8	297	0	0	0	0	0
	5:45 PM	6	63	26	5	86	2	1	21	5	11	23	8	257	0	0	0	0	0
	VOLUMES	50	513	141	92	747	17	24	239	69	135	165	114	2,306	0	0	0	0	0
	APPROACH %	7%	73%	20%	11%	87%	2%	7%	72%	21%	33%	40%	28%						
	APP/DEPART	704	/	651	856	/	951	332	/	472	414	/	232	0					
	BEGIN PEAK HR		4:30 PM																
	VOLUMES	29	257	67	53	374	9	15	141	35	68	85	54	1,187					
	APPROACH %	8%	73%	19%	12%	86%	2%	8%	74%	18%	33%	41%	26%						
	PEAK HR FACTOR		0.883			0.901			0.853			0.796		0.899					
	APP/DEPART	353	/	326	436	/	477	191	/	261	207	/	123	0					

Mountain View Ave

NORTH LEG

E Victoria Ave WEST LEG EAST LEG **Almond Ave**

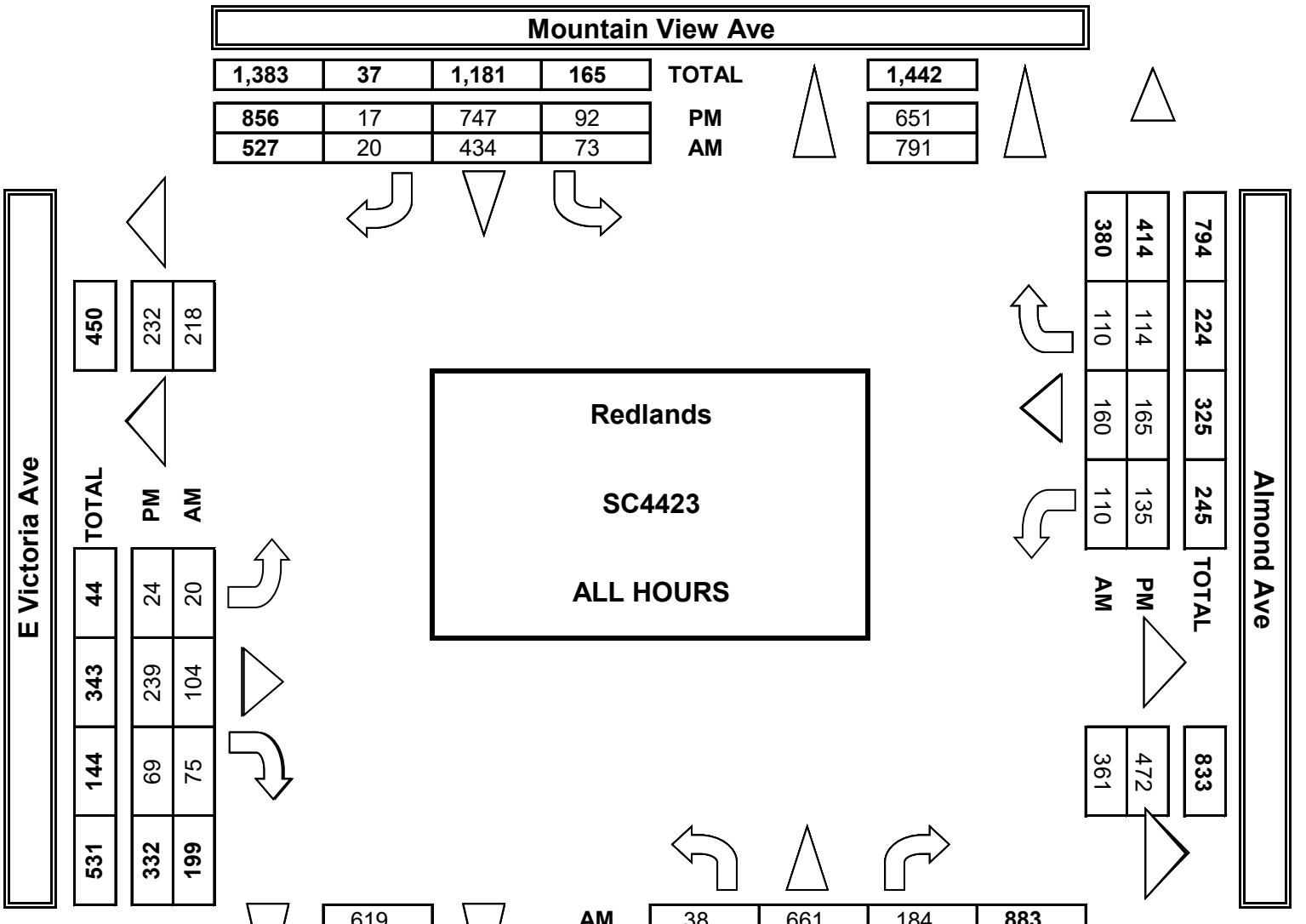
SOUTH LEG

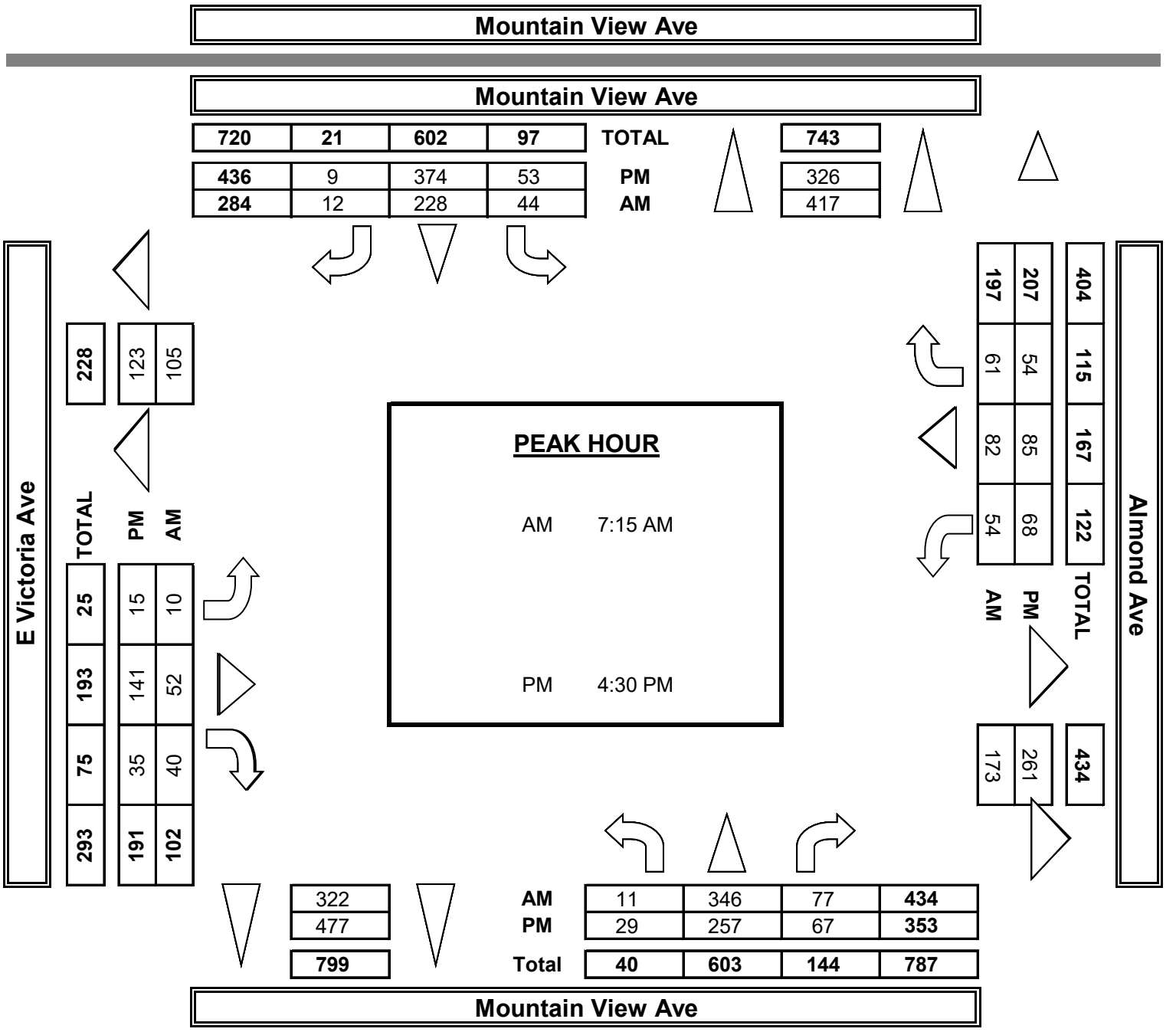
Mountain View Ave

		ALL PED + BIKE & SCOOTER					PEDESTRIAN CROSSINGS					BICYCLE & SCOOTER CROSSINGS				
		N LEG	S LEG	E LEG	W LEG	TOTAL	N LEG	S LEG	E LEG	W LEG	TOTAL	NL	SL	EL	WL	TOTAL
AM	7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	7:15 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
	7:30 AM	1	1	1	0	3	0	0	0	0	0	1	1	1	0	3
	7:45 AM	1	0	1	0	2	0	0	1	0	1	1	0	0	0	1
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:30 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
	8:45 AM	1	0	1	0	2	1	0	0	0	1	0	0	1	0	1
	TOTAL	4	1	3	1	9	2	0	1	0	3	2	1	2	1	6
PM	4:00 PM	1	1	0	0	2	0	1	0	0	1	1	0	0	0	1
	4:15 PM	0	3	0	1	4	0	3	0	1	4	0	0	0	0	0
	4:30 PM	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1
	4:45 PM	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1
	5:00 PM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0
	5:15 PM	0	0	1	1	2	0	0	1	1	2	0	0	0	0	0
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
	TOTAL	1	8	1	3	13	0	6	1	3	10	1	2	0	0	3

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T101823

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Jan 30, 24

LOCATION: Redlands
NORTH & SOUTH: Mountain View Ave
EAST & WEST: I-10 WB Ramps

PROJECT #: SC4423
LOCATION #: 2
CONTROL: SIGNAL

NOTES:

AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

	NORTHBOUND Mountain View Ave			SOUTHBOUND Mountain View Ave			EASTBOUND I-10 WB Ramps			WESTBOUND I-10 WB Ramps				U-TURNS				
LANES:	NL 1.5	NT 1.5	NR X	SL X	ST 2	SR 0	EL X	ET X	ER X	WL 1.3	WT 0.3	WR 1.3	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM 7:00 AM	105	94	0	0	48	43	0	0	0	111	0	52	453	0	0	0	0	0
7:15 AM	102	109	0	0	58	43	0	0	0	117	1	43	473	0	0	0	0	0
7:30 AM	95	96	0	0	74	62	0	0	0	136	0	56	519	0	0	0	0	0
7:45 AM	93	103	0	0	75	43	0	0	0	143	3	58	518	0	0	0	0	0
8:00 AM	89	88	0	0	88	43	0	0	0	88	0	56	452	0	0	0	0	0
8:15 AM	92	99	0	0	72	52	0	0	0	93	6	60	474	0	0	0	0	0
8:30 AM	89	91	0	0	75	36	0	0	0	92	5	55	443	0	0	0	0	0
8:45 AM	95	77	0	0	57	49	0	0	0	121	2	52	453	0	0	0	0	0
VOLUMES	760	757	0	0	547	371	0	0	0	901	17	432	3,785	0	0	0	0	0
APPROACH %	50%	50%	0%	0%	60%	40%	0%	0%	0%	67%	1%	32%						
APP/DEPART	1,517	/	1,189	918	/	1,448	0	/	0	1,350	/	1,148	0					
BEGIN PEAK HR		7:00 AM																
VOLUMES	369	386	0	0	309	200	0	0	0	460	9	230	1,963					
APPROACH %	49%	51%	0%	0%	61%	39%	0%	0%	0%	66%	1%	33%						
PEAK HR FACTOR		0.895			0.936			0.000			0.857		0.946					
APP/DEPART	755	/	616	509	/	769	0	/	0	699	/	578	0					
PM 4:00 PM	153	80	0	0	98	71	0	0	0	76	0	52	530	0	0	0	0	0
4:15 PM	143	69	0	0	94	68	0	0	0	77	2	48	501	0	0	0	0	0
4:30 PM	164	66	0	0	101	79	0	0	0	71	0	45	526	0	0	0	0	0
4:45 PM	141	66	0	0	126	68	0	0	0	94	3	55	553	0	0	0	0	0
5:00 PM	152	73	0	0	96	59	0	0	0	55	2	44	481	0	0	0	0	0
5:15 PM	143	70	0	0	113	44	0	0	0	72	0	55	497	0	0	0	0	0
5:30 PM	111	95	0	0	106	69	0	0	0	83	1	54	519	0	0	0	0	0
5:45 PM	101	82	0	0	92	52	0	0	0	76	1	57	461	0	0	0	0	0
VOLUMES	1,108	601	0	0	826	510	0	0	0	604	9	410	4,068	0	0	0	0	0
APPROACH %	65%	35%	0%	0%	62%	38%	0%	0%	0%	59%	1%	40%						
APP/DEPART	1,709	/	1,011	1,336	/	1,430	0	/	0	1,023	/	1,627	0					
BEGIN PEAK HR		4:00 PM																
VOLUMES	601	281	0	0	419	286	0	0	0	318	5	200	2,110					
APPROACH %	68%	32%	0%	0%	59%	41%	0%	0%	0%	61%	1%	38%						
PEAK HR FACTOR		0.946			0.909			0.000			0.860		0.954					
APP/DEPART	882	/	481	705	/	737	0	/	0	523	/	892	0					

Mountain View Ave

NORTH LEG

I-10 WB Ramps WEST LEG EAST LEG **I-10 WB Ramps**

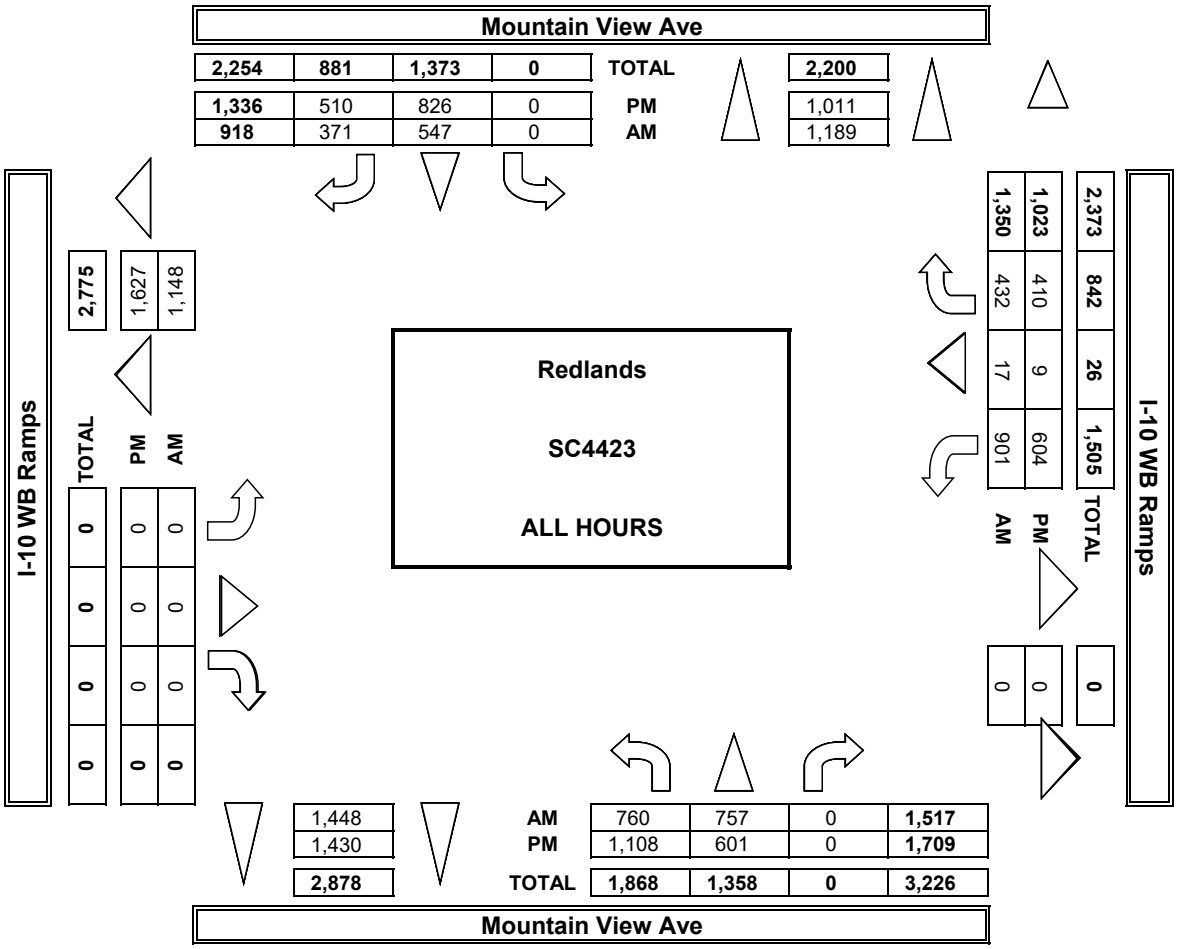
SOUTH LEG

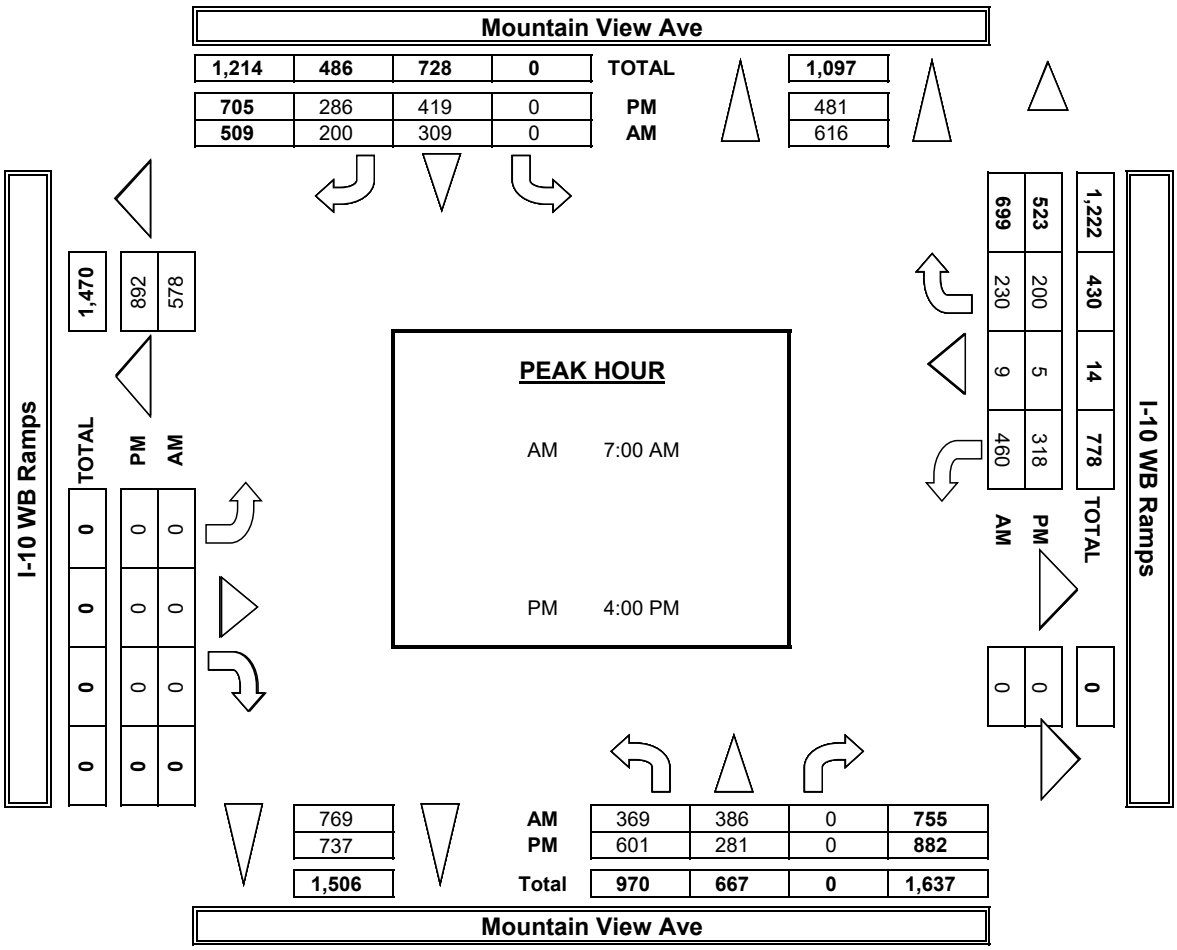
Mountain View Ave

	ALL PED + BIKE & SCOOTER					PEDESTRIAN CROSSINGS					BICYCLE & SCOOTER CROSSINGS				
	N LEG	S LEG	E LEG	W LEG	TOTAL	N LEG	S LEG	E LEG	W LEG	TOTAL	NL	SL	EL	WL	TOTAL
AM 7:00 AM	0	0	0	2	2	0	0	0	2	2	0	0	0	0	0
7:15 AM	1	0	1	3	5	1	0	1	2	4	0	0	0	1	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	0	1	2	4	1	0	1	2	4	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
TOTAL	2	0	3	7	12	2	0	2	6	10	0	0	1	1	2
PM 4:00 PM	0	0	0	3	3	0	0	0	2	2	0	0	0	1	1
4:15 PM	0	0	1	2	3	0	0	0	2	2	0	0	1	0	1
4:30 PM	0	0	1	3	4	0	0	1	3	4	0	0	0	0	0
4:45 PM	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0
5:00 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	2	2
5:15 PM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	2	2	4	0	0	2	2	4	0	0	0	0	0
TOTAL	0	0	5	13	18	0	0	4	10	14	0	0	1	3	4

AimTD LLC

TURNING MOVEMENT COUNTS





INTERSECTION TURNING MOVEMENT COUNTS

T101823

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Tue, Jan 30, 24

LOCATION: Redlands
NORTH & SOUTH: Mountain View Ave
EAST & WEST: I-10 EB Ramps

PROJECT #: SC4423
LOCATION #: 3
CONTROL: SIGNAL

NOTES:

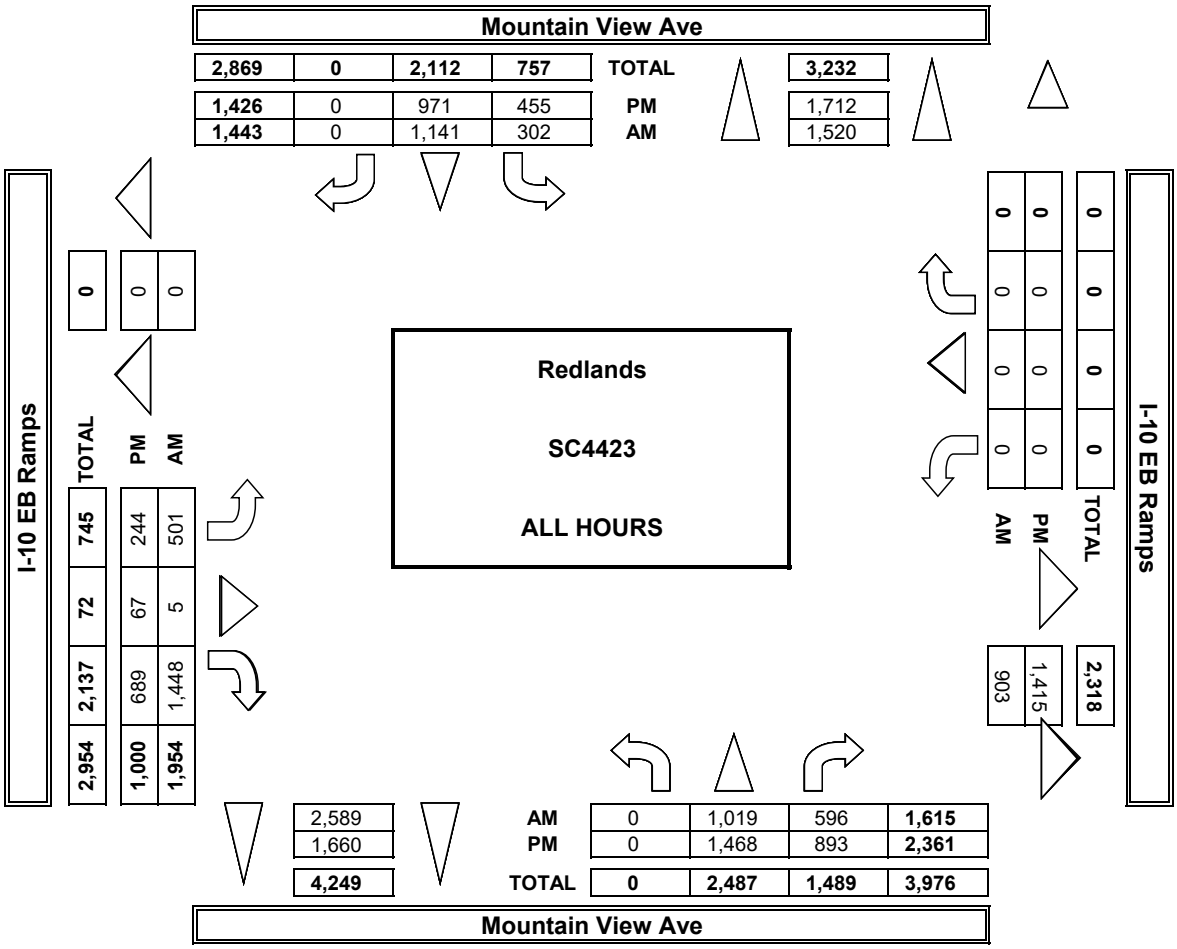
AM / PM / MD / OTHER / OTHER — ▲ N ◄ W E ► S ▼

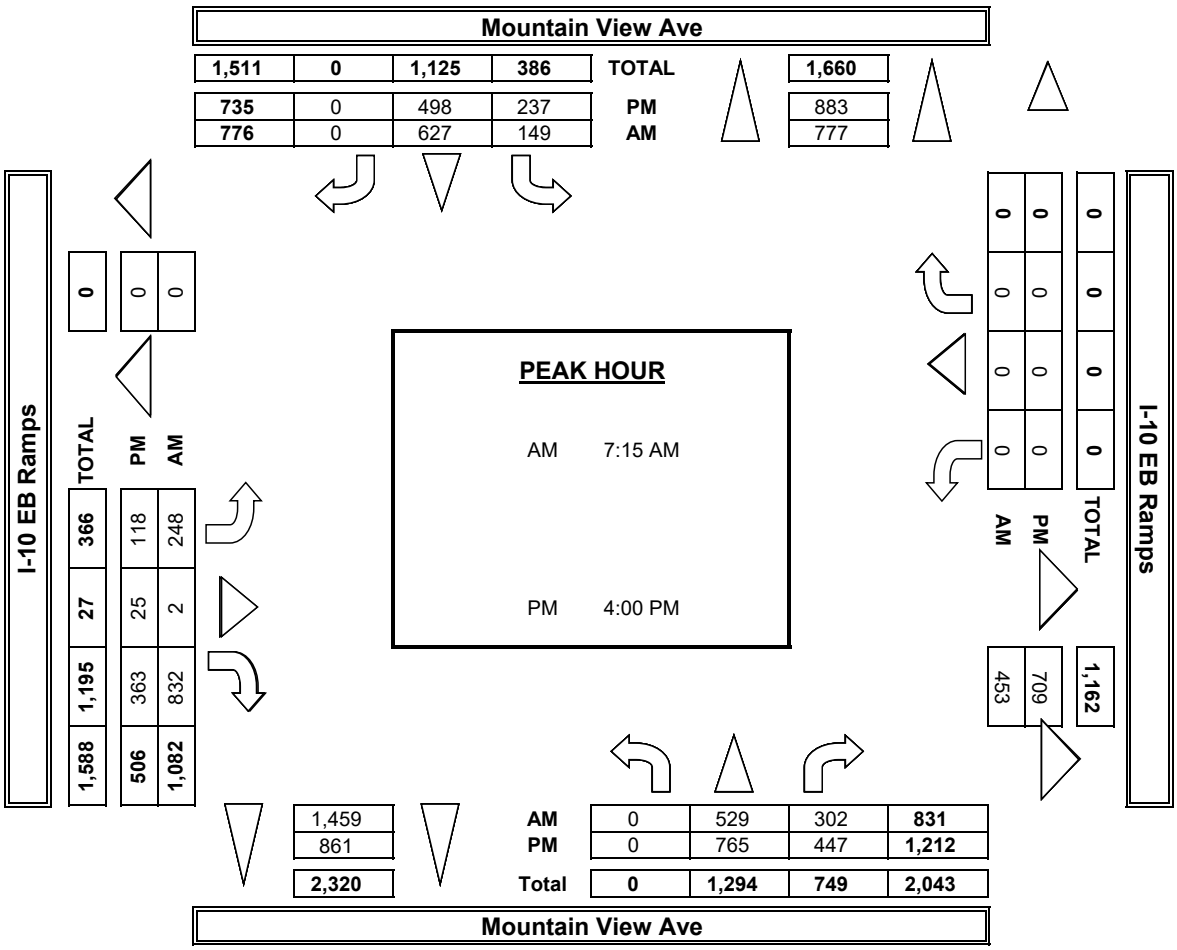
		NORTHBOUND Mountain View Ave			SOUTHBOUND Mountain View Ave			EASTBOUND I-10 EB Ramps			WESTBOUND I-10 EB Ramps				U-TURNS				
	LANES:	NL X	NT 2	NR 0	SL 1	ST 2	SR X	EL 1	ET 0.5	ER 1.5	WL X	WT X	WR X	TOTAL	NB 0	SB 0	EB 0	WB 0	TTL
AM	7:00 AM	0	127	60	20	138	0	73	0	172	0	0	0	590	0	0	0	0	0
	7:15 AM	0	135	64	34	140	0	77	0	179	0	0	0	629	0	0	0	0	0
	7:30 AM	0	135	76	34	176	0	56	1	214	0	0	0	692	0	0	0	0	0
	7:45 AM	0	139	76	35	182	0	58	0	257	0	0	0	747	0	0	0	0	0
	8:00 AM	0	120	86	46	129	0	57	1	182	0	0	0	621	0	0	0	0	0
	8:15 AM	0	126	101	54	111	0	65	2	151	0	0	0	610	0	0	0	0	0
	8:30 AM	0	117	65	49	118	0	63	1	142	0	0	0	555	0	0	0	0	0
	8:45 AM	0	120	68	30	147	0	52	0	151	0	0	0	568	0	0	0	0	0
	VOLUMES	0	1,019	596	302	1,141	0	501	5	1,448	0	0	0	5,012	0	0	0	0	0
	APPROACH %	0%	63%	37%	21%	79%	0%	26%	0%	74%	0%	0%	0%						
	APP/DEPART	1,615	/	1,520	1,443	/	2,589	1,954	/	903	0	/	0	0					
	BEGIN PEAK HR		7:15 AM																
	VOLUMES	0	529	302	149	627	0	248	2	832	0	0	0	2,689					
	APPROACH %	0%	64%	36%	19%	81%	0%	23%	0%	77%	0%	0%	0%						
	PEAK HR FACTOR		0.966			0.894			0.859			0.000		0.900					
	APP/DEPART	831	/	777	776	/	1,459	1,082	/	453	0	/	0	0					
PM	4:00 PM	0	202	121	53	120	0	31	4	108	0	0	0	639	0	0	0	0	0
	4:15 PM	0	183	112	54	117	0	30	2	77	0	0	0	575	0	0	0	0	0
	4:30 PM	0	197	106	56	115	0	33	8	85	0	0	0	600	0	0	0	0	0
	4:45 PM	0	183	108	74	146	0	24	11	93	0	0	0	639	0	0	0	0	0
	5:00 PM	0	194	125	59	91	0	31	11	69	0	0	0	580	0	0	0	0	0
	5:15 PM	0	194	116	63	121	0	20	12	74	0	0	0	600	0	0	0	0	0
	5:30 PM	0	173	120	56	133	0	34	4	88	0	0	0	608	0	0	0	0	0
	5:45 PM	0	142	85	40	128	0	41	15	95	0	0	0	546	0	0	0	0	0
	VOLUMES	0	1,468	893	455	971	0	244	67	689	0	0	0	4,787	0	0	0	0	0
	APPROACH %	0%	62%	38%	32%	68%	0%	24%	7%	69%	0%	0%	0%						
	APP/DEPART	2,361	/	1,712	1,426	/	1,660	1,000	/	1,415	0	/	0	0					
	BEGIN PEAK HR		4:00 PM																
	VOLUMES	0	765	447	237	498	0	118	25	363	0	0	0	2,453					
	APPROACH %	0%	63%	37%	32%	68%	0%	23%	5%	72%	0%	0%	0%						
	PEAK HR FACTOR		0.938			0.835			0.885			0.000		0.960					
	APP/DEPART	1,212	/	883	735	/	861	506	/	709	0	/	0	0					

		ALL PED + BIKE & SCOOTER					PEDESTRIAN CROSSINGS					BICYCLE & SCOOTER CROSSINGS				
		N LEG	S LEG	E LEG	W LEG	TOTAL	N LEG	S LEG	E LEG	W LEG	TOTAL	NL	SL	EL	WL	TOTAL
AM	7:00 AM	0	1	0	2	3	0	1	0	2	3	0	0	0	0	0
	7:15 AM	0	0	1	1	2	0	0	1	1	2	0	0	0	0	0
	7:30 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
	7:45 AM	0	1	0	1	2	0	1	0	1	2	0	0	0	0	0
	8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:15 AM	0	2	1	1	4	0	2	1	1	4	0	0	0	0	0
	8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	8:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	1	0	1
	TOTAL	0	4	3	6	13	0	4	2	5	11	0	0	1	1	2
PM	4:00 PM	0	1	0	2	3	0	1	0	1	2	0	0	0	1	1
	4:15 PM	0	0	1	3	4	0	0	0	3	3	0	0	1	0	1
	4:30 PM	0	2	0	2	4	0	2	0	2	4	0	0	0	0	0
	4:45 PM	0	0	2	0	2	0	0	2	0	2	0	0	0	0	0
	5:00 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1
	5:15 PM	0	0	0	2	2	0	0	0	1	1	0	0	0	1	1
	5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	5:45 PM	0	1	2	2	5	0	1	2	2	5	0	0	0	0	0
	TOTAL	0	4	5	12	21	0	4	4	9	17	0	0	1	3	4

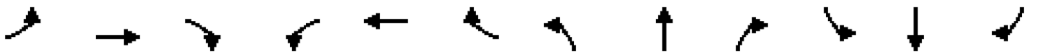
AimTD LLC

TURNING MOVEMENT COUNTS





Appendix C: LOS Worksheets



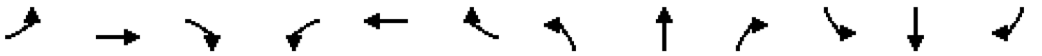
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	212	112	79	302	5	166	100	29	7	83	18
Future Volume (veh/h)	26	212	112	79	302	5	166	100	29	7	83	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1604	1604	1604	1604	1604	1604	1604	1604	1604	1604	1604	1604
Adj Flow Rate, veh/h	30	241	53	90	343	6	189	114	17	8	94	4
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	20	20	20	20	20	20	20	20	20	20	20	20
Cap, veh/h	53	545	115	114	921	16	236	841	123	16	459	19
Arrive On Green	0.03	0.15	0.15	0.07	0.21	0.21	0.15	0.32	0.32	0.01	0.15	0.15
Sat Flow, veh/h	1527	3623	762	1527	4430	77	1527	2667	390	1527	2976	126
Grp Volume(v), veh/h	30	192	102	90	226	123	189	64	67	8	48	50
Grp Sat Flow(s),veh/h/ln	1527	1459	1466	1527	1459	1588	1527	1523	1533	1527	1523	1579
Q Serve(g_s), s	0.9	2.7	2.9	2.6	3.0	3.0	5.4	1.4	1.4	0.2	1.2	1.3
Cycle Q Clear(g_c), s	0.9	2.7	2.9	2.6	3.0	3.0	5.4	1.4	1.4	0.2	1.2	1.3
Prop In Lane	1.00		0.52	1.00		0.05	1.00		0.25	1.00		0.08
Lane Grp Cap(c), veh/h	53	439	220	114	607	330	236	480	484	16	235	243
V/C Ratio(X)	0.57	0.44	0.46	0.79	0.37	0.37	0.80	0.13	0.14	0.50	0.20	0.21
Avail Cap(c_a), veh/h	672	1606	807	1008	1606	874	672	1174	1181	672	1174	1216
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	17.6	17.6	20.7	15.4	15.5	18.5	11.1	11.1	22.4	16.8	16.8
Incr Delay (d2), s/veh	6.9	0.7	1.5	8.7	0.4	0.7	4.7	0.1	0.1	16.4	0.4	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.8	0.9	1.0	0.8	0.9	1.9	0.4	0.4	0.1	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.5	18.2	19.1	29.3	15.8	16.2	23.3	11.2	11.3	38.7	17.2	17.2
LnGrp LOS	C	B	B	C	B	B	C	B	B	D	B	B
Approach Vol, veh/h		324			439			320			106	
Approach Delay, s/veh		19.5			18.7			18.3			18.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	19.6	8.7	12.1	12.3	12.3	6.1	14.7
Change Period (Y+Rc), s	4.5	5.3	5.3	5.3	5.3	5.3	4.5	5.3
Max Green Setting (Gmax), s	20.0	35.0	30.0	25.0	20.0	35.0	20.0	25.0
Max Q Clear Time (g_c+I1), s	2.2	3.4	4.6	4.9	7.4	3.3	2.9	5.0
Green Ext Time (p_c), s	0.0	0.7	0.1	1.5	0.3	0.5	0.0	1.8

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

Notes

User approved pedestrian interval to be less than phase max green.



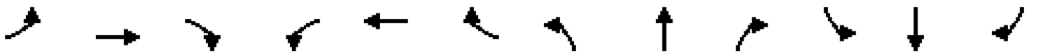
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	39	25	32	45	8	47	321	39	4	201	25
Future Volume (veh/h)	6	39	25	32	45	8	47	321	39	4	201	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1574	1574	1574	1574	1574	1574	1574	1574	1574	1574	1574	1574
Adj Flow Rate, veh/h	7	43	5	36	50	6	52	357	22	4	223	16
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	22	22	22	22	22	22	22	22	22	22	22	22
Cap, veh/h	174	174	167	241	86	10	175	900	402	8	1009	71
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.06	0.30	0.30	0.01	0.25	0.25
Sat Flow, veh/h	151	1391	1334	409	689	77	2908	2991	1334	1499	4094	289
Grp Volume(v), veh/h	50	0	5	92	0	0	52	357	22	4	155	84
Grp Sat Flow(s),veh/h/ln	1542	0	1334	1174	0	0	1454	1495	1334	1499	1432	1518
Q Serve(g_s), s	0.0	0.0	0.1	1.4	0.0	0.0	0.5	2.5	0.3	0.1	1.1	1.2
Cycle Q Clear(g_c), s	0.8	0.0	0.1	2.2	0.0	0.0	0.5	2.5	0.3	0.1	1.1	1.2
Prop In Lane	0.14		1.00	0.39		0.07	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	348	0	167	337	0	0	175	900	402	8	706	374
V/C Ratio(X)	0.14	0.00	0.03	0.27	0.00	0.00	0.30	0.40	0.05	0.49	0.22	0.22
Avail Cap(c_a), veh/h	1859	0	1516	1710	0	0	2204	3967	1769	1136	3800	2013
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.4	0.0	10.1	11.2	0.0	0.0	11.9	7.3	6.6	13.1	7.9	7.9
Incr Delay (d2), s/veh	0.2	0.0	0.1	0.4	0.0	0.0	0.9	0.4	0.1	15.7	0.2	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.4	0.0	0.0	0.1	0.4	0.0	0.1	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.6	0.0	10.2	11.6	0.0	0.0	12.8	7.7	6.6	28.8	8.1	8.4
LnGrp LOS	B		B	B			B	A	A	C	A	A
Approach Vol, veh/h		55			92			431			243	
Approach Delay, s/veh		10.6			11.6			8.3			8.6	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	8.3	6.6	11.5	8.3	5.1	12.9
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	30.0	20.0	35.0	30.0	20.0	35.0
Max Q Clear Time (g_c+I1), s	2.8	2.5	3.2	4.2	2.1	4.5
Green Ext Time (p_c), s	0.2	0.1	2.0	0.4	0.0	3.4

Intersection Summary	
HCM 7th Control Delay, s/veh	8.9
HCM 7th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.



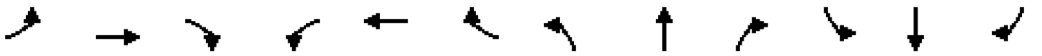
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	21	74	105	50	35	189	427	117	36	208	19
Future Volume (veh/h)	3	21	74	105	50	35	189	427	117	36	208	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1604	1604	1604	1604	1604	1604	1604	1604	1604	1604	1604	1604
Adj Flow Rate, veh/h	3	22	14	112	53	7	201	454	63	38	221	6
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	20	20	20	20	20	20	20	20	20	20	20	20
Cap, veh/h	120	237	215	364	220	215	256	657	556	67	869	383
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.17	0.41	0.41	0.04	0.29	0.29
Sat Flow, veh/h	75	1499	1359	1077	1386	1359	1527	1604	1359	1527	3047	1341
Grp Volume(v), veh/h	25	0	14	112	53	7	201	454	63	38	221	6
Grp Sat Flow(s),veh/h/ln	1574	0	1359	1077	1386	1359	1527	1604	1359	1527	1523	1341
Q Serve(g_s), s	0.0	0.0	0.3	3.4	1.2	0.2	4.7	8.7	1.1	0.9	2.1	0.1
Cycle Q Clear(g_c), s	0.5	0.0	0.3	3.9	1.2	0.2	4.7	8.7	1.1	0.9	2.1	0.1
Prop In Lane	0.12		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	357	0	215	364	220	215	256	657	556	67	869	383
V/C Ratio(X)	0.07	0.00	0.07	0.31	0.24	0.03	0.78	0.69	0.11	0.57	0.25	0.02
Avail Cap(c_a), veh/h	1346	0	1092	1123	1114	1092	818	1719	1457	818	3266	1437
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.4	0.0	13.4	15.1	13.7	13.3	14.9	9.1	6.8	17.5	10.3	9.6
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.5	0.6	0.1	5.2	1.9	0.1	7.5	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.1	0.7	0.3	0.0	1.6	2.1	0.2	0.4	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	13.5	0.0	13.5	15.6	14.3	13.3	20.1	10.9	7.0	25.0	10.5	9.6
LnGrp LOS	B		B	B	B	B	C	B	A	C	B	A
Approach Vol, veh/h		39			172			718			265	
Approach Delay, s/veh		13.5			15.1			13.2			12.5	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.1	20.3		10.9	10.8	15.6		10.9				
Change Period (Y+Rc), s	4.5	5.0		5.0	4.5	5.0		5.0				
Max Green Setting (Gmax), s	20.0	40.0		30.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I1), s	2.9	10.7		2.5	6.7	4.1		5.9				
Green Ext Time (p_c), s	0.0	4.6		0.1	0.4	2.0		0.8				

Intersection Summary		
HCM 7th Control Delay, s/veh		13.3
HCM 7th LOS		B

Notes

User approved pedestrian interval to be less than phase max green.



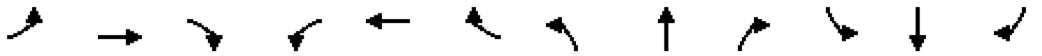
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	87	0	14	18	725	211	10	372	0
Future Volume (veh/h)	0	0	0	87	0	14	18	725	211	10	372	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1633	1633	1633	1633	1633	1633	1633	1633	1633	1633	1633	1633
Adj Flow Rate, veh/h	0	0	0	93	0	0	19	771	181	11	396	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	18	18	18	18	18	18	18	18	18	18	18	18
Cap, veh/h	0	142	0	328	0	0	38	1666	387	23	1400	625
Arrive On Green	0.00	0.00	0.00	0.09	0.00	0.00	0.02	0.46	0.46	0.01	0.45	0.00
Sat Flow, veh/h	0	1633	0	1238	0	0	1555	3614	841	1555	3103	1384
Grp Volume(v), veh/h	0	0	0	93	0	0	19	633	319	11	396	0
Grp Sat Flow(s),veh/h/ln	0	1633	0	1238	0	0	1555	1486	1482	1555	1552	1384
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	0.0	0.4	4.8	4.8	0.2	2.6	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	2.4	0.0	0.0	0.4	4.8	4.8	0.2	2.6	0.0
Prop In Lane	0.00		0.00	1.00		0.00	1.00		0.57	1.00		1.00
Lane Grp Cap(c), veh/h	0	142	0	328	0	0	38	1370	683	23	1400	625
V/C Ratio(X)	0.00	0.00	0.00	0.28	0.00	0.00	0.50	0.46	0.47	0.49	0.28	0.00
Avail Cap(c_a), veh/h	0	1249	0	1166	0	0	809	3181	1586	809	3321	1481
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	14.7	0.0	0.0	15.8	6.0	6.1	16.0	5.6	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	10.0	0.3	0.6	15.3	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.2	0.7	0.7	0.2	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	15.2	0.0	0.0	25.8	6.3	6.7	31.3	5.8	0.0
LnGrp LOS				B			C	A	A	C	A	
Approach Vol, veh/h		0			93			971			407	
Approach Delay, s/veh		0.0			15.2			6.8			6.5	
Approach LOS					B			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	20.1		7.7	5.3	19.8		7.7				
Change Period (Y+Rc), s	4.5	5.0		4.8	4.5	5.0		4.8				
Max Green Setting (Gmax), s	17.0	35.0		25.0	17.0	35.0		25.0				
Max Q Clear Time (g_c+I1), s	2.2	6.8		0.0	2.4	4.6		4.4				
Green Ext Time (p_c), s	0.0	8.2		0.0	0.0	3.1		0.4				

Intersection Summary		
HCM 7th Control Delay, s/veh	7.2	
HCM 7th LOS	A	

Notes

User approved pedestrian interval to be less than phase max green.



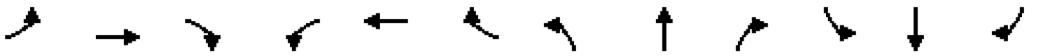
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	320	7	360	298	594	0	0	184	293
Future Volume (veh/h)	0	0	0	320	7	360	298	594	0	0	184	293
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	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
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1663	1663	1663	1663	1663	0	0	1663	1663
Adj Flow Rate, veh/h				356	8	264	331	660	0	0	204	98
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				16	16	16	16	16	0	0	16	16
Cap, veh/h				402	9	366	628	2018	0	0	876	267
Arrive On Green				0.26	0.26	0.26	0.79	1.00	0.00	0.00	0.19	0.19
Sat Flow, veh/h				1551	35	1409	1584	3243	0	0	4689	1384
Grp Volume(v), veh/h				364	0	264	331	660	0	0	204	98
Grp Sat Flow(s),veh/h/ln				1585	0	1409	1584	1580	0	0	1513	1384
Q Serve(g_s), s				22.1	0.0	17.1	7.4	0.0	0.0	0.0	3.8	6.1
Cycle Q Clear(g_c), s				22.1	0.0	17.1	7.4	0.0	0.0	0.0	3.8	6.1
Prop In Lane				0.98		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				411	0	366	628	2018	0	0	876	267
V/C Ratio(X)				0.89	0.00	0.72	0.53	0.33	0.00	0.00	0.23	0.37
Avail Cap(c_a), veh/h				634	0	564	628	2018	0	0	876	267
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.98	0.98	0.00	0.00	0.99	0.99
Uniform Delay (d), s/veh				35.6	0.0	33.7	7.0	0.0	0.0	0.0	34.1	35.0
Incr Delay (d2), s/veh				6.5	0.0	1.0	0.4	0.4	0.0	0.0	0.6	3.8
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.1	0.0	5.8	1.7	0.1	0.0	0.0	1.4	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				42.1	0.0	34.8	7.4	0.4	0.0	0.0	34.7	38.9
LnGrp LOS				D		C	A	A			C	D
Approach Vol, veh/h					628			991			302	
Approach Delay, s/veh					39.0			2.8			36.1	
Approach LOS					D			A			D	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		68.8			44.6	24.2		31.2				
Change Period (Y+Rc), s		4.9			4.9	* 4.9		5.3				
Max Green Setting (Gmax), s		49.8			26.0	* 19		40.0				
Max Q Clear Time (g_c+I1), s		2.0			9.4	8.1		24.1				
Green Ext Time (p_c), s		3.0			0.4	0.7		1.9				

Intersection Summary		
HCM 7th Control Delay, s/veh	19.8	
HCM 7th LOS	B	

Notes

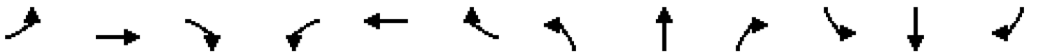
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	407	2	458	0	0	0	0	458	276	71	483	0
Future Volume (veh/h)	407	2	458	0	0	0	0	458	276	71	483	0
Initial Q (Qb), veh	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
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1693	1693	1693				0	1693	1693	1693	1693	0
Adj Flow Rate, veh/h	442	2	368				0	498	124	77	525	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	14	14	14				0	14	14	14	14	0
Cap, veh/h	496	2	443				0	2107	652	142	1895	0
Arrive On Green	0.31	0.31	0.31				0.00	0.46	0.46	0.18	1.00	0.00
Sat Flow, veh/h	1605	7	1434				0	4773	1430	1612	3300	0
Grp Volume(v), veh/h	444	0	368				0	498	124	77	525	0
Grp Sat Flow(s),veh/h/ln	1612	0	1434				0	1540	1430	1612	1608	0
Q Serve(g_s), s	26.3	0.0	23.9				0.0	6.6	5.2	4.3	0.0	0.0
Cycle Q Clear(g_c), s	26.3	0.0	23.9				0.0	6.6	5.2	4.3	0.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	498	0	443				0	2107	652	142	1895	0
V/C Ratio(X)	0.89	0.00	0.83				0.00	0.24	0.19	0.54	0.28	0.00
Avail Cap(c_a), veh/h	790	0	703				0	2107	652	193	1895	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.74	0.74	0.99	0.99	0.00
Uniform Delay (d), s/veh	33.0	0.0	32.1				0.0	16.6	16.2	39.3	0.0	0.0
Incr Delay (d2), s/veh	5.2	0.0	2.4				0.0	0.2	0.5	1.2	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	0.0	8.4				0.0	2.2	1.7	1.6	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	38.2	0.0	34.5				0.0	16.8	16.7	40.5	0.4	0.0
LnGrp LOS	D		C					B	B	D	A	
Approach Vol, veh/h		812						622			602	
Approach Delay, s/veh		36.5						16.8			5.5	
Approach LOS		D						B			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.3	50.5		36.2		63.8
Change Period (Y+Rc), s	4.5	4.9		5.3		4.9
Max Green Setting (Gmax), s	12.0	24.3		49.0		40.8
Max Q Clear Time (g_c+I1), s	6.3	8.6		28.3		2.0
Green Ext Time (p_c), s	0.0	2.1		2.6		2.3

Intersection Summary		
HCM 7th Control Delay, s/veh		21.3
HCM 7th LOS		C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	240	203	66	318	154	137	424	49	213	412	137
Future Volume (veh/h)	110	240	203	66	318	154	137	424	49	213	412	137
Initial Q (Qb), 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		0.99	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	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	124	270	58	74	357	36	154	476	18	239	463	127
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	156	705	305	102	596	261	193	720	302	288	675	183
Arrive On Green	0.09	0.21	0.21	0.06	0.18	0.18	0.12	0.21	0.21	0.17	0.26	0.26
Sat Flow, veh/h	1668	3328	1438	1668	3328	1455	1668	3504	1469	1668	2573	700
Grp Volume(v), veh/h	124	270	58	74	357	36	154	476	18	239	298	292
Grp Sat Flow(s),veh/h/ln	1668	1664	1438	1668	1664	1455	1668	1752	1469	1668	1664	1608
Q Serve(g_s), s	4.1	3.9	1.9	2.4	5.5	1.2	5.0	7.0	0.6	7.8	9.0	9.2
Cycle Q Clear(g_c), s	4.1	3.9	1.9	2.4	5.5	1.2	5.0	7.0	0.6	7.8	9.0	9.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.44
Lane Grp Cap(c), veh/h	156	705	305	102	596	261	193	720	302	288	436	422
V/C Ratio(X)	0.79	0.38	0.19	0.73	0.60	0.14	0.80	0.66	0.06	0.83	0.68	0.69
Avail Cap(c_a), veh/h	595	1483	640	595	1483	648	595	1873	785	595	890	860
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	19.0	18.2	25.9	21.2	19.4	24.2	20.5	17.9	22.4	18.6	18.7
Incr Delay (d2), s/veh	3.4	0.1	0.1	3.7	0.4	0.1	2.9	0.4	0.0	2.4	0.7	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.3	0.5	1.0	1.9	0.4	1.9	2.5	0.2	2.9	3.1	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.3	19.1	18.3	29.6	21.5	19.5	27.0	20.9	18.0	24.8	19.3	19.4
LnGrp LOS	C	B	B	C	C	B	C	C	B	C	B	B
Approach Vol, veh/h		452			467			648			829	
Approach Delay, s/veh		21.5			22.7			22.3			20.9	
Approach LOS		C			C			C			C	

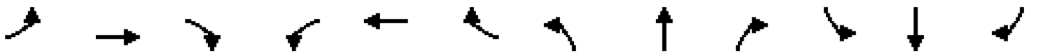
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	16.8	7.9	17.2	11.0	20.0	9.8	15.4
Change Period (Y+Rc), s	4.5	5.3	4.5	* 5.3	4.5	* 5.3	4.5	5.3
Max Green Setting (Gmax), s	20.0	30.0	20.0	* 25	20.0	* 30	20.0	25.0
Max Q Clear Time (g_c+I1), s	9.8	9.0	4.4	5.9	7.0	11.2	6.1	7.5
Green Ext Time (p_c), s	0.1	1.5	0.0	0.8	0.1	1.6	0.1	1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	21.7
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

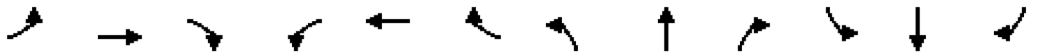
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	52	40	54	82	61	11	346	77	44	228	12
Future Volume (veh/h)	10	52	40	54	82	61	11	346	77	44	228	12
Initial Q (Qb), 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		0.99	1.00		0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	1559	1559	1559	1559	1559	1559	1559	1559	1559	1559	1559	1559
Adj Flow Rate, veh/h	10	53	7	55	84	11	11	353	55	45	233	8
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	23	23	23	23	23	23	23	23	23	23	23	23
Cap, veh/h	367	173	23	385	200	167	22	594	92	79	789	27
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.01	0.23	0.23	0.05	0.27	0.27
Sat Flow, veh/h	1084	1346	178	1119	1559	1302	1485	2566	396	1485	2920	100
Grp Volume(v), veh/h	10	0	60	55	84	11	11	202	206	45	118	123
Grp Sat Flow(s),veh/h/ln	1084	0	1524	1119	1559	1302	1485	1481	1481	1485	1481	1539
Q Serve(g_s), s	0.2	0.0	0.9	1.2	1.3	0.2	0.2	3.1	3.2	0.8	1.6	1.6
Cycle Q Clear(g_c), s	1.5	0.0	0.9	2.1	1.3	0.2	0.2	3.1	3.2	0.8	1.6	1.6
Prop In Lane	1.00		0.12	1.00		1.00	1.00		0.27	1.00		0.06
Lane Grp Cap(c), veh/h	367	0	195	385	200	167	22	343	343	79	400	416
V/C Ratio(X)	0.03	0.00	0.31	0.14	0.42	0.07	0.50	0.59	0.60	0.57	0.29	0.30
Avail Cap(c_a), veh/h	1289	0	1491	1337	1525	1274	872	2028	2028	872	2028	2107
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.0	0.0	10.1	11.1	10.3	9.8	12.5	8.7	8.8	11.8	7.4	7.4
Incr Delay (d2), s/veh	0.0	0.0	0.3	0.1	0.5	0.1	6.5	0.6	0.6	2.3	0.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.2	0.2	0.3	0.0	0.1	0.5	0.5	0.2	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.0	0.0	10.4	11.1	10.8	9.9	19.0	9.3	9.4	14.1	7.5	7.5
LnGrp LOS	B		B	B	B	A	B	A	A	B	A	A
Approach Vol, veh/h		70			150			419			286	
Approach Delay, s/veh		10.5			10.8			9.6			8.6	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	2	3	4		6	7	8					
Phs Duration (G+Y+Rc), s	8.3	5.4	11.9		8.3	6.4	10.9					
Change Period (Y+Rc), s	5.0	5.0	5.0		5.0	5.0	5.0					
Max Green Setting (Gmax), s	25.0	15.0	35.0		25.0	15.0	35.0					
Max Q Clear Time (g_c+I1), s	3.5	2.2	3.6		4.1	2.8	5.2					
Green Ext Time (p_c), s	0.1	0.0	0.6		0.3	0.0	1.0					

Intersection Summary	
HCM 7th Control Delay, s/veh	9.6
HCM 7th LOS	A



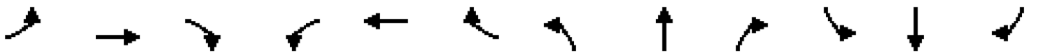
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	460	9	230	369	386	0	0	309	200
Future Volume (veh/h)	0	0	0	460	9	230	369	386	0	0	309	200
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	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
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1722	1722	1722	1722	1722	0	0	1722	1722
Adj Flow Rate, veh/h				509	0	49	265	579	0	0	325	102
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				12	12	12	12	12	0	0	12	12
Cap, veh/h				615	0	273	291	2378	0	0	1135	350
Arrive On Green				0.19	0.00	0.19	0.35	1.00	0.00	0.00	0.46	0.46
Sat Flow, veh/h				3280	0	1457	1640	3444	0	0	2539	756
Grp Volume(v), veh/h				509	0	49	265	579	0	0	215	212
Grp Sat Flow(s),veh/h/ln				1640	0	1457	1640	1722	0	0	1636	1573
Q Serve(g_s), s				13.4	0.0	2.5	13.9	0.0	0.0	0.0	7.3	7.5
Cycle Q Clear(g_c), s				13.4	0.0	2.5	13.9	0.0	0.0	0.0	7.3	7.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.48
Lane Grp Cap(c), veh/h				615	0	273	291	2378	0	0	757	728
V/C Ratio(X)				0.83	0.00	0.18	0.91	0.24	0.00	0.00	0.28	0.29
Avail Cap(c_a), veh/h				838	0	372	346	2378	0	0	757	728
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.55	0.55	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				35.2	0.0	30.7	28.4	0.0	0.0	0.0	14.9	15.0
Incr Delay (d2), s/veh				5.1	0.0	0.3	14.5	0.1	0.0	0.0	0.9	1.0
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.7	0.0	0.9	5.2	0.0	0.0	0.0	2.6	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				40.2	0.0	31.1	42.9	0.1	0.0	0.0	15.9	16.0
LnGrp LOS				D		C	D	A			B	B
Approach Vol, veh/h					558			844			427	
Approach Delay, s/veh					39.4			13.5			15.9	
Approach LOS					D			B			B	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	67.6		20.5	47.2		22.4						
Change Period (Y+Rc), s	5.5		4.5	5.5		5.5						
Max Green Setting (Gmax), s	56.0		19.0	32.5		23.0						
Max Q Clear Time (g_c+I1), s	2.0		15.9	9.5		15.4						
Green Ext Time (p_c), s	4.0		0.1	2.3		1.4						

Intersection Summary	
HCM 7th Control Delay, s/veh	22.0
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	248	2	832	0	0	0	0	529	302	149	627	0
Future Volume (veh/h)	248	2	832	0	0	0	0	529	302	149	627	0
Initial Q (Qb), veh	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
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781				0	1781	1781	1781	1781	0
Adj Flow Rate, veh/h	276	0	501				0	588	246	166	697	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	8	8	8				0	8	8	8	8	0
Cap, veh/h	377	0	671				0	814	340	1056	3498	0
Arrive On Green	0.22	0.00	0.22				0.00	0.35	0.35	1.00	1.00	0.00
Sat Flow, veh/h	1697	0	3019				0	2415	972	1697	3474	0
Grp Volume(v), veh/h	276	0	501				0	428	406	166	697	0
Grp Sat Flow(s),veh/h/ln	1697	0	1510				0	1692	1605	1697	1692	0
Q Serve(g_s), s	13.6	0.0	13.9				0.0	19.8	19.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.6	0.0	13.9				0.0	19.8	19.8	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.61	1.00		0.00
Lane Grp Cap(c), veh/h	377	0	671				0	592	562	1056	3498	0
V/C Ratio(X)	0.73	0.00	0.75				0.00	0.72	0.72	0.16	0.20	0.00
Avail Cap(c_a), veh/h	377	0	671				0	592	562	1056	3498	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.84	0.84	0.00
Uniform Delay (d), s/veh	32.5	0.0	32.6				0.0	25.4	25.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	11.9	0.0	7.4				0.0	7.4	7.9	0.3	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	0.0
%ile BackOfQ(50%),veh/ln	6.7	0.0	5.7				0.0	8.6	8.2	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	44.4	0.0	40.1				0.0	32.9	33.3	0.3	0.1	0.0
LnGrp LOS	D		D					C	C	A	A	
Approach Vol, veh/h		777						834			863	
Approach Delay, s/veh		41.6						33.1			0.1	
Approach LOS		D						C			A	

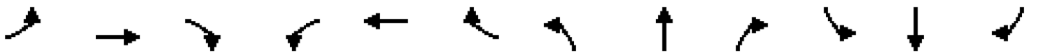
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	62.5	37.0		25.5		99.5
Change Period (Y+Rc), s	5.5	* 5.5		5.5		5.5
Max Green Setting (Gmax), s	23.0	* 32		20.0		59.0
Max Q Clear Time (g_c+I1), s	2.0	21.8		15.9		2.0
Green Ext Time (p_c), s	0.2	3.5		0.8		5.0

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

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



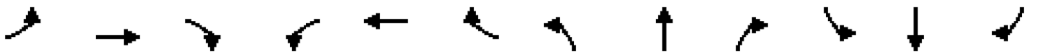
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	560	143	47	248	3	125	102	69	10	132	50
Future Volume (veh/h)	43	560	143	47	248	3	125	102	69	10	132	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	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	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	45	589	120	49	261	3	132	107	25	11	139	20
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	78	1007	201	83	1326	15	169	673	153	24	426	60
Arrive On Green	0.05	0.25	0.25	0.05	0.27	0.27	0.10	0.25	0.25	0.01	0.15	0.15
Sat Flow, veh/h	1654	3954	790	1654	4833	55	1654	2672	606	1654	2892	408
Grp Volume(v), veh/h	45	469	240	49	170	94	132	65	67	11	78	81
Grp Sat Flow(s),veh/h/ln	1654	1581	1583	1654	1581	1727	1654	1650	1628	1654	1650	1650
Q Serve(g_s), s	1.3	6.2	6.3	1.4	2.0	2.0	3.7	1.5	1.5	0.3	2.0	2.1
Cycle Q Clear(g_c), s	1.3	6.2	6.3	1.4	2.0	2.0	3.7	1.5	1.5	0.3	2.0	2.1
Prop In Lane	1.00		0.50	1.00		0.03	1.00		0.37	1.00		0.25
Lane Grp Cap(c), veh/h	78	805	403	83	868	474	169	416	410	24	243	243
V/C Ratio(X)	0.58	0.58	0.60	0.59	0.20	0.20	0.78	0.16	0.16	0.47	0.32	0.33
Avail Cap(c_a), veh/h	696	1662	832	1044	1662	908	696	1215	1198	696	1215	1215
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	15.5	15.6	22.1	13.2	13.2	20.8	13.8	13.9	23.3	18.2	18.2
Incr Delay (d2), s/veh	4.9	0.7	1.4	4.9	0.1	0.2	5.7	0.2	0.2	10.3	0.8	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.7	1.9	0.6	0.5	0.6	1.5	0.5	0.5	0.2	0.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.1	16.2	17.0	27.0	13.3	13.4	26.6	14.0	14.1	33.6	18.9	19.0
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		754			313			264			170	
Approach Delay, s/veh		17.1			15.5			20.3			19.9	
Approach LOS		B			B			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	17.3	7.7	17.4	10.2	12.3	6.7	18.4
Change Period (Y+Rc), s	4.5	5.3	5.3	5.3	5.3	5.3	4.5	5.3
Max Green Setting (Gmax), s	20.0	35.0	30.0	25.0	20.0	35.0	20.0	25.0
Max Q Clear Time (g_c+I1), s	2.3	3.5	3.4	8.3	5.7	4.1	3.3	4.0
Green Ext Time (p_c), s	0.0	0.7	0.1	3.8	0.2	0.8	0.0	1.3

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

Notes

User approved pedestrian interval to be less than phase max green.



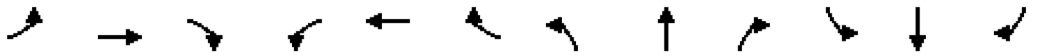
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	120	55	40	65	11	39	270	50	10	298	19
Future Volume (veh/h)	18	120	55	40	65	11	39	270	50	10	298	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	
Adj Sat Flow, veh/h/ln	1707	1707	1707	1707	1707	1707	1707	1707	1707	1707	1707	1707
Adj Flow Rate, veh/h	19	128	11	43	69	8	41	287	23	11	317	14
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	13	13	13	13	13	13	13	13	13	13	13	13
Cap, veh/h	169	270	254	226	147	14	154	882	384	24	1087	48
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.05	0.27	0.27	0.01	0.24	0.24
Sat Flow, veh/h	130	1541	1447	286	839	80	3155	3244	1413	1626	4573	200
Grp Volume(v), veh/h	147	0	11	120	0	0	41	287	23	11	214	117
Grp Sat Flow(s),veh/h/ln	1671	0	1447	1206	0	0	1577	1622	1413	1626	1554	1666
Q Serve(g_s), s	0.0	0.0	0.2	0.8	0.0	0.0	0.3	2.0	0.3	0.2	1.6	1.6
Cycle Q Clear(g_c), s	2.2	0.0	0.2	3.0	0.0	0.0	0.3	2.0	0.3	0.2	1.6	1.6
Prop In Lane	0.13		1.00	0.36		0.07	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	439	0	254	387	0	0	154	882	384	24	738	396
V/C Ratio(X)	0.33	0.00	0.04	0.31	0.00	0.00	0.27	0.33	0.06	0.46	0.29	0.29
Avail Cap(c_a), veh/h	1899	0	1557	1680	0	0	2263	4073	1775	1167	3902	2092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.4	0.0	9.5	10.5	0.0	0.0	12.8	8.1	7.5	13.6	8.7	8.7
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.5	0.0	0.0	0.9	0.3	0.1	5.1	0.3	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	0.4	0.0	0.0	0.1	0.4	0.1	0.1	0.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.8	0.0	9.6	11.0	0.0	0.0	13.7	8.4	7.6	18.7	9.0	9.3
LnGrp LOS	B		A	B			B	A	A	B	A	A
Approach Vol, veh/h		158			120			351			342	
Approach Delay, s/veh		10.7			11.0			9.0			9.4	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	2	3	4		6	7	8					
Phs Duration (G+Y+Rc), s	9.9	6.4	11.6		9.9	5.4	12.6					
Change Period (Y+Rc), s	5.0	5.0	5.0		5.0	5.0	5.0					
Max Green Setting (Gmax), s	30.0	20.0	35.0		30.0	20.0	35.0					
Max Q Clear Time (g_c+I1), s	4.2	2.3	3.6		5.0	2.2	4.0					
Green Ext Time (p_c), s	0.8	0.1	2.9		0.6	0.0	2.7					

Intersection Summary	
HCM 7th Control Delay, s/veh	9.7
HCM 7th LOS	A

Notes

User approved pedestrian interval to be less than phase max green.



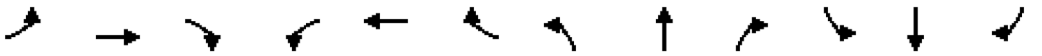
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	63	164	152	37	39	72	325	154	55	443	8
Future Volume (veh/h)	9	63	164	152	37	39	72	325	154	55	443	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	9	66	39	158	39	10	75	339	61	57	461	4
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	129	377	341	433	347	335	122	546	450	100	994	436
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.07	0.31	0.31	0.06	0.30	0.30
Sat Flow, veh/h	78	1645	1485	1026	1514	1460	1668	1752	1444	1668	3328	1461
Grp Volume(v), veh/h	75	0	39	158	39	10	75	339	61	57	461	4
Grp Sat Flow(s),veh/h/ln	1722	0	1485	1026	1514	1460	1668	1752	1444	1668	1664	1461
Q Serve(g_s), s	0.0	0.0	0.8	4.4	0.7	0.2	1.6	6.0	1.1	1.2	4.1	0.1
Cycle Q Clear(g_c), s	1.3	0.0	0.8	5.7	0.7	0.2	1.6	6.0	1.1	1.2	4.1	0.1
Prop In Lane	0.12		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	506	0	341	433	347	335	122	546	450	100	994	436
V/C Ratio(X)	0.15	0.00	0.11	0.36	0.11	0.03	0.62	0.62	0.14	0.57	0.46	0.01
Avail Cap(c_a), veh/h	1505	0	1225	1153	1250	1205	918	1928	1589	918	3663	1608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.3	0.0	11.1	13.6	11.1	10.9	16.4	10.7	9.0	16.6	10.4	9.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.5	0.1	0.0	5.0	1.7	0.2	5.0	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.2	0.9	0.2	0.0	0.6	1.8	0.3	0.5	1.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.4	0.0	11.2	14.1	11.2	10.9	21.3	12.3	9.2	21.6	10.9	9.0
LnGrp LOS	B		B	B	B	B	C	B	A	C	B	A
Approach Vol, veh/h		114			207			475			522	
Approach Delay, s/veh		11.3			13.4			13.3			12.0	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	16.3		13.3	7.2	15.9		13.3				
Change Period (Y+Rc), s	4.5	5.0		5.0	4.5	5.0		5.0				
Max Green Setting (Gmax), s	20.0	40.0		30.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I1), s	3.2	8.0		3.3	3.6	6.1		7.7				
Green Ext Time (p_c), s	0.1	3.3		0.4	0.1	4.5		1.0				

Intersection Summary			
HCM 7th Control Delay, s/veh		12.7	
HCM 7th LOS		B	

Notes

User approved pedestrian interval to be less than phase max green.



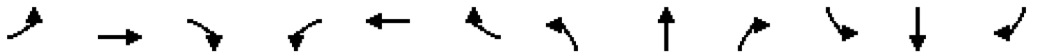
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	264	0	33	10	495	108	21	727	1
Future Volume (veh/h)	0	0	0	264	0	33	10	495	108	21	727	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	
Adj Sat Flow, veh/h/ln	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767
Adj Flow Rate, veh/h	0	0	0	275	0	0	10	516	75	22	757	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	9	9	9	9	9	9	9	9	9	9	9	9
Cap, veh/h	0	460	0	522	0	0	22	1565	223	45	1284	560
Arrive On Green	0.00	0.00	0.00	0.26	0.00	0.00	0.01	0.37	0.37	0.03	0.38	0.38
Sat Flow, veh/h	0	1767	0	1339	0	0	1682	4244	604	1682	3357	1464
Grp Volume(v), veh/h	0	0	0	275	0	0	10	388	203	22	757	1
Grp Sat Flow(s),veh/h/ln	0	1767	0	1339	0	0	1682	1608	1634	1682	1678	1464
Q Serve(g_s), s	0.0	0.0	0.0	7.9	0.0	0.0	0.2	3.6	3.7	0.5	7.5	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	7.9	0.0	0.0	0.2	3.6	3.7	0.5	7.5	0.0
Prop In Lane	0.00		0.00	1.00		0.00	1.00		0.37	1.00		1.00
Lane Grp Cap(c), veh/h	0	460	0	522	0	0	22	1185	602	45	1284	560
V/C Ratio(X)	0.00	0.00	0.00	0.53	0.00	0.00	0.45	0.33	0.34	0.48	0.59	0.00
Avail Cap(c_a), veh/h	0	1062	0	978	0	0	688	2706	1375	688	2825	1232
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	14.3	0.0	0.0	20.4	9.4	9.5	19.9	10.2	7.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	0.0	13.8	0.2	0.4	7.8	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	2.1	0.0	0.0	0.2	0.9	1.0	0.3	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	15.1	0.0	0.0	34.2	9.6	9.9	27.7	10.8	7.9
LnGrp LOS				B			C	A	A	C	B	A
Approach Vol, veh/h		0			275			601			780	
Approach Delay, s/veh		0.0			15.1			10.1			11.2	
Approach LOS					B			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	20.3		15.6	5.0	20.9		15.6				
Change Period (Y+Rc), s	4.5	5.0		4.8	4.5	5.0		4.8				
Max Green Setting (Gmax), s	17.0	35.0		25.0	17.0	35.0		25.0				
Max Q Clear Time (g_c+I1), s	2.5	5.7		0.0	2.2	9.5		9.9				
Green Ext Time (p_c), s	0.0	4.6		0.0	0.0	6.3		1.4				

Intersection Summary		
HCM 7th Control Delay, s/veh	11.5	
HCM 7th LOS	B	

Notes

User approved pedestrian interval to be less than phase max green.



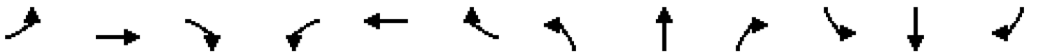
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	290	2	102	361	517	0	0	472	526
Future Volume (veh/h)	0	0	0	290	2	102	361	517	0	0	472	526
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1781	1781	1781	1781	0	0	1781	1781
Adj Flow Rate, veh/h				305	2	26	380	544	0	0	497	199
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				8	8	8	8	8	0	0	8	8
Cap, veh/h				350	2	313	761	2338	0	0	939	291
Arrive On Green				0.21	0.21	0.21	0.90	1.00	0.00	0.00	0.19	0.19
Sat Flow, veh/h				1686	11	1510	1697	3474	0	0	5024	1510
Grp Volume(v), veh/h				307	0	26	380	544	0	0	497	199
Grp Sat Flow(s),veh/h/ln				1697	0	1510	1697	1692	0	0	1621	1510
Q Serve(g_s), s				17.5	0.0	1.4	4.2	0.0	0.0	0.0	9.2	12.3
Cycle Q Clear(g_c), s				17.5	0.0	1.4	4.2	0.0	0.0	0.0	9.2	12.3
Prop In Lane				0.99		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				352	0	313	761	2338	0	0	939	291
V/C Ratio(X)				0.87	0.00	0.08	0.50	0.23	0.00	0.00	0.53	0.68
Avail Cap(c_a), veh/h				679	0	604	761	2338	0	0	939	291
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.94	0.94	0.00	0.00	0.81	0.81
Uniform Delay (d), s/veh				38.4	0.0	32.0	3.0	0.0	0.0	0.0	36.3	37.5
Incr Delay (d2), s/veh				2.7	0.0	0.0	0.2	0.2	0.0	0.0	1.7	10.1
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.4	0.0	0.5	0.9	0.1	0.0	0.0	3.7	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				41.0	0.0	32.0	3.2	0.2	0.0	0.0	38.0	47.6
LnGrp LOS				D		C	A	A			D	D
Approach Vol, veh/h					333			924			696	
Approach Delay, s/veh					40.3			1.5			40.7	
Approach LOS					D			A			D	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	74.0		49.8	24.2		26.0						
Change Period (Y+Rc), s	4.9		4.9	* 4.9		5.3						
Max Green Setting (Gmax), s	49.8		26.0	* 19		40.0						
Max Q Clear Time (g_c+I1), s	2.0		6.2	14.3		19.5						
Green Ext Time (p_c), s	2.4		0.5	1.3		1.2						

Intersection Summary	
HCM 7th Control Delay, s/veh	22.1
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



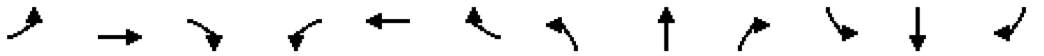
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	227	2	373	0	0	0	0	655	434	186	574	0
Future Volume (veh/h)	227	2	373	0	0	0	0	655	434	186	574	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.95	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796				0	1796	1796	1796	1796	0
Adj Flow Rate, veh/h	239	2	156				0	689	183	196	604	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7				0	7	7	7	7	0
Cap, veh/h	284	2	254				0	1437	424	665	2495	0
Arrive On Green	0.17	0.17	0.17				0.00	0.29	0.29	0.78	1.00	0.00
Sat Flow, veh/h	1697	14	1522				0	5065	1447	1711	3503	0
Grp Volume(v), veh/h	241	0	156				0	689	183	196	604	0
Grp Sat Flow(s),veh/h/ln	1711	0	1522				0	1635	1447	1711	1706	0
Q Serve(g_s), s	13.7	0.0	9.5				0.0	11.6	10.2	3.3	0.0	0.0
Cycle Q Clear(g_c), s	13.7	0.0	9.5				0.0	11.6	10.2	3.3	0.0	0.0
Prop In Lane	0.99		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	286	0	254				0	1437	424	665	2495	0
V/C Ratio(X)	0.84	0.00	0.61				0.00	0.48	0.43	0.29	0.24	0.00
Avail Cap(c_a), veh/h	513	0	457				0	1437	424	665	2495	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.69	0.69	0.97	0.97	0.00
Uniform Delay (d), s/veh	40.4	0.0	38.6				0.0	29.1	28.6	7.2	0.0	0.0
Incr Delay (d2), s/veh	2.6	0.0	0.9				0.0	0.8	2.2	0.1	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	0.0
%ile BackOfQ(50%),veh/ln	5.9	0.0	3.6				0.0	4.5	3.7	1.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	43.0	0.0	39.5				0.0	29.9	30.8	7.2	0.2	0.0
LnGrp LOS	D		D					C	C	A	A	
Approach Vol, veh/h		397						872			800	
Approach Delay, s/veh		41.6						30.1			1.9	
Approach LOS		D						C			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	43.8	34.2		22.0		78.0
Change Period (Y+Rc), s	4.9	* 4.9		5.3		4.9
Max Green Setting (Gmax), s	26.0	* 29		30.0		59.8
Max Q Clear Time (g_c+I1), s	5.3	13.6		15.7		2.0
Green Ext Time (p_c), s	0.2	3.1		1.1		2.7

Intersection Summary	
HCM 7th Control Delay, s/veh	21.4
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	604	137	111	467	273	76	435	75	226	379	93
Future Volume (veh/h)	180	604	137	111	467	273	76	435	75	226	379	93
Initial Q (Qb), 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		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	189	636	67	117	492	113	80	458	23	238	399	80
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	235	870	383	150	701	310	108	641	271	287	804	160
Arrive On Green	0.13	0.25	0.25	0.09	0.20	0.20	0.06	0.17	0.17	0.16	0.28	0.28
Sat Flow, veh/h	1753	3497	1538	1753	3497	1546	1753	3681	1560	1753	2906	578
Grp Volume(v), veh/h	189	636	67	117	492	113	80	458	23	238	239	240
Grp Sat Flow(s),veh/h/ln	1753	1749	1538	1753	1749	1546	1753	1841	1560	1753	1749	1735
Q Serve(g_s), s	6.3	10.0	2.0	3.9	7.8	3.8	2.7	7.0	0.7	7.9	6.8	7.0
Cycle Q Clear(g_c), s	6.3	10.0	2.0	3.9	7.8	3.8	2.7	7.0	0.7	7.9	6.8	7.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.33
Lane Grp Cap(c), veh/h	235	870	383	150	701	310	108	641	271	287	484	480
V/C Ratio(X)	0.81	0.73	0.18	0.78	0.70	0.36	0.74	0.72	0.08	0.83	0.49	0.50
Avail Cap(c_a), veh/h	586	1462	643	586	1462	646	586	1846	782	586	877	870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.2	20.6	17.6	26.8	22.2	20.6	27.6	23.3	20.7	24.2	18.1	18.2
Incr Delay (d2), s/veh	2.5	0.4	0.1	3.3	0.5	0.3	3.7	0.6	0.0	2.3	0.3	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	3.5	0.6	1.6	2.9	1.2	1.1	2.8	0.2	3.1	2.4	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.6	21.1	17.7	30.1	22.7	20.9	31.3	23.9	20.8	26.5	18.4	18.5
LnGrp LOS	C	C	B	C	C	C	C	C	C	C	B	B
Approach Vol, veh/h		892			722			561			717	
Approach Delay, s/veh		22.2			23.6			24.8			21.1	
Approach LOS		C			C			C			C	

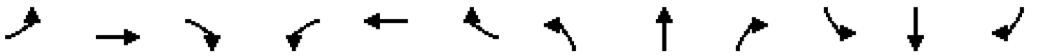
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.3	15.7	9.6	20.2	8.2	21.8	12.5	17.3
Change Period (Y+Rc), s	4.5	5.3	4.5	* 5.3	4.5	* 5.3	4.5	5.3
Max Green Setting (Gmax), s	20.0	30.0	20.0	* 25	20.0	* 30	20.0	25.0
Max Q Clear Time (g_c+I1), s	9.9	9.0	5.9	12.0	4.7	9.0	8.3	9.8
Green Ext Time (p_c), s	0.1	1.4	0.1	1.7	0.0	1.2	0.1	1.5

Intersection Summary	
HCM 7th Control Delay, s/veh	22.8
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

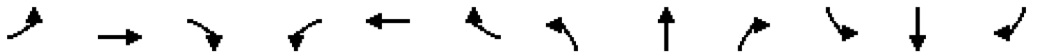
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	141	35	68	85	54	29	257	67	53	374	9
Future Volume (veh/h)	15	141	35	68	85	54	29	257	67	53	374	9
Initial Q (Qb), 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		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1693	1693	1693	1693	1693	1693	1693	1693	1693	1693	1693	1693
Adj Flow Rate, veh/h	17	157	29	76	94	13	32	286	46	59	416	9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	14	14	14	14	14	14	14	14	14	14	14	14
Cap, veh/h	435	272	50	363	333	281	64	536	85	106	706	15
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.04	0.19	0.19	0.07	0.22	0.22
Sat Flow, veh/h	1162	1385	256	1082	1693	1430	1612	2779	442	1612	3218	70
Grp Volume(v), veh/h	17	0	186	76	94	13	32	164	168	59	208	217
Grp Sat Flow(s),veh/h/ln	1162	0	1641	1082	1693	1430	1612	1608	1612	1612	1608	1680
Q Serve(g_s), s	0.3	0.0	2.8	1.9	1.3	0.2	0.5	2.5	2.6	1.0	3.2	3.2
Cycle Q Clear(g_c), s	1.6	0.0	2.8	4.7	1.3	0.2	0.5	2.5	2.6	1.0	3.2	3.2
Prop In Lane	1.00		0.16	1.00		1.00	1.00		0.27	1.00		0.04
Lane Grp Cap(c), veh/h	435	0	323	363	333	281	64	310	311	106	353	369
V/C Ratio(X)	0.04	0.00	0.58	0.21	0.28	0.05	0.50	0.53	0.54	0.56	0.59	0.59
Avail Cap(c_a), veh/h	1261	0	1490	1132	1536	1298	878	2043	2049	878	2043	2135
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.1	0.0	10.0	12.2	9.4	9.0	13.0	10.0	10.0	12.5	9.6	9.6
Incr Delay (d2), s/veh	0.0	0.0	0.6	0.1	0.2	0.0	2.3	0.5	0.5	1.7	0.6	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.6	0.3	0.3	0.0	0.2	0.5	0.5	0.3	0.6	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.1	0.0	10.6	12.3	9.6	9.0	15.2	10.5	10.6	14.1	10.2	10.2
LnGrp LOS	B		B	B	A	A	B	B	B	B	B	B
Approach Vol, veh/h		203			183			364			484	
Approach Delay, s/veh		10.6			10.7			10.9			10.7	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	10.4	6.1	11.0	10.4	6.8	10.3
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	25.0	15.0	35.0	25.0	15.0	35.0
Max Q Clear Time (g_c+I1), s	4.8	2.5	5.2	6.7	3.0	4.6
Green Ext Time (p_c), s	0.4	0.0	1.0	0.3	0.0	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	10.7
HCM 7th LOS	B

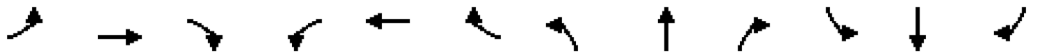


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	318	5	200	601	281	0	0	419	286
Future Volume (veh/h)	0	0	0	318	5	200	601	281	0	0	419	286
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	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
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1752	1752	1752	1752	1752	0	0	1752	1752
Adj Flow Rate, veh/h				356	0	42	633	296	0	0	441	180
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				10	10	10	10	10	0	0	10	10
Cap, veh/h				457	0	203	593	1298	0	0	1181	477
Arrive On Green				0.14	0.00	0.14	0.06	0.24	0.00	0.00	0.51	0.51
Sat Flow, veh/h				3337	0	1485	3337	1752	0	0	2388	930
Grp Volume(v), veh/h				356	0	42	633	296	0	0	318	303
Grp Sat Flow(s),veh/h/ln				1668	0	1485	1668	1752	0	0	1664	1566
Q Serve(g_s), s				9.3	0.0	2.3	16.0	12.2	0.0	0.0	10.3	10.5
Cycle Q Clear(g_c), s				9.3	0.0	2.3	16.0	12.2	0.0	0.0	10.3	10.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.59
Lane Grp Cap(c), veh/h				457	0	203	593	1298	0	0	854	804
V/C Ratio(X)				0.78	0.00	0.21	1.07	0.23	0.00	0.00	0.37	0.38
Avail Cap(c_a), veh/h				779	0	346	593	1298	0	0	854	804
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				37.5	0.0	34.5	42.4	13.4	0.0	0.0	13.2	13.2
Incr Delay (d2), s/veh				2.9	0.0	0.5	34.0	0.0	0.0	0.0	1.2	1.4
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.9	0.0	0.8	9.8	5.0	0.0	0.0	3.7	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				40.5	0.0	35.0	76.4	13.4	0.0	0.0	14.4	14.6
LnGrp LOS				D		C	F	B			B	B
Approach Vol, veh/h					398			929			621	
Approach Delay, s/veh					39.9			56.3			14.5	
Approach LOS					D			E			B	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	72.2		20.5	51.7		17.8						
Change Period (Y+Rc), s	5.5		4.5	5.5		5.5						
Max Green Setting (Gmax), s	58.0		16.0	37.5		21.0						
Max Q Clear Time (g_c+I1), s	14.2		18.0	12.5		11.3						
Green Ext Time (p_c), s	1.7		0.0	3.6		1.0						

Intersection Summary		
HCM 7th Control Delay, s/veh	39.6	
HCM 7th LOS	D	

Notes
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	25	363	0	0	0	0	765	447	237	498	0
Future Volume (veh/h)	118	25	363	0	0	0	0	765	447	237	498	0
Initial Q (Qb), veh	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
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811				0	1811	1811	1811	1811	0
Adj Flow Rate, veh/h	123	86	66				0	797	372	247	519	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	6	6	6				0	6	6	6	6	0
Cap, veh/h	479	503	426				0	766	356	997	3365	0
Arrive On Green	0.28	0.28	0.28				0.00	0.34	0.34	0.19	0.32	0.00
Sat Flow, veh/h	1725	1811	1535				0	2351	1051	1725	3532	0
Grp Volume(v), veh/h	123	86	66				0	606	563	247	519	0
Grp Sat Flow(s),veh/h/ln	1725	1811	1535				0	1721	1591	1725	1721	0
Q Serve(g_s), s	5.0	3.2	2.9				0.0	30.5	30.5	10.9	9.7	0.0
Cycle Q Clear(g_c), s	5.0	3.2	2.9				0.0	30.5	30.5	10.9	9.7	0.0
Prop In Lane	1.00		1.00				0.00		0.66	1.00		0.00
Lane Grp Cap(c), veh/h	479	503	426				0	583	539	997	3365	0
V/C Ratio(X)	0.26	0.17	0.15				0.00	1.04	1.04	0.25	0.15	0.00
Avail Cap(c_a), veh/h	479	503	426				0	583	539	997	3365	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.84	0.84	0.00
Uniform Delay (d), s/veh	25.3	24.6	24.5				0.0	29.8	29.8	19.8	4.0	0.0
Incr Delay (d2), s/veh	1.3	0.7	0.8				0.0	47.8	50.8	0.5	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	0.0
%ile BackOfQ(50%),veh/ln	2.2	1.5	1.1				0.0	19.4	18.3	4.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.6	25.4	25.3				0.0	77.5	80.5	20.3	4.0	0.0
LnGrp LOS	C	C	C					F	F	C	A	
Approach Vol, veh/h		275						1169			766	
Approach Delay, s/veh		25.9						79.0			9.3	
Approach LOS		C						E			A	

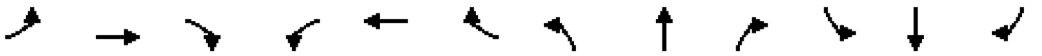
Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	58.5	36.0		30.5		94.5						
Change Period (Y+Rc), s	5.5	* 5.5		5.5		5.5						
Max Green Setting (Gmax), s	19.0	* 31		25.0		54.0						
Max Q Clear Time (g_c+I1), s	12.9	32.5		7.0		11.7						
Green Ext Time (p_c), s	0.2	0.0		0.5		3.5						

Intersection Summary			
HCM 7th Control Delay, s/veh		48.2	
HCM 7th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



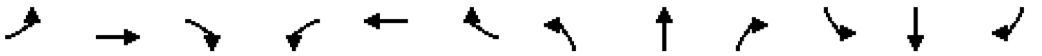
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	212	135	161	302	5	173	105	55	7	99	18
Future Volume (veh/h)	26	212	135	161	302	5	173	105	55	7	99	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1604	1604	1604	1604	1604	1604	1604	1604	1604	1604	1604	1604
Adj Flow Rate, veh/h	30	241	66	183	343	6	197	119	22	8	112	8
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	20	20	20	20	20	20	20	20	20	20	20	20
Cap, veh/h	52	474	123	228	1187	21	243	779	141	16	397	28
Arrive On Green	0.03	0.14	0.14	0.15	0.27	0.27	0.16	0.30	0.30	0.01	0.14	0.14
Sat Flow, veh/h	1527	3463	898	1527	4430	77	1527	2577	466	1527	2883	204
Grp Volume(v), veh/h	30	201	106	183	226	123	197	69	72	8	59	61
Grp Sat Flow(s),veh/h/ln	1527	1459	1442	1527	1459	1588	1527	1523	1520	1527	1523	1564
Q Serve(g_s), s	1.0	3.2	3.5	5.9	3.1	3.1	6.3	1.7	1.8	0.3	1.8	1.8
Cycle Q Clear(g_c), s	1.0	3.2	3.5	5.9	3.1	3.1	6.3	1.7	1.8	0.3	1.8	1.8
Prop In Lane	1.00		0.62	1.00		0.05	1.00		0.31	1.00		0.13
Lane Grp Cap(c), veh/h	52	399	197	228	782	426	243	460	459	16	210	215
V/C Ratio(X)	0.58	0.50	0.54	0.80	0.29	0.29	0.81	0.15	0.16	0.50	0.28	0.29
Avail Cap(c_a), veh/h	601	1435	709	901	1435	781	601	1048	1046	601	1048	1076
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	20.3	20.4	20.9	14.8	14.8	20.6	13.0	13.0	25.0	19.7	19.7
Incr Delay (d2), s/veh	7.3	1.0	2.3	4.9	0.2	0.4	4.8	0.1	0.2	16.7	0.7	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.0	1.1	2.0	0.8	0.9	2.3	0.5	0.5	0.2	0.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	31.6	21.3	22.7	25.7	15.0	15.1	25.4	13.1	13.2	41.7	20.4	20.4
LnGrp LOS	C	C	C	C	B	B	C	B	B	D	C	C
Approach Vol, veh/h		337			532			338			128	
Approach Delay, s/veh		22.7			18.7			20.3			21.7	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	20.7	12.9	12.3	13.4	12.3	6.2	18.9
Change Period (Y+Rc), s	4.5	5.3	5.3	5.3	5.3	5.3	4.5	5.3
Max Green Setting (Gmax), s	20.0	35.0	30.0	25.0	20.0	35.0	20.0	25.0
Max Q Clear Time (g_c+I1), s	2.3	3.8	7.9	5.5	8.3	3.8	3.0	5.1
Green Ext Time (p_c), s	0.0	0.7	0.3	1.6	0.3	0.6	0.0	1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	20.4
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.



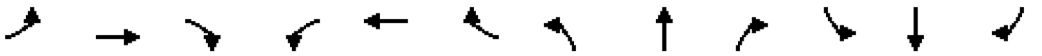
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	40	131	48	49	8	175	354	44	4	309	37
Future Volume (veh/h)	11	40	131	48	49	8	175	354	44	4	309	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1574	1574	1574	1574	1574	1574	1574	1574	1574	1574	1574	1574
Adj Flow Rate, veh/h	12	44	24	53	54	7	194	393	26	4	343	27
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	22	22	22	22	22	22	22	22	22	22	22	22
Cap, veh/h	169	188	188	237	96	11	381	1101	491	8	986	76
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.13	0.37	0.37	0.01	0.24	0.24
Sat Flow, veh/h	198	1329	1334	474	678	75	2908	2991	1334	1499	4062	315
Grp Volume(v), veh/h	56	0	24	114	0	0	194	393	26	4	240	130
Grp Sat Flow(s),veh/h/ln	1527	0	1334	1227	0	0	1454	1495	1334	1499	1432	1512
Q Serve(g_s), s	0.0	0.0	0.5	1.9	0.0	0.0	1.9	3.0	0.4	0.1	2.1	2.2
Cycle Q Clear(g_c), s	1.0	0.0	0.5	2.8	0.0	0.0	1.9	3.0	0.4	0.1	2.1	2.2
Prop In Lane	0.21		1.00	0.46		0.06	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	357	0	188	344	0	0	381	1101	491	8	695	367
V/C Ratio(X)	0.16	0.00	0.13	0.33	0.00	0.00	0.51	0.36	0.05	0.49	0.35	0.35
Avail Cap(c_a), veh/h	1560	0	1294	1432	0	0	1881	3385	1510	969	3242	1712
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.8	0.0	11.6	12.7	0.0	0.0	12.5	7.1	6.3	15.3	9.7	9.7
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.6	0.0	0.0	1.1	0.3	0.1	15.8	0.4	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.1	0.6	0.0	0.0	0.5	0.5	0.1	0.1	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.0	0.0	11.9	13.2	0.0	0.0	13.6	7.4	6.4	31.1	10.1	10.5
LnGrp LOS	B		B	B			B	A	A	C	B	B
Approach Vol, veh/h		80			114			613			374	
Approach Delay, s/veh		12.0			13.2			9.3			10.5	
Approach LOS		B			B			A			B	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	9.4	9.1	12.5	9.4	5.2	16.4
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	30.0	20.0	35.0	30.0	20.0	35.0
Max Q Clear Time (g_c+I1), s	3.0	3.9	4.2	4.8	2.1	5.0
Green Ext Time (p_c), s	0.3	0.5	3.3	0.5	0.0	3.8

Intersection Summary	
HCM 7th Control Delay, s/veh	10.2
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.



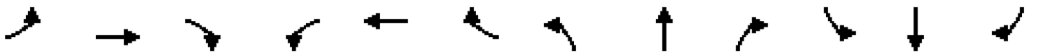
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	24	103	105	58	68	344	927	117	46	381	46
Future Volume (veh/h)	11	24	103	105	58	68	344	927	117	46	381	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1604	1604	1604	1604	1604	1604	1604	1604	1604	1604	1604	1604
Adj Flow Rate, veh/h	12	26	16	112	62	11	366	986	91	49	405	18
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	20	20	20	20	20	20	20	20	20	20	20	20
Cap, veh/h	114	183	207	260	211	207	405	945	801	68	1124	495
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.27	0.59	0.59	0.04	0.37	0.37
Sat Flow, veh/h	287	1199	1359	1012	1386	1359	1527	1604	1359	1527	3047	1341
Grp Volume(v), veh/h	38	0	16	112	62	11	366	986	91	49	405	18
Grp Sat Flow(s),veh/h/ln	1486	0	1359	1012	1386	1359	1527	1604	1359	1527	1523	1341
Q Serve(g_s), s	0.0	0.0	0.7	6.2	2.7	0.5	15.7	40.0	2.0	2.1	6.6	0.6
Cycle Q Clear(g_c), s	1.4	0.0	0.7	7.6	2.7	0.5	15.7	40.0	2.0	2.1	6.6	0.6
Prop In Lane	0.32		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	296	0	207	260	211	207	405	945	801	68	1124	495
V/C Ratio(X)	0.13	0.00	0.08	0.43	0.29	0.05	0.90	1.04	0.11	0.72	0.36	0.04
Avail Cap(c_a), veh/h	708	0	601	599	613	601	450	945	801	450	1796	791
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.0	0.0	24.7	28.3	25.5	24.6	24.1	13.9	6.1	32.0	15.6	13.7
Incr Delay (d2), s/veh	0.2	0.0	0.2	1.1	0.8	0.1	20.2	41.1	0.1	13.5	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.2	1.7	0.8	0.1	7.3	20.9	0.4	1.0	2.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.2	0.0	24.8	29.4	26.3	24.7	44.3	55.0	6.2	45.5	15.9	13.7
LnGrp LOS	C		C	C	C	C	D	F	A	D	B	B
Approach Vol, veh/h		54			185			1443			472	
Approach Delay, s/veh		25.1			28.1			49.2			18.9	
Approach LOS		C			C			D			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.5	45.0		15.3	22.5	30.0		15.3				
Change Period (Y+Rc), s	4.5	5.0		5.0	4.5	5.0		5.0				
Max Green Setting (Gmax), s	20.0	40.0		30.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I1), s	4.1	42.0		3.4	17.7	8.6		9.6				
Green Ext Time (p_c), s	0.1	0.0		0.2	0.3	4.0		0.8				

Intersection Summary		
HCM 7th Control Delay, s/veh	40.1	
HCM 7th LOS	D	

Notes

User approved pedestrian interval to be less than phase max green.



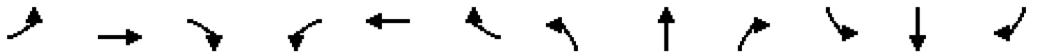
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	87	0	55	18	1339	211	23	561	0
Future Volume (veh/h)	0	0	0	87	0	55	18	1339	211	23	561	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1633	1633	1633	1633	1633	1633	1633	1633	1633	1633	1633	1633
Adj Flow Rate, veh/h	0	0	0	93	0	0	19	1424	209	24	597	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	18	18	18	18	18	18	18	18	18	18	18	18
Cap, veh/h	0	143	0	263	0	0	36	2261	332	45	1804	805
Arrive On Green	0.00	0.00	0.00	0.09	0.00	0.00	0.02	0.58	0.58	0.03	0.58	0.00
Sat Flow, veh/h	0	1633	0	1238	0	0	1555	3926	576	1555	3103	1384
Grp Volume(v), veh/h	0	0	0	93	0	0	19	1078	555	24	597	0
Grp Sat Flow(s),veh/h/ln	0	1633	0	1238	0	0	1555	1486	1530	1555	1552	1384
Q Serve(g_s), s	0.0	0.0	0.0	3.4	0.0	0.0	0.6	11.2	11.2	0.7	4.6	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.4	0.0	0.0	0.6	11.2	11.2	0.7	4.6	0.0
Prop In Lane	0.00		0.00	1.00		0.00	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	0	143	0	263	0	0	36	1712	881	45	1804	805
V/C Ratio(X)	0.00	0.00	0.00	0.35	0.00	0.00	0.52	0.63	0.63	0.54	0.33	0.00
Avail Cap(c_a), veh/h	0	878	0	821	0	0	569	2238	1152	569	2336	1042
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	20.9	0.0	0.0	22.4	6.6	6.6	22.3	5.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	0.0	11.1	0.5	0.9	9.7	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.0	0.0	0.0	0.3	1.9	2.1	0.3	0.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	21.7	0.0	0.0	33.5	7.0	7.5	32.0	5.2	0.0
LnGrp LOS				C			C	A	A	C	A	
Approach Vol, veh/h		0			93			1652			621	
Approach Delay, s/veh		0.0			21.7			7.5			6.2	
Approach LOS					C			A			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.8	31.8		8.9	5.6	32.0		8.9				
Change Period (Y+Rc), s	4.5	5.0		4.8	4.5	5.0		4.8				
Max Green Setting (Gmax), s	17.0	35.0		25.0	17.0	35.0		25.0				
Max Q Clear Time (g_c+I1), s	2.7	13.2		0.0	2.6	6.6		5.4				
Green Ext Time (p_c), s	0.0	13.5		0.0	0.0	5.0		0.4				

Intersection Summary		
HCM 7th Control Delay, s/veh	7.7	
HCM 7th LOS	A	

Notes

User approved pedestrian interval to be less than phase max green.



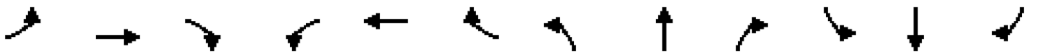
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	320	7	513	298	1055	0	0	321	345
Future Volume (veh/h)	0	0	0	320	7	513	298	1055	0	0	321	345
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	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
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1663	1663	1663	1663	1663	0	0	1663	1663
Adj Flow Rate, veh/h				356	8	526	331	1172	0	0	357	79
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				16	16	16	16	16	0	0	16	16
Cap, veh/h				604	14	549	422	1607	0	0	876	267
Arrive On Green				0.39	0.39	0.39	0.53	1.00	0.00	0.00	0.19	0.19
Sat Flow, veh/h				1551	35	1409	1584	3243	0	0	4689	1384
Grp Volume(v), veh/h				364	0	526	331	1172	0	0	357	79
Grp Sat Flow(s),veh/h/ln				1585	0	1409	1584	1580	0	0	1513	1384
Q Serve(g_s), s				18.2	0.0	36.4	16.8	0.0	0.0	0.0	6.9	4.9
Cycle Q Clear(g_c), s				18.2	0.0	36.4	16.8	0.0	0.0	0.0	6.9	4.9
Prop In Lane				0.98		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				617	0	549	422	1607	0	0	876	267
V/C Ratio(X)				0.59	0.00	0.96	0.78	0.73	0.00	0.00	0.41	0.30
Avail Cap(c_a), veh/h				634	0	564	422	1607	0	0	876	267
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.75	0.75	0.00	0.00	0.96	0.96
Uniform Delay (d), s/veh				24.2	0.0	29.7	21.0	0.0	0.0	0.0	35.3	34.5
Incr Delay (d2), s/veh				0.9	0.0	27.1	6.6	2.2	0.0	0.0	1.3	2.7
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.8	0.0	15.9	4.9	0.5	0.0	0.0	2.6	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				25.1	0.0	56.8	27.6	2.2	0.0	0.0	36.7	37.2
LnGrp LOS				C		E	C	A			D	D
Approach Vol, veh/h					890			1503			436	
Approach Delay, s/veh					43.8			7.8			36.8	
Approach LOS					D			A			D	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	55.8		31.6	24.2		44.2						
Change Period (Y+Rc), s	4.9		4.9	* 4.9		5.3						
Max Green Setting (Gmax), s	49.8		26.0	* 19		40.0						
Max Q Clear Time (g_c+I1), s	2.0		18.8	8.9		38.4						
Green Ext Time (p_c), s	6.5		0.3	1.2		0.6						

Intersection Summary	
HCM 7th Control Delay, s/veh	23.6
HCM 7th LOS	C

Notes

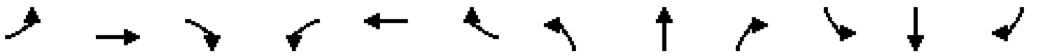
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	586	2	458	0	0	0	0	740	276	119	572	0
Future Volume (veh/h)	586	2	458	0	0	0	0	740	276	119	572	0
Initial Q (Qb), veh	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
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1693	1693	1693				0	1693	1693	1693	1693	0
Adj Flow Rate, veh/h	637	2	418				0	804	87	129	622	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	14	14	14				0	14	14	14	14	0
Cap, veh/h	684	2	611				0	1524	471	157	1518	0
Arrive On Green	0.43	0.43	0.43				0.00	0.33	0.33	0.19	0.94	0.00
Sat Flow, veh/h	1607	5	1434				0	4773	1428	1612	3300	0
Grp Volume(v), veh/h	639	0	418				0	804	87	129	622	0
Grp Sat Flow(s),veh/h/ln	1612	0	1434				0	1540	1428	1612	1608	0
Q Serve(g_s), s	37.7	0.0	23.6				0.0	14.1	4.3	7.7	1.8	0.0
Cycle Q Clear(g_c), s	37.7	0.0	23.6				0.0	14.1	4.3	7.7	1.8	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	687	0	611				0	1524	471	157	1518	0
V/C Ratio(X)	0.93	0.00	0.68				0.00	0.53	0.18	0.82	0.41	0.00
Avail Cap(c_a), veh/h	790	0	703				0	1524	471	193	1518	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.60	0.60	0.92	0.92	0.00
Uniform Delay (d), s/veh	27.3	0.0	23.3				0.0	27.2	23.9	39.5	1.5	0.0
Incr Delay (d2), s/veh	15.3	0.0	1.6				0.0	0.8	0.5	15.9	0.8	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.8	0.0	8.0				0.0	5.1	1.5	3.4	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	42.6	0.0	24.9				0.0	28.0	24.4	55.3	2.3	0.0
LnGrp LOS	D		C					C	C	E	A	
Approach Vol, veh/h		1057						891			751	
Approach Delay, s/veh		35.6						27.6			11.4	
Approach LOS		D						C			B	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	14.2	37.9		47.9		52.1						
Change Period (Y+Rc), s	4.5	4.9		5.3		4.9						
Max Green Setting (Gmax), s	12.0	24.3		49.0		40.8						
Max Q Clear Time (g_c+I1), s	9.7	16.1		39.7		3.8						
Green Ext Time (p_c), s	0.0	2.5		2.9		2.8						

Intersection Summary												
HCM 7th Control Delay, s/veh			26.2									
HCM 7th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	240	203	66	318	276	137	526	49	213	444	155
Future Volume (veh/h)	168	240	203	66	318	276	137	526	49	213	444	155
Initial Q (Qb), 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		0.99	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	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	189	270	64	74	357	59	154	591	19	239	499	146
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	229	837	363	93	566	247	191	802	337	282	717	209
Arrive On Green	0.14	0.25	0.25	0.06	0.17	0.17	0.11	0.23	0.23	0.17	0.28	0.28
Sat Flow, veh/h	1668	3328	1442	1668	3328	1453	1668	3504	1471	1668	2530	736
Grp Volume(v), veh/h	189	270	64	74	357	59	154	591	19	239	327	318
Grp Sat Flow(s),veh/h/ln	1668	1664	1442	1668	1664	1453	1668	1752	1471	1668	1664	1602
Q Serve(g_s), s	7.3	4.4	2.3	2.9	6.6	2.3	6.0	10.4	0.7	9.2	11.7	11.8
Cycle Q Clear(g_c), s	7.3	4.4	2.3	2.9	6.6	2.3	6.0	10.4	0.7	9.2	11.7	11.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.46
Lane Grp Cap(c), veh/h	229	837	363	93	566	247	191	802	337	282	472	454
V/C Ratio(X)	0.82	0.32	0.18	0.79	0.63	0.24	0.81	0.74	0.06	0.85	0.69	0.70
Avail Cap(c_a), veh/h	501	1250	542	501	1250	546	501	1579	663	501	750	722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	20.3	19.5	31.0	25.7	23.9	28.8	23.8	20.0	26.8	21.3	21.3
Incr Delay (d2), s/veh	2.8	0.1	0.1	5.5	0.4	0.2	3.0	0.5	0.0	2.7	0.7	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	1.5	0.7	1.2	2.4	0.7	2.4	3.9	0.2	3.6	4.1	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	30.7	20.4	19.6	36.6	26.1	24.1	31.8	24.3	20.1	29.6	21.9	22.0
LnGrp LOS	C	C	B	D	C	C	C	C	C	C	C	C
Approach Vol, veh/h		523			490			764			884	
Approach Delay, s/veh		24.0			27.4			25.7			24.0	
Approach LOS		C			C			C			C	

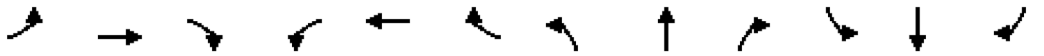
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.7	20.5	8.2	22.0	12.1	24.2	13.7	16.6
Change Period (Y+Rc), s	4.5	5.3	4.5	* 5.3	4.5	* 5.3	4.5	5.3
Max Green Setting (Gmax), s	20.0	30.0	20.0	* 25	20.0	* 30	20.0	25.0
Max Q Clear Time (g_c+I1), s	11.2	12.4	4.9	6.4	8.0	13.8	9.3	8.6
Green Ext Time (p_c), s	0.1	1.8	0.0	0.8	0.1	1.7	0.1	1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	25.1
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

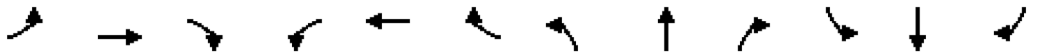
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	134	40	85	108	68	11	346	155	66	228	12
Future Volume (veh/h)	10	134	40	85	108	68	11	346	155	66	228	12
Initial Q (Qb), 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		0.99	1.00		0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	1559	1559	1559	1559	1559	1559	1559	1559	1559	1559	1559	1559
Adj Flow Rate, veh/h	10	137	28	87	110	14	11	353	98	67	233	9
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	23	23	23	23	23	23	23	23	23	23	23	23
Cap, veh/h	392	269	55	349	335	280	22	548	150	105	857	33
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.01	0.24	0.24	0.07	0.29	0.29
Sat Flow, veh/h	1056	1253	256	1018	1559	1303	1485	2290	627	1485	2906	112
Grp Volume(v), veh/h	10	0	165	87	110	14	11	226	225	67	118	124
Grp Sat Flow(s),veh/h/ln	1056	0	1509	1018	1559	1303	1485	1481	1436	1485	1481	1536
Q Serve(g_s), s	0.3	0.0	3.0	2.6	1.9	0.3	0.2	4.3	4.4	1.4	1.9	1.9
Cycle Q Clear(g_c), s	2.1	0.0	3.0	5.6	1.9	0.3	0.2	4.3	4.4	1.4	1.9	1.9
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.44	1.00		0.07
Lane Grp Cap(c), veh/h	392	0	324	349	335	280	22	354	343	105	437	453
V/C Ratio(X)	0.03	0.00	0.51	0.25	0.33	0.05	0.51	0.64	0.65	0.64	0.27	0.27
Avail Cap(c_a), veh/h	1003	0	1197	937	1237	1033	707	1645	1594	707	1645	1706
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.4	0.0	10.9	13.4	10.5	9.8	15.4	10.8	10.8	14.3	8.5	8.5
Incr Delay (d2), s/veh	0.0	0.0	0.5	0.1	0.2	0.0	6.7	0.7	0.8	2.4	0.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.7	0.4	0.4	0.0	0.1	0.9	0.9	0.4	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.4	0.0	11.4	13.5	10.7	9.9	22.1	11.5	11.6	16.7	8.6	8.6
LnGrp LOS	B		B	B	B	A	C	B	B	B	A	A
Approach Vol, veh/h		175			211			462			309	
Approach Delay, s/veh		11.4			11.8			11.8			10.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.8	5.5	14.3		11.8	7.2	12.5				
Change Period (Y+Rc), s		5.0	5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		25.0	15.0	35.0		25.0	15.0	35.0				
Max Q Clear Time (g_c+I1), s		5.0	2.2	3.9		7.6	3.4	6.4				
Green Ext Time (p_c), s		0.4	0.0	0.6		0.4	0.0	1.2				

Intersection Summary	
HCM 7th Control Delay, s/veh	11.4
HCM 7th LOS	B

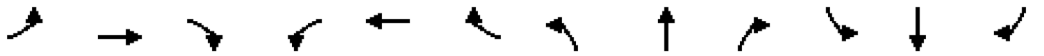


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	478	9	230	369	464	0	0	318	222
Future Volume (veh/h)	0	0	0	478	9	230	369	464	0	0	318	222
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	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
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1722	1722	1722	1722	1722	0	0	1722	1722
Adj Flow Rate, veh/h				529	0	50	292	622	0	0	335	102
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				12	12	12	12	12	0	0	12	12
Cap, veh/h				634	0	282	316	2358	0	0	1092	327
Arrive On Green				0.19	0.00	0.19	0.39	1.00	0.00	0.00	0.44	0.44
Sat Flow, veh/h				3280	0	1457	1640	3444	0	0	2558	740
Grp Volume(v), veh/h				529	0	50	292	622	0	0	220	217
Grp Sat Flow(s),veh/h/ln				1640	0	1457	1640	1722	0	0	1636	1576
Q Serve(g_s), s				14.0	0.0	2.6	15.3	0.0	0.0	0.0	7.8	8.0
Cycle Q Clear(g_c), s				14.0	0.0	2.6	15.3	0.0	0.0	0.0	7.8	8.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.47
Lane Grp Cap(c), veh/h				634	0	282	316	2358	0	0	723	696
V/C Ratio(X)				0.83	0.00	0.18	0.92	0.26	0.00	0.00	0.30	0.31
Avail Cap(c_a), veh/h				838	0	372	346	2358	0	0	723	696
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.40	0.40	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				34.9	0.0	30.3	27.0	0.0	0.0	0.0	16.2	16.3
Incr Delay (d2), s/veh				5.6	0.0	0.3	13.9	0.1	0.0	0.0	1.1	1.2
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.9	0.0	0.9	5.5	0.0	0.0	0.0	2.9	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				40.5	0.0	30.6	40.9	0.1	0.0	0.0	17.3	17.4
LnGrp LOS				D		C	D	A			B	B
Approach Vol, veh/h					579			914			437	
Approach Delay, s/veh					39.7			13.1			17.4	
Approach LOS					D			B			B	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	67.1		21.9	45.2		22.9						
Change Period (Y+Rc), s	5.5		4.5	5.5		5.5						
Max Green Setting (Gmax), s	56.0		19.0	32.5		23.0						
Max Q Clear Time (g_c+I1), s	2.0		17.3	10.0		16.0						
Green Ext Time (p_c), s	4.4		0.1	2.3		1.4						

Intersection Summary		
HCM 7th Control Delay, s/veh	22.1	
HCM 7th LOS	C	

Notes
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	300	2	832	0	0	0	0	555	360	149	654	0
Future Volume (veh/h)	300	2	832	0	0	0	0	555	360	149	654	0
Initial Q (Qb), veh	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
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781				0	1781	1781	1781	1781	0
Adj Flow Rate, veh/h	333	0	525				0	617	282	166	727	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	8	8	8				0	8	8	8	8	0
Cap, veh/h	377	0	671				0	790	361	1056	3498	0
Arrive On Green	0.22	0.00	0.22				0.00	0.35	0.35	1.00	1.00	0.00
Sat Flow, veh/h	1697	0	3019				0	2345	1031	1697	3474	0
Grp Volume(v), veh/h	333	0	525				0	463	436	166	727	0
Grp Sat Flow(s),veh/h/ln	1697	0	1510				0	1692	1594	1697	1692	0
Q Serve(g_s), s	17.1	0.0	14.7				0.0	22.0	22.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	17.1	0.0	14.7				0.0	22.0	22.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.65	1.00		0.00
Lane Grp Cap(c), veh/h	377	0	671				0	592	558	1056	3498	0
V/C Ratio(X)	0.88	0.00	0.78				0.00	0.78	0.78	0.16	0.21	0.00
Avail Cap(c_a), veh/h	377	0	671				0	592	558	1056	3498	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.82	0.82	0.00
Uniform Delay (d), s/veh	33.9	0.0	33.0				0.0	26.2	26.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	24.6	0.0	8.8				0.0	9.9	10.4	0.3	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	0.0
%ile BackOfQ(50%),veh/ln	9.4	0.0	6.1				0.0	9.9	9.4	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.5	0.0	41.8				0.0	36.0	36.6	0.3	0.1	0.0
LnGrp LOS	E		D					D	D	A	A	
Approach Vol, veh/h		858						899			893	
Approach Delay, s/veh		48.3						36.3			0.1	
Approach LOS		D						D			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	62.5	37.0		25.5		99.5
Change Period (Y+Rc), s	5.5	* 5.5		5.5		5.5
Max Green Setting (Gmax), s	23.0	* 32		20.0		59.0
Max Q Clear Time (g_c+I1), s	2.0	24.0		19.1		2.0
Green Ext Time (p_c), s	0.2	3.2		0.3		5.3

Intersection Summary	
HCM 7th Control Delay, s/veh	28.0
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	149.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	47	154	422	584	313	175
Future Vol, veh/h	47	154	422	584	313	175
Conflicting Peds, #/hr	0	0	110	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	210	-	-	190
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	20	20	20	20	20	20
Mvmt Flow	50	164	449	621	333	186

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1589	276	629	0	-	0
Stage 1	443	-	-	-	-	-
Stage 2	1146	-	-	-	-	-
Critical Hdwy	6.1	7.5	5.7	-	-	-
Critical Hdwy Stg 1	7	-	-	-	-	-
Critical Hdwy Stg 2	6.4	-	-	-	-	-
Follow-up Hdwy	4	4.1	3.3	-	-	-
Pot Cap-1 Maneuver	130	575	530	-	-	-
Stage 1	482	-	-	-	-	-
Stage 2	207	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 6	515	475	-	-	-
Mov Cap-2 Maneuver	~ 6	-	-	-	-	-
Stage 1	~ 23	-	-	-	-	-
Stage 2	186	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	$ 36.43	24.55	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	475	-	6	515	-	-
HCM Lane V/C Ratio	0.946	-	8.89	0.318	-	-
HCM Control Delay (s/veh)	58.5	-	$ 4810.2	15.2	-	-
HCM Lane LOS	F	-	F	C	-	-
HCM 95th %tile Q(veh)	11.5	-	7.9	1.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	110	270	178	28	11
Future Vol, veh/h	10	110	270	178	28	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	20	20	20	20	20	20
Mvmt Flow	11	117	287	189	30	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	477	0	-	0	520	238
Stage 1	-	-	-	-	382	-
Stage 2	-	-	-	-	138	-
Critical Hdwy	4.4	-	-	-	6.9	7.2
Critical Hdwy Stg 1	-	-	-	-	6.1	-
Critical Hdwy Stg 2	-	-	-	-	5.7	-
Follow-up Hdwy	2.39	-	-	-	3.69	3.49
Pot Cap-1 Maneuver	981	-	-	-	464	717
Stage 1	-	-	-	-	617	-
Stage 2	-	-	-	-	841	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	981	-	-	-	459	717
Mov Cap-2 Maneuver	-	-	-	-	459	-
Stage 1	-	-	-	-	611	-
Stage 2	-	-	-	-	841	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.73	0	12.66
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	981	-	-	-	511
HCM Lane V/C Ratio	0.011	-	-	-	0.081
HCM Control Delay (s/veh)	8.7	-	-	-	12.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	108	269	12	12	5
Future Vol, veh/h	10	108	269	12	12	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	20	20	20	20	20	20
Mvmt Flow	11	115	286	13	13	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	299	0	-	0	429	149
Stage 1	-	-	-	-	293	-
Stage 2	-	-	-	-	136	-
Critical Hdwy	4.4	-	-	-	6.9	7.2
Critical Hdwy Stg 1	-	-	-	-	6.1	-
Critical Hdwy Stg 2	-	-	-	-	5.7	-
Follow-up Hdwy	2.39	-	-	-	3.69	3.49
Pot Cap-1 Maneuver	1152	-	-	-	530	822
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	843	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1152	-	-	-	525	822
Mov Cap-2 Maneuver	-	-	-	-	525	-
Stage 1	-	-	-	-	681	-
Stage 2	-	-	-	-	843	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.69	0	11.32
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	153	-	-	-	587
HCM Lane V/C Ratio	0.009	-	-	-	0.031
HCM Control Delay (s/veh)	8.2	0	-	-	11.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	223	10	10	159	6	6
Future Vol, veh/h	223	10	10	159	6	6
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	90	90	90	90	90	90
Heavy Vehicles, %	22	22	22	22	22	22
Mvmt Flow	248	11	11	177	7	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	259	0	364	253
Stage 1	-	-	-	-	253	-
Stage 2	-	-	-	-	111	-
Critical Hdwy	-	-	4.43	-	6.93	6.53
Critical Hdwy Stg 1	-	-	-	-	5.73	-
Critical Hdwy Stg 2	-	-	-	-	6.13	-
Follow-up Hdwy	-	-	2.409	-	3.709	3.509
Pot Cap-1 Maneuver	-	-	1184	-	578	731
Stage 1	-	-	-	-	737	-
Stage 2	-	-	-	-	851	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1184	-	572	731
Mov Cap-2 Maneuver	-	-	-	-	572	-
Stage 1	-	-	-	-	737	-
Stage 2	-	-	-	-	842	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.54	10.73
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	642	-	-	213	-
HCM Lane V/C Ratio	0.021	-	-	0.009	-
HCM Control Delay (s/veh)	10.7	-	-	8.1	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

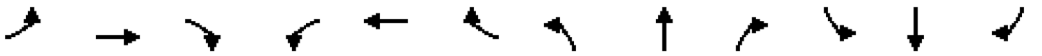
Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	153	76	117	144	25	29
Future Vol, veh/h	153	76	117	144	25	29
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	90	90	90	90	90	90
Heavy Vehicles, %	22	22	22	22	22	22
Mvmt Flow	170	84	130	160	28	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	254	0	552	212
Stage 1	-	-	-	-	212	-
Stage 2	-	-	-	-	340	-
Critical Hdwy	-	-	4.43	-	6.93	6.53
Critical Hdwy Stg 1	-	-	-	-	5.73	-
Critical Hdwy Stg 2	-	-	-	-	6.13	-
Follow-up Hdwy	-	-	2.409	-	3.709	3.509
Pot Cap-1 Maneuver	-	-	1188	-	440	773
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	645	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1188	-	389	773
Mov Cap-2 Maneuver	-	-	-	-	389	-
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	571	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	3.97	12.65
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	531	-	-	1136	-
HCM Lane V/C Ratio	0.113	-	-	0.109	-
HCM Control Delay (s/veh)	12.6	-	-	8.4	0.4
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.4	-



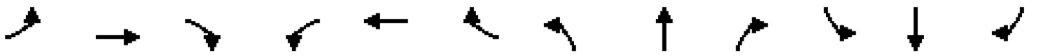
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	560	153	85	248	3	148	119	153	10	139	50
Future Volume (veh/h)	43	560	153	85	248	3	148	119	153	10	139	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	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	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737	1737
Adj Flow Rate, veh/h	45	589	126	89	261	3	156	125	58	11	146	22
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	11	11	11	11	11	11	11	11	11	11	11	11
Cap, veh/h	77	979	205	117	1402	16	199	581	256	23	398	59
Arrive On Green	0.05	0.25	0.25	0.07	0.29	0.29	0.12	0.26	0.26	0.01	0.14	0.14
Sat Flow, veh/h	1654	3916	822	1654	4833	55	1654	2228	982	1654	2872	424
Grp Volume(v), veh/h	45	473	242	89	170	94	156	91	92	11	83	85
Grp Sat Flow(s),veh/h/ln	1654	1581	1576	1654	1581	1727	1654	1650	1560	1654	1650	1646
Q Serve(g_s), s	1.3	6.7	6.9	2.7	2.0	2.1	4.6	2.2	2.3	0.3	2.3	2.4
Cycle Q Clear(g_c), s	1.3	6.7	6.9	2.7	2.0	2.1	4.6	2.2	2.3	0.3	2.3	2.4
Prop In Lane	1.00		0.52	1.00		0.03	1.00		0.63	1.00		0.26
Lane Grp Cap(c), veh/h	77	790	394	117	917	501	199	431	407	23	229	228
V/C Ratio(X)	0.59	0.60	0.61	0.76	0.19	0.19	0.78	0.21	0.23	0.47	0.36	0.37
Avail Cap(c_a), veh/h	656	1566	781	984	1566	856	656	1145	1082	656	1145	1142
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	16.7	16.8	23.0	13.4	13.4	21.5	14.6	14.6	24.7	19.7	19.7
Incr Delay (d2), s/veh	5.2	0.7	1.6	7.4	0.1	0.2	5.0	0.2	0.3	10.5	1.0	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.9	2.1	1.1	0.6	0.6	1.8	0.7	0.7	0.2	0.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.8	17.4	18.3	30.4	13.5	13.6	26.5	14.8	14.9	35.1	20.7	20.8
LnGrp LOS	C	B	B	C	B	B	C	B	B	D	C	C
Approach Vol, veh/h		760			353			339			179	
Approach Delay, s/veh		18.4			17.8			20.2			21.6	
Approach LOS		B			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	18.5	8.9	17.9	11.4	12.3	6.8	19.9
Change Period (Y+Rc), s	4.5	5.3	5.3	5.3	5.3	5.3	4.5	5.3
Max Green Setting (Gmax), s	20.0	35.0	30.0	25.0	20.0	35.0	20.0	25.0
Max Q Clear Time (g_c+I1), s	2.3	4.3	4.7	8.9	6.6	4.4	3.3	4.1
Green Ext Time (p_c), s	0.0	1.0	0.1	3.8	0.2	0.9	0.0	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	19.0
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.



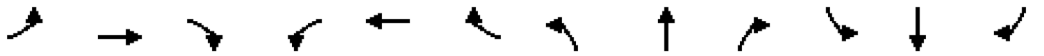
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	124	185	47	67	11	151	377	67	10	348	25
Future Volume (veh/h)	35	124	185	47	67	11	151	377	67	10	348	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	
Adj Sat Flow, veh/h/ln	1707	1707	1707	1707	1707	1707	1707	1707	1707	1707	1707	1707
Adj Flow Rate, veh/h	37	132	79	50	71	9	161	401	32	11	370	18
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	13	13	13	13	13	13	13	13	13	13	13	13
Cap, veh/h	177	267	273	204	155	15	369	1104	482	24	1082	52
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.12	0.34	0.34	0.01	0.24	0.24
Sat Flow, veh/h	231	1415	1447	279	819	82	3155	3244	1414	1626	4550	219
Grp Volume(v), veh/h	169	0	79	130	0	0	161	401	32	11	252	136
Grp Sat Flow(s),veh/h/ln	1646	0	1447	1179	0	0	1577	1622	1414	1626	1554	1662
Q Serve(g_s), s	0.0	0.0	1.5	0.8	0.0	0.0	1.6	3.1	0.5	0.2	2.2	2.2
Cycle Q Clear(g_c), s	2.9	0.0	1.5	3.8	0.0	0.0	1.6	3.1	0.5	0.2	2.2	2.2
Prop In Lane	0.22		1.00	0.38		0.07	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	444	0	273	374	0	0	369	1104	482	24	739	395
V/C Ratio(X)	0.38	0.00	0.29	0.35	0.00	0.00	0.44	0.36	0.07	0.47	0.34	0.35
Avail Cap(c_a), veh/h	1575	0	1320	1368	0	0	1918	3452	1505	989	3306	1768
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.0	0.0	11.4	12.0	0.0	0.0	13.5	8.2	7.3	16.1	10.4	10.4
Incr Delay (d2), s/veh	0.5	0.0	0.6	0.6	0.0	0.0	0.8	0.3	0.1	5.2	0.4	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.4	0.6	0.0	0.0	0.4	0.7	0.1	0.1	0.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.5	0.0	12.0	12.6	0.0	0.0	14.3	8.4	7.4	21.3	10.8	11.1
LnGrp LOS	B		B	B			B	A	A	C	B	B
Approach Vol, veh/h		248			130			594			399	
Approach Delay, s/veh		12.4			12.6			10.0			11.2	
Approach LOS		B			B			A			B	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	11.2	8.9	12.8	11.2	5.5	16.2
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	30.0	20.0	35.0	30.0	20.0	35.0
Max Q Clear Time (g_c+I1), s	4.9	3.6	4.2	5.8	2.2	5.1
Green Ext Time (p_c), s	1.1	0.4	3.4	0.7	0.0	3.9

Intersection Summary	
HCM 7th Control Delay, s/veh	11.0
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	71	257	152	41	54	144	557	154	89	1003	20
Future Volume (veh/h)	41	71	257	152	41	54	144	557	154	89	1003	20
Initial Q (Qb), 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		1.00	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	43	74	46	158	43	10	150	580	84	93	1045	11
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	174	260	337	313	344	331	191	843	696	120	1459	641
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.11	0.48	0.48	0.07	0.44	0.44
Sat Flow, veh/h	438	1145	1485	897	1514	1459	1668	1752	1448	1668	3328	1463
Grp Volume(v), veh/h	117	0	46	158	43	10	150	580	84	93	1045	11
Grp Sat Flow(s),veh/h/ln	1583	0	1485	897	1514	1459	1668	1752	1448	1668	1664	1463
Q Serve(g_s), s	0.4	0.0	1.6	8.3	1.5	0.4	5.8	16.9	2.1	3.6	16.9	0.3
Cycle Q Clear(g_c), s	3.7	0.0	1.6	12.0	1.5	0.4	5.8	16.9	2.1	3.6	16.9	0.3
Prop In Lane	0.37		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	434	0	337	313	344	331	191	843	696	120	1459	641
V/C Ratio(X)	0.27	0.00	0.14	0.50	0.13	0.03	0.79	0.69	0.12	0.78	0.72	0.02
Avail Cap(c_a), veh/h	786	0	677	586	691	666	507	1065	880	507	2024	890
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	0.0	20.3	26.1	20.2	19.8	28.4	13.2	9.4	30.0	15.1	10.5
Incr Delay (d2), s/veh	0.3	0.0	0.2	1.3	0.2	0.0	7.0	1.7	0.1	10.3	1.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.5	2.2	0.5	0.1	2.5	5.7	0.6	1.7	5.5	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.4	0.0	20.5	27.3	20.4	19.8	35.4	15.0	9.5	40.4	16.1	10.5
LnGrp LOS	C		C	C	C	B	D	B	A	D	B	B
Approach Vol, veh/h		163			211			814			1149	
Approach Delay, s/veh		21.1			25.6			18.2			18.1	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	36.6		19.9	12.0	33.8		19.9				
Change Period (Y+Rc), s	4.5	5.0		5.0	4.5	5.0		5.0				
Max Green Setting (Gmax), s	20.0	40.0		30.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I1), s	5.6	18.9		5.7	7.8	18.9		14.0				
Green Ext Time (p_c), s	0.2	5.6		0.7	0.3	9.9		0.9				

Intersection Summary		
HCM 7th Control Delay, s/veh	19.0	
HCM 7th LOS	B	

Notes

User approved pedestrian interval to be less than phase max green.

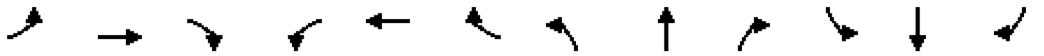
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	264	0	52	10	780	108	63	1338	1
Future Volume (veh/h)	0	0	0	264	0	52	10	780	108	63	1338	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	
Adj Sat Flow, veh/h/ln	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767	1767
Adj Flow Rate, veh/h	0	0	0	275	0	0	10	812	95	66	1394	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	9	9	9	9	9	9	9	9	9	9	9	9
Cap, veh/h	0	432	0	445	0	0	21	2039	237	93	1710	746
Arrive On Green	0.00	0.00	0.00	0.24	0.00	0.00	0.01	0.47	0.47	0.06	0.51	0.51
Sat Flow, veh/h	0	1767	0	1339	0	0	1682	4365	507	1682	3357	1465
Grp Volume(v), veh/h	0	0	0	275	0	0	10	597	310	66	1394	1
Grp Sat Flow(s),veh/h/ln	0	1767	0	1339	0	0	1682	1608	1657	1682	1678	1465
Q Serve(g_s), s	0.0	0.0	0.0	12.0	0.0	0.0	0.4	7.4	7.5	2.4	21.4	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	12.0	0.0	0.0	0.4	7.4	7.5	2.4	21.4	0.0
Prop In Lane	0.00		0.00	1.00		0.00	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	0	432	0	445	0	0	21	1502	774	93	1710	746
V/C Ratio(X)	0.00	0.00	0.00	0.62	0.00	0.00	0.47	0.40	0.40	0.71	0.82	0.00
Avail Cap(c_a), veh/h	0	721	0	664	0	0	467	1836	946	467	1917	837
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	22.0	0.0	0.0	30.0	10.7	10.7	28.5	12.6	7.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.4	0.0	0.0	14.8	0.2	0.4	9.7	2.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	3.6	0.0	0.0	0.2	2.1	2.3	1.1	6.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	0.0	0.0	23.4	0.0	0.0	44.9	10.9	11.1	38.2	15.3	7.4
LnGrp LOS				C			D	B	B	D	B	A
Approach Vol, veh/h		0			275			917			1461	
Approach Delay, s/veh		0.0			23.4			11.3			16.3	
Approach LOS					C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	33.6		19.8	5.3	36.2		19.8				
Change Period (Y+Rc), s	4.5	5.0		4.8	4.5	5.0		4.8				
Max Green Setting (Gmax), s	17.0	35.0		25.0	17.0	35.0		25.0				
Max Q Clear Time (g_c+I1), s	4.4	9.5		0.0	2.4	23.4		14.0				
Green Ext Time (p_c), s	0.1	7.4		0.0	0.0	7.9		1.1				

Intersection Summary		
HCM 7th Control Delay, s/veh	15.3	
HCM 7th LOS	B	

Notes

User approved pedestrian interval to be less than phase max green.



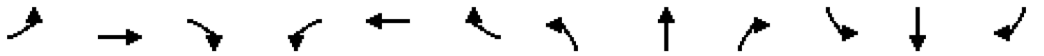
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	290	2	173	361	731	0	0	919	690
Future Volume (veh/h)	0	0	0	290	2	173	361	731	0	0	919	690
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1781	1781	1781	1781	0	0	1781	1781
Adj Flow Rate, veh/h				305	2	74	380	769	0	0	967	291
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				8	8	8	8	8	0	0	8	8
Cap, veh/h				351	2	314	760	2335	0	0	939	291
Arrive On Green				0.21	0.21	0.21	0.90	1.00	0.00	0.00	0.19	0.19
Sat Flow, veh/h				1686	11	1510	1697	3474	0	0	5024	1510
Grp Volume(v), veh/h				307	0	74	380	769	0	0	967	291
Grp Sat Flow(s),veh/h/ln				1697	0	1510	1697	1692	0	0	1621	1510
Q Serve(g_s), s				17.5	0.0	4.1	4.2	0.0	0.0	0.0	19.3	19.3
Cycle Q Clear(g_c), s				17.5	0.0	4.1	4.2	0.0	0.0	0.0	19.3	19.3
Prop In Lane				0.99		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				353	0	314	760	2335	0	0	939	291
V/C Ratio(X)				0.87	0.00	0.24	0.50	0.33	0.00	0.00	1.03	1.00
Avail Cap(c_a), veh/h				679	0	604	760	2335	0	0	939	291
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.87	0.87	0.00	0.00	0.53	0.53
Uniform Delay (d), s/veh				38.3	0.0	33.0	3.1	0.0	0.0	0.0	40.4	40.3
Incr Delay (d2), s/veh				2.6	0.0	0.1	0.2	0.3	0.0	0.0	29.6	38.1
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.4	0.0	1.5	0.9	0.1	0.0	0.0	10.0	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				40.9	0.0	33.1	3.3	0.3	0.0	0.0	69.9	78.4
LnGrp LOS				D		C	A	A			F	E
Approach Vol, veh/h					381			1149			1258	
Approach Delay, s/veh					39.4			1.3			71.9	
Approach LOS					D			A			E	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		73.9			49.7	24.2		26.1				
Change Period (Y+Rc), s		4.9			4.9	* 4.9		5.3				
Max Green Setting (Gmax), s		49.8			26.0	* 19		40.0				
Max Q Clear Time (g_c+I1), s		2.0			6.2	21.3		19.5				
Green Ext Time (p_c), s		3.6			0.5	0.0		1.3				

Intersection Summary	
HCM 7th Control Delay, s/veh	38.3
HCM 7th LOS	D

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



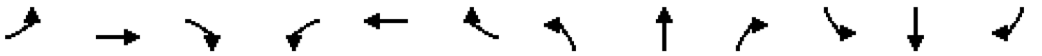
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	2	373	0	0	0	0	786	434	343	864	0
Future Volume (veh/h)	310	2	373	0	0	0	0	786	434	343	864	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.95	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1796	1796	1796				0	1796	1796	1796	1796	0
Adj Flow Rate, veh/h	326	2	281				0	827	161	361	909	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	7	7	7				0	7	7	7	7	0
Cap, veh/h	373	2	334				0	1437	424	576	2317	0
Arrive On Green	0.22	0.22	0.22				0.00	0.29	0.29	0.67	1.00	0.00
Sat Flow, veh/h	1701	10	1522				0	5065	1447	1711	3503	0
Grp Volume(v), veh/h	328	0	281				0	827	161	361	909	0
Grp Sat Flow(s),veh/h/ln	1711	0	1522				0	1635	1447	1711	1706	0
Q Serve(g_s), s	18.5	0.0	17.7				0.0	14.3	8.8	11.9	0.0	0.0
Cycle Q Clear(g_c), s	18.5	0.0	17.7				0.0	14.3	8.8	11.9	0.0	0.0
Prop In Lane	0.99		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	375	0	334				0	1437	424	576	2317	0
V/C Ratio(X)	0.87	0.00	0.84				0.00	0.58	0.38	0.63	0.39	0.00
Avail Cap(c_a), veh/h	513	0	457				0	1437	424	576	2317	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.63	0.63	0.81	0.81	0.00
Uniform Delay (d), s/veh	37.7	0.0	37.4				0.0	30.1	28.1	12.8	0.0	0.0
Incr Delay (d2), s/veh	9.6	0.0	7.6				0.0	1.1	1.6	1.3	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	0.0	7.2				0.0	5.5	3.1	3.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.3	0.0	45.0				0.0	31.1	29.7	14.1	0.4	0.0
LnGrp LOS	D		D					C	C	B	A	
Approach Vol, veh/h		609						988			1270	
Approach Delay, s/veh		46.2						30.9			4.3	
Approach LOS		D						C			A	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	38.6	34.2		27.2		72.8
Change Period (Y+Rc), s	4.9	* 4.9		5.3		4.9
Max Green Setting (Gmax), s	26.0	* 29		30.0		59.8
Max Q Clear Time (g_c+I1), s	13.9	16.3		20.5		2.0
Green Ext Time (p_c), s	0.4	3.4		1.4		4.5

Intersection Summary	
HCM 7th Control Delay, s/veh	22.4
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	207	604	137	111	467	330	76	482	75	226	484	152
Future Volume (veh/h)	207	604	137	111	467	330	76	482	75	226	484	152
Initial Q (Qb), 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		0.99	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	218	636	64	117	492	133	80	507	24	238	509	137
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	264	915	403	150	688	304	104	682	289	285	787	211
Arrive On Green	0.15	0.26	0.26	0.09	0.20	0.20	0.06	0.19	0.19	0.16	0.29	0.29
Sat Flow, veh/h	1753	3497	1538	1753	3497	1546	1753	3681	1560	1753	2726	730
Grp Volume(v), veh/h	218	636	64	117	492	133	80	507	24	238	326	320
Grp Sat Flow(s),veh/h/ln	1753	1749	1538	1753	1749	1546	1753	1841	1560	1753	1749	1708
Q Serve(g_s), s	7.8	10.5	2.1	4.2	8.5	4.9	2.9	8.4	0.8	8.5	10.5	10.6
Cycle Q Clear(g_c), s	7.8	10.5	2.1	4.2	8.5	4.9	2.9	8.4	0.8	8.5	10.5	10.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.43
Lane Grp Cap(c), veh/h	264	915	403	150	688	304	104	682	289	285	505	493
V/C Ratio(X)	0.83	0.69	0.16	0.78	0.72	0.44	0.77	0.74	0.08	0.84	0.64	0.65
Avail Cap(c_a), veh/h	546	1361	598	546	1361	601	546	1719	728	546	816	797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	21.4	18.3	28.8	24.1	22.7	29.8	24.7	21.7	26.1	20.0	20.0
Incr Delay (d2), s/veh	2.5	0.4	0.1	3.3	0.5	0.4	4.5	0.6	0.0	2.5	0.5	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	3.8	0.7	1.8	3.2	1.6	1.3	3.4	0.3	3.4	3.8	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.0	21.8	18.3	32.1	24.7	23.1	34.3	25.3	21.7	28.6	20.5	20.6
LnGrp LOS	C	C	B	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		918			742			611			884	
Approach Delay, s/veh		23.2			25.5			26.4			22.7	
Approach LOS		C			C			C			C	

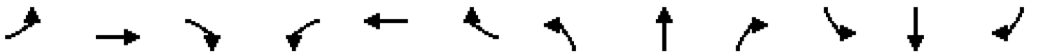
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.9	17.2	10.0	22.1	8.3	23.8	14.2	17.9
Change Period (Y+Rc), s	4.5	5.3	4.5	* 5.3	4.5	* 5.3	4.5	5.3
Max Green Setting (Gmax), s	20.0	30.0	20.0	* 25	20.0	* 30	20.0	25.0
Max Q Clear Time (g_c+I1), s	10.5	10.4	6.2	12.5	4.9	12.6	9.8	10.5
Green Ext Time (p_c), s	0.1	1.5	0.1	1.7	0.0	1.7	0.1	1.5

Intersection Summary	
HCM 7th Control Delay, s/veh	24.2
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

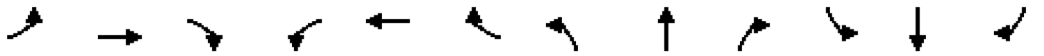
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	179	35	167	169	77	29	257	103	63	374	9
Future Volume (veh/h)	15	179	35	167	169	77	29	257	103	63	374	9
Initial Q (Qb), 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		0.99	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1693	1693	1693	1693	1693	1693	1693	1693	1693	1693	1693	1693
Adj Flow Rate, veh/h	17	199	32	186	188	32	32	286	57	70	416	9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	14	14	14	14	14	14	14	14	14	14	14	14
Cap, veh/h	473	489	79	444	583	493	61	468	92	112	665	14
Arrive On Green	0.34	0.34	0.34	0.34	0.34	0.34	0.04	0.17	0.17	0.07	0.21	0.21
Sat Flow, veh/h	1049	1419	228	1039	1693	1432	1612	2678	526	1612	3218	70
Grp Volume(v), veh/h	17	0	231	186	188	32	32	170	173	70	208	217
Grp Sat Flow(s),veh/h/ln	1049	0	1647	1039	1693	1432	1612	1608	1597	1612	1608	1680
Q Serve(g_s), s	0.4	0.0	3.9	6.1	3.0	0.5	0.7	3.6	3.7	1.5	4.3	4.3
Cycle Q Clear(g_c), s	3.4	0.0	3.9	10.0	3.0	0.5	0.7	3.6	3.7	1.5	4.3	4.3
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.33	1.00		0.04
Lane Grp Cap(c), veh/h	473	0	568	444	583	493	61	281	279	112	332	347
V/C Ratio(X)	0.04	0.00	0.41	0.42	0.32	0.06	0.52	0.60	0.62	0.62	0.63	0.63
Avail Cap(c_a), veh/h	830	0	1128	798	1159	980	662	1541	1531	662	1541	1610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.1	0.0	9.1	12.9	8.8	8.0	17.2	13.9	13.9	16.5	13.2	13.2
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.2	0.1	0.0	2.6	0.8	0.8	2.1	0.7	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.9	1.0	0.7	0.1	0.2	1.0	1.0	0.5	1.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	10.1	0.0	9.3	13.2	8.9	8.0	19.8	14.7	14.8	18.6	13.9	13.9
LnGrp LOS	B		A	B	A	A	B	B	B	B	B	B
Approach Vol, veh/h		248			406			375			495	
Approach Delay, s/veh		9.3			10.8			15.2			14.6	
Approach LOS		A			B			B			B	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		17.6	6.4	12.5		17.6	7.5	11.4				
Change Period (Y+Rc), s		5.0	5.0	5.0		5.0	5.0	5.0				
Max Green Setting (Gmax), s		25.0	15.0	35.0		25.0	15.0	35.0				
Max Q Clear Time (g_c+I1), s		5.9	2.7	6.3		12.0	3.5	5.7				
Green Ext Time (p_c), s		0.6	0.0	1.0		0.7	0.0	0.8				

Intersection Summary	
HCM 7th Control Delay, s/veh	12.9
HCM 7th LOS	B

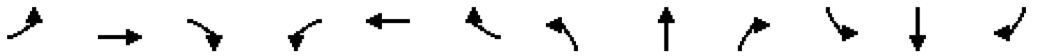


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	377	5	200	601	317	0	0	448	356
Future Volume (veh/h)	0	0	0	377	5	200	601	317	0	0	448	356
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	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
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1752	1752	1752	1752	1752	0	0	1752	1752
Adj Flow Rate, veh/h				416	0	38	633	334	0	0	472	227
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				10	10	10	10	10	0	0	10	10
Cap, veh/h				517	0	230	593	1266	0	0	1075	513
Arrive On Green				0.15	0.00	0.15	0.06	0.24	0.00	0.00	0.50	0.50
Sat Flow, veh/h				3337	0	1485	3337	1752	0	0	2259	1037
Grp Volume(v), veh/h				416	0	38	633	334	0	0	361	338
Grp Sat Flow(s),veh/h/ln				1668	0	1485	1668	1752	0	0	1664	1544
Q Serve(g_s), s				10.8	0.0	2.0	16.0	13.9	0.0	0.0	12.6	12.7
Cycle Q Clear(g_c), s				10.8	0.0	2.0	16.0	13.9	0.0	0.0	12.6	12.7
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.67
Lane Grp Cap(c), veh/h				517	0	230	593	1266	0	0	824	765
V/C Ratio(X)				0.80	0.00	0.17	1.07	0.26	0.00	0.00	0.44	0.44
Avail Cap(c_a), veh/h				779	0	346	593	1266	0	0	824	765
HCM Platoon Ratio				1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.09	0.09	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.7	0.0	33.0	42.4	14.8	0.0	0.0	14.6	14.7
Incr Delay (d2), s/veh				3.7	0.0	0.3	34.0	0.0	0.0	0.0	1.7	1.9
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.6	0.0	0.7	9.8	6.4	0.0	0.0	4.6	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				40.4	0.0	33.3	76.4	14.9	0.0	0.0	16.3	16.5
LnGrp LOS				D		C	F	B			B	B
Approach Vol, veh/h					454			967			699	
Approach Delay, s/veh					39.8			55.1			16.4	
Approach LOS					D			E			B	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	70.6		20.5	50.1		19.4						
Change Period (Y+Rc), s	5.5		4.5	5.5		5.5						
Max Green Setting (Gmax), s	58.0		16.0	37.5		21.0						
Max Q Clear Time (g_c+I1), s	15.9		18.0	14.7		12.8						
Green Ext Time (p_c), s	1.9		0.0	4.1		1.1						

Intersection Summary		
HCM 7th Control Delay, s/veh	39.1	
HCM 7th LOS	D	

Notes
User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	25	363	0	0	0	0	777	474	237	586	0
Future Volume (veh/h)	142	25	363	0	0	0	0	777	474	237	586	0
Initial Q (Qb), veh	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
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811				0	1811	1811	1811	1811	0
Adj Flow Rate, veh/h	148	86	66				0	809	392	247	610	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	6	6	6				0	6	6	6	6	0
Cap, veh/h	479	503	426				0	756	364	997	3365	0
Arrive On Green	0.28	0.28	0.28				0.00	0.34	0.34	0.19	0.32	0.00
Sat Flow, veh/h	1725	1811	1535				0	2322	1076	1725	3532	0
Grp Volume(v), veh/h	148	86	66				0	623	578	247	610	0
Grp Sat Flow(s),veh/h/ln	1725	1811	1535				0	1721	1586	1725	1721	0
Q Serve(g_s), s	6.1	3.2	2.9				0.0	30.5	30.5	10.9	11.5	0.0
Cycle Q Clear(g_c), s	6.1	3.2	2.9				0.0	30.5	30.5	10.9	11.5	0.0
Prop In Lane	1.00		1.00				0.00		0.68	1.00		0.00
Lane Grp Cap(c), veh/h	479	503	426				0	583	538	997	3365	0
V/C Ratio(X)	0.31	0.17	0.15				0.00	1.07	1.08	0.25	0.18	0.00
Avail Cap(c_a), veh/h	479	503	426				0	583	538	997	3365	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.78	0.78	0.00
Uniform Delay (d), s/veh	25.7	24.6	24.5				0.0	29.8	29.8	19.8	4.6	0.0
Incr Delay (d2), s/veh	1.7	0.7	0.8				0.0	56.8	60.7	0.5	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	0.0
%ile BackOfQ(50%),veh/ln	2.7	1.5	1.1				0.0	20.8	19.8	4.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.3	25.4	25.3				0.0	86.6	90.4	20.3	4.7	0.0
LnGrp LOS	C	C	C					F	F	C	A	
Approach Vol, veh/h		300						1201			857	
Approach Delay, s/veh		26.3						88.4			9.2	
Approach LOS		C						F			A	

Timer - Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	58.5	36.0		30.5		94.5						
Change Period (Y+Rc), s	5.5	* 5.5		5.5		5.5						
Max Green Setting (Gmax), s	19.0	* 31		25.0		54.0						
Max Q Clear Time (g_c+I1), s	12.9	32.5		8.1		13.5						
Green Ext Time (p_c), s	0.2	0.0		0.6		4.2						

Intersection Summary			
HCM 7th Control Delay, s/veh		51.7	
HCM 7th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	24.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	153	500	196	456	499	81
Future Vol, veh/h	153	500	196	456	499	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	100	0	210	-	-	190
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	13	13	13	13	13	13
Mvmt Flow	163	532	209	485	531	86

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1142	265	617	0	-	0
Stage 1	531	-	-	-	-	-
Stage 2	611	-	-	-	-	-
Critical Hdwy	5.96	7.36	5.56	-	-	-
Critical Hdwy Stg 1	6.86	-	-	-	-	-
Critical Hdwy Stg 2	6.26	-	-	-	-	-
Follow-up Hdwy	3.93	4.03	3.23	-	-	-
Pot Cap-1 Maneuver	242	600	560	-	-	-
Stage 1	439	-	-	-	-	-
Stage 2	434	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 152	600	560	-	-	-
Mov Cap-2 Maneuver	~ 152	-	-	-	-	-
Stage 1	275	-	-	-	-	-
Stage 2	434	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	66.97	4.57	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	560	-	152	600	-	-
HCM Lane V/C Ratio	0.373	-	1.072	0.886	-	-
HCM Control Delay (s/veh)	15.2	-	153.1	40.6	-	-
HCM Lane LOS	C	-	F	E	-	-
HCM 95th %tile Q(veh)	1.7	-	8.5	10.5	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	243	126	79	126	42
Future Vol, veh/h	1	243	126	79	126	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	100	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	1	253	131	82	131	44

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	214	0	-	0	428	107
Stage 1	-	-	-	-	172	-
Stage 2	-	-	-	-	255	-
Critical Hdwy	4.25	-	-	-	6.75	7.05
Critical Hdwy Stg 1	-	-	-	-	5.95	-
Critical Hdwy Stg 2	-	-	-	-	5.55	-
Follow-up Hdwy	2.295	-	-	-	3.595	3.395
Pot Cap-1 Maneuver	1304	-	-	-	552	904
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	765	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1304	-	-	-	551	904
Mov Cap-2 Maneuver	-	-	-	-	551	-
Stage 1	-	-	-	-	819	-
Stage 2	-	-	-	-	765	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.03	0	13.24
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1304	-	-	-	611
HCM Lane V/C Ratio	0.001	-	-	-	0.286
HCM Control Delay (s/veh)	7.8	-	-	-	13.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	1.2

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	237	159	9	7	4
Future Vol, veh/h	9	237	159	9	7	4
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	96	96	96	96	96	96
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	9	247	166	9	7	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	175	0	-	0	436	88
Stage 1	-	-	-	-	170	-
Stage 2	-	-	-	-	266	-
Critical Hdwy	4.25	-	-	-	6.75	7.05
Critical Hdwy Stg 1	-	-	-	-	5.95	-
Critical Hdwy Stg 2	-	-	-	-	5.55	-
Follow-up Hdwy	2.295	-	-	-	3.595	3.395
Pot Cap-1 Maneuver	1348	-	-	-	545	931
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	757	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1348	-	-	-	541	931
Mov Cap-2 Maneuver	-	-	-	-	541	-
Stage 1	-	-	-	-	815	-
Stage 2	-	-	-	-	757	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.28	0	10.74
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	66	-	-	-	638
HCM Lane V/C Ratio	0.007	-	-	-	0.018
HCM Control Delay (s/veh)	7.7	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	255	13	11	278	6	5
Future Vol, veh/h	255	13	11	278	6	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	13	13	13	13	13	13
Mvmt Flow	271	14	12	296	6	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	285	0	449	278
Stage 1	-	-	-	-	278	-
Stage 2	-	-	-	-	171	-
Critical Hdwy	-	-	4.295	-	6.795	6.395
Critical Hdwy Stg 1	-	-	-	-	5.595	-
Critical Hdwy Stg 2	-	-	-	-	5.995	-
Follow-up Hdwy	-	-	2.3235	-	3.6235	3.4235
Pot Cap-1 Maneuver	-	-	1207	-	529	730
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	813	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1207	-	523	730
Mov Cap-2 Maneuver	-	-	-	-	523	-
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	805	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0.38	11.11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	601	-	-	137	-
HCM Lane V/C Ratio	0.019	-	-	0.01	-
HCM Control Delay (s/veh)	11.1	-	-	8	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

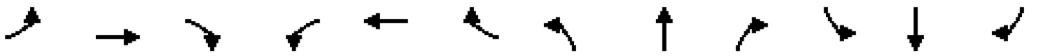
Intersection	
Int Delay, s/veh	4.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	234	26	47	196	93	110
Future Vol, veh/h	234	26	47	196	93	110
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	94	94	94	94	94	94
Heavy Vehicles, %	13	13	13	13	13	13
Mvmt Flow	249	28	50	209	99	117

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	277	0	467	263
Stage 1	-	-	-	-	263	-
Stage 2	-	-	-	-	204	-
Critical Hdwy	-	-	4.295	-	6.795	6.395
Critical Hdwy Stg 1	-	-	-	-	5.595	-
Critical Hdwy Stg 2	-	-	-	-	5.995	-
Follow-up Hdwy	-	-	2.3235	-	3.6235	3.4235
Pot Cap-1 Maneuver	-	-	1216	-	516	745
Stage 1	-	-	-	-	752	-
Stage 2	-	-	-	-	782	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1216	-	493	745
Mov Cap-2 Maneuver	-	-	-	-	493	-
Stage 1	-	-	-	-	752	-
Stage 2	-	-	-	-	748	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	1.76	14.24
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	604	-	-	696	-
HCM Lane V/C Ratio	0.358	-	-	0.041	-
HCM Control Delay (s/veh)	14.2	-	-	8.1	0.2
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	1.6	-	-	0.1	-



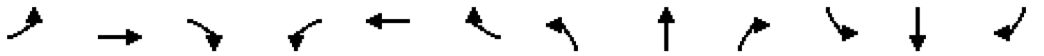
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	24	103	105	58	68	344	926	117	46	381	46
Future Volume (veh/h)	11	24	103	105	58	68	344	926	117	46	381	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1604	1604	1604	1604	1604	1604	1604	1604	1604	1604	1604	1604
Adj Flow Rate, veh/h	12	26	16	112	62	11	366	985	91	49	405	18
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	20	20	20	20	20	20	20	20	20	20	20	20
Cap, veh/h	96	176	215	204	220	215	399	1076	912	59	1368	602
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.26	0.67	0.67	0.04	0.45	0.45
Sat Flow, veh/h	337	1113	1359	877	1386	1359	1527	1604	1359	1527	3047	1341
Grp Volume(v), veh/h	38	0	16	112	62	11	366	985	91	49	405	18
Grp Sat Flow(s),veh/h/ln	1450	0	1359	877	1386	1359	1527	1604	1359	1527	1523	1341
Q Serve(g_s), s	0.0	0.0	1.1	10.3	4.3	0.8	25.7	57.7	2.6	3.5	9.3	0.8
Cycle Q Clear(g_c), s	4.4	0.0	1.1	14.7	4.3	0.8	25.7	57.7	2.6	3.5	9.3	0.8
Prop In Lane	0.32		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	273	0	215	204	220	215	399	1076	912	59	1368	602
V/C Ratio(X)	0.14	0.00	0.07	0.55	0.28	0.05	0.92	0.92	0.10	0.83	0.30	0.03
Avail Cap(c_a), veh/h	524	0	456	412	465	456	727	1351	1145	78	1368	602
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.0	0.0	39.5	47.3	40.9	39.4	39.6	15.4	6.4	52.6	19.3	17.0
Incr Delay (d2), s/veh	0.2	0.0	0.1	2.3	0.7	0.1	9.0	9.1	0.1	40.3	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.4	3.0	1.5	0.3	10.3	19.9	0.7	2.0	3.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	40.2	0.0	39.6	49.6	41.6	39.4	48.6	24.6	6.5	92.9	19.5	17.0
LnGrp LOS	D		D	D	D	D	D	C	A	F	B	B
Approach Vol, veh/h		54			185			1442			472	
Approach Delay, s/veh		40.0			46.3			29.5			27.0	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	79.0		22.5	33.3	54.5		22.5				
Change Period (Y+Rc), s	4.5	5.0		5.0	4.5	5.0		5.0				
Max Green Setting (Gmax), s	5.6	92.9		37.0	52.5	46.0		37.0				
Max Q Clear Time (g_c+I1), s	5.5	59.7		6.4	27.7	11.3		16.7				
Green Ext Time (p_c), s	0.0	14.3		0.2	1.1	4.0		0.8				

Intersection Summary		
HCM 7th Control Delay, s/veh	30.7	
HCM 7th LOS	C	

Notes

User approved pedestrian interval to be less than phase max green.



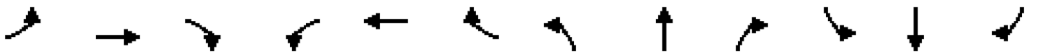
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	320	7	513	298	1055	0	0	321	345
Future Volume (veh/h)	0	0	0	320	7	513	298	1055	0	0	321	345
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	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
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1663	1663	1663	1663	1663	0	0	1663	1663
Adj Flow Rate, veh/h				356	8	526	331	1172	0	0	357	79
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				16	16	16	16	16	0	0	16	16
Cap, veh/h				604	14	549	422	1607	0	0	876	267
Arrive On Green				0.39	0.39	0.39	0.53	1.00	0.00	0.00	0.19	0.19
Sat Flow, veh/h				1551	35	1409	1584	3243	0	0	4689	1384
Grp Volume(v), veh/h				364	0	526	331	1172	0	0	357	79
Grp Sat Flow(s),veh/h/ln				1585	0	1409	1584	1580	0	0	1513	1384
Q Serve(g_s), s				18.2	0.0	36.4	16.8	0.0	0.0	0.0	6.9	4.9
Cycle Q Clear(g_c), s				18.2	0.0	36.4	16.8	0.0	0.0	0.0	6.9	4.9
Prop In Lane				0.98		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				617	0	549	422	1607	0	0	876	267
V/C Ratio(X)				0.59	0.00	0.96	0.78	0.73	0.00	0.00	0.41	0.30
Avail Cap(c_a), veh/h				634	0	564	422	1607	0	0	876	267
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.75	0.75	0.00	0.00	0.96	0.96
Uniform Delay (d), s/veh				24.2	0.0	29.7	21.0	0.0	0.0	0.0	35.3	34.5
Incr Delay (d2), s/veh				0.9	0.0	27.1	6.6	2.2	0.0	0.0	1.3	2.7
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.8	0.0	15.9	4.9	0.5	0.0	0.0	2.6	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				25.1	0.0	56.8	27.6	2.2	0.0	0.0	36.7	37.2
LnGrp LOS				C		E	C	A			D	D
Approach Vol, veh/h					890			1503			436	
Approach Delay, s/veh					43.8			7.8			36.8	
Approach LOS					D			A			D	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	55.8		31.6	24.2		44.2						
Change Period (Y+Rc), s	4.9		4.9	* 4.9		5.3						
Max Green Setting (Gmax), s	49.8		26.0	* 19		40.0						
Max Q Clear Time (g_c+I1), s	2.0		18.8	8.9		38.4						
Green Ext Time (p_c), s	6.5		0.3	1.2		0.6						

Intersection Summary	
HCM 7th Control Delay, s/veh	23.6
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	300	2	832	0	0	0	0	555	360	149	654	0
Future Volume (veh/h)	300	2	832	0	0	0	0	555	360	149	654	0
Initial Q (Qb), veh	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
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781				0	1781	1781	1781	1781	0
Adj Flow Rate, veh/h	333	0	525				0	617	282	166	727	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	8	8	8				0	8	8	8	8	0
Cap, veh/h	377	0	671				0	790	361	1056	3498	0
Arrive On Green	0.22	0.00	0.22				0.00	0.35	0.35	1.00	1.00	0.00
Sat Flow, veh/h	1697	0	3019				0	2345	1031	1697	3474	0
Grp Volume(v), veh/h	333	0	525				0	463	436	166	727	0
Grp Sat Flow(s),veh/h/ln	1697	0	1510				0	1692	1594	1697	1692	0
Q Serve(g_s), s	17.1	0.0	14.7				0.0	22.0	22.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	17.1	0.0	14.7				0.0	22.0	22.0	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.65	1.00		0.00
Lane Grp Cap(c), veh/h	377	0	671				0	592	558	1056	3498	0
V/C Ratio(X)	0.88	0.00	0.78				0.00	0.78	0.78	0.16	0.21	0.00
Avail Cap(c_a), veh/h	377	0	671				0	592	558	1056	3498	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.82	0.82	0.00
Uniform Delay (d), s/veh	33.9	0.0	33.0				0.0	26.2	26.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	24.6	0.0	8.8				0.0	9.9	10.4	0.3	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	0.0
%ile BackOfQ(50%),veh/ln	9.4	0.0	6.1				0.0	9.9	9.4	0.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.5	0.0	41.8				0.0	36.0	36.6	0.3	0.1	0.0
LnGrp LOS	E		D					D	D	A	A	
Approach Vol, veh/h		858						899			893	
Approach Delay, s/veh		48.3						36.3			0.1	
Approach LOS		D						D			A	

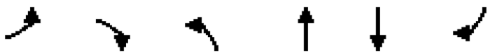
Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	62.5	37.0		25.5		99.5
Change Period (Y+Rc), s	5.5	* 5.5		5.5		5.5
Max Green Setting (Gmax), s	23.0	* 32		20.0		59.0
Max Q Clear Time (g_c+I1), s	2.0	24.0		19.1		2.0
Green Ext Time (p_c), s	0.2	3.2		0.3		5.3

Intersection Summary	
HCM 7th Control Delay, s/veh	28.0
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

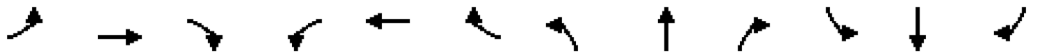
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	47	154	422	584	313	175
Future Volume (veh/h)	47	154	422	584	313	175
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1604	1604	1604	1604	1604	1604
Adj Flow Rate, veh/h	50	164	449	621	333	186
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	20	20	20	20	20	20
Cap, veh/h	252	224	616	2438	2438	757
Arrive On Green	0.16	0.16	0.56	0.56	0.56	0.56
Sat Flow, veh/h	1527	1359	757	4522	4522	1359
Grp Volume(v), veh/h	50	164	449	621	333	186
Grp Sat Flow(s),veh/h/ln	1527	1359	757	1459	1459	1359
Q Serve(g_s), s	0.9	3.7	16.8	2.4	1.2	2.3
Cycle Q Clear(g_c), s	0.9	3.7	18.0	2.4	1.2	2.3
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	252	224	616	2438	2438	757
V/C Ratio(X)	0.20	0.73	0.73	0.25	0.14	0.25
Avail Cap(c_a), veh/h	850	757	616	2438	2438	757
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.7	12.8	8.8	3.7	3.4	3.7
Incr Delay (d2), s/veh	0.4	4.6	4.3	0.1	0.0	0.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.2	1.8	0.2	0.1	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	12.0	17.4	13.1	3.8	3.5	3.8
LnGrp LOS	B	B	B	A	A	A
Approach Vol, veh/h	214			1070	519	
Approach Delay, s/veh	16.1			7.7	3.6	
Approach LOS	B			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		22.5		9.8		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s		20.0		5.7		4.3
Green Ext Time (p_c), s		0.0		0.5		2.3

Intersection Summary	
HCM 7th Control Delay, s/veh	7.5
HCM 7th LOS	A



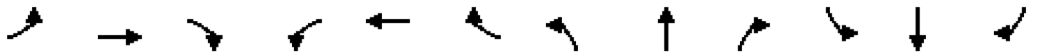
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	71	256	152	41	54	144	557	154	89	1003	20
Future Volume (veh/h)	36	71	256	152	41	54	144	557	154	89	1003	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752	1752
Adj Flow Rate, veh/h	38	74	45	158	43	10	150	580	84	93	1045	11
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	10	10	10	10	10	10	10	10	10	10	10
Cap, veh/h	162	271	333	314	339	327	191	845	698	120	1463	643
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.11	0.48	0.48	0.07	0.44	0.44
Sat Flow, veh/h	393	1208	1485	910	1514	1459	1668	1752	1448	1668	3328	1463
Grp Volume(v), veh/h	112	0	45	158	43	10	150	580	84	93	1045	11
Grp Sat Flow(s),veh/h/ln	1601	0	1485	910	1514	1459	1668	1752	1448	1668	1664	1463
Q Serve(g_s), s	0.0	0.0	1.6	8.3	1.5	0.3	5.7	16.7	2.1	3.6	16.8	0.3
Cycle Q Clear(g_c), s	3.5	0.0	1.6	11.7	1.5	0.3	5.7	16.7	2.1	3.6	16.8	0.3
Prop In Lane	0.34		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	433	0	333	314	339	327	191	845	698	120	1463	643
V/C Ratio(X)	0.26	0.00	0.14	0.50	0.13	0.03	0.79	0.69	0.12	0.78	0.71	0.02
Avail Cap(c_a), veh/h	797	0	682	594	695	670	511	1072	886	511	2038	896
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	0.0	20.3	25.9	20.2	19.8	28.2	13.1	9.3	29.8	15.0	10.3
Incr Delay (d2), s/veh	0.3	0.0	0.2	1.2	0.2	0.0	7.0	1.7	0.1	10.3	1.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.5	2.2	0.5	0.1	2.5	5.6	0.6	1.7	5.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.3	0.0	20.5	27.1	20.4	19.8	35.1	14.8	9.4	40.2	16.0	10.4
LnGrp LOS	C		C	C	C	B	D	B	A	D	B	B
Approach Vol, veh/h		157			211			814			1149	
Approach Delay, s/veh		21.1			25.4			18.0			17.9	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	36.5		19.6	12.0	33.7		19.6				
Change Period (Y+Rc), s	4.5	5.0		5.0	4.5	5.0		5.0				
Max Green Setting (Gmax), s	20.0	40.0		30.0	20.0	40.0		30.0				
Max Q Clear Time (g_c+I1), s	5.6	18.7		5.5	7.7	18.8		13.7				
Green Ext Time (p_c), s	0.2	5.6		0.6	0.3	10.0		0.9				

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

Notes

User approved pedestrian interval to be less than phase max green.



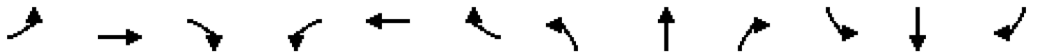
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	290	2	173	361	731	0	0	919	690
Future Volume (veh/h)	0	0	0	290	2	173	361	731	0	0	919	690
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Lane Width Adj.				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1781	1781	1781	1781	1781	0	0	1781	1781
Adj Flow Rate, veh/h				305	2	74	380	769	0	0	967	291
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				8	8	8	8	8	0	0	8	8
Cap, veh/h				340	2	304	523	2358	0	0	1649	512
Arrive On Green				0.20	0.20	0.20	0.62	1.00	0.00	0.00	0.34	0.34
Sat Flow, veh/h				1686	11	1510	1697	3474	0	0	5024	1510
Grp Volume(v), veh/h				307	0	74	380	769	0	0	967	291
Grp Sat Flow(s),veh/h/ln				1697	0	1510	1697	1692	0	0	1621	1510
Q Serve(g_s), s				17.6	0.0	4.1	15.5	0.0	0.0	0.0	16.4	15.8
Cycle Q Clear(g_c), s				17.6	0.0	4.1	15.5	0.0	0.0	0.0	16.4	15.8
Prop In Lane				0.99		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				342	0	304	523	2358	0	0	1649	512
V/C Ratio(X)				0.90	0.00	0.24	0.73	0.33	0.00	0.00	0.59	0.57
Avail Cap(c_a), veh/h				395	0	352	523	2358	0	0	1649	512
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.87	0.87	0.00	0.00	0.53	0.53
Uniform Delay (d), s/veh				38.9	0.0	33.5	16.2	0.0	0.0	0.0	27.3	27.1
Incr Delay (d2), s/veh				19.2	0.0	0.2	3.8	0.3	0.0	0.0	0.8	2.4
Initial Q Delay(d3), s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.1	0.0	1.5	4.4	0.1	0.0	0.0	6.2	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh				58.1	0.0	33.7	20.0	0.3	0.0	0.0	28.1	29.5
LnGrp LOS				E		C	C	A			C	C
Approach Vol, veh/h					381			1149			1258	
Approach Delay, s/veh					53.4			6.8			28.4	
Approach LOS					D			A			C	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	74.6		35.8	38.8		25.4						
Change Period (Y+Rc), s	4.9		4.9	* 4.9		5.3						
Max Green Setting (Gmax), s	66.5		28.1	* 34		23.3						
Max Q Clear Time (g_c+I1), s	2.0		17.5	18.4		19.6						
Green Ext Time (p_c), s	3.6		0.4	4.5		0.5						

Intersection Summary	
HCM 7th Control Delay, s/veh	22.9
HCM 7th LOS	C

Notes

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	25	363	0	0	0	0	777	474	237	586	0
Future Volume (veh/h)	142	25	363	0	0	0	0	777	474	237	586	0
Initial Q (Qb), veh	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
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811				0	1811	1811	1811	1811	0
Adj Flow Rate, veh/h	148	86	66				0	809	392	247	610	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	6	6	6				0	6	6	6	6	0
Cap, veh/h	240	252	213				0	1079	520	987	3843	0
Arrive On Green	0.14	0.14	0.14				0.00	0.48	0.48	1.00	1.00	0.00
Sat Flow, veh/h	1725	1811	1535				0	2323	1076	1725	3532	0
Grp Volume(v), veh/h	148	86	66				0	623	578	247	610	0
Grp Sat Flow(s),veh/h/ln	1725	1811	1535				0	1721	1588	1725	1721	0
Q Serve(g_s), s	7.3	3.9	3.5				0.0	26.4	26.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.3	3.9	3.5				0.0	26.4	26.6	0.0	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.68	1.00		0.00
Lane Grp Cap(c), veh/h	240	252	213				0	832	767	987	3843	0
V/C Ratio(X)	0.62	0.34	0.31				0.00	0.75	0.75	0.25	0.16	0.00
Avail Cap(c_a), veh/h	240	252	213				0	832	767	987	3843	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.78	0.78	0.00
Uniform Delay (d), s/veh	36.5	35.0	34.9				0.0	18.8	18.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	11.4	3.7	3.7				0.0	6.1	6.8	0.5	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	0.0
%ile BackOfQ(50%),veh/ln	3.8	1.9	1.5				0.0	10.7	10.1	0.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.9	38.7	38.6				0.0	24.9	25.7	0.5	0.1	0.0
LnGrp LOS	D	D	D					C	C	A	A	
Approach Vol, veh/h		300						1201			857	
Approach Delay, s/veh		43.2						25.3			0.2	
Approach LOS		D						C			A	

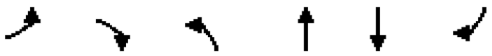
Timer - Assigned Phs	1	2		4	6							
Phs Duration (G+Y+Rc), s	58.0	49.0		18.0	107.0							
Change Period (Y+Rc), s	5.5	* 5.5		5.5	5.5							
Max Green Setting (Gmax), s	18.5	* 44		12.5	66.5							
Max Q Clear Time (g_c+I1), s	2.0	28.6		9.3	2.0							
Green Ext Time (p_c), s	0.3	6.9		0.2	4.3							

Intersection Summary			
HCM 7th Control Delay, s/veh		18.4	
HCM 7th LOS		B	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	153	500	196	456	499	81
Future Volume (veh/h)	153	500	196	456	499	81
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1707	1707	1707	1707	1707	1707
Adj Flow Rate, veh/h	163	532	209	485	531	86
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	13	13	13	13	13	13
Cap, veh/h	648	577	399	1858	1858	577
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1626	1447	736	4815	4815	1447
Grp Volume(v), veh/h	163	532	209	485	531	86
Grp Sat Flow(s),veh/h/ln	1626	1447	736	1554	1554	1447
Q Serve(g_s), s	3.0	15.5	11.9	3.1	3.4	1.7
Cycle Q Clear(g_c), s	3.0	15.5	15.4	3.1	3.4	1.7
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	648	577	399	1858	1858	577
V/C Ratio(X)	0.25	0.92	0.52	0.26	0.29	0.15
Avail Cap(c_a), veh/h	660	587	404	1891	1891	587
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.9	12.7	14.3	9.0	9.1	8.5
Incr Delay (d2), s/veh	0.2	20.1	1.2	0.1	0.1	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	7.2	1.6	0.7	0.8	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	9.1	32.8	15.5	9.0	9.1	8.6
LnGrp LOS	A	C	B	A	A	A
Approach Vol, veh/h	695			694	617	
Approach Delay, s/veh	27.2			11.0	9.1	
Approach LOS	C			B	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		22.2		22.2		22.2
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s		17.4		17.5		5.4
Green Ext Time (p_c), s		0.3		0.2		3.0

Intersection Summary	
HCM 7th Control Delay, s/veh	16.0
HCM 7th LOS	B

Appendix D: Kaiser Provided Data

The following data was compiled and shared by Kaiser. The data for members was compiled by the member's zip code for their place of residence and reflects 2021 membership. This data represents members that used medical services at the Kaiser Fontana and Redlands Medical Office Building (MOB). The data analysis measured the distance from the member's home zip code to the Fontana MOB and then measured the distance from the member's home zip code to the proposed expanded Redlands MOB. The analysis shows that for most Kaiser members, the distance to an MOB campus is reduced.

Comparison of Miles Traveled for Kaiser Members

Attending Redlands MOB vs. Fontana MOB

Change in Miles	Number of Members
Reduced by more than 12	52,763
Reduced by 11 to 12	10,172
Reduced by 10 to 11	8,208
Reduced by 9 to 10	3,932
Reduced by 8 to 9	3,063
Reduced by 7 to 8	5,238
Reduced by 6 to 7	4,842
Reduced by 5 to 6	33,650
Reduced by 4 to 5	10,983
Reduced by 3 to 4	8,059
Reduced by 2 to 3	7,696
Reduced by 1 to 2	5,626
Reduced by 0 to 1	9,924
Increased by 0 to 1	1,909
Increased by 1 to 2	378
Increased by 2 to 3	3
Increased by 3 to 4	9
Increased by 4 to 5	5
Increased by 5 to 6	67,484

The following data was compiled and provided by Kaiser. The miles traveled for employees and physicians was calculated using the home and work locations for each employee as provided by Kaiser's Human Resources department. The data represents the employment at Kaiser facilities in Fontana, Ontario, and Redlands in 2022. The compiled data shows that employees and physicians currently employed at the Redlands MOB travel fewer miles on average than employees and physicians at nearby facilities in Fontana and Ontario.

Kaiser Employee Comparison

Facility	Miles Traveled	Employees	Miles/Employee
Fontana	146,140	8,770	16.66
Redlands MOB	2,294	175	13.11
Ontario (w/ Hospital)	33,194	1,946	17.06
Ontario (w/ out Hospital)	10,827	707	25.85

Kaiser Physician Comparison

Facility	Miles Traveled	Physicians	Miles/Physician
Fontana	18,787	714	26.31
Redlands MOB	497	57	8.72
Ontario	4,432	199	22.27

Appendix E: Signal Warrant

FEHR PEERS

Intersection	11	Project	Kaiser Redlands
Major Street	California St	Scenario	Existing Plus Project Phase 1 (2024) Plus Project Conditions
Minor Street	Driveway A	Peak Hour	AM

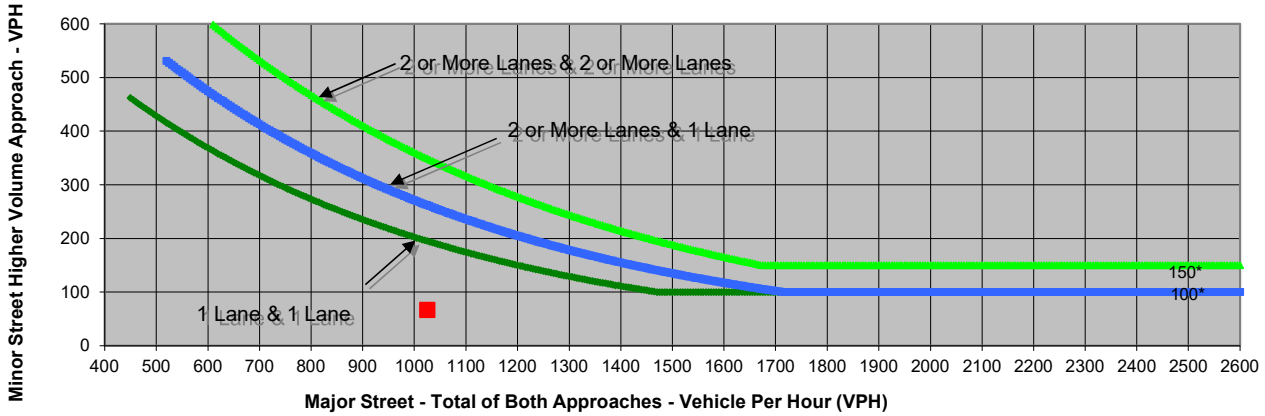
Turn Movement Volumes

	NB	SB	EB	WB
Left	167	0	16	0
Through	512	277	0	0
Right	0	69	51	0
Total	679	346	67	0

Major Street Direction

x	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street California St	Minor Street Driveway A	Warrant Met
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**1,025**	**67**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Intersection	11	Project	Kaiser Redlands
Major Street	California St	Scenario	Existing Plus Project Phase 1 (2024) Plus Project Conditions
Minor Street	Driveway A	Peak Hour	PM

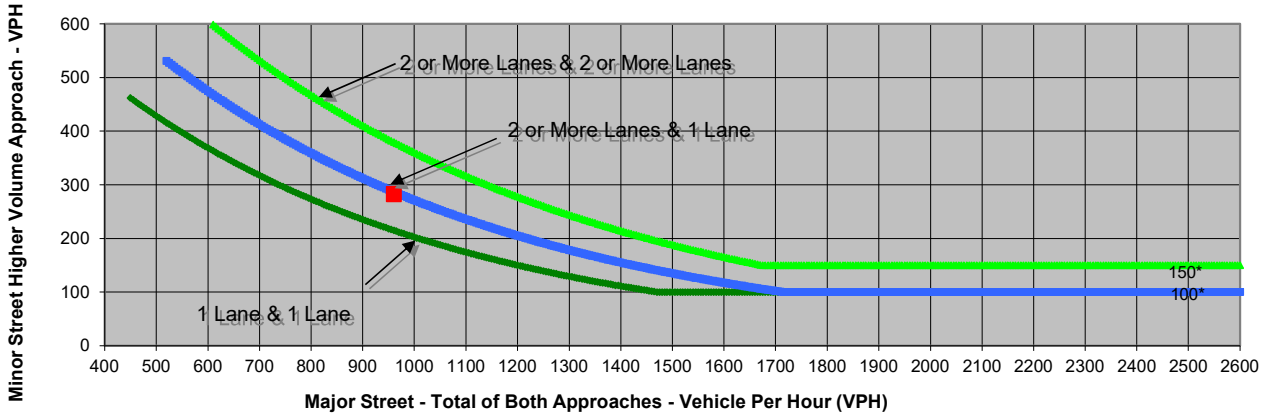
Turn Movement Volumes

	NB	SB	EB	WB
Left	80	0	66	0
Through	407	439	0	0
Right	0	34	217	0
Total	487	473	283	0

Major Street Direction

x	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	California St	Driveway A	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**960**	**283**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Intersection	11	Project	Kaiser Redlands
Major Street	California St	Scenario	Existing Plus Project Phase 1- 2 (2024) Plus Project Conditions
Minor Street	Driveway A	Peak Hour	AM

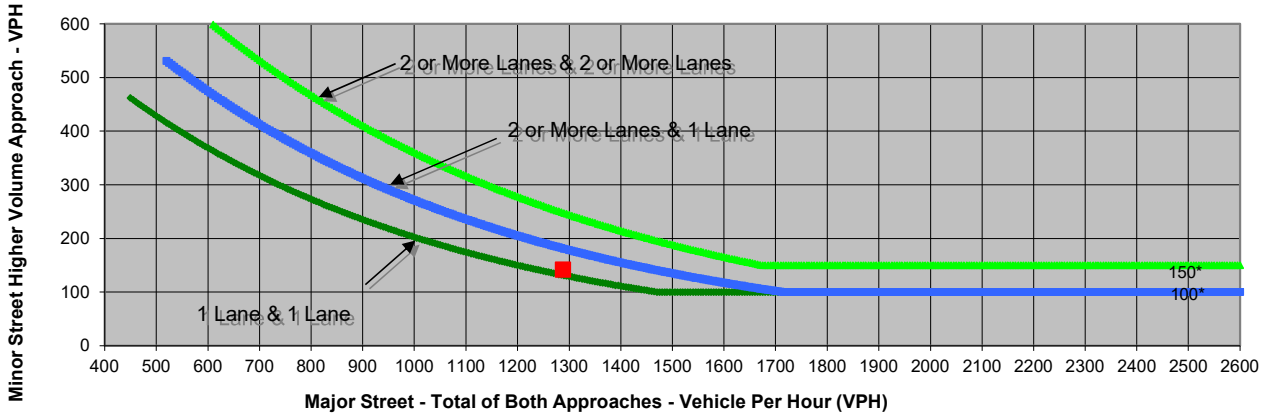
Turn Movement Volumes

	NB	SB	EB	WB
Left	310	0	34	108
Through	553	297	0	0
Right	0	128	108	0
Total	863	425	142	108

Major Street Direction

x	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	California St	Driveway A	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**1,288**	**142**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Intersection	11	Project	Kaiser Redlands
Major Street	California St	Scenario	Existing Plus Project Phase 1- 2 (2024) Plus Project Conditions
Minor Street	Driveway A	Peak Hour	PM

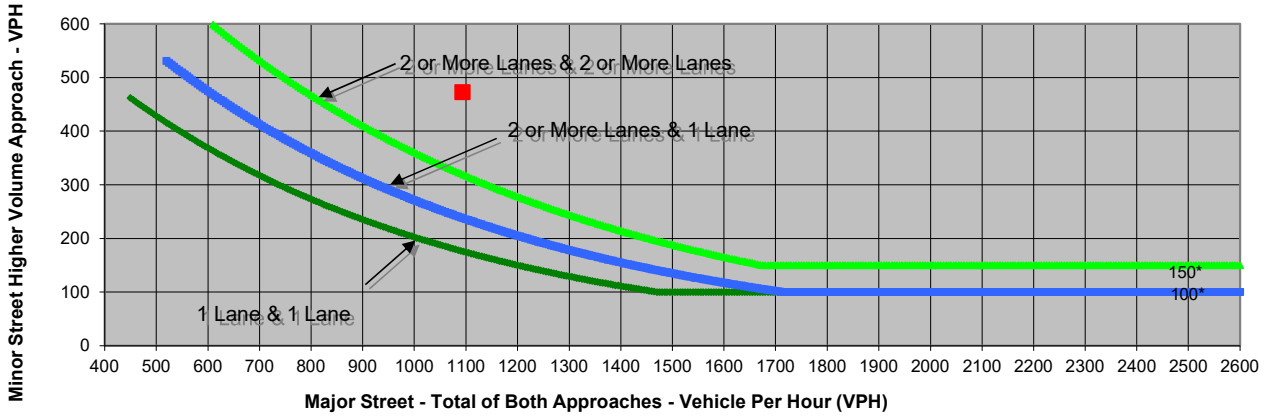
Turn Movement Volumes

	NB	SB	EB	WB
Left	136	0	111	0
Through	431	470	0	0
Right	0	56	362	0
Total	567	526	473	0

Major Street Direction

x	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	California St	Driveway A	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,093**	**473**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Intersection	11	Project	Kaiser Redlands
Major Street	California St	Scenario	Existing Plus Project Phase 1- 3 (2024) Plus Project Conditions
Minor Street	Driveway A	Peak Hour	AM

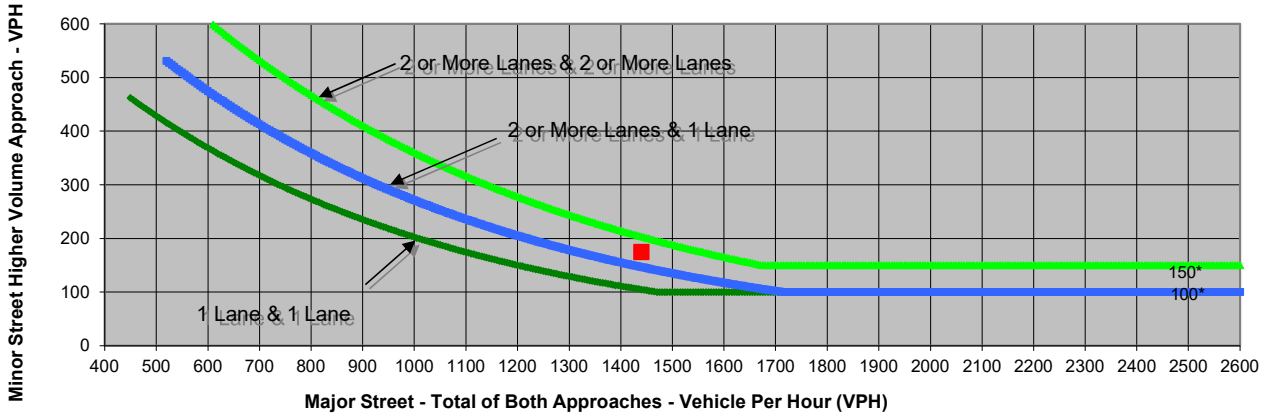
Turn Movement Volumes

	NB	SB	EB	WB
Left	394	0	41	0
Through	576	307	0	0
Right	0	163	134	0
Total	970	470	175	0

Major Street Direction

x	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	California St	Driveway A	
Number of Approach Lanes	**3**	**2**	**NO**
Traffic Volume (VPH) *	**1,440**	**175**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Intersection	11	Project	Kaiser Redlands
Major Street	California St	Scenario	Existing Plus Project Phase 1- 3 (2024) Plus Project Conditions
Minor Street	Driveway A	Peak Hour	PM

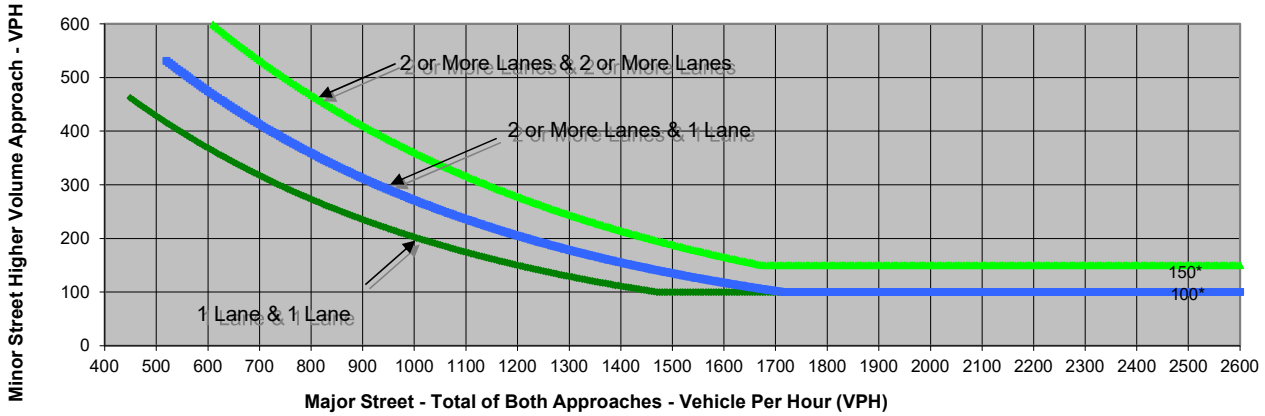
Turn Movement Volumes

	NB	SB	EB	WB
Left	177	0	144	0
Through	449	493	0	0
Right	0	73	470	0
Total	626	566	614	0

Major Street Direction

x	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	California St	Driveway A	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,192**	**614**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Intersection	11	Project	Kaiser Redlands
Major Street	California St	Scenario	Existing Plus Project Phase 1- 4 (2024) Plus Project Conditions
Minor Street	Driveway A	Peak Hour	AM

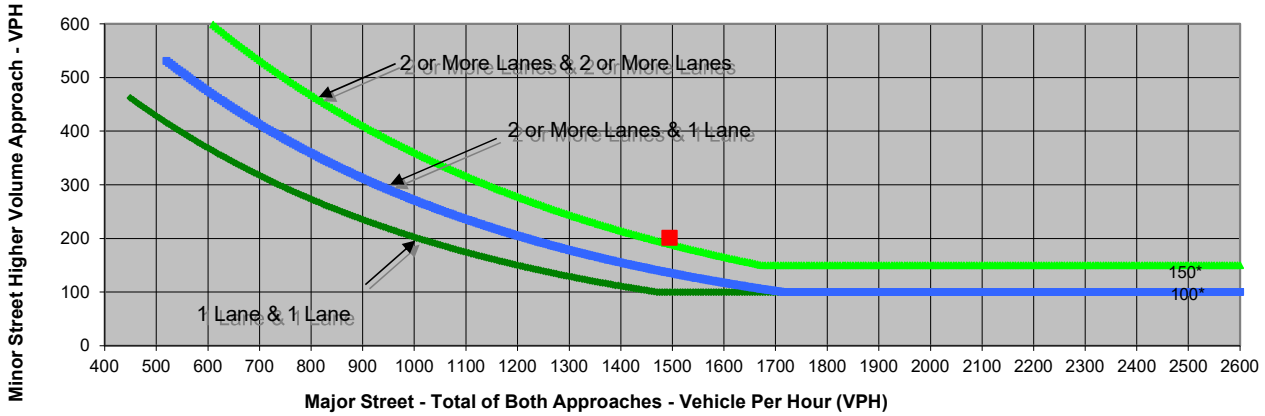
Turn Movement Volumes

	NB	SB	EB	WB
Left	422	0	47	0
Through	584	313	0	0
Right	0	175	154	0
Total	1,006	488	201	0

Major Street Direction

x	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street California St	Minor Street Driveway A	Warrant Met
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,494**	**201**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.

FEHR PEERS

Intersection	11	Project	Kaiser Redlands
Major Street	California St	Scenario	Existing Plus Project Phase 1- 4 (2024) Plus Project Conditions
Minor Street	Driveway A	Peak Hour	PM

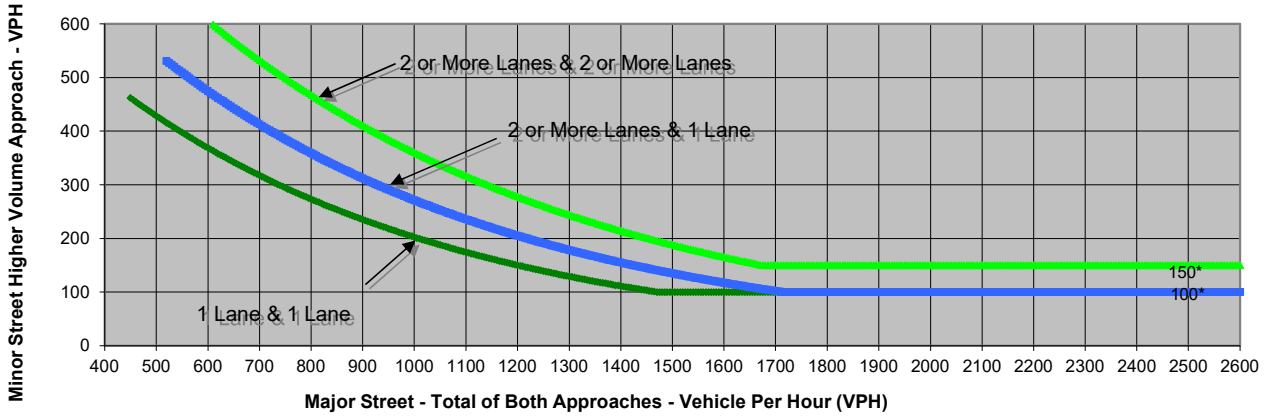
Turn Movement Volumes

	NB	SB	EB	WB
Left	196	0	153	0
Through	456	499	0	0
Right	0	81	500	0
Total	652	580	653	0

Major Street Direction

x	North/South
	East/West

Figure 4C-3. Warrant 3, Peak Hour



* Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Source: *California Manual on Uniform Traffic Control Devices*, Caltrans, 2012

	Major Street	Minor Street	Warrant Met
	California St	Driveway A	
Number of Approach Lanes	**3**	**2**	**YES**
Traffic Volume (VPH) *	**1,232**	**653**	

* Note: Traffic Volume for Major Street is Total Volume of Both Approches.
Traffic Volume for Minor Street is the Volume of High Volume Approach.