Final

Block 21 TIA

Prepared for:
City of San Mateo

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SF21-1188.01

FEHR PEERS

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Block 21 TIA Executive Summary

This transportation impact assessment (TIA) reviews transportation conditions at and adjacent to Block 21, in the City of San Mateo. The proposed project will not result in CEQA impacts on VMT, bicycle, pedestrian, or transit circulation, or hazards and emergency access. The addition of project traffic would not result in unacceptable traffic operations. The project presents no adverse circulation issues and meets the code of design except for the pedestrian and bicycle facilities. The following recommended changes to the site plan would ensure consistency with San Mateo standards and best planning practices.

» 1 city block
» 6 stories
» 111 multifamily apartments

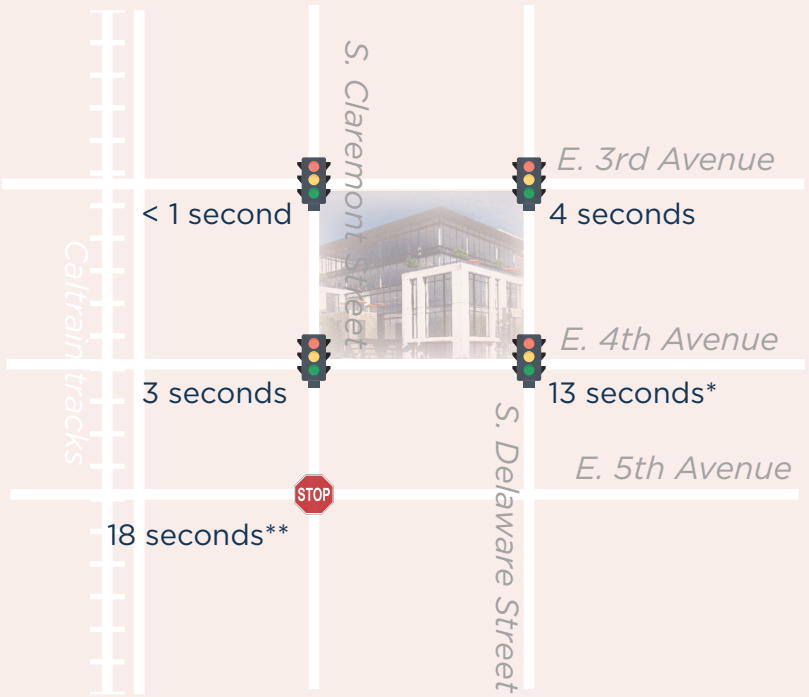
» 4 floors of office space
» 407 parking spaces
*Image is a current representation of the project

CEQA IMPACTS

» No significant VMT impact due to proximity to high quality transit (within a 1/2 mile of San Mateo Caltrain Station)

STUDY INTERSECTIONS

Additional delay during commute hours added by the project
Acceptable traffic operations for all scenarios at all intersections



** Increase in delay due to cumulative 2040 growth, not a project impact*
*** Acceptable traffic operations for all scenarios but warrants a signal under cumulative conditions*

ADDITIONAL TRANSPORTATION ANALYSIS

» **134** new AM peak hour and **31** new PM peak hour vehicle trips compared to existing land uses
» Driveway site distance and parking is compliant with code, the project will pay in-lieu fees for 24 office spaces
» No vehicle queuing expected

No adverse effects to vehicle circulation or Level of Service created by the project

» Project will generate new riders on Caltrain and SamTrans
No adverse effects to transit created by the project

129 long-term bicycle parking spaces on-site
22 short-term bicycle parking spaces on-site
No adverse effects to bicycle circulation created by the project

» 4 pedestrian access points
» Proposed sidewalks range between 13.5'-25' and meet ADA standards
No adverse effects to pedestrian circulation created by the project

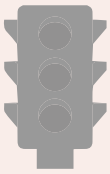
» Minimal impact on neighborhood traffic
» No new hazards or impact to emergency access

Block 21 TIA RECOMMENDATIONS

The following recommended changes to the site plan would ensure consistency with San Mateo standards and best planning practices.

» The project does not provide off-street freight loading or conveniently located passenger loading, which could result in inefficient loading patterns. The project sponsor should designate a freight loading area within the parking garage conveniently located next to a package storage room or an area in the main lobby that can accommodate all deliveries for residents and employees in the building. An attendant or property manager should be available to consolidate freight deliveries and allow these to occur off street. The project sponsor should work with the San Mateo Public Works department to create a white color curb zone sufficient to accommodate the anticipated passenger loading demand.

» The proposed pedestrian facilities are inconsistent with the San Mateo Pedestrian Master Plan. The project sponsor should widen the proposed sidewalks along South Delaware Street and South Claremont Street, add directional curb ramps when reconstructing corners, and add advance stop bars at each intersection in accordance with City of San Mateo's Pedestrian Design Guidelines. The project sponsor should also add high visibility crosswalks at East 3rd Avenue and South Delaware Street to address safety concerns raised by community feedback to enhance access to the SamTrans bus stops. The City could also consider adding directional curb ramps to other corners and make signal timing adjustments, such as placing all signals on pedestrian recall and installing extinguishable no right turn on red signs during leading pedestrian intervals. Additionally, the City's Municipal Code SMMC 27.39.090 requires zero-setbacks unless a setback is provided for landscaping.



» A signal is warranted at the East 5th Avenue and South Claremont Street intersection under cumulative conditions. The project would add trips going through this intersection but would not worsen intersection operations to unacceptable levels. Installation of a signal could improve the overall intersection operations, such as improved delay and LOS for all approaches and improved safety for pedestrian and bicyclists with dedicated crossing signals and times. However, this improvement is not included in the City's CIP. If the City decides to install a signal at this location as part of the CIP, the project should pay its fair share contribution or traffic impact fees for this intersection improvement.

» The project driveway in the middle of the block on South Claremont Street is in a location clear of existing obstructions, which allows drivers exiting the driveway to have adequate sight distance. To further reduce conflicts between drivers and pedestrians, the project sponsor should install visual and audio warning devices at the South Claremont driveway to alert drivers and sidewalk users when exiting or crossing the driveway.

» The project proposes 61 tandem parking spaces for office users. The tandem parking spaces should be managed by valet or property manager to optimize the use of the spaces.

» The long-term bicycle parking should restrict access to authorized users and provide lockers to ensure people who ride can securely park bicycles for long periods of time.

Introduction

This transportation impact assessment (TIA) reviews transportation conditions at and adjacent to Block 21 in the City of San Mateo. Conditions are evaluated for the current site without the proposed project, for plus project near-term conditions, and for cumulative 2040 conditions with and without the proposed project. The topics presented herein are based on the City of San Mateo's *Transportation Impact Analysis C* (July 2020) and are intended to disclose the transportation related CEQA impacts and local transportation effects of the project. These topics include an assessment of vehicle level of service, vehicle miles traveled, site access and circulation, driveway site distance and vehicle queuing, parking, hazards and emergency vehicle access, and neighborhood traffic.

Study Area and Scenarios

The project is one city block bounded by East 3rd Avenue, East 4th Avenue, South Claremont Street, and South Delaware Street. The study area, as shown in **Figure 1** is situated in downtown San Mateo between El Camino Real and U.S. 101. It is located three blocks from the San Mateo Caltrain station.

Five locations were identified as study intersections within the project vicinity:

1. East 3rd Avenue and South Delaware Street
2. East 3rd Avenue and South Claremont Street
3. East 4th Avenue and South Claremont Street
4. East 4th Avenue and South Delaware Street
5. East 5th Avenue and South Claremont Street

Transportation conditions were evaluated for the weekday peak periods of 7:00-9:00 AM and 4:00-6:00 PM in a manner consistent with the TIA Guidelines. Traffic conditions were evaluated for the following scenarios:

- Existing Conditions: Existing traffic volumes were based on historic 2019 counts collected by the City of San Mateo.
- Opening Year Conditions: Opening year conditions reflect background traffic volumes added by projected volumes from developments that have been approved but not yet completed or occupied near the project site.
- Opening Year Plus Project Conditions: Project generated trips added to opening year traffic volumes.
- Cumulative Conditions: Cumulative conditions reflect estimated future traffic volumes for 2040, approximately 20 years into the future.
- Cumulative Plus Project Conditions: Project generated trips added to cumulative volume forecasts.

Due to COVID-19, historic 2019 counts were used in lieu of in-person vehicle counts.

Based on recent changes to the California Environmental Quality Act (CEQA) guidelines with the implementation of SB 743 and guidance from the OPR, VMT is recommended as the appropriate measure of transportation impacts under CEQA. LOS and other similar vehicle delay or capacity metrics can no longer serve as transportation impact metrics for CEQA analysis. As stated in the City's TIA Guidelines, the City of San Mateo shifted to using VMT for CEQA impact evaluation but continues to evaluate LOS analysis for land use development projects through the non-CEQA local transportation analysis.

Study Area

Figure 1

Project Location

Block 21 Project Description

The project site includes the 65,888 square foot block bounded by East 3rd Avenue, South Claremont Street, East 4th Avenue, and South Delaware Street, known as 'Block 21'. The project site consists of eleven parcels made up of a variety of uses including, commercial, restaurant, residential and auto-related uses. It has a General Plan Designation of Downtown Retail Core Support and a zoning designation of CBD/S-Central Business District Support. The project site is bounded directly to the north by restaurant uses along East 3rd Avenue, restaurant, retail commercial, and gas station uses along South Delaware Street, restaurant and gas station uses along East 4th Avenue and new mixed-use buildings across South Claremont Street. The San Mateo Caltrain station is located less than one quarter mile to the north of the project site.

The project proposes the construction of a 271,328 square foot, six story mixed use building with two levels of below grade parking and open spaces along the project frontages. The lower four floors would contain office uses and the 4th and 5th level would have a small office component and residential uses, including 111 rental units (53 studio and 58 one bedroom units). The project would include Below Market Units (BMR) in accordance with the City of San Mateo BMR Ordinance (15% Very Low-Income) and is requesting the use of State Density Bonus concessions and waivers as described in the State Density Bonus letter submitted with the project.

The primary pedestrian entries to the building would be provided on East 3rd Avenue near the corner of South Claremont Street and on the corner of East 4th Avenue and South Delaware Street. These entries would include larger lobbies and the entrance on East 3rd Avenue would be oriented toward downtown to draw pedestrians specifically coming to and from the core of downtown and the train station to the north. The garage entrance would be provided through a 22-foot curb cut on South Claremont Street, in the middle of the block.

The two-story, below grade parking garage would contain 407 on-site parking spaces, including 11 ADA spaces and 27 electric vehicle spaces. The residential uses will be parked at a ratio of 0.5 spaces per bedroom in accordance with State Density Bonus law for a total of 56 spaces. The office parking proposes to incorporate tandem parking spaces and an increase in compact spaces as outlined in the State Density Bonus letter in order to provide all required parking on-site. In accordance with the City's parking code, a project-specific parking study was conducted.[1] Based on trip generation and parking demand, the office parking requirement shall be calculated on a rate of 2.06 spaces per 1,000 sq. ft for a total of 375 spaces. Per the latest application plans submitted April 18, 2022, parking for the proposed office uses is provided at a ratio of 1.94 spaces per 1,000 sq. ft for a total of 354 spaces, including 61 tandem spaces. The project would pay in-lieu fees for the 21 office spaces not provided on site per City of San Mateo Municipal Code Section 27.64.100(3)(A). 129 long-term bicycle parking spaces will be provided on the first floor of the

[1] *San Mateo Block 21 and 435 E. 3rd Avenue Parking Requirements*, Fehr & Peers, April 2022.

residential lobby. Eleven short term bicycle racks with the capacity for 22 spaces will be located near the main entrance on East 3rd Avenue.

The project proposes to make the garage parking spaces allocated to the office uses available for public use during the evenings and weekends. The parking could function similarly to public garages in downtown and other buildings in downtown that offer private parking for public use.

The project will also include a robust Transportation Demand Management (TDM) Plan that would result in a substantial decrease in the number of trips generated and parking demand compared to typical projects of this use and size, similar to the TDM Plans prepared for the 405 East 4th Avenue[2] and 406 East 3rd Avenue projects.[3] Measures would include ride matching services, bike sharing, Caltrain Go Passes, etc. The project also includes unbundled parking for the proposed residential uses.

The project proposes to widen sidewalks, create pedestrian bulb outs, and provide street furnishings and street trees along the project frontages to meet City of San Mateo standards and promote connectivity and pedestrian safety in the project area.

[2] *405 E. 4th Avenue Draft Transportation Impact Analysis*, Hexagon Transportation Consultants, Inc., January 24, 2017.
[3] *406 E. Third Avenue Office & Residential Mixed-Use Development*, Hexagon Transportation Consultants, Inc., May 21 2019, p 34.

Existing Transportation Conditions

The existing transportation conditions surrounding the project site relating to the following topics are presented below: roadway network, pedestrian facilities, bicycle facilities, transit service, vehicle volumes and lane configurations, intersection level of service, and parking conditions.

Existing Roadway Network

As shown in Figure 1, the project site is bound by East 3rd Avenue, South Claremont Street, South Delaware Street, and East 4th Avenue. El Camino Real/State Route 82 and US 101 are the two nearest regional access routes, both providing access to State Route 92.

East 3rd Avenue is a two-way east-west street with two westbound travel lanes, one eastbound travel lane, and parking and sidewalks on each side of the street adjacent to the project site. East of South Delaware Street, East 3rd Avenue becomes a one-way street westbound, part of a one-way couplet with East 4th Avenue. The roadway is approximately 50 feet wide, and each sidewalk is approximately seven and a half feet wide. East 3rd Avenue provides direct access from US 101 northbound and southbound on/off ramps as well as connection to El Camino Real. The intersections of East 3rd Avenue with South Claremont Street and South Delaware Street at either corner of the project site are signalized.

East 4th Avenue is a two-way east-west street with two eastbound travel lanes, one westbound travel lane, and parking and sidewalks on each side of the street. East of South Delaware Street, East 4th Avenue becomes a one-way street eastbound, part of a one-way couplet with East 3rd Avenue. The roadway is approximately 45 feet wide with approximately 12-foot sidewalks on both sides of the road. Coupled with East 3rd Avenue, East 4th Avenue provides direct access to US 101 and El Camino Real and intersects with South Claremont Street and South Delaware Street by the project site at signalized intersections.

South Claremont Street is a two-way north-south street with one travel lane in each direction and on-street parking and sidewalks on each side of the street. The roadway adjacent to the proposed project site is approximately 42 feet wide. The sidewalk fronting the project site is approximately 10 feet wide and the sidewalk on the western side of South Claremont Street is approximately eight feet wide. The intersections of South Claremont Street with East 3rd Avenue and East 4th Avenue are signalized.

South Delaware Street is a two-way north-south street with two travel lanes in each direction with a shared center left-turn lane and sidewalks on each side. There is no street parking between East 3rd Avenue and East 4th Avenue fronting the project site. A few blocks north and south of the project site, Delaware Street becomes a two lane road with parking on both sides. The roadway adjacent to the project site is approximately 58 feet wide and each sidewalk is approximately six feet wide.

Existing Pedestrian Facilities

Sidewalks are provided on all approaches to the project site on East 3rd Avenue, South Claremont Street, South Delaware Street, and East 4th Avenue. The sidewalks in the vicinity of the project site are approximately six to 12 feet wide and do not currently meet the City of San Mateo's design guidelines for mixed use developments. According to the 2012 San Mateo Citywide Pedestrian Master Plan,[4] the minimum sidewalk widths for mixed use developments are 16 feet wide with a recommendation of 20 feet wide for blocks with no street parking and no setbacks and 26 feet wide where there are amenities in the frontage zone. The minimum through zone width (walking space that excludes amenities such as street trees and street furniture), is 8 feet wide. The sidewalk along South Delaware narrows considerably to approximately three feet where there are street trees, which does not meet the City of San Mateo's ADA requirements, which is 4 feet. The sidewalks are generally in good condition with single curb ramps at all intersections. There are bulbouts at three of the four intersections within the project vicinity except at East 3rd Avenue and South Delaware Street. All four intersections are signalized and have marked crosswalks and pedestrian push buttons. There are leading pedestrian intervals at all signalized study intersections adjacent to the project site. All crosswalks are high-visibility, except at East 3rd Avenue and South Delaware Street where there is standard crosswalk striping. Pedestrian-scale lighting is present along East 3rd Avenue and East 4th Avenue but not along South Claremont Street or South Delaware Street.

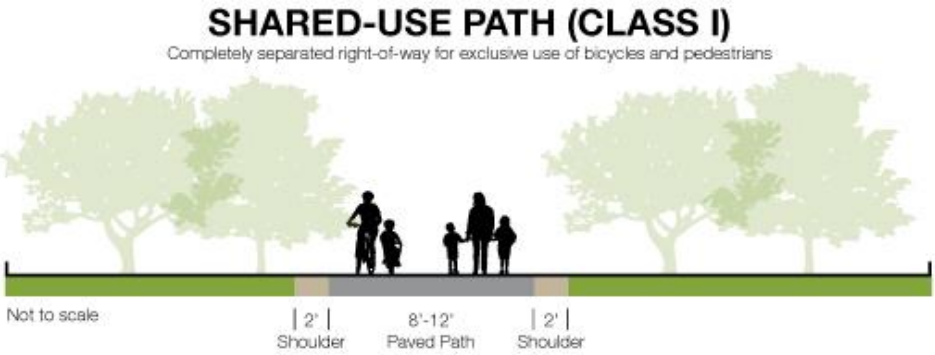
Community outreach feedback conducted as part of the ongoing San Mateo Transit-Oriented Pedestrian Improvement Plan has indicated the need for improved pedestrian crossings at project study intersections along South Delaware Street at East 3rd and East 4th avenues, citing unsafe crossings. There have been five pedestrian/vehicle collisions reported at the following study locations in the last 4 years as a result of vehicles colliding with pedestrians while crossing at the crosswalk, resulting in minor injuries: South Claremont and East 3rd Avenue (two collisions), South Delaware Street and East 4th Avenue, and South Claremont Street and 2nd Avenue. A fatal collision occurred at night midblock on East 3rd Avenue between South Delaware Street and El Dorado Street. As such, pedestrians may feel unsafe walking to and from the project site.

Existing Bicycle Facilities

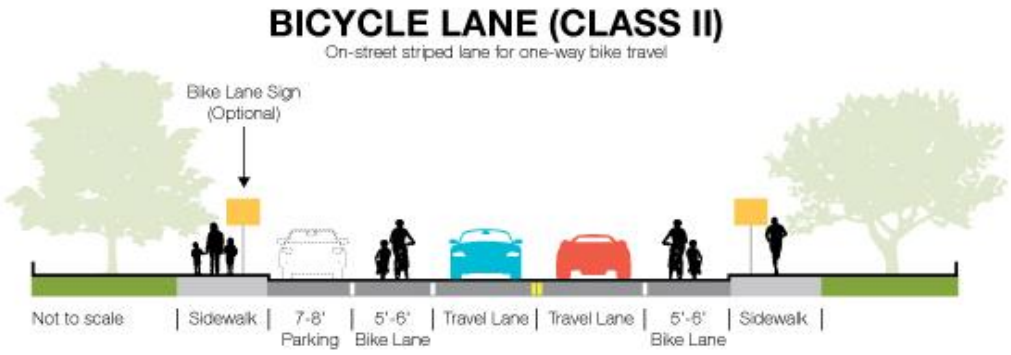
Bikeway planning and design in California typically relies on guidelines and design standards established by California Department of Transportation (Caltrans) in the *Highway Design Manual* (Chapter 1000: Bikeway Planning and Design). The Caltrans guidelines cover four primary types of bikeway facilities: Class I, Class II, Class III, and Class IV. These facility types are described below.

- Class I Bikeway (Bike Path) provides a completely separate right-of-way, is designated for the exclusive use of bicycles and pedestrians, and minimizes vehicle and pedestrian cross-flow. In general, bike paths serve corridors that are not served by existing streets and highways, or where sufficient right-of-way exists for such facilities to be constructed.

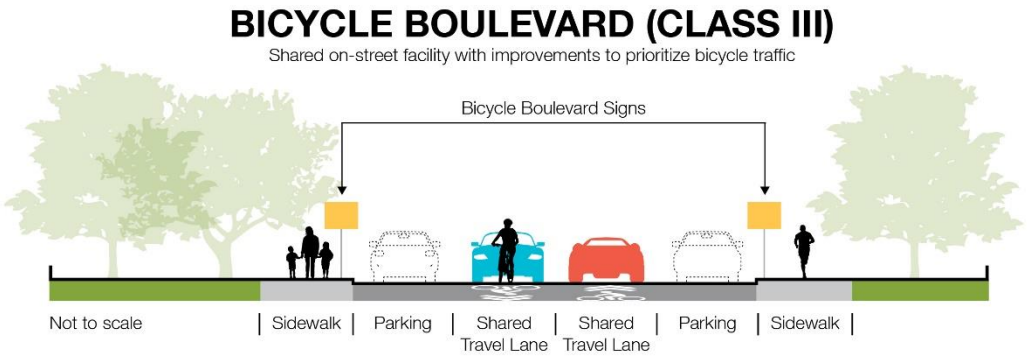
[4] *San Mateo Citywide Pedestrian Master Plan*, City of San Mateo & Alta Planning + Design, 2012, p. A-12-A13.



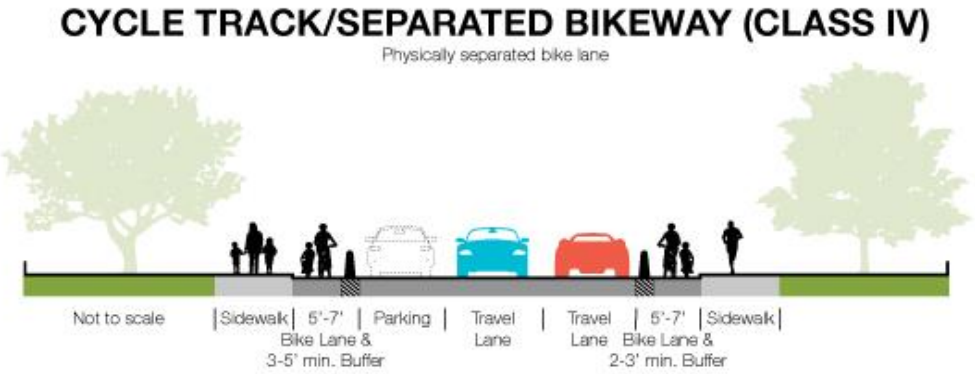
- Class II Bikeways (Bike Lanes) are lanes for bicyclists generally adjacent to the outer vehicle travel lanes. These lanes have special lane markings, pavement legends, and signage. Bicycle lanes are generally five feet wide. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted. Note that when grade separation or buffers are constructed between the bicycle and vehicle lanes, these facilities are classified as Class IV Separate Bikeways.



- Class III Bikeway (Bicycle Routes/Bicycle Boulevards) are designated by signs or pavement markings for shared use with pedestrians or motor vehicles but have no separated bicycle right-of-way or lane striping. Bicycle routes serve either to a) provide continuity to other bicycle facilities, or b) designate preferred routes through high demand corridors. Bicycle routes are implemented on low-speed (less than 25 mph) and low-volume (less than 3,000 vehicles/day) streets. The San Mateo Bicycle Master Plan also designates a special subset of Bicycle Routes which include traffic calming treatments as Bicycle Boulevards.



- *Class IV Bikeway*, also known as "cycle tracks" or "protected bike lanes," provide a right-of-way designated exclusively for bicycle travel within a roadway and which are protected from other vehicle traffic with devices, including, but not limited to, grade separation, flexible posts, inflexible physical barriers, or parked cars.



Existing bicycle facilities near the project site include Class III bike routes along South Claremont Street, South Delaware Street, 5th Avenue, and B Street. South Delaware Street turns into a Class II bicycle lane south of East 4th Avenue.

However, these bicycle facilities along South Delaware and 5th Avenue would be ranked as a having a high "Level of Traffic Stress" (LTS).[5] LTS measures bicycling comfort based on roadway characteristics. Low stress bikeways are comfortable for everyone to ride on, including people who would be categorized as "interested but concerned." In contrast, high stress bikeways are only tolerated by a few: primarily those who could be described as "strong and fearless" – those comfortable riding under any conditions (about 7% of the population). Class II and Class III bicycle facilities on roadways with multiple lanes of vehicle

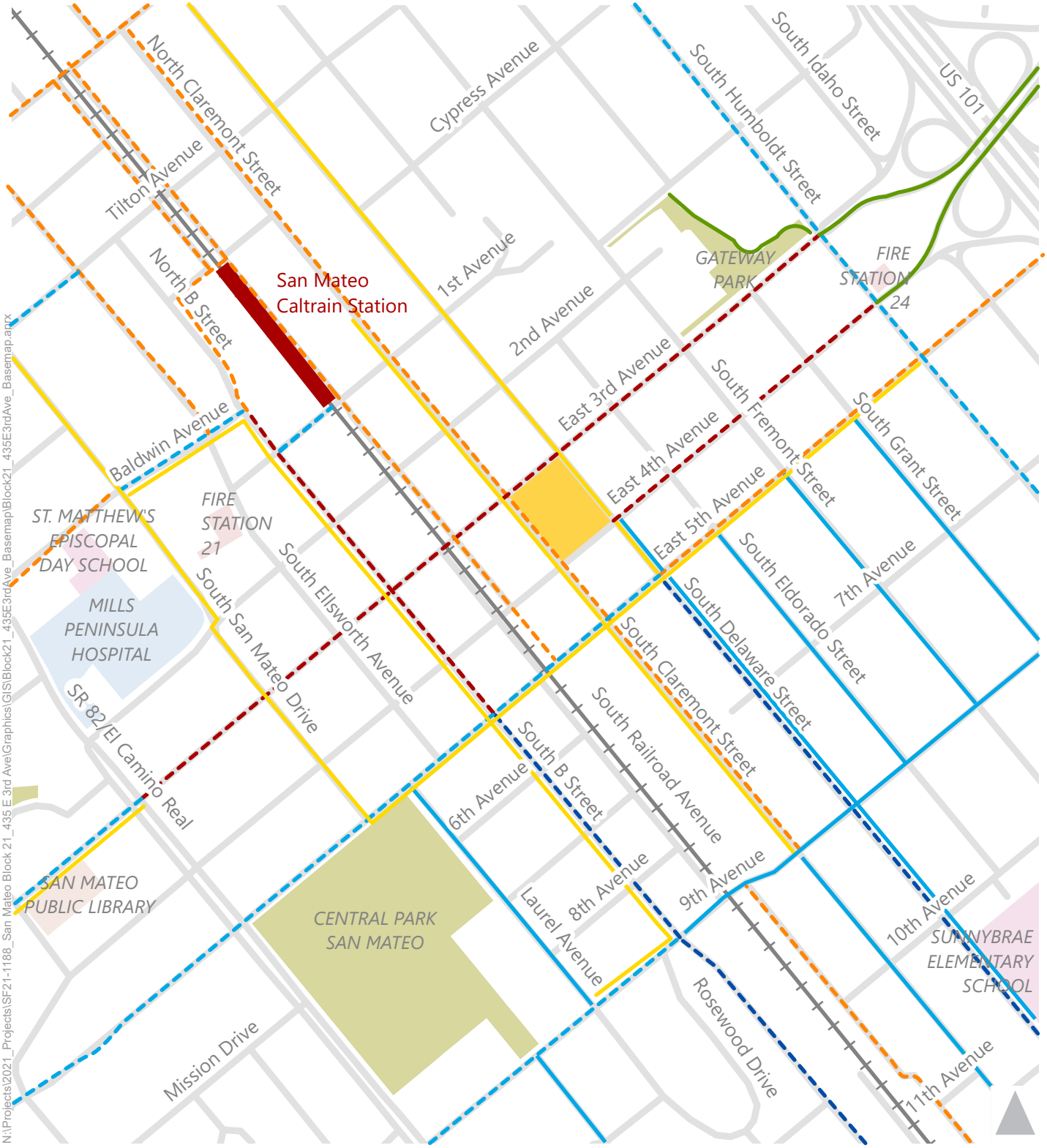
[5] The LTS Methodology was developed by Mekuria, Furth, and Nixon in *Low Stress Bicycling and Network Connectivity* (2012).

traffic and speed limits above 25 miles per hour would be categorized as high stress bikeways. The bicycle facilities adjacent to the project site along South Delaware Street would be categorized as high stress (as shown on *Figure 3.7 of the 2020 San Mateo Bicycle Master Plan).*[6] As such, it would be unlikely that any but the most confident and fearless bicyclists would feel comfortable bicycling to the project site along South Delaware Street and may opt to use South Claremont Street.

The City of San Mateo, through the 2020 Bicycle Master Plan, has proposed a few nearby Class IV separated bike lanes on E 3rd Avenue and South Delaware Street between East 3rd Avenue and East 4th Avenue. South Claremont Street is proposed as a Class III bicycle boulevard. All of these proposed bicycle facilities are considered high priority as shown on *Figure 6.1* of the *2020 San Mateo Bicycle Master Plan.*[7]

Existing and proposed bicycle facilities are shown on **Figure 2**.

[6] *San Mateo Bicycle Master Plan*, City of San Mateo & Toole Design, 2020, p 28.
[7] *San Mateo Bicycle Master Plan*, City of San Mateo & Toole Design, 2020, p 60.



Study Area

Existing
- Shared Use Path
- Buffered Bike Lane
- Bike Lane
- Bike Route

Proposed
- Shared Use Path
- Seperated Bike Lane
- Buffered Bike Lane
- Bike Lane
- Bike Boulevard
- Bike Route

Figure 2

Existing and Proposed Bicycle Facilites

Existing Transit Service

Table 1 and **Figure 3** present the existing transit service providers and routes that provide service near the project site. SamTrans is the primary regional and local transit provider within San Mateo County, serving all rail stations within the County and major transit transfer points for Santa Clara, Alameda, and San Francisco counties. Many service operators are running reduced schedules due to COVID-19. The schedule information below reflects pre-COVID-19 timetables, which we anticipate will resume once emergency health orders are lifted.

Table 1: Existing Transit Service

Route	Weekday Headway (minutes)	Weekend Headway (minutes)	Hours of Operation	Closest Stop(s) to project site	Key Destinations Served by Route
SamTrans 53	-	-	School Drop Off/Pick Up Hours Only	Delaware Street and 3rd Street	Peninsula/Humboldt, Borel Middle School
SamTrans 55	-	-	School Drop Off/Pick Up Hours Only	El Camino Real and 4th Avenue	Clark/El Camino, Borel Middle School
SamTrans 59	-	-	School Drop Off/Pick Up Hours Only	Delaware Street and 4th Avenue	Hillsdale/Norfolk, Aragon High School
SamTrans 250	60	60	All Day	Delaware Street and 4th Avenue, Claremont Street and 2nd Avenue	San Mateo and Hillsdale Caltrain Station, College of San Mateo
SamTrans 292	30	60	All Day	Delaware Street and 3rd Street	Downtown San Francisco, SFO, all Caltrain stations in the city of San Mateo, Hillsdale Mall
SamTrans 295	120	-	Weekday only	Delaware Street and 2nd Avenue	San Mateo and Hillsdale Caltrain Stations; Redwood City Transit Center
SamTrans 397	60	60	Early AM hours	El Camino Real and 4th Avenue	Palo Alto Transit Center, Downtown San Francisco, San Francisco Airport, all Caltrain stations in San Mateo
SamTrans ECR	15-20	30	All day	El Camino Real and 4th Avenue	Multiple BART stations, all Caltrain stations in the city of San Mateo, Palo Alto Transit Center
Caltrain	30-60	90	All day	San Mateo Station	San Francisco, San Jose

The nearest Caltrain rail station is the San Mateo Station located three blocks north of the project site. It provides local, limited, and Baby Bullet service. People walking between the project site and the Caltrain station would primarily use South Claremont Street to reach the 1st Avenue station entrance. Sidewalks and crosswalks are provided along this walking route but there is a lack of west side street trees and pedestrian scale lighting along South Claremont Street between 1st and 2nd Avenue. Street trees are also lacking on South Claremont Street between 2nd and East 3rd Avenue. Sidewalks along this path are generally in good condition and range between seven and 12 feet wide. There are no truncated domes along the ADA curb ramps at the intersection of South Claremont Street and 1st Avenue. Five regular SamTrans routes provide access to all major Caltrain Stations, BART, downtown San Francisco, and other major attractions in the City of San Mateo. There are no bus shelters or seating amenities provided at any of the nearby bus stops except one unsheltered bench at the South Claremont and East 2nd Avenue stop. Sidewalks along these bus stops are narrow and do not provide adequate waiting space. The stops at South Delaware Street and East 2nd Avenue and South Delaware and East 3rd Avenue also lack pedestrian-scaled lighting.

Figure 3

Existing Transit Routes

Existing Vehicle Volumes and Lane Configurations

Pre-COVID-19 vehicle volumes were provided by the City of San Mateo. These historic counts were conducted in 2019 for both the AM peak period (7:00-9:00 AM) and PM peak period (4:00-6:00 PM). The existing lane configuration and traffic volumes for this intersection is shown in **Figure 4.**

Existing Intersection Level of Service

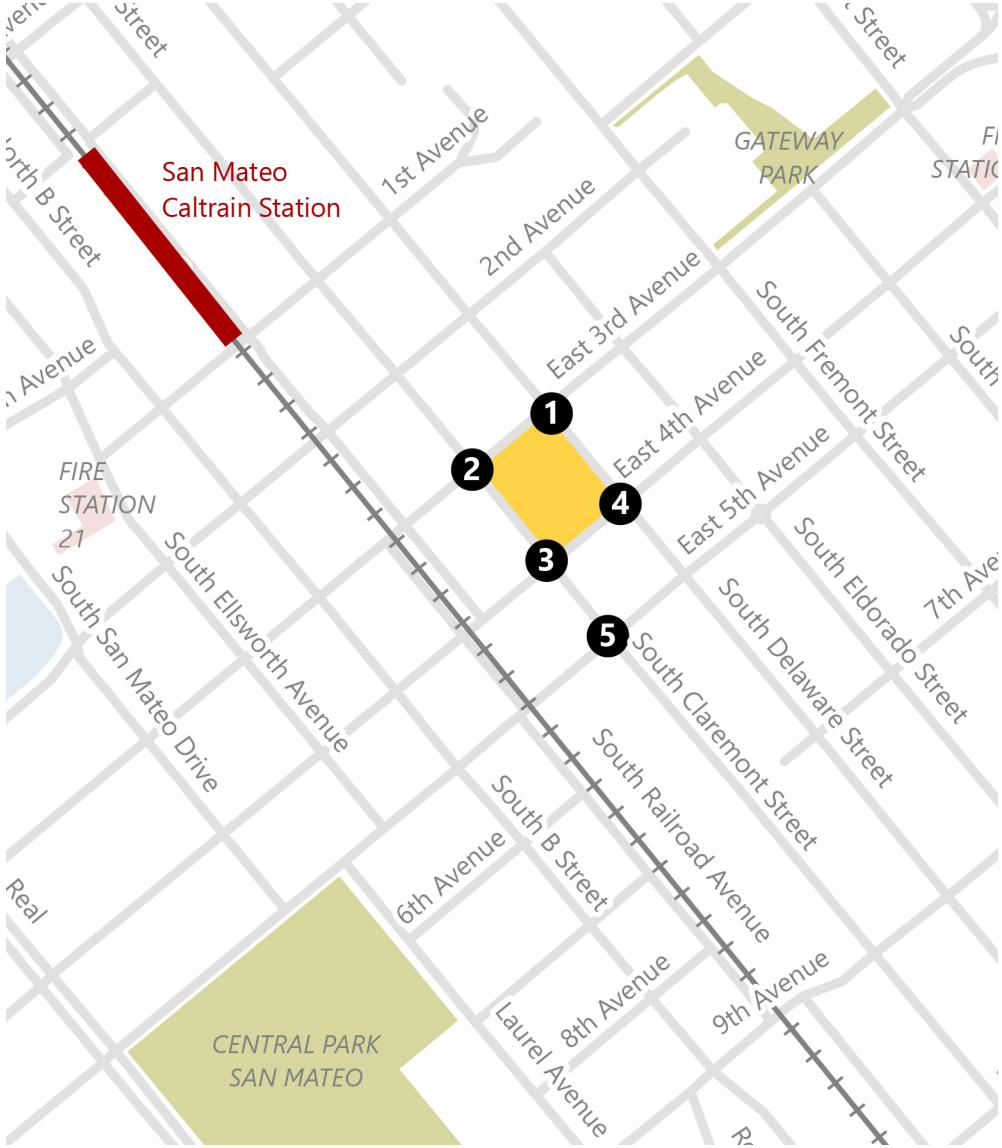
Five locations were identified as study intersections within the project vicinity:

1. East 3rd Avenue and South Delaware Street (signalized)
2. East 3rd Avenue and South Claremont Street (signalized)
3. East 4th Avenue and South Claremont Street (signalized)
4. East 4th Avenue and South Delaware Street (signalized)
5. East 5th Avenue and South Claremont Street (all-way stop-controlled)

Four of the five intersections are signalized except East 5th Avenue and South Claremont Street, which is all-way stop controlled. The San Mateo General Plan, through the TIA Guidelines, requires the City to *maintain a Level of Service no worse than mid LOS D, average delay of 45.0 seconds, as the acceptable Level of Service for all signalized intersections within the City. Adverse traffic operations are to be noted if a signalized intersection operating at acceptable LOS is triggered to operate at unacceptable levels of service (from mid LOS D or better to E or F) or increases in the average delay for a signalized intersection that is already operating at unacceptable LOS by 4.0 seconds or more.*

For unsignalized intersections, the guidelines require the City to *maintain a Level of Service no worse than LOS E for unsignalized intersections. Adverse traffic operations are to be noted if an unsignalized intersection operating at acceptable LOS is triggered to operate at unacceptable levels of service (from E or better to F) or increases the average delay for an unsignalized intersection that is already operating at unacceptable LOS by 4 or more seconds*.

In order to evaluate these policies, the City uses the metric Level of Service ("LOS"), which is a qualitative description of driver comfort and convenience. Typical factors that affect motorized vehicle LOS include speed, travel time, traffic interruptions, and freedom to maneuver. Typical LOS criteria for signalized and unsignalized intersections are defined in **Table 2** and **Table 3**, respectively.



XX (YY) AM (PM) Project Trip Volumes

Signalized Intersection

Stop Sign

Project Site

Study Intersection

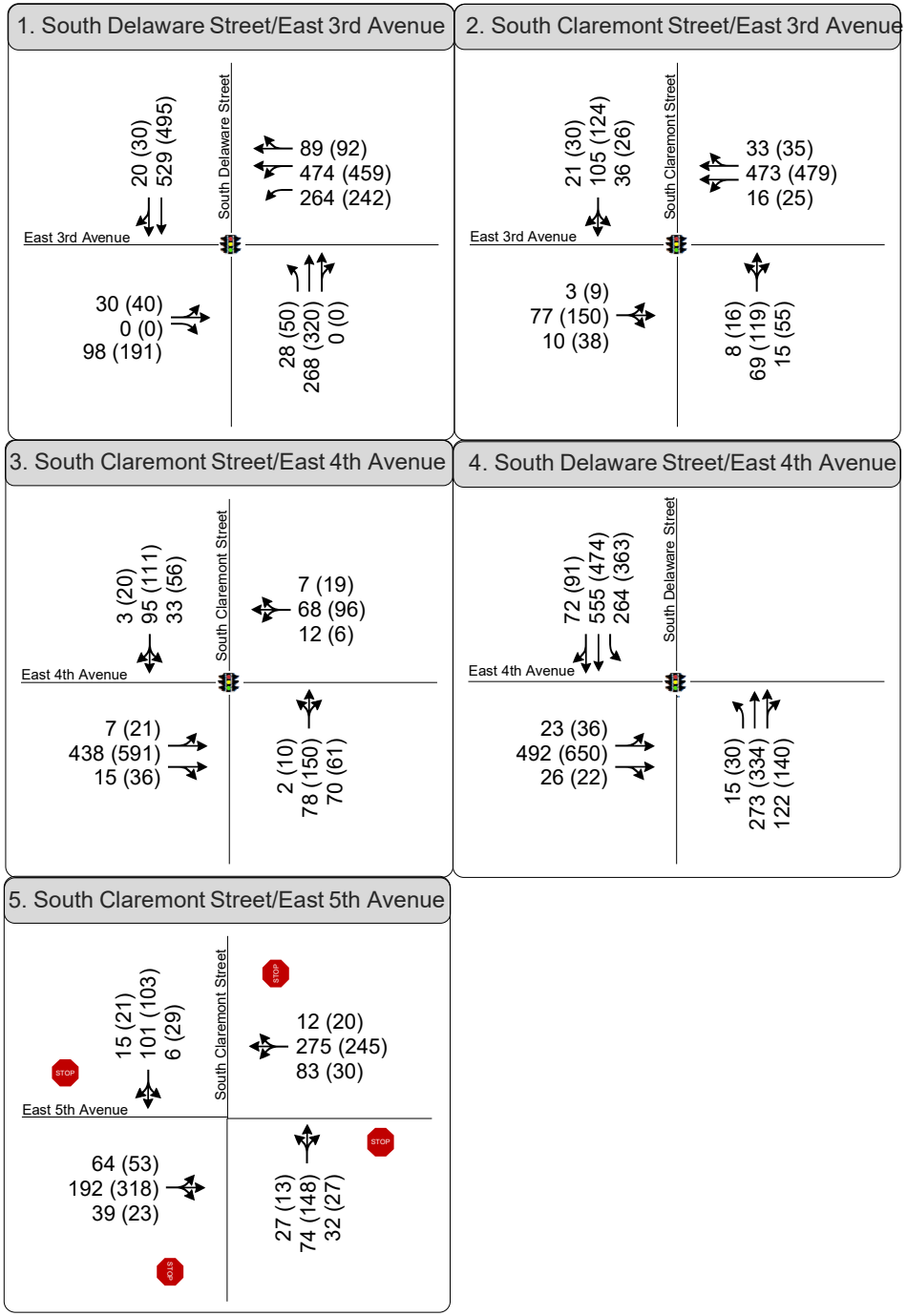


Figure 4

Existing Vehicle Volumes
Intersection Traffic Volumes, Lane Configurations, and Traffic Controls

Table 2: Signalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	≤ 10
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10 and ≤ 20
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20 and ≤ 35
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35 and ≤ 55
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55 and ≤ 80
F	Operation with delays unacceptable to most drivers occurring due to over saturation poor progression, or very long cycle lengths.	> 80

Source: Transportation Research Board, 2016. *Highway Capacity Manual* 6th Edition

Table 3: Unsignalized Intersection LOS Criteria

Description	LOS	Average Control Delay (seconds per vehicle)
		Unsignalized Intersections
Represents free flow. Individual users are virtually unaffected by others in the traffic stream.	A	≤ 10
Stable flow, but the presence of other users in the traffic stream begins to be noticeable.	B	> 10 to 15
Stable flow, but the operation of individual users becomes significantly affected by interactions with others in the traffic stream.	C	> 15 to 25
Represents high-density, but stable flow.	D	> 25 to 35
Represents operating conditions at or near the capacity level.	E	> 35 to 50
Represents forced or breakdown flow.	F	> 50

Source: *Highway Capacity Manual* 6th Edition, Transportation Research Board of the National Academies of Science, 2017.

Table 4 below presents existing LOS and intersection delay in seconds for each study intersection. The study intersections perform acceptably under existing conditions in both the AM and PM peak periods. See **Appendix A** for detailed LOS results.

Table 4: Existing LOS and Delay Results

Intersection	LOS Threshold	Peak Hour	Existing	
			Delay	LOS
1. East 3rd Avenue and South Delaware Street	D	AM	24	C
		PM	23	C
2. East 3rd Avenue and South Claremont Street	D	AM	12	B
		PM	13	B
3. East 4th Avenue and South Claremont Street	D	AM	13	B
		PM	15	B
4. East 4th Avenue and South Delaware Street	D	AM	27	C
		PM	29	C
5. East 5th Avenue and South Claremont Street	E	AM	15	B
		PM	14	B

Source: Fehr & Peers, 2022

Existing Parking Conditions

There is on-street parking on three of the roadway segments adjacent to the project site, along East 3rd Avenue, South Claremont Street, and East 4th Avenue. There is no on-street parking on South Delaware Street. Parking is metered along East 3rd Avenue and South Claremont Street. Parking along East 3rd Avenue is limited to three hours, 8:00 AM to 6:00 PM everyday with street cleaning on Mondays, Wednesdays, and Fridays between 4:00 AM and 6:00 AM. Parking on South Claremont Street is limited to three hours 8:00 AM to 6:00 PM Monday through Saturday with street cleaning every first and third Wednesday 7:00 AM to 9:00 AM. Parking on East 4th Avenue is limited to two-hour parking 8:00 AM to 6:00 PM everyday with street cleaning on Mondays, Wednesdays, and Fridays between 4:00 AM and 6:00 AM. There is a public parking lot on East 4th Avenue and S. Railroad Avenue with a three-hour limit one block from the project site. Public parking is also available at the Main Street Garage three blocks away, as well as at the Downtown San Mateo Caltrain Station parking garage, located four blocks away.

Opening Year Conditions

The Opening Year reflects the anticipated transportation conditions at the time of the occupancy of the proposed project. Opening Year Conditions include traffic volumes added by nearby developments that have been approved but not yet completed or occupied near the project site. The approved project list includes:

- 405 East 4th Avenue Office and Residential Mixed-Use Development
- 406 East 3rd Avenue Office and Residential Mixed-Use Development
- 303 Baldwin Avenue Office and Commercial Mixed-Use Development
- 480 East 4th Avenue (Kiku Crossing) Residential Development

Figure 5 shows the location of these projects relative to the project site.

These projects propose new circulation improvements, including:

- A new bulbout at the northeast corner of Railroad Avenue and 4th Avenue
- A new bulbout at the southeast corner of Railroad Avenue and 3rd Avenue
- New bulbouts at the northeast corner of Ellsworth Avenue and Baldwin Avenue and the northwest corner of B Street and Baldwin Avenue
- Wider sidewalks with landscaping zone along sections of B street and Baldwin Avenue fronting the 303 Baldwin Avenue project site
- Wider sidewalks with landscaping zone along the residential frontage of Kiku Crossing
- Additional eastbound lane at the East 5th Avenue and South Claremont Street intersection

Vehicle volumes were extrapolated from the TIAs provided by the City of San Mateo for the nearby development projects listed above. Opening Year traffic volumes that include the estimated traffic generated by these development projects are shown in **Figure 6.**

Study Area

Background Projects

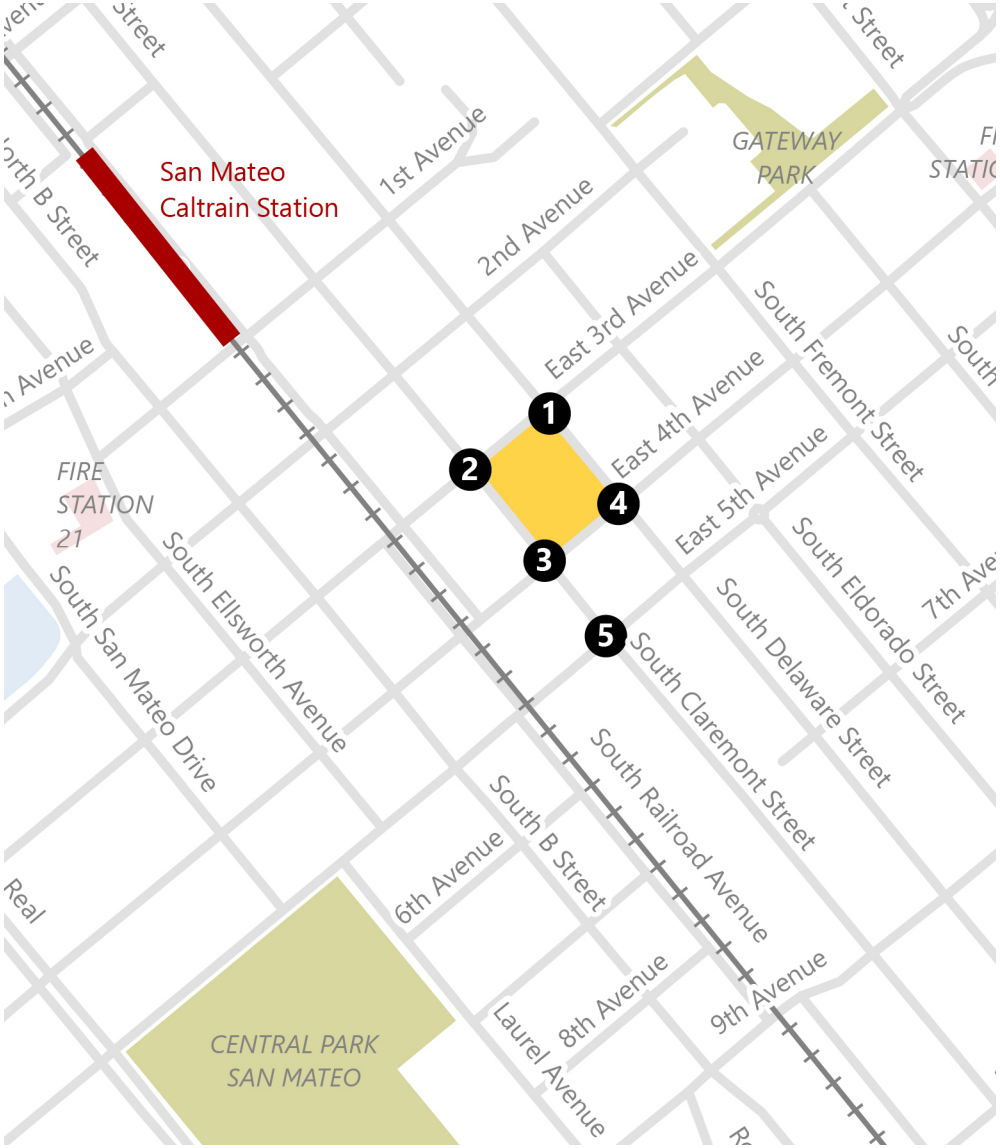
Driveways

Caltrain Station

Caltrain

Figure 5

Background Project Sites



XX (YY) AM (PM) Project Trip Volumes

Signalized Intersection

Stop Sign

Project Site

Study Intersection

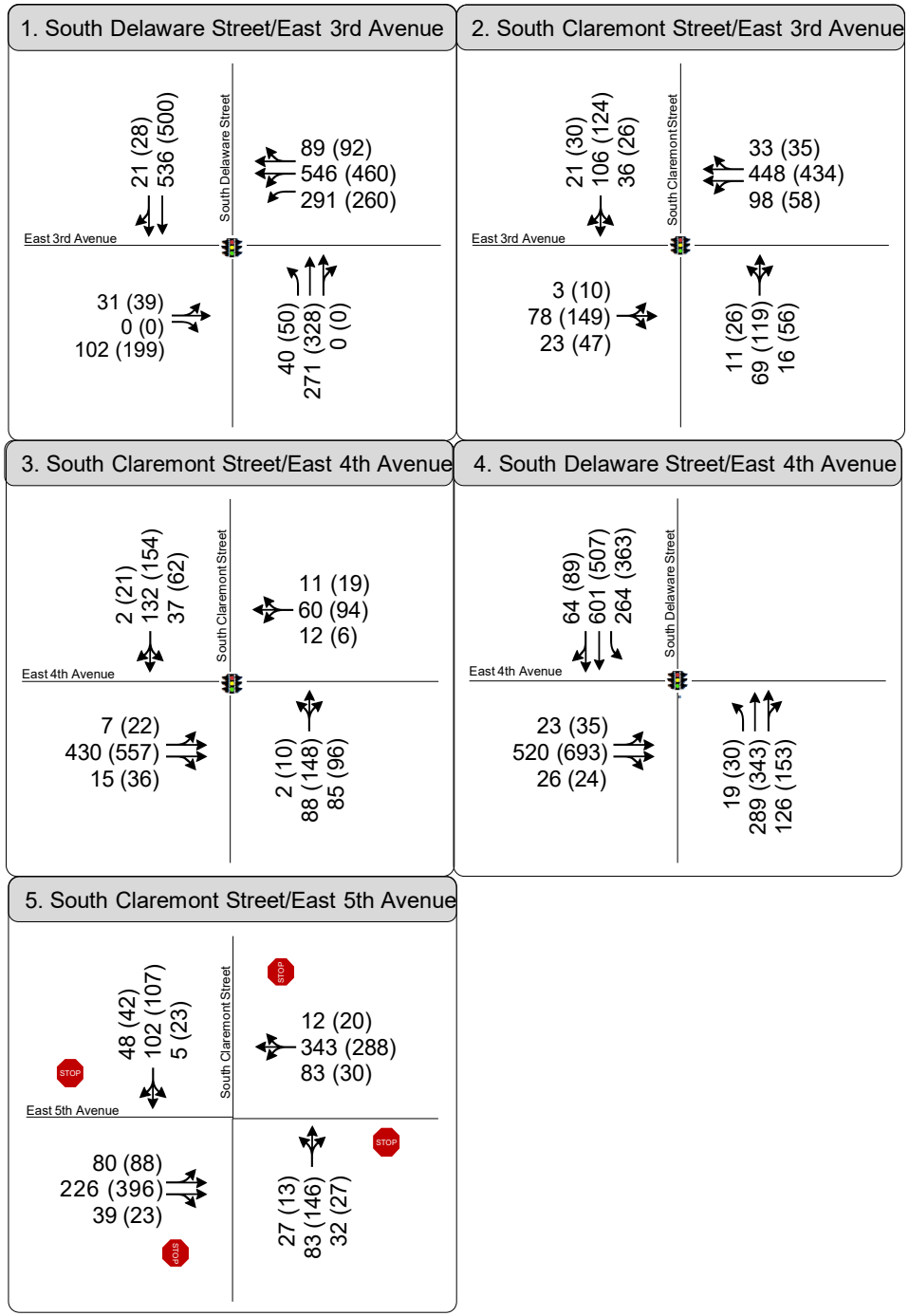


Figure 6

Opening Year Vehicle Volumes
Intersection Traffic Volumes, Lane Configurations, and Traffic Controls

Opening Year Conditions Intersection Level of Service

Table 5 below presents opening year LOS and intersection delay in seconds for each study intersection. Operations generally worsen from existing conditions to opening year conditions due to volume growth. Intersection delays increased by one to two seconds at the following intersections:

- East 4th Avenue and South Claremont Street (AM and PM)
- East 5th Avenue and South Claremont Street (PM)

All the study intersections perform acceptably under opening year conditions in both the AM and PM peak periods. See **Appendix A** for detailed LOS results.

Table 5: Opening Year LOS and Delay Results

Intersection	LOS Threshold	Peak Hour	Existing		Opening Year	
			Delay	LOS	Delay	LOS
1. East 3rd Avenue and South Delaware Street	D	AM	24	C	24	C
		PM	23	C	23	C
2. East 3rd Avenue and South Claremont Street	D	AM	12	B	11	B
		PM	13	B	13	B
3. East 4th Avenue and South Claremont Street	D	AM	13	B	15	B
		PM	15	B	16	B
4. East 4th Avenue and South Delaware Street	D	AM	27	C	27	C
		PM	29	C	29	C
5. East 5th Avenue and South Claremont Street	E	AM	15	B	14	B
		PM	14	B	15	B

Source: Fehr & Peers, 2022

Signal Warrant Analysis

The California Manual of Uniform Traffic Control Devices (CA MUTCD) Signal Warrant 3 (A and B), Peak Hour, was used in this study to help determine if the stop-controlled intersection of East 5th Avenue and South Claremont Street warrants a signal installation. If either Warrant 3A, which uses the intersection's worst approach delay, or Warrant B, which uses the intersection volumes, criteria are met, then a signal is warranted. At the East 5th Avenue and South Claremont Street intersection, a signal is not warranted in opening year no project conditions. Detailed signal warrant analysis worksheets are provided in **Appendix B**.

Project Conditions

The project proposes a 6-story mixed use development with office and residential uses and two stories of underground parking. This section presents the traffic conditions with the project, including Vehicle Miles Traveled and LOS, while site access and circulation issues and other related topics are evaluated within the Additional Transportation Analysis sections.

Project Trip Generation and Distribution

Trip Generation

Trip generation rates were determined using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*. The ITE rates for "Multifamily Housing Low-Rise (220)" and "General Office (710)" were used to determine project trip generation. To determine existing trip generation for the various uses, the following ITE rates were used: Multifamily Low-Rise (220), Single Family Detached Housing (210), Strip Retail Plaza <40ksf (822), Automobile Care Center (942), and Gasoline/Service Station (944). The existing retail uses such as the hair salon and restaurants were combined within the Strip Retail Plaza category due to the likelihood that these restaurants do not operate similar to a typical ITE restaurant land use with reserved parking, the lack of data points ITE has for hair salons, and the similar layout of the land uses to a Strip Retail Plaza as defined in the ITE manual.

Given the location of the projects adjacent to the San Mateo Caltrain station, Downtown San Mateo, and in a mixed-use environment, more people would travel by walking, bicycling, and transit than the traditional isolated suburban land uses captured in the ITE *Trip Generation Manual, 11th Edition*. The trip generation estimates in **Table 6** leverage the MXD trip generation methodology, which relies on built environment variables to measure the degree of interactivity within the site and the accessibility of the site location for non-automobile trips, then adjusts the conventional ITE outputs accordingly to produce more accurate trip generation forecast.[8]

As shown in **Table 6** below, the trips generated by the existing uses to be removed were subtracted from the project trips generated. The proposed project would generate a total of 134 net new vehicle trips in the AM peak hour and 31 new vehicle trips in the PM peak hour. However, the proposed project would reduce the total number of daily vehicle trips generated on the surrounding roadway compared to the existing land uses.

[8] For more information, visit https://www.fehrandpeers.com/mxd/. MXD methodologies were developed in tandem with the EPA as documented in the American Planning Association PAS Memo "Getting Trip Generation Right: Eliminating the Bias Against Mixed Use Development" by Jerry Walters, Brian Bochner, and Reid Ewing (May 2013): https://www.fehrandpeers.com/wp-content/uploads/2019/11/APA_PAS_May2013_GettingTripGenRight-2.pdf. These methodologies were revalidated as documented in the November/December 2020 issue of the APA's PAS Memo, entitled "Still Getting Trip Generation Right: Revalidating MXD+".

Table 6: Project Vehicle Trip Generation

Land Use	ITE LU Code	Quantity	Units[1]	Daily	AM			PM		
				Total	In	Out	Total	In	Out	Total
Proposed project										
Multifamily Low-Rise	220	111	DU	787	14	43	57	43	25	68
General Office Building	710	181	KSF	1,944	246	33	279	46	226	272
Reductions										
Internal Capture				-78	-9	-3	-12	-3	-7	-10
External Walk, Bike, and Transit				-512	-52	-16	-68	-16	-47	-63
Proposed Project Subtotal				**2,141**	**199**	**57**	**256**	**70**	**197**	**267**
Existing Uses										
Multifamily Low-Rise	220	5	DU	34	0	2	2	2	1	3
Single-Family Detached Housing	210	3	DU	28	1	1	2	2	1	3
Strip Retail Plaza (<40ksf)	822	21.95	KSF	1,195	31	21	52	73	72	145
Automobile Care Center	942	3.5	KSF	110	5	3	8	5	6	11
Gasoline/Service Station	944	8	Fueling Positions	1,376	41	41	82	56	55	111
Reductions										
Internal Capture				-50	-4	-4	-8	-4	-4	-8
External Walk, Bike, and Transit				-276	-9	-7	-16	-15	-14	-29
Existing Uses Subtotal				**2,417**	**65**	**57**	**122**	**119**	**117**	**236**
Net new trips (Proposed project minus existing)				**-276**	**134**	**0**	**134**	**-49**	**80**	**31**

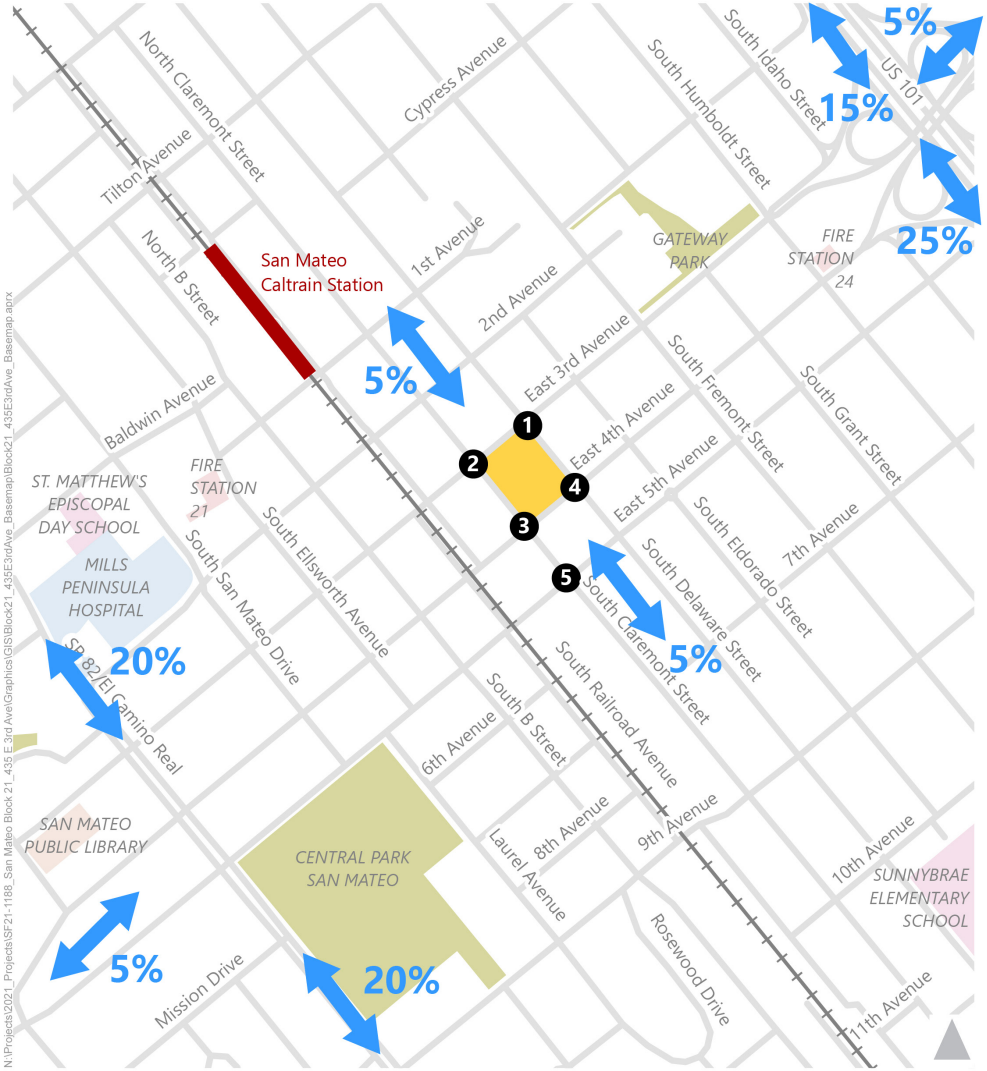
Notes: Assumes 100% of existing uses were occupied
1. DU=dwelling unit; KSF=1,000 square feet
Sources: Fehr & Peers; ITE *Trip Generation Manual,* 11th Edition, 2022

Trip Distribution

Trips generated by the project were distributed through the five study intersections based on the existing travel patterns on the surrounding roadway system and the locations of complementary land uses. The proposed residential use would typically generate outbound trips in the morning to employment areas and inbound trips in the evening from employment areas. The proposed office would operate similarly to residential uses except the office would typically generate inbound trips in the morning and outbound trips in the evening.

The peak-hour trips generated by the existing and proposed uses were assigned to the roadway network based on the directions of approach and departure, the roadway network connections, and the location of freeway on/off ramps. The trip distribution patterns were compared to ensure consistency with other recent studies, such as the 406 East 3rd Avenue office & Residential Mixed-Use Development[9] analysis located across the street from the project site. Approximately 45% of trips would travel to and from east of the project site along East 3rd and East 4th avenues toward US 101 or Foster City, 45% would travel west toward El Camino Real and into the hills, with the remaining 10% traveling to the north and south of the project site on Delaware or Claremont streets. The trips generated by the existing uses to be removed were subtracted from the roadway network prior to assigning project trips. **Figure 7** shows the net project trip distribution and assignment of the project trips at the study intersections.

[9] Hexagon Transportation Consultants, Inc., *406 East 3rd Avenue office & Residential Mixed-Use Development*, April 25, 2029, p. 26.



XX (YY) AM (PM) Project Trip Volumes

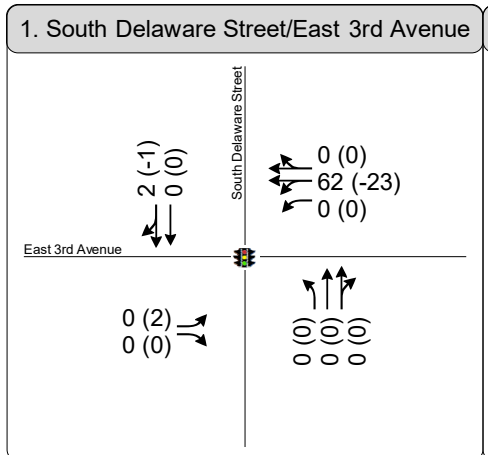
Signalized Intersection

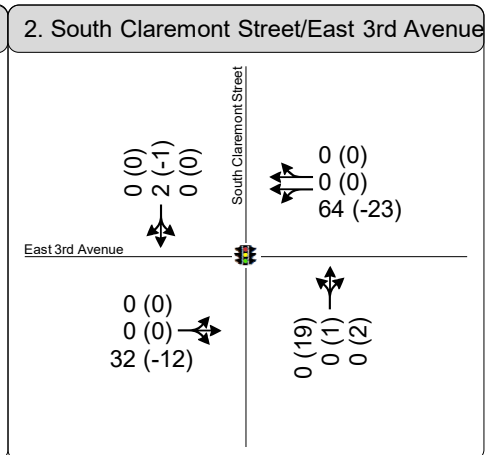
Stop Sign

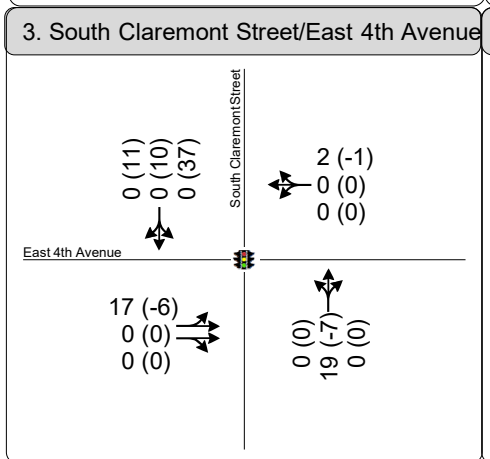
Project Site

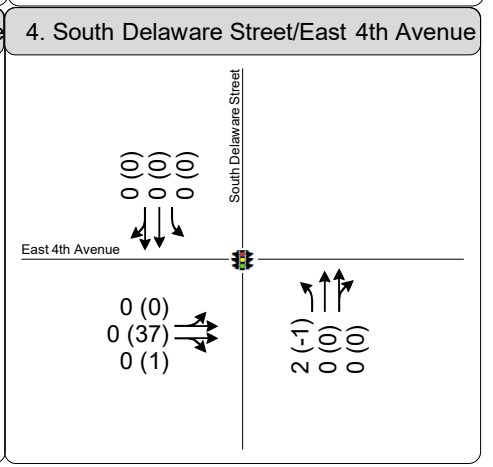
Study Intersection

Trip Distribution Percentage









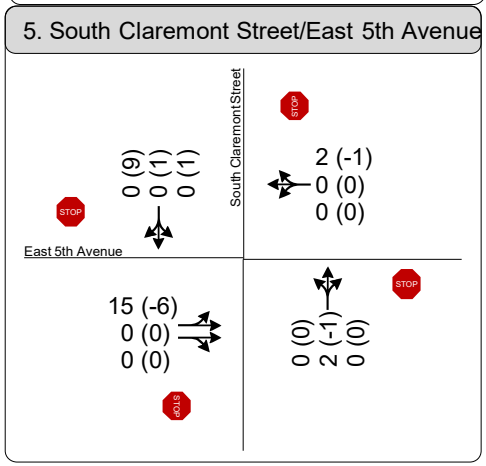


Figure 7

Trip Distribution and Assignment of Project Trips

Plus Project VMT

The purpose of this section is to introduce vehicle miles traveled (VMT) and evaluate whether the project fulfills the screening criteria presented in the TIA Guidelines. VMT is a measurement of the amount and distance that a person drives, accounting for the number of passengers within a vehicle. Many interdependent factors affect the amount and distance a person might drive. In particular, the type of built environment affects how many places a person can access within a given distance, time, and cost, using diverse ways of travel (e.g., private vehicle, public transit, bicycling, walking, etc.). Typically, low-density development located at great distances from other land uses and in areas with few alternatives to the private vehicle provides less access than a location with high density, mix of land uses, and numerous ways of travel. Therefore, low-density development typically generates more VMT per capita compared to a similarly sized development located in urban areas. In general, higher VMT areas are associated with more air pollution, including greenhouse gas emissions, and energy usage than lower VMT areas. VMT is calculated by multiplying the number of trips generated by a project by the total distance of each of those trips.

VMT Screening

Although OPR provides recommendations for adopting new VMT analysis guidelines, lead agencies, such as the City of San Mateo, have the final say in designing their methodology to assess VMT and determine a relevant threshold. Lead agencies must prove that their selected analysis methodology aligns with SB 743's goals to promote infill development, reduce greenhouse gases, and reduce VMT. Per the City of San Mateo's TIA guidelines, a project can be exempt from a VMT analysis if the project is located within a half mile of a high-quality transit area. The project is located within a half mile of the San Mateo Caltrain Station (see Figure 1), which the City designates as a high-quality transit service as defined by OPR guidelines. In addition to being located within a half mile of a Caltrain station, the project must have a floor area ratio of more than 0.75, include no more than the minimum parking required by the City of San Mateo, be consistent with the Metropolitan Transportation Commissions' (MTC) Sustainable Communities Strategy (SCS), and cannot replace affordable residential units with fewer moderate or high income units. The project has a floor area ratio of 4.11, is consistent with MTC's SCS, and results in an increase in affordable housing units. Block 21 is consistent with the SCS because it 1) provides land use growth and provides affordable housing near high-quality transit, 2) promotes alternative modes of travel (walking/biking) through improvements like enhanced sidewalks and bicycle parking. Both of which promote the goals outlined in the SCS, now known as Plan Bay Area 2050,[10] such as building affordable housing, creating healthy and safe streets by building a complete streets network, and reducing climate emissions. The project is eligible to use parking minimums associated with the State Density Bonus and as a result proposes to provide less parking than required by the City of San Mateo's Municipal Code. Therefore, this project would have a less than significant VMT impact across both background plus project and cumulative plus project conditions due to its proximity to high-quality transit.

[10] MTC and Association of Bay Area Governments, *Plan Bay Area 2050*, Adopted October 21, 2021, https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf

Opening Year Plus Project Vehicle Volumes and Level of Service

The net new project trips were added to the opening year volumes to develop opening year plus project volumes, shown on **Figure 8**.

Table 7 below presents the opening year and opening year plus project LOS and intersection delay in seconds for each study intersection. The study intersections perform acceptably under opening year and opening year plus project conditions in both the AM and PM peak periods. The addition of proposed project trips does not result in adverse traffic operations at the study locations. See **Appendix A** for detailed LOS results.

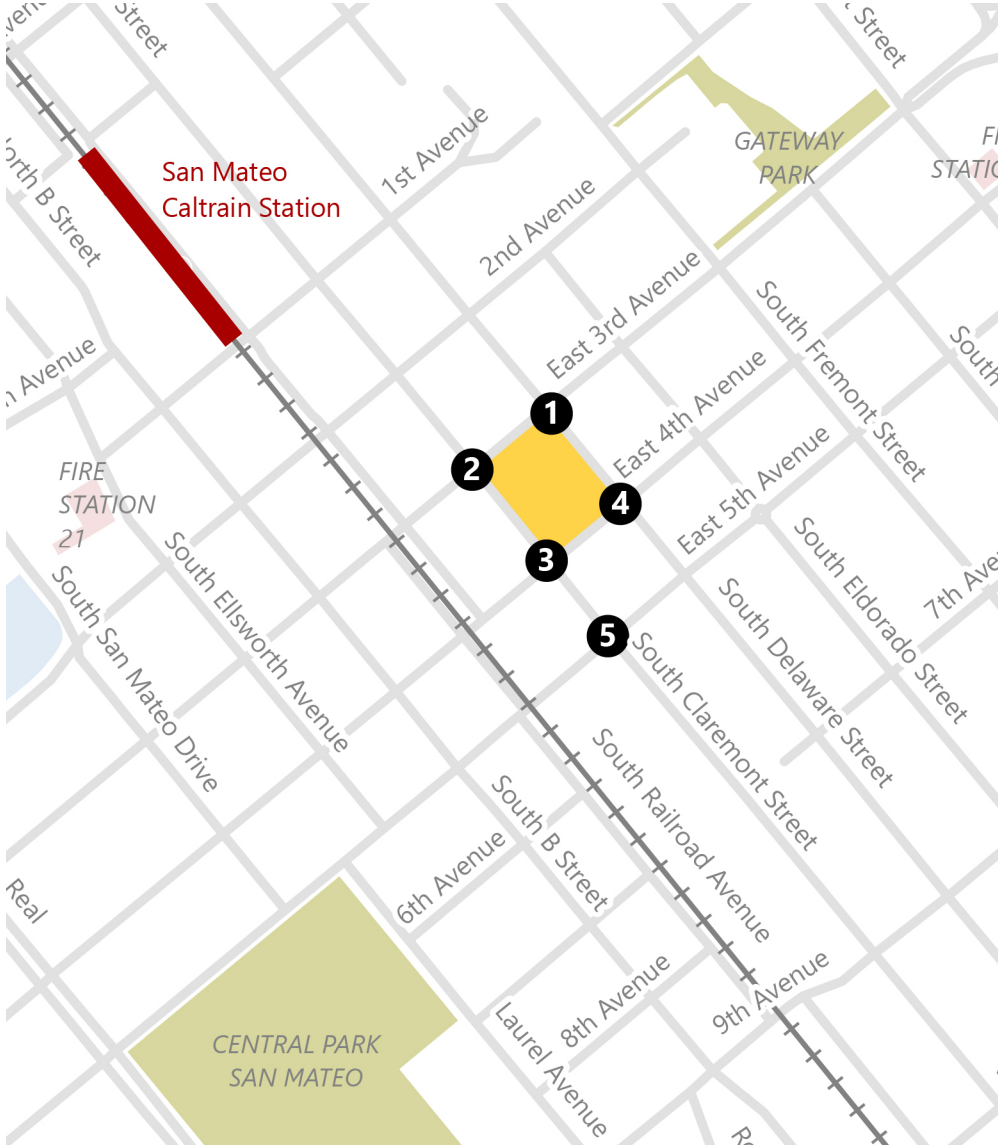
Table 7: Opening Year Plus Project LOS and Delay Results

Intersection	LOS Threshold	Peak Hour	Opening Year		Opening Year Plus Project	
			Delay	LOS	Delay	LOS
1. East 3rd Avenue and South Delaware Street	D	AM	24	C	24	C
		PM	23	C	23	C
2. East 3rd Avenue and South Claremont Street	D	AM	11	B	11	B
		PM	13	B	14	B
3. East 4th Avenue and South Claremont Street	D	AM	15	B	15	B
		PM	16	B	18	B
4. East 4th Avenue and South Delaware Street	D	AM	27	C	27	C
		PM	29	C	29	C
5. East 5th Avenue and South Claremont Street	E	AM	14	B	21	C
		PM	15	B	15	B

Source: Fehr & Peers, 2022

Signal Warrant Analysis

A signal is not warranted under opening year no project and opening year plus project conditions at the East 5th Avenue and South Claremont Street intersection. Detailed signal warrant analysis worksheets are provided in **Appendix B**.



XX (YY) AM (PM) Project Trip Volumes

Signalized Intersection

Stop Sign

Project Site

Study Intersection

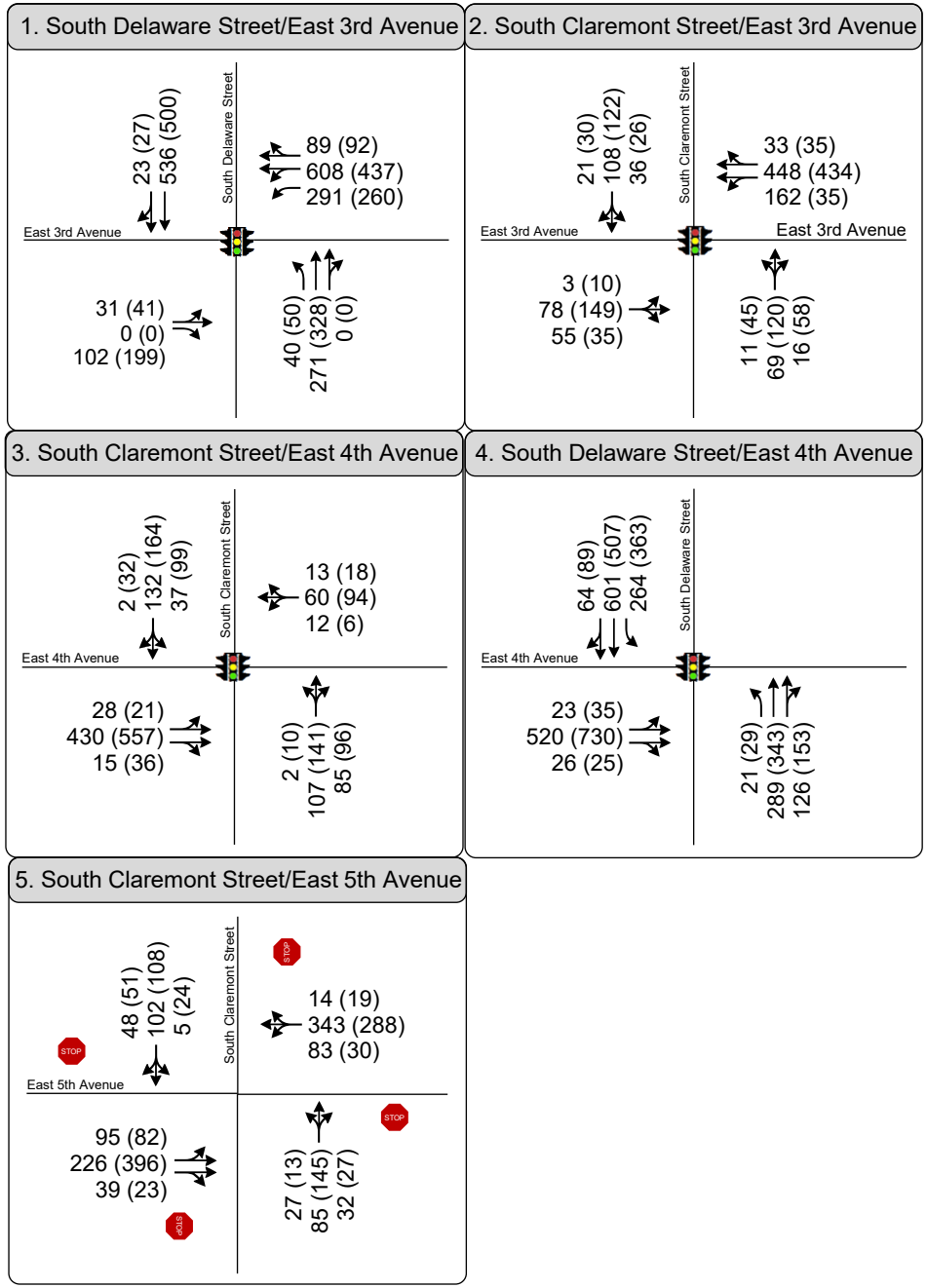


Figure 8

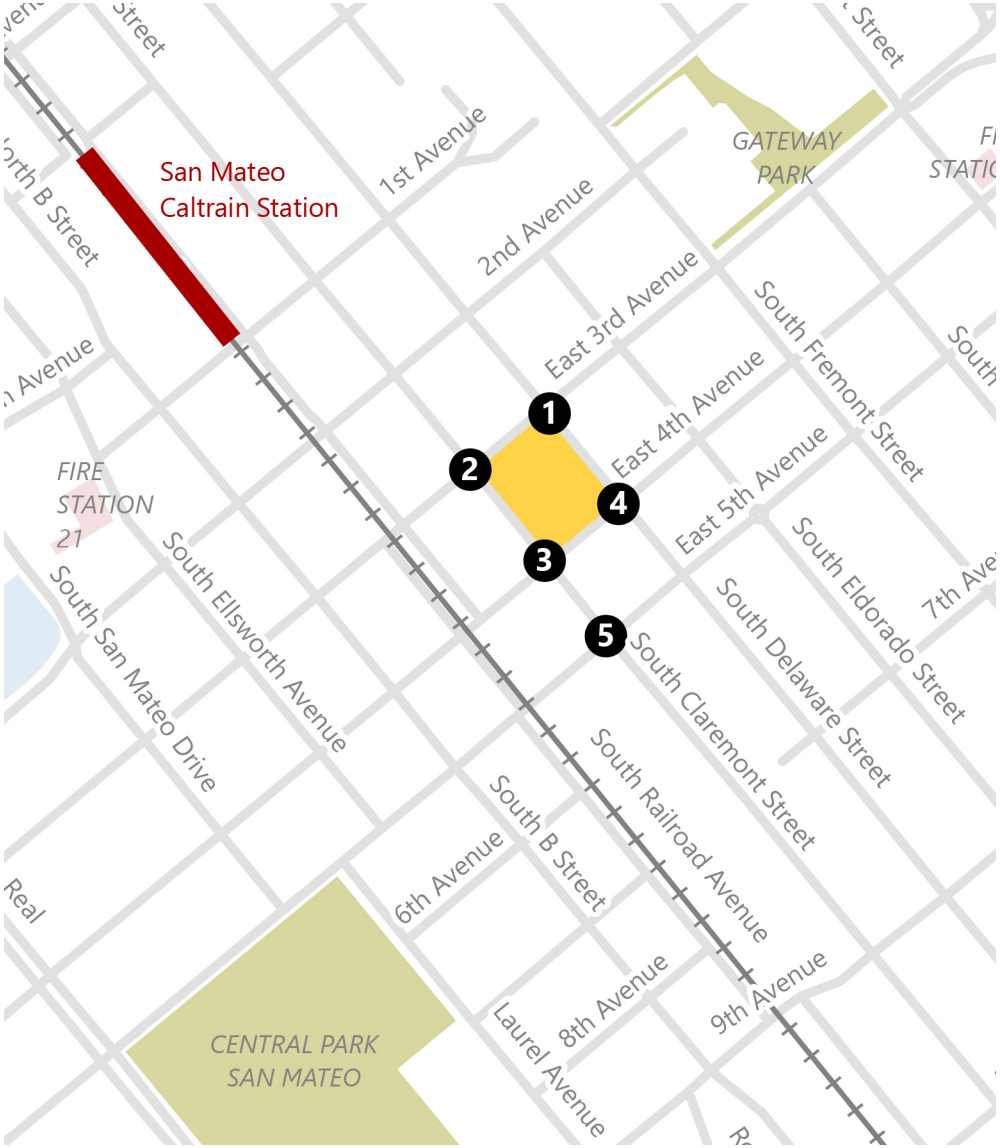
Opening Year Plus Project Vehicle Volumes
Intersection Traffic Volumes, Lane Configurations, and Traffic Controls

Cumulative Conditions

Cumulative conditions reflect estimated future traffic volumes for 2040, approximately 20 years into the future. Future volume forecasts were developed by applying an average of 1% per year growth rate to the existing conditions volumes. This 1% per year growth rate is consistent with San Mateo's 2030 General Plan[11] and 2040 General Plan update.[12] However, the C/CAG model forecasts a larger growth along East 3rd Avenue and East 4th Avenue, approximately an average growth rate of 2% per year. This 2% per year growth rate was applied to through movements along East 3rd and East 4th Avenue to preserve the projected traffic growth that matches the model's assumed development increases. East 3rd Avenue and East 4th Avenue are the main east-west travel corridors in downtown San Mateo to connect to regional roadways and freeways such as El Camino Real and US-101, so it is reasonable to assume that most growth will occur on the east-west through movements on these two streets. Manual adjustments were completed to reflect the C/CAG model limitations, such as limited details for parallel roadways. The 1% per year growth rate, consistent with the 2030 General Plan and 2040 General Plan update, were applied to all other movements.

The resulting cumulative traffic volumes at the study intersections are shown on **Figure 9**, and the cumulative plus project volumes are shown on **Figure 10**.

[11] *City of San Mateo 2030 General Plan*, 2010, Circulation Element, https://www.cityofsanmateo.org/DocumentCenter/View/44792/Circulation-Element--CAP-GPA-3-2-15?bidId=,
[12] Land Use Circulation Alternatives Evaluation, Strive San Mateo General Plan 2040, January 14, 2022, https://strivesanmateo.org/wp-content/uploads/2022/01/GPU_Alternatives_Evaluation_PRD_1-14-22.pdf



XX (YY) AM (PM) Project Trip Volumes

Signalized Intersection

Stop Sign

Project Site

Study Intersection

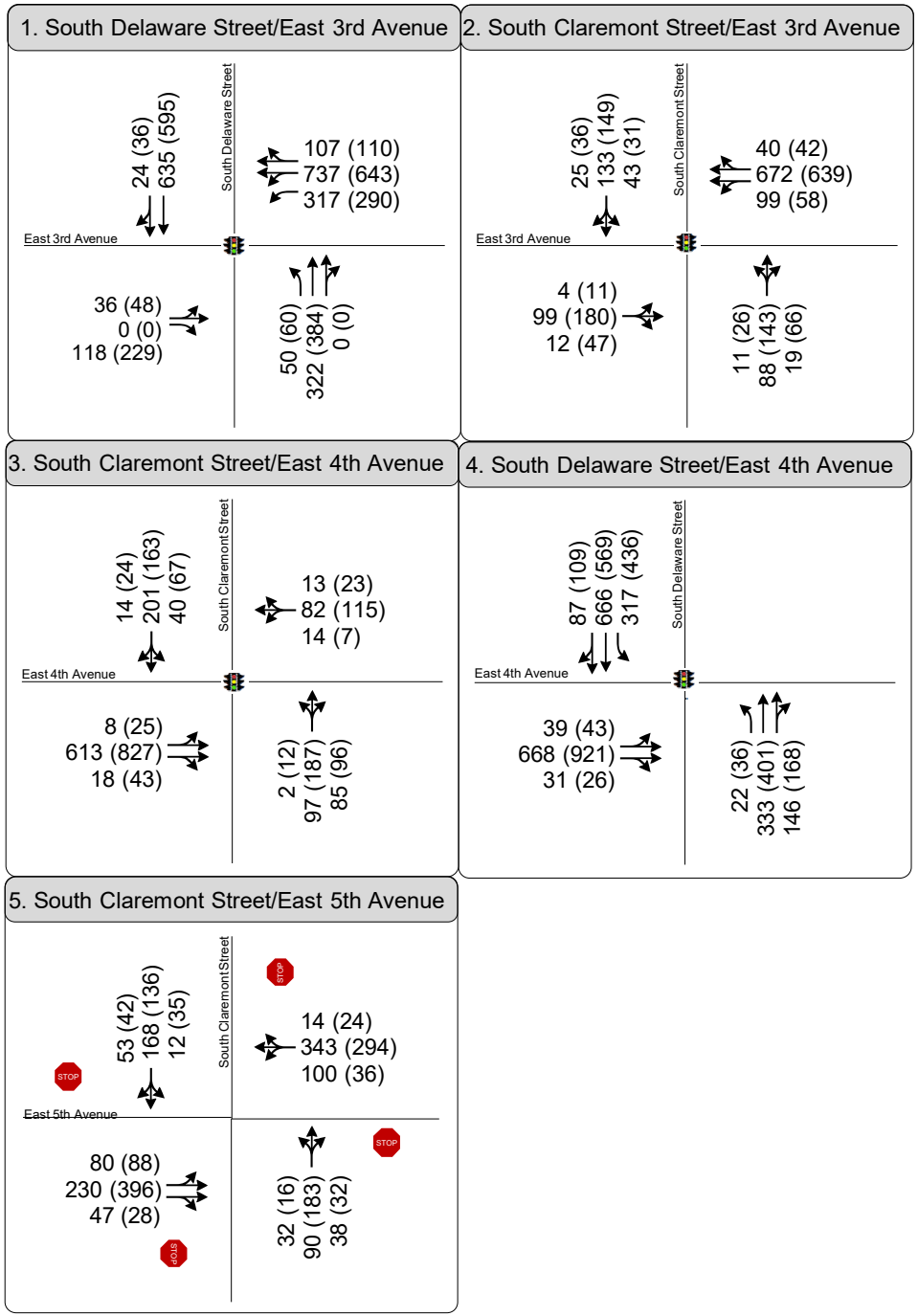
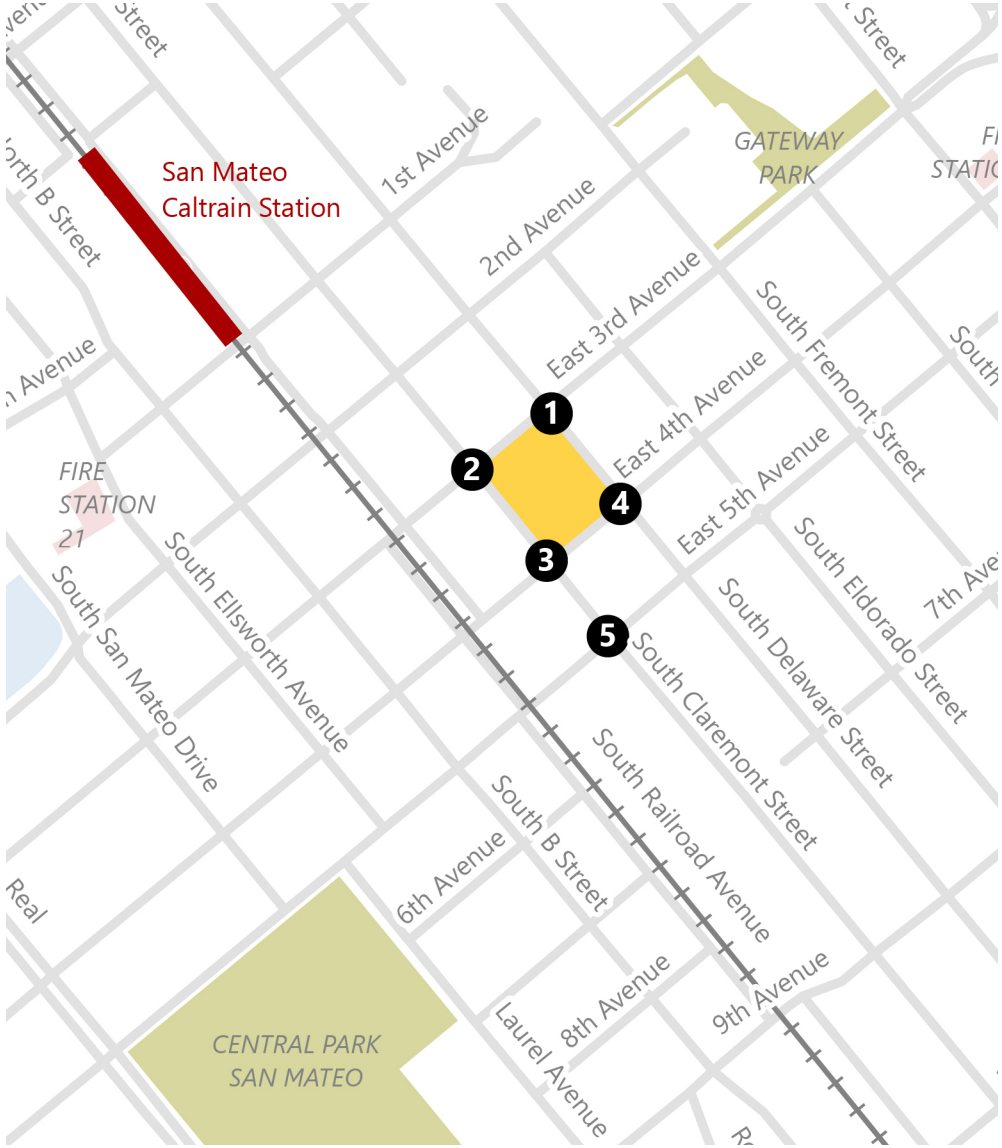


Figure 9

Cumulative Vehicle Volumes
Intersection Traffic Volumes, Lane Configurations, and Traffic Controls



XX (YY) AM (PM) Project Trip Volumes

Signalized Intersection

Stop Sign

Project Site

Study Intersection

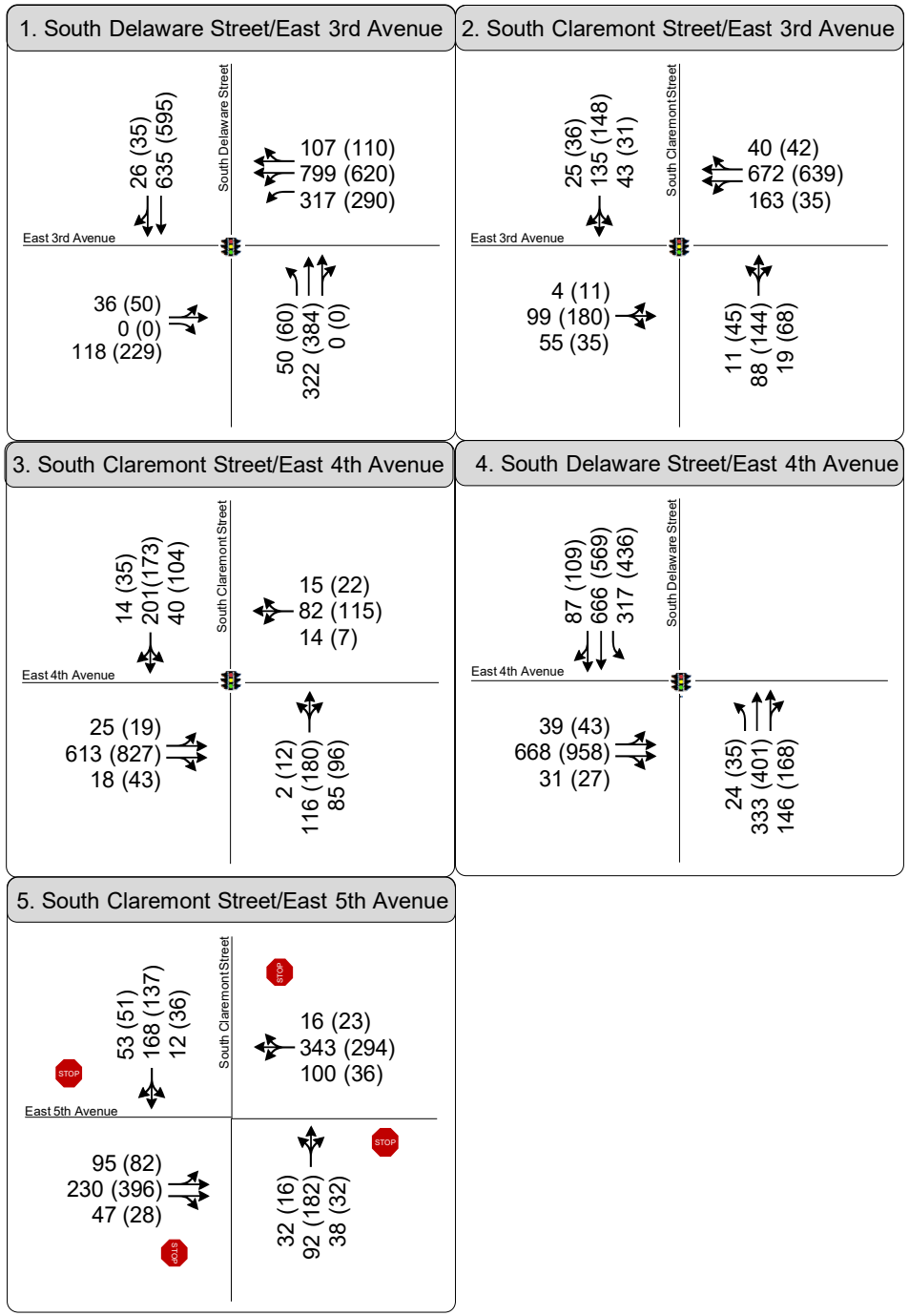


Figure 10

Cumulative Plus Project Vehicle Volumes
Intersection Traffic Volumes, Lane Configurations, and Traffic Controls

Cumulative Intersection Level of Service

Table 8 below presents the cumulative and cumulative plus project LOS and intersection delay in seconds for each study intersection. See **Appendix A** for detailed LOS results. The cumulative conditions delays are increased from existing conditions due to volume growth at the study locations. The LOS degraded between existing conditions and cumulative conditions at the following intersections:

- East 4th Avenue and South Delaware Street
  - AM peak hour: LOS C to LOS D
- East 5th Avenue and South Delaware Street
  - AM peak hour: LOS B to LOS D
  - PM peak hour: LOS B to LOS C

Although the intersection operations worsened from existing to cumulative conditions, the intersections continue to operate acceptably in both the AM and PM peak periods. The addition of proposed project trips further increases the intersection delays, but the increases are four seconds or under. Based on the City's acceptable conditions as outlined in the TIA guidelines, all intersections continue to perform acceptably under cumulative plus project conditions.

Table 8: Cumulative LOS and Delay Results

Intersection	LOS Threshold	Peak Hour	Existing		Cumulative		Cumulative Plus Project	
			Delay	LOS	Delay	LOS	Delay	LOS
1. East 3rd Avenue and South Delaware Street	D	AM	24	C	28	C	28	C
		PM	23	C	26	C	26	C
2. East 3rd Avenue and South Claremont Street	D	AM	12	B	12	B	12	B
		PM	13	B	14	B	14	B
3. East 4th Avenue and South Claremont Street	D	AM	13	B	16	B	16	B
		PM	15	B	16	B	18	B
4. East 4th Avenue and South Delaware Street	D	AM	27	C	28	C	28	C
		PM	29	C	41	D	44	D
5. East 5th Avenue and South Claremont Street	E	AM	15	B	32	D	33	D
		PM	14	B	18	C	18	C

Source: Fehr & Peers, 2022

Signal Warrant Analysis

Under cumulative no project conditions, a signal is warranted at the East 5th Avenue and South Claremont Street intersection in the AM peak hour. A signal is also warranted under cumulative plus project conditions. Detailed signal warrant analysis worksheets are provided in **Appendix B**. The project contributes to the worsened intersection operations at this intersection by adding trips and increasing the overall delay. However, a signal installation at this intersection is not included in the City's CIP. A signal installation could improve the overall intersection operations, such as improved delay and LOS for all approaches and improved safety for pedestrian and bicyclists with dedicated crossing signals and times. If a signal installation is included in the City's transportation impact fee program or CIP, the project would pay its fair share contribution for the improvements.

Additional Transportation Analysis

This section presents an analysis of other transportation issues associated with the project site, including the following:

- Impacts to vehicle, pedestrian & bicycle site access and circulation
- Driveway site distance and vehicle queuing
- Parking
- Hazards and emergency vehicle access
- Neighborhood traffic

The analyses in this section are in accordance with the City of San Mateo's General Plan Circulation Element outlined in the TIA guidelines that requires a non-CEQA local transportation analysis for land use projects that may have an effect on the local street system. The analysis in this section is based on professional judgment in accordance with the standards and methods employed by the traffic engineering community.

Although operational issues are not considered CEQA impacts, they do describe traffic conditions that are relevant to describing the project environment.

Vehicle Site Access and Circulation

The project proposes two new geometric design changes to the surrounding roadway network: 1) the consolidation of all existing driveways surrounding the project site into one new driveway on South Claremont Street, and 2) realignment of southern curb along East 3rd Avenue. The full access driveway will allow right and left turns inbound and outbound and as shown in **Figure 11**, is 22 feet wide and meets the City of San Mateo standards to provide adequate vehicle access to the project.[13] The project will add 134 vehicle trips during the AM peak hour and 31 vehicle trips during the PM peak hour. As summarized in the sections above, the addition of the proposed project trips would not result in any adverse effects on traffic operations at the study locations. These trips will enter the project site at the driveway on South Claremont Street. Within the parking garage, drive aisles are 29 feet wide and thus meet the minimum 24 feet City standards. Garbage facilities will also be accessed from the curb on South Claremont Street and would not require access to the garage. The realignment of the southern curb along East 3rd Avenue extends the eastern sidewalk out to meet the existing curb line along the southern portion of the sidewalk (see **Figure 11**). This realignment provides more space for pedestrians and landscaping while retaining the right-turn pocket by reducing the existing travel lanes on East 3rd Avenue to 11 feet. The 11-foot travel lanes meet City design standards.

[13] Per SMMC 27.64.025(3), Driveways serving nonresidential uses shall not exceed 26 lineal feet in width.

Loading and Curbside Management

Per the site plan, one loading zone on each side of the driveway is provided along South Claremont Street. However, there is no designed loading area within the parking garage for freight loading and the loading zone is not located adjacent to the main pedestrian entrance. This could result in inefficient loading patterns, where activities such as package deliveries and passenger loading could occur within the travel lane and cause hazardous conditions for other roadway users. A freight loading dock inside the garage near a package room or other storage locations would provide a consolidated, single access point for delivery drivers, and thus reduce the potential for on-street loading to interfere with other roadway users. Curbside loading along the street should be provided for passenger loading near the main pedestrian entrance on South Claremont Street.

Recommended Improvement

The project sponsor should designate a freight loading area within the parking garage conveniently located next to a package storage room or an area in the main lobby that can accommodate all deliveries for residents and employees in the building. An attendant or property manager should be available to consolidate freight deliveries and allow these to occur off street. The project sponsor should work with the San Mateo Public Works department to create a white color curb zone sufficient to accommodate the anticipated passenger loading demand.

Pedestrian & Bicycle Site Access and Circulation

Pedestrian Access

The main pedestrian access points to the project site are located via stairs on East 3rd Avenue near the corner of East 3rd Avenue and South Claremont Street, at the corner of South Delaware Street and East 4th Avenue, on South Delaware Street near the corner of South Delaware Street and East 3rd Avenue, and a residential entrance on South Claremont Street. An ADA accessible ramp is provided at the main entrance at the corner of East 3rd Avenue and South Claremont Street.

Per General Plan Policy C4.5 and C4.6 of the City's General Plan Circulation Element, the City requires as a condition of development project approval the provision of sidewalks and wheelchair ramps where lacking and the repair or replacement of damaged sidewalks. The project would enhance sidewalks on all four blocks fronting the project site with wider sidewalks, street furniture such as benches, street trees, and pedestrian-scale lighting. According to the City of San Mateo's Pedestrian Design Guidelines, Appendix A of the 2012 San Mateo Pedestrian Master Plan,[14] the recommended minimum sidewalk widths for mixed use developments are 16 feet wide with a recommendation of 20 feet wide for blocks with no street parking and no setbacks and 26 feet wide where there are amenities in the frontage zone. The minimum through zone width is 8 feet wide. Additionally, the City's Municipal Code SMMC 27.39.090

[14] *San Mateo Citywide Pedestrian Master Plan*, City of San Mateo & Alta Planning + Design, 2012, p. A-12-A13.

requires zero-setbacks unless a setback is provided for landscaping. The proposed project would meet these guidelines at the following locations:

- East 3rd Avenue – The proposed sidewalk would meet the minimum sidewalk width with an overall width of 17.5 feet with a nine foot through zone.
- East 4th Avenue – The proposed sidewalk would meet the recommended sidewalk width with an overall width of 25 feet and an eight foot through zone.

Although the remaining sidewalks would meet the City's ADA requirement of four feet through zone, they would not meet the City of San Mateo's Pedestrian Design Guidelines minimum widths at the following locations:

- South Delaware Street – The proposed sidewalk would have an overall width of 13.5 feet with a six foot through-zone.
- South Claremont Street – The proposed sidewalk would have an overall width of 14.5 feet with a six foot through-zone.

As noted in the City's TIA Guidelines, pedestrian safety and accessibility connecting to transit stops or stations in the vicinity of the project site must be assessed. In addition to sidewalks, the City of San Mateo's Pedestrian Design Guidelines provide guidance on the following physical pedestrian facilities that are applicable to the four intersections surrounding the proposed project site. The lack of features consistent with the City's Pedestrian Design Guidelines surrounding the project site could limit pedestrian accessibility to transit stops or stations by creating an uncomfortable or unsafe conditions for people walking. For example, pedestrians must cross the intersection of East 3rd Avenue and South Delaware Street to reach SamTrans stops on South Delaware Street or East 3rd Avenue and South Claremont Street for the San Mateo Caltrain station. **Table 9** assesses whether the intersections surrounding the project site are consistent with the guidelines under existing and proposed conditions and provides recommendations to enhance pedestrian comfort and safety based on community feedback and collision data connecting.

Table 9: Existing and Proposed Pedestrian Facilities

Pedestrian Design Feature	Guidelines Summary Applicable to Project	Existing Condition	Proposed Condition	Recommendations
A.11. Curb ramps	Directional (two) curb ramps should be installed at intersections with high vehicle volumes, such as those surrounding the project site.	Diagonal (single) curb ramps are present at all four intersections. ADA accessible ramps are missing at all four corners of East 3rd Ave and South Delaware Street.	ADA accessible diagonal curb ramps at all four intersections	When installing or reconstructing corners, the project sponsor should include ADA accessible directional curb ramps.
A.12. Curb extensions	Curb extensions should not encroach into bike lanes but should allow for bus and emergency turning access.	There are existing curb extensions at three of the four corners fronting the project site, except at East 3rd Avenue and South Delaware Street.	New curb extension at East 3rd Avenue and South Delaware Street	Consider how this new curb extension will impact any future bike facilities on East 3rd Avenue
A.13 and A.14. Standard and high visibility crosswalks	High visibility continental crosswalks should be prioritized for locations with anticipated high pedestrian activity, or a high number of pedestrian-related collisions have occurred.	All four intersections are signalized and have marked crosswalks, with standard crosswalks at the intersection of East 3rd Avenue and South Delaware Street and high visibility crosswalks at the remaining three intersections. Community concerns and collision data indicate crossing at East 3rd Avenue and South Delaware Street needs improvement.[2,3]	No change	The project sponsor should install high visibility crosswalks to East 3rd Avenue and South Delaware Street
A.15. Advance stop bars	Advance stop bars should be installed at all controlled intersections.	All intersections are signal controlled but only East 4th Avenue and South Delaware Street has advance stop bars.	No change	The project sponsor should install add advance stop bars at remaining three intersections to increase visibility between drivers and pedestrians.
A.23. Signalized pedestrian crossings	All traffic signals without a dedicated pedestrian phase should include accessible pushbuttons.	All intersections with traffic signals have accessible push buttons.	No change	None
A.25. Signal timing	Countdown heads with audible instructions should be installed at multi-lane arterial roadway intersections.	Present at all four intersections	No change	None

Pedestrian Design Feature	Guidelines Summary Applicable to Project	Existing Condition	Proposed Condition	Recommendations
A.26. Leading Pedestrian Interval (LPI)	LPI's should be installed in the downtown area bounded by Tilton Avenue to 5th Avenue and from El Camino Real to Delaware Street, which includes the project site.	Present at all four intersections	No change	None

Notes:
1. *San Mateo Citywide Pedestrian Master Plan*, City of San Mateo & Alta Planning + Design, 2012, Appendix A: Pedestrian Design Guidelines
2. Community feedback for the Transit-Oriented Development Pedestrian Access Plan indicated the intersection of East 3rd Avenue and South Delaware Street is very challenging to cross and that this is a high priority location for improvements. City of San Mateo Sustainability & Infrastructure Commission Meeting Minutes, Transit-Oriented Development Pedestrian Access Plan, February 9, 2022, https://sanmateo.primegov.com/Portal/Meeting?compiledMeetingDocumentFileId=17604
3. City of San Mateo Collision Data, 2022, https://experience.arcgis.com/experience/8a9f7321d1ce46ffbc0e1f04757efb5f/page/Maps/?views=All-Collisions

Recommended Improvement

The project sponsor should widen the proposed sidewalks along South Delaware Street and South Claremont Street and add the recommended pedestrian facilities from **Table 9** to be consistent with the City of San Mateo's Pedestrian Design Guidelines. The City could consider further enhancements through use of transportation impact fee (TIF) funds to add the remaining missing features, such as directional curb ramps on corners that don't front the project site, no right-turn on red signs to support LPI's, and pedestrian recall for locations with high pedestrian volumes.

Bicycle Access

The project proposes 22 short-term bicycle parking spaces and 129 long-term parking spaces. As shown in the site plan in **Figure 11**, 11 circular bicycle racks for 22 bicycles are proposed to be placed at street level near the main pedestrian entrance in the landscaping strip between the sidewalk and the roadway along East 3rd Avenue. The long-term parking is on the first floor by the building entrance, which meets the City's Municipal Code SMMC 27.64.262(d)(3) requirement that long term bike parking shall be within 200 feet of the main building entrance. Bicyclists would access the bike parking by entering the building on the first floor. Residents have access to storage on the first floor near the residential elevators that are accessible through the main residential pedestrian entrance from South Claremont Street. There are no other proposed bicycle facility changes, thus the project would not disrupt existing bicycle facilities in the City.

The City of San Mateo, through the 2020 Bicycle Master Plan, has proposed a few nearby Class IV separated bike lanes on E 3rd Avenue and South Delaware Street between East 3rd Avenue and East 4th Avenue. South Claremont Street is proposed as a Class III bicycle boulevard. All of these proposed bicycle

facilities are considered high priority as shown on *Figure 6.1* of the *2020 San Mateo Bicycle Master Plan*[15] and would substantially improve accessibility for people walking and bicycling in the downtown area by reducing the need for driving trips for project residents and employees. In future implementation of the proposed bicycle facilities, the existing bulbout adjacent to the project site at the corner of South Claremont Street and East 3rd Avenue may need to be removed to accommodate the bike lane. South Claremont Street is best suited as the main access route to and from the project site to the Caltrain station given the lower traffic volumes, most direct access to the Caltrain station, and proximity to the project driveway/main entrance

Recommended Improvement

The site plan does not specify whether long-term bicycle parking would have restricted access. The bicycle parking should restrict access to authorized users and provide lockers to ensure people who ride can securely park bicycles for long periods of time.

Transit Access and Circulation

Neither public transit conditions nor public transit access are expected to change with the project. As noted in **Table 6**, the project is estimated to generate approximately 500 daily trips and between 60 to 70 peak hour trips by walking, bicycling, or transit given its proximity to destinations such as downtown San Mateo and high quality transit services such as Caltrain and SamTrans. Likely associated with commutes, new transit trips could be accommodated by existing nearby transit routes and services including SamTrans and Caltrain. SamTrans bus stops are also located along South Claremont and South Delaware one to two blocks from the project site. These stops do not include bus shelters and seating; however, there are not currently plans to add these features. The pedestrian improvements recommended above and in **Table 9** would ensure that a safe and comfortable path of travel to and from transit is accessible for all users.

Driveway Sight Distance

The project will consolidate several driveways into one new driveway along South Claremont Street. The project driveway's location in the middle of the block on South Claremont Street in a location clear of existing obstructions allows drivers exiting the driveway to have adequate sight distance. The project will not make any other geometric changes to the roadway and does not propose to locate street trees or other features immediately adjacent to the project driveway that could obstruct sightlines for drivers exiting the driveway. Across the street, 405 East 4th will be consolidating several existing driveways into one new driveway just south of the Block 21 garage driveway, but is not proposing any other roadway changes. Sightlines between the two driveways are clear and free of obstructions.

[15] *San Mateo Bicycle Master Plan*, City of San Mateo & Toole Design, 2020, p 60.

Recommended Improvement

The project is in downtown San Mateo where existing and planned projects encourage pedestrian activity. We recommend installing visual and audio warning devices at the South Claremont driveway to alert drivers and sidewalk users when exiting or crossing the driveway. Visual warning devices include mirrors, motion-activated or stationary signs, and flashing lights, and audio warning devices include alarms or verbal announcements.

Vehicle Queuing

There is adequate space within the parking garage to account for any inbound or outbound vehicle queuing at the project driveway. During the AM peak hour there will be 199 inbound vehicles generated by the proposed land uses, which represents three to four vehicles every minute. The garage drive aisle is 106 feet long, which can accommodate approximately four vehicles at once should a vehicle block the driveway aisle. However, given the lack of a gate or other control that would cause vehicles to wait at the driveway entrance or within the parking garage, vehicle queues are not likely to form within or outside of the parking garage during typical peak conditions.

Vehicle Parking Conditions

The project proposes a two-story underground parking garage that would be accessed on South Claremont Street. The project proposes a total of 407 parking stalls, of which 351 are for the office space and 56 are for the residential units. In accordance with the City's parking code, a project-specific parking study was conducted. Based on trip generation and parking demand, the office parking requirement shall be calculated on a rate of 2.06 spaces per 1,000 sq. ft for a total of 375 spaces. Per the latest application plans submitted April 18, 2022, parking for the proposed office uses is provided at a ratio of 1.94 spaces per 1,000 sq. ft for a total of 354 spaces, including 61 tandem spaces. The project would pay in-lieu fees for 21 office spaces not provided on site per City of San Mateo Municipal Code Section 27.64.100(3)(A). The 56 residential parking spaces represents a parking ratio of approximately 0.5 vehicles per residential unit. Although the Municipal Code requires 1.5-2 spaces per multi-family dwelling unit, the State Density Bonus permits a reduced parking ratio of 0.5 spaces/unit because the project is within a half mile of public transit. All residential parking is provided on the second basement level of the garage. A total of 11 spaces are reserved for ADA/Vans. There are 27 electric vehicle charging stalls. Given the location within a high-quality transit area, the proposed parking supply will be adequate for the project and parking conditions on surrounding streets are not expected to change.

Recommended Improvement

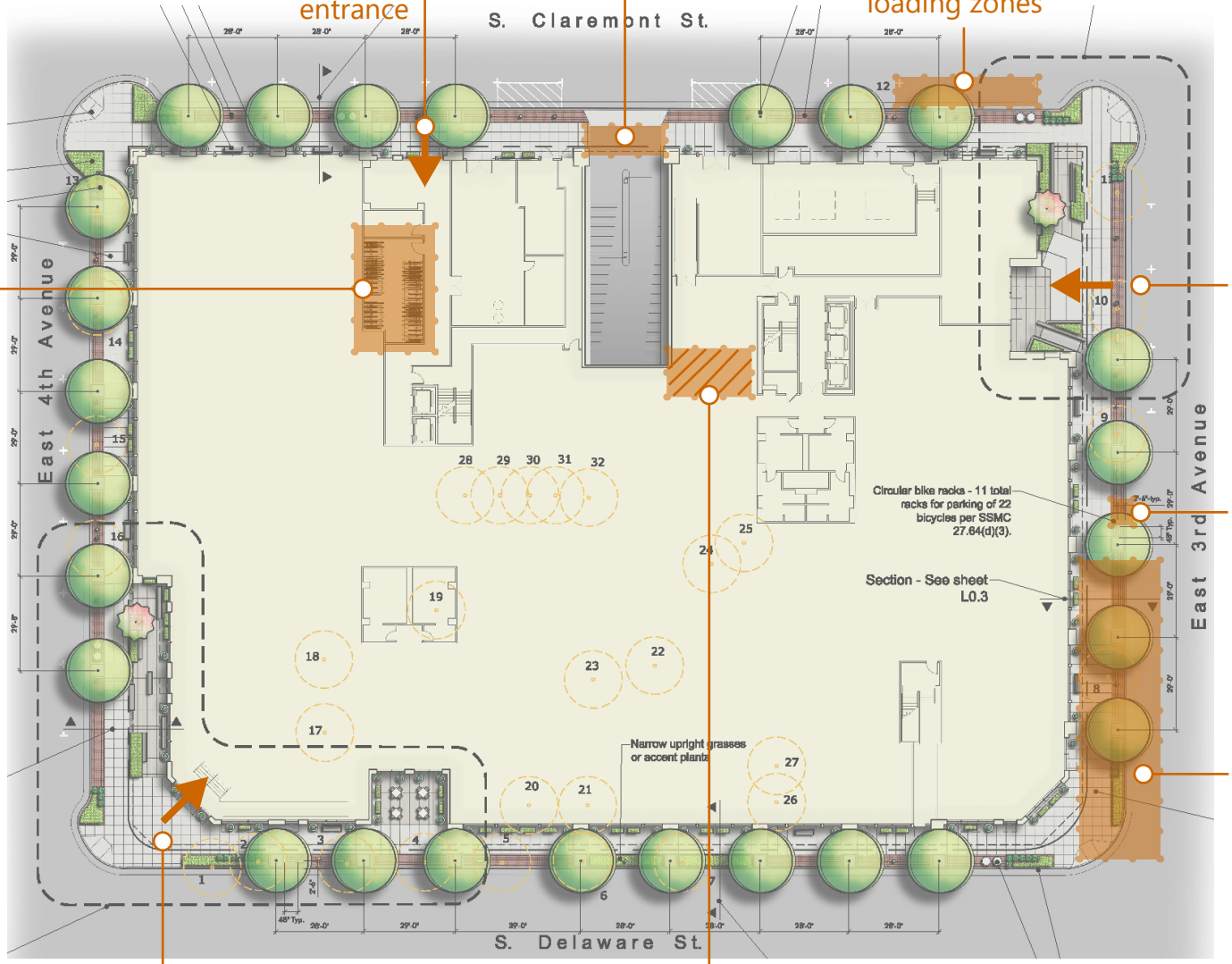
We recommend the office tandem parking spaces to be managed by valet or property manager to optimize the use of the spaces. The valet or property manager should be available to move vehicles or notify the owner to move their vehicle when needed.

Hazards and Emergency Vehicle Access

The proposed project would not create or worsen existing roadway hazards. As noted above, the driveway sight distance is adequate and facilities for other modes meet standards, except where noted in the recommendations sections. Several factors determine whether a project has sufficient access for emergency vehicles, including the number of access points, width of access points, and width of internal roadways. The project does not propose altering the existing roadway network and does not propose new vehicular roadways that would create hazards or impede emergency vehicle access. The South Claremont Street driveway would be 22 feet wide, providing enough space for emergency vehicles to enter the driveway, if needed.

Neighborhood Traffic

Due to the relatively minor increase in net new vehicle volumes generated by the project, the impact to neighboring streets will be low given the location of the project site on arterials such as East 3rd Avenue, East 4th Avenue, and South Delaware Street and the multitude of paths to and from the project site. Traffic calming devices along South Claremont Street, as recommended in the *2020 San Mateo Bicycle Master Plan,* would help discourage cut-through traffic and enhance walking and biking connections to the major transit facilities on this local access street.



N:\Projects\2021_Projects\SF21-1188_San Mateo Block 21_435 E 3rd Ave\Graphics\AI\Links

Figure 11

Project Site Plan

Conclusion

The proposed project will not result in CEQA impacts on VMT, bicycle, pedestrian, or transit circulation, or hazards and emergency access. VMT is screened out because of the project's proximity to high-quality transit. The project presents no adverse LOS effects or site circulation issues. The project does not include features that would disrupt these facilities nor generate a substantial number of people that would worsen or create a new impact. The project meets the City's design standards except for sidewalk widths as recommended in the San Mateo Pedestrian Master Plan. The following recommended changes to the site plan would ensure consistency with San Mateo standards and best planning practices. The addition of proposed project trips would not result in adverse effects on traffic operations.

Recommendations

- The project does not provide off-street freight loading or conveniently located passenger loading, which could result in inefficient loading patterns. The project sponsor should designate a freight loading area within the parking garage conveniently located next to a package storage room or an area in the main lobby that can accommodate all deliveries for residents and employees in the building. An attendant or property manager should be available to consolidate freight deliveries and allow these to occur off street. The project sponsor should work with the San Mateo Public Works department to create a white color curb zone sufficient to accommodate the anticipated passenger loading demand.
- The proposed pedestrian facilities are inconsistent with the San Mateo Pedestrian Master Plan. The project sponsor should widen the proposed sidewalks along South Delaware Street and South Claremont Street, add directional curb ramps when reconstructing corners, and add advance stop bars at each intersection in accordance with City of San Mateo's Pedestrian Design Guidelines. Additionally, the City's Municipal Code SMMC 27.39.090 requires zero-setbacks unless a setback is provided for landscaping. The project sponsor should also add high visibility crosswalks at East 3rd Avenue and South Delaware Street to address safety concerns raised by community feedback to enhance access to the SamTrans bus stops. The City could also consider adding directional curb ramps to other corners and make signal timing adjustments, such as placing all signals on pedestrian recall and installing extinguishable no right turn on red signs during leading pedestrian intervals.
- The site plan does not specify whether long-term bicycle parking would have restricted access. Long-term bicycle parking should restrict access to authorized users and provide lockers to ensure people who ride can securely park bicycles for prolonged periods of time.
- The project driveway in the middle of the block on South Claremont Street is in a location clear of existing obstructions, which allows drivers exiting the driveway to have adequate sight distance. To further reduce conflicts between drivers and pedestrians, the project sponsor should install visual and audio warning devices at the South Claremont driveway to alert drivers and sidewalk users when exiting or crossing the driveway.

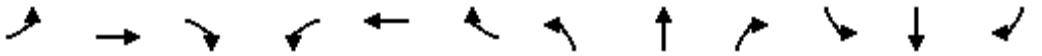
- The project proposes 61 tandem parking spaces for office users. Valet or property manager should manage the tandem parking spaces to optimize the use of the spaces.
- A signal is warranted at the East 5th Avenue and South Claremont Street intersection under opening year conditions and cumulative conditions. The project would add trips going through this intersection but would not worsen intersection operations to unacceptable levels. Installation of a signal could improve the overall intersection operations, such as improved delay and LOS for all approaches and improved safety for pedestrian and bicyclists with dedicated crossing signals and times. However, this improvement is not included in the City's CIP. If the City decides to install a signal at this location as part of the CIP, the project should pay its fair share contribution or traffic impact fees for this intersection improvement.

Appendix A:
LOS Calculation Worksheets

Intersection Operations Summary for All Scenarios

Intersection	Signal Control	LOS Threshold	Peak Hour	Existing		Opening Year		Opening Year Plus Project		Cumulative		Cumulative Plus Project	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. East 3rd Avenue and South Delaware Street	Signal	D	AM	24	C	24	C	24	C	28	C	28	C
			PM	23	C	23	C	23	C	26	C	26	C
2. East 3rd Avenue and South Claremont Street	Signal	D	AM	12	B	11	B	11	B	12	B	12	B
			PM	13	B	13	B	14	B	14	B	14	B
3. East 4th Avenue and South Claremont Street	Signal	D	AM	13	B	15	B	15	B	16	B	16	B
			PM	15	B	16	B	18	B	16	B	18	B
4. East 4th Avenue and South Delaware Street	Signal	D	AM	27	C	27	C	27	C	28	C	28	C
			PM	29	C	29	C	29	C	41	D	44	D
5. East 5th Avenue and South Claremont Street	AWSC	E	AM	15	B	14	B	21	C	32	D	33	D
			PM	14	B	15	B	15	B	18	C	18	C

Source: Fehr & Peers, 2022



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	0	98	264	474	89	28	268	0	0	529	20
Future Volume (veh/h)	30	0	98	264	474	89	28	268	0	0	529	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.94	1.00	1.00	1.00	0.86
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	33	0	9	293	527	83	31	298	0	0	588	22
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, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	134	0	119	834	1346	211	44	985	0	0	708	26
Arrive On Green	0.08	0.00	0.08	0.47	0.47	0.47	0.02	0.30	0.00	0.00	0.22	0.22
Sat Flow, veh/h	1781	0	1585	1781	2875	451	1781	3419	0	0	3339	121
Grp Volume(v), veh/h	33	0	9	293	325	285	31	298	0	0	322	288
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1549	1781	1666	0	0	1777	1590
Q Serve(g_s), s	1.4	0.0	0.4	8.4	9.5	9.6	1.4	5.5	0.0	0.0	13.8	13.9
Cycle Q Clear(g_c), s	1.4	0.0	0.4	8.4	9.5	9.6	1.4	5.5	0.0	0.0	13.8	13.9
Prop In Lane	1.00		1.00	1.00		0.29	1.00		0.00	0.00		0.08
Lane Grp Cap(c), veh/h	134	0	119	834	832	725	44	985	0	0	388	347
V/C Ratio(X)	0.25	0.00	0.08	0.35	0.39	0.39	0.70	0.30	0.00	0.00	0.83	0.83
Avail Cap(c_a), veh/h	154	0	137	834	832	725	140	1408	0	0	529	473
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	0.80	0.80	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	34.9	0.0	34.4	13.5	13.8	13.9	38.7	21.8	0.0	0.0	29.9	29.9
Incr Delay (d2), s/veh	0.4	0.0	0.1	1.2	1.4	1.6	5.8	0.1	0.0	0.0	5.9	6.6
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	0.6	0.0	0.2	3.4	3.9	3.4	0.7	2.1	0.0	0.0	6.4	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	0.0	34.5	14.7	15.2	15.5	44.5	21.8	0.0	0.0	35.7	36.5
LnGrp LOS	D	A	C	B	B	B	D	C	A	A	D	D
Approach Vol, veh/h		42			903			329			610	
Approach Delay, s/veh		35.1			15.1			24.0			36.1	
Approach LOS		D			B			C			D	

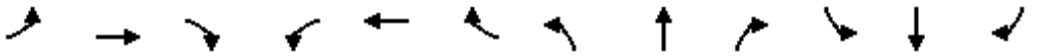
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	6.2	21.7		42.1		27.8		10.1				
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6		* 4.2		4.1				
Max Green Setting (Gmax), s	* 6.3	* 24		26.4		* 34		6.9				
Max Q Clear Time (g_c+I1), s	3.4	15.9		11.6		7.5		3.4				
Green Ext Time (p_c), s	0.0	0.6		2.6		0.5		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		23.9	
HCM 6th LOS		C	

Notes

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

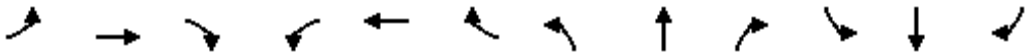
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	77	10	16	473	33	8	69	15	36	105	21
Future Volume (veh/h)	3	77	10	16	473	33	8	69	15	36	105	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.96	0.96		0.91	0.94		0.91
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1945	1870	1870	1945	1870
Adj Flow Rate, veh/h	3	85	8	18	520	32	9	76	4	40	115	23
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	58	988	91	84	2095	127	62	282	14	98	207	37
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.25	0.25	0.25	0.19	0.19	0.19
Sat Flow, veh/h	17	1441	133	53	3057	185	65	1505	74	227	1104	198
Grp Volume(v), veh/h	96	0	0	319	0	251	89	0	0	178	0	0
Grp Sat Flow(s),veh/h/ln	1590	0	0	1846	0	1448	1644	0	0	1529	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	3.6	0.0	0.0
Cycle Q Clear(g_c), s	1.6	0.0	0.0	5.2	0.0	5.3	3.4	0.0	0.0	8.3	0.0	0.0
Prop In Lane	0.03		0.08	0.06		0.13	0.10		0.04	0.22		0.13
Lane Grp Cap(c), veh/h	1136	0	0	1313	0	992	357	0	0	341	0	0
V/C Ratio(X)	0.08	0.00	0.00	0.24	0.00	0.25	0.25	0.00	0.00	0.52	0.00	0.00
Avail Cap(c_a), veh/h	1136	0	0	1313	0	992	594	0	0	562	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.94	0.00	0.94	0.82	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.2	0.0	0.0	4.8	0.0	4.8	25.7	0.0	0.0	29.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.4	0.0	0.6	0.1	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	1.7	0.0	1.4	1.3	0.0	0.0	3.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.4	0.0	0.0	5.2	0.0	5.4	25.8	0.0	0.0	30.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		96			570			89			178	
Approach Delay, s/veh		4.4			5.3			25.8			30.2	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.9		20.1		59.9		20.1				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		42.9		26.9		42.9		26.9				
Max Q Clear Time (g_c+I1), s		3.6		10.3		7.3		5.4				
Green Ext Time (p_c), s		0.8		0.6		5.7		0.3				

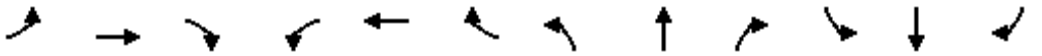
Intersection Summary												
HCM 6th Ctrl Delay			11.9									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	438	15	12	68	7	2	78	70	33	95	3
Future Volume (veh/h)	7	438	15	12	68	7	2	78	70	33	95	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	0.96		0.96	0.97		0.93
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	509	15	14	79	6	2	91	23	38	110	3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	57	2242	65	159	835	61	47	221	55	100	219	5
Arrive On Green	0.70	0.70	0.70	0.70	0.70	0.70	0.18	0.18	0.18	0.06	0.06	0.06
Sat Flow, veh/h	15	3225	94	155	1201	87	7	1245	310	249	1233	30
Grp Volume(v), veh/h	297	0	235	99	0	0	116	0	0	151	0	0
Grp Sat Flow(s),veh/h/ln	1864	0	1471	1443	0	0	1562	0	0	1512	0	0
Q Serve(g_s), s	0.0	0.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear(g_c), s	4.6	0.0	4.6	1.6	0.0	0.0	5.3	0.0	0.0	7.5	0.0	0.0
Prop In Lane	0.03		0.06	0.14		0.06	0.02		0.20	0.25		0.02
Lane Grp Cap(c), veh/h	1342	0	1022	1054	0	0	323	0	0	324	0	0
V/C Ratio(X)	0.22	0.00	0.23	0.09	0.00	0.00	0.36	0.00	0.00	0.47	0.00	0.00
Avail Cap(c_a), veh/h	1342	0	1022	1054	0	0	589	0	0	572	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.80	0.00	0.00
Uniform Delay (d), s/veh	4.4	0.0	4.4	4.0	0.0	0.0	29.2	0.0	0.0	34.4	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.5	0.2	0.0	0.0	0.3	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.3	0.5	0.0	0.0	2.0	0.0	0.0	3.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.8	0.0	4.9	4.1	0.0	0.0	29.5	0.0	0.0	34.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		532			99			116			151	
Approach Delay, s/veh		4.9			4.1			29.5			34.7	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		60.7		19.3		60.7		19.3				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		41.9		27.9		41.9		27.9				
Max Q Clear Time (g_c+I1), s		6.6		9.5		3.6		7.3				
Green Ext Time (p_c), s		5.4		0.5		0.9		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			13.0									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	492	26	0	0	0	15	273	122	264	555	72
Future Volume (veh/h)	23	492	26	0	0	0	15	273	122	264	555	72
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		0.96	1.00		0.94
Parking Bus, Adj	1.00	1.00	0.87				1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	529	24				16	294	58	284	597	63
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	64	1420	68				156	570	110	324	909	96
Arrive On Green	0.45	0.45	0.45				0.09	0.21	0.21	0.18	0.30	0.30
Sat Flow, veh/h	143	3163	151				1781	2757	533	1781	3017	317
Grp Volume(v), veh/h	325	0	253				16	187	165	284	351	309
Grp Sat Flow(s),veh/h/ln	1863	0	1595				1781	1777	1513	1781	1777	1557
Q Serve(g_s), s	9.3	0.0	8.3				0.7	7.5	7.7	12.4	13.8	13.8
Cycle Q Clear(g_c), s	9.3	0.0	8.3				0.7	7.5	7.7	12.4	13.8	13.8
Prop In Lane	0.08		0.09				1.00		0.35	1.00		0.20
Lane Grp Cap(c), veh/h	836	0	716				156	368	313	324	535	469
V/C Ratio(X)	0.39	0.00	0.35				0.10	0.51	0.53	0.88	0.66	0.66
Avail Cap(c_a), veh/h	836	0	716				174	529	450	374	535	469
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.00	0.98				1.00	1.00	1.00	0.74	0.74	0.74
Uniform Delay (d), s/veh	14.7	0.0	14.4				33.6	28.1	28.2	31.9	24.3	24.4
Incr Delay (d2), s/veh	1.3	0.0	1.3				0.1	2.3	2.9	13.2	2.9	3.4
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	4.1	0.0	3.2				0.3	3.4	3.0	6.4	6.1	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.0	0.0	15.8				33.7	30.5	31.1	45.1	27.3	27.8
LnGrp LOS	B	A	B				C	C	C	D	C	C
Approach Vol, veh/h		578						368			944	
Approach Delay, s/veh		15.9						30.9			32.8	
Approach LOS		B						C			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	18.7	20.8		40.5	11.2	28.3
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6	* 4.2	* 4.2
Max Green Setting (Gmax), s	* 17	* 24		26.4	* 7.8	* 24
Max Q Clear Time (g_c+I1), s	14.4	9.7		11.3	2.7	15.8
Green Ext Time (p_c), s	0.1	3.1		5.5	0.0	4.0

Intersection Summary		
HCM 6th Ctrl Delay		27.3
HCM 6th LOS		C

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	14.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	64	192	39	83	275	12	27	74	32	6	101	15
Future Vol, veh/h	64	192	39	83	275	12	27	74	32	6	101	15
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	73	218	44	94	313	14	31	84	36	7	115	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.1	17.3	11.4	11.3
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	22%	22%	5%
Vol Thru, %	56%	65%	74%	83%
Vol Right, %	24%	13%	3%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	133	295	370	122
LT Vol	27	64	83	6
Through Vol	74	192	275	101
RT Vol	32	39	12	15
Lane Flow Rate	151	335	420	139
Geometry Grp	1	1	1	1
Degree of Util (X)	0.258	0.509	0.63	0.239
Departure Headway (Hd)	6.15	5.464	5.397	6.219
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	580	657	664	573
Service Time	4.231	3.528	3.456	4.303
HCM Lane V/C Ratio	0.26	0.51	0.633	0.243
HCM Control Delay	11.4	14.1	17.3	11.3
HCM Lane LOS	B	B	C	B
HCM 95th-tile Q	1	2.9	4.5	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	0	191	242	459	92	50	320	0	0	495	30
Future Volume (veh/h)	40	0	191	242	459	92	50	320	0	0	495	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.94	1.00	1.00	1.00	0.86
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	44	0	16	269	510	84	56	356	0	0	550	26
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, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	134	0	119	795	1274	209	71	1058	0	0	721	34
Arrive On Green	0.08	0.00	0.08	0.45	0.45	0.45	0.04	0.32	0.00	0.00	0.22	0.22
Sat Flow, veh/h	1781	0	1585	1781	2855	468	1781	3419	0	0	3298	151
Grp Volume(v), veh/h	44	0	16	269	316	278	56	356	0	0	304	272
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1545	1781	1666	0	0	1777	1579
Q Serve(g_s), s	1.9	0.0	0.8	7.9	9.6	9.7	2.5	6.5	0.0	0.0	12.8	12.9
Cycle Q Clear(g_c), s	1.9	0.0	0.8	7.9	9.6	9.7	2.5	6.5	0.0	0.0	12.8	12.9
Prop In Lane	1.00		1.00	1.00		0.30	1.00		0.00	0.00		0.10
Lane Grp Cap(c), veh/h	134	0	119	795	793	690	71	1058	0	0	400	355
V/C Ratio(X)	0.33	0.00	0.13	0.34	0.40	0.40	0.79	0.34	0.00	0.00	0.76	0.76
Avail Cap(c_a), veh/h	154	0	137	795	793	690	140	1408	0	0	529	470
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)	0.99	0.00	0.99	1.00	1.00	1.00	0.70	0.70	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	0.0	34.6	14.4	14.9	14.9	38.1	20.9	0.0	0.0	29.0	29.0
Incr Delay (d2), s/veh	0.5	0.0	0.2	1.2	1.5	1.7	4.9	0.0	0.0	0.0	3.1	3.6
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	0.8	0.0	0.3	3.2	4.0	3.5	1.2	2.5	0.0	0.0	5.7	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.6	0.0	34.8	15.6	16.4	16.7	43.0	20.9	0.0	0.0	32.1	32.6
LnGrp LOS	D	A	C	B	B	B	D	C	A	A	C	C
Approach Vol, veh/h		60			863			412			576	
Approach Delay, s/veh		35.4			16.3			23.9			32.3	
Approach LOS		D			B			C			C	

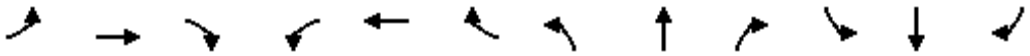
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.4	22.2		40.3		29.6		10.1				
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6		* 4.2		4.1				
Max Green Setting (Gmax), s	* 6.3	* 24		26.4		* 34		6.9				
Max Q Clear Time (g_c+I1), s	4.5	14.9		11.7		8.5		3.9				
Green Ext Time (p_c), s	0.0	0.6		2.5		0.6		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		23.3
HCM 6th LOS		C

Notes

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

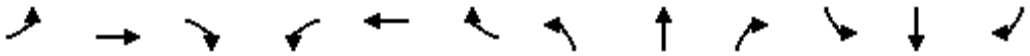
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	150	38	25	479	35	16	119	55	26	124	30
Future Volume (veh/h)	9	150	38	25	479	35	16	119	55	26	124	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.98		0.94	0.93		0.87	0.94		0.87
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1945	1870	1870	1945	1870
Adj Flow Rate, veh/h	10	167	34	28	532	35	18	132	38	29	138	21
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	837	165	112	1969	127	64	242	65	81	261	37
Arrive On Green	0.66	0.66	0.66	0.66	0.66	0.66	0.28	0.28	0.28	0.21	0.21	0.21
Sat Flow, veh/h	32	1261	248	95	2967	192	72	1161	313	140	1251	175
Grp Volume(v), veh/h	211	0	0	332	0	263	188	0	0	188	0	0
Grp Sat Flow(s),veh/h/ln	1541	0	0	1812	0	1441	1546	0	0	1566	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	4.1	0.0	0.0	5.8	0.0	6.0	8.1	0.0	0.0	8.2	0.0	0.0
Prop In Lane	0.05		0.16	0.08		0.13	0.10		0.20	0.15		0.11
Lane Grp Cap(c), veh/h	1070	0	0	1251	0	957	372	0	0	379	0	0
V/C Ratio(X)	0.20	0.00	0.00	0.27	0.00	0.28	0.51	0.00	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	1070	0	0	1251	0	957	564	0	0	569	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.93	0.00	0.93	0.65	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.2	0.0	0.0	5.5	0.0	5.5	25.8	0.0	0.0	28.3	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.5	0.0	0.7	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	2.0	0.0	1.6	2.9	0.0	0.0	3.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.6	0.0	0.0	6.0	0.0	6.2	26.1	0.0	0.0	28.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		211			595			188			188	
Approach Delay, s/veh		5.6			6.1			26.1			28.7	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		58.2		21.8		58.2		21.8				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		42.9		26.9		42.9		26.9				
Max Q Clear Time (g_c+I1), s		6.1		10.2		8.0		10.1				
Green Ext Time (p_c), s		2.0		0.7		6.0		0.7				

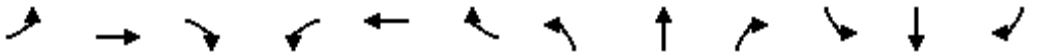
Intersection Summary												
HCM 6th Ctrl Delay			12.8									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	591	36	6	96	19	10	150	61	56	111	20
Future Volume (veh/h)	21	591	36	6	96	19	10	150	61	56	111	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	0.99		0.97	0.95		0.95	0.97		0.92
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	616	35	6	100	15	10	156	41	58	116	14
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	2020	113	70	869	126	53	260	66	127	216	23
Arrive On Green	0.66	0.66	0.66	0.66	0.66	0.66	0.21	0.21	0.21	0.07	0.07	0.07
Sat Flow, veh/h	54	3070	172	34	1321	192	29	1210	306	319	1006	107
Grp Volume(v), veh/h	377	0	296	121	0	0	207	0	0	188	0	0
Grp Sat Flow(s),veh/h/ln	1843	0	1453	1547	0	0	1546	0	0	1432	0	0
Q Serve(g_s), s	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Cycle Q Clear(g_c), s	6.9	0.0	7.0	2.2	0.0	0.0	9.6	0.0	0.0	9.7	0.0	0.0
Prop In Lane	0.06		0.12	0.05		0.12	0.05		0.20	0.31		0.07
Lane Grp Cap(c), veh/h	1261	0	956	1065	0	0	379	0	0	366	0	0
V/C Ratio(X)	0.30	0.00	0.31	0.11	0.00	0.00	0.55	0.00	0.00	0.51	0.00	0.00
Avail Cap(c_a), veh/h	1261	0	956	1065	0	0	583	0	0	547	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	0.98	0.00	0.00	1.00	0.00	0.00	0.71	0.00	0.00
Uniform Delay (d), s/veh	5.9	0.0	5.9	5.1	0.0	0.0	28.5	0.0	0.0	33.6	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.8	0.2	0.0	0.0	0.5	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	2.1	0.7	0.0	0.0	3.6	0.0	0.0	3.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.5	0.0	6.7	5.3	0.0	0.0	28.9	0.0	0.0	33.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		673			121			207			188	
Approach Delay, s/veh		6.6			5.3			28.9			33.9	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		57.7		22.3		57.7		22.3				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		41.9		27.9		41.9		27.9				
Max Q Clear Time (g_c+I1), s		9.0		11.7		4.2		11.6				
Green Ext Time (p_c), s		7.1		0.7		1.1		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			14.6									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	650	22	0	0	0	30	334	140	363	474	91
Future Volume (veh/h)	36	650	22	0	0	0	30	334	140	363	474	91
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	0.87				1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	707	21				33	363	94	395	515	78
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	60	1144	36				143	565	144	491	1187	179
Arrive On Green	0.36	0.36	0.36				0.08	0.22	0.22	0.28	0.41	0.41
Sat Flow, veh/h	169	3196	100				1781	2602	662	1781	2879	434
Grp Volume(v), veh/h	430	0	337				33	246	211	395	317	276
Grp Sat Flow(s),veh/h/ln	1862	0	1603				1781	1777	1487	1781	1777	1536
Q Serve(g_s), s	16.8	0.0	14.9				1.5	10.9	11.3	18.0	11.1	11.2
Cycle Q Clear(g_c), s	16.8	0.0	14.9				1.5	10.9	11.3	18.0	11.1	11.2
Prop In Lane	0.09		0.06				1.00		0.45	1.00		0.28
Lane Grp Cap(c), veh/h	666	0	574				143	385	323	491	733	633
V/C Ratio(X)	0.65	0.00	0.59				0.23	0.64	0.65	0.80	0.43	0.44
Avail Cap(c_a), veh/h	666	0	574				160	486	407	491	733	633
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.00	0.97				1.00	1.00	1.00	0.72	0.72	0.72
Uniform Delay (d), s/veh	23.3	0.0	22.7				37.5	31.0	31.1	29.3	18.3	18.3
Incr Delay (d2), s/veh	4.6	0.0	4.2				0.3	3.8	4.9	6.4	0.6	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
%ile BackOfQ(50%),veh/ln	8.0	0.0	6.2				0.7	5.0	4.4	8.4	4.6	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.0	0.0	27.0				37.8	34.7	36.0	35.7	18.9	19.0
LnGrp LOS	C	A	C				D	C	D	D	B	B
Approach Vol, veh/h		767						490			988	
Approach Delay, s/veh		27.5						35.5			25.7	
Approach LOS		C						D			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	28.2	23.1		35.7	11.2	40.1
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6	* 4.2	* 4.2
Max Green Setting (Gmax), s	* 24	* 24		26.4	* 7.8	* 24
Max Q Clear Time (g_c+I1), s	20.0	13.3		18.8	3.5	13.2
Green Ext Time (p_c), s	0.3	3.5		4.4	0.0	4.5

Intersection Summary		
HCM 6th Ctrl Delay		28.5
HCM 6th LOS		C

Notes

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

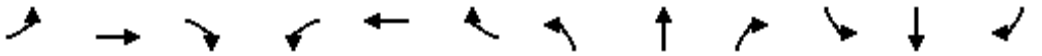
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	14.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	53	318	23	30	245	20	13	148	27	29	103	21
Future Vol, veh/h	53	318	23	30	245	20	13	148	27	29	103	21
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	54	321	23	30	247	20	13	149	27	29	104	21
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	16.8	13.6	12.1	11.6
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	13%	10%	19%
Vol Thru, %	79%	81%	83%	67%
Vol Right, %	14%	6%	7%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	188	394	295	153
LT Vol	13	53	30	29
Through Vol	148	318	245	103
RT Vol	27	23	20	21
Lane Flow Rate	190	398	298	155
Geometry Grp	1	1	1	1
Degree of Util (X)	0.322	0.608	0.467	0.267
Departure Headway (Hd)	6.103	5.499	5.644	6.213
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	585	653	635	573
Service Time	4.192	3.569	3.722	4.307
HCM Lane V/C Ratio	0.325	0.609	0.469	0.271
HCM Control Delay	12.1	16.8	13.6	11.6
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	1.4	4.1	2.5	1.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	0	98	264	474	89	28	268	0	0	529	20
Future Volume (veh/h)	30	0	98	264	474	89	28	268	0	0	529	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.94	1.00	1.00	1.00	0.86
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	33	0	9	293	527	83	31	298	0	0	588	22
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, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	134	0	119	834	1346	211	44	985	0	0	708	26
Arrive On Green	0.08	0.00	0.08	0.47	0.47	0.47	0.02	0.30	0.00	0.00	0.22	0.22
Sat Flow, veh/h	1781	0	1585	1781	2875	451	1781	3419	0	0	3339	121
Grp Volume(v), veh/h	33	0	9	293	325	285	31	298	0	0	322	288
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1549	1781	1666	0	0	1777	1590
Q Serve(g_s), s	1.4	0.0	0.4	8.4	9.5	9.6	1.4	5.5	0.0	0.0	13.8	13.9
Cycle Q Clear(g_c), s	1.4	0.0	0.4	8.4	9.5	9.6	1.4	5.5	0.0	0.0	13.8	13.9
Prop In Lane	1.00		1.00	1.00		0.29	1.00		0.00	0.00		0.08
Lane Grp Cap(c), veh/h	134	0	119	834	832	725	44	985	0	0	388	347
V/C Ratio(X)	0.25	0.00	0.08	0.35	0.39	0.39	0.70	0.30	0.00	0.00	0.83	0.83
Avail Cap(c_a), veh/h	154	0	137	834	832	725	140	1408	0	0	529	473
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	0.80	0.80	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	34.9	0.0	34.4	13.5	13.8	13.9	38.7	21.8	0.0	0.0	29.9	29.9
Incr Delay (d2), s/veh	0.4	0.0	0.1	1.2	1.4	1.6	5.8	0.1	0.0	0.0	5.9	6.6
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	0.6	0.0	0.2	3.4	3.9	3.4	0.7	2.1	0.0	0.0	6.4	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	0.0	34.5	14.7	15.2	15.5	44.5	21.8	0.0	0.0	35.7	36.5
LnGrp LOS	D	A	C	B	B	B	D	C	A	A	D	D
Approach Vol, veh/h		42			903			329			610	
Approach Delay, s/veh		35.1			15.1			24.0			36.1	
Approach LOS		D			B			C			D	

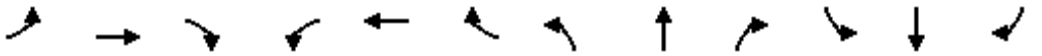
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	6.2	21.7		42.1		27.8		10.1				
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6		* 4.2		4.1				
Max Green Setting (Gmax), s	* 6.3	* 24		26.4		* 34		6.9				
Max Q Clear Time (g_c+I1), s	3.4	15.9		11.6		7.5		3.4				
Green Ext Time (p_c), s	0.0	0.6		2.6		0.5		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		23.9	
HCM 6th LOS		C	

Notes

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

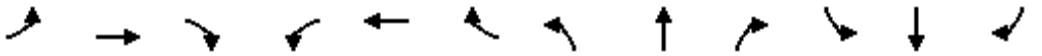
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	77	10	16	473	33	8	69	15	36	105	21
Future Volume (veh/h)	3	77	10	16	473	33	8	69	15	36	105	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.96	0.96		0.91	0.94		0.91
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1945	1870	1870	1945	1870
Adj Flow Rate, veh/h	3	85	8	18	520	32	9	76	4	40	115	23
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	58	988	91	84	2095	127	62	282	14	98	207	37
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.25	0.25	0.25	0.19	0.19	0.19
Sat Flow, veh/h	17	1441	133	53	3057	185	65	1505	74	227	1104	198
Grp Volume(v), veh/h	96	0	0	319	0	251	89	0	0	178	0	0
Grp Sat Flow(s),veh/h/ln	1590	0	0	1846	0	1448	1644	0	0	1529	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	3.6	0.0	0.0
Cycle Q Clear(g_c), s	1.6	0.0	0.0	5.2	0.0	5.3	3.4	0.0	0.0	8.3	0.0	0.0
Prop In Lane	0.03		0.08	0.06		0.13	0.10		0.04	0.22		0.13
Lane Grp Cap(c), veh/h	1136	0	0	1313	0	992	357	0	0	341	0	0
V/C Ratio(X)	0.08	0.00	0.00	0.24	0.00	0.25	0.25	0.00	0.00	0.52	0.00	0.00
Avail Cap(c_a), veh/h	1136	0	0	1313	0	992	594	0	0	562	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.94	0.00	0.94	0.82	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.2	0.0	0.0	4.8	0.0	4.8	25.7	0.0	0.0	29.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.4	0.0	0.6	0.1	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	1.7	0.0	1.4	1.3	0.0	0.0	3.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.4	0.0	0.0	5.2	0.0	5.4	25.8	0.0	0.0	30.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		96			570			89			178	
Approach Delay, s/veh		4.4			5.3			25.8			30.2	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.9		20.1		59.9		20.1				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		42.9		26.9		42.9		26.9				
Max Q Clear Time (g_c+I1), s		3.6		10.3		7.3		5.4				
Green Ext Time (p_c), s		0.8		0.6		5.7		0.3				

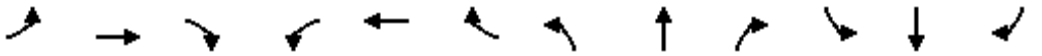
Intersection Summary												
HCM 6th Ctrl Delay			11.9									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	438	15	12	68	7	2	78	70	33	95	3
Future Volume (veh/h)	7	438	15	12	68	7	2	78	70	33	95	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	0.96		0.96	0.97		0.93
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	509	15	14	79	6	2	91	23	38	110	3
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	57	2242	65	159	835	61	47	221	55	100	219	5
Arrive On Green	0.70	0.70	0.70	0.70	0.70	0.70	0.18	0.18	0.18	0.06	0.06	0.06
Sat Flow, veh/h	15	3225	94	155	1201	87	7	1245	310	249	1233	30
Grp Volume(v), veh/h	297	0	235	99	0	0	116	0	0	151	0	0
Grp Sat Flow(s),veh/h/ln	1864	0	1471	1443	0	0	1562	0	0	1512	0	0
Q Serve(g_s), s	0.0	0.0	4.6	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear(g_c), s	4.6	0.0	4.6	1.6	0.0	0.0	5.3	0.0	0.0	7.5	0.0	0.0
Prop In Lane	0.03		0.06	0.14		0.06	0.02		0.20	0.25		0.02
Lane Grp Cap(c), veh/h	1342	0	1022	1054	0	0	323	0	0	324	0	0
V/C Ratio(X)	0.22	0.00	0.23	0.09	0.00	0.00	0.36	0.00	0.00	0.47	0.00	0.00
Avail Cap(c_a), veh/h	1342	0	1022	1054	0	0	589	0	0	572	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.80	0.00	0.00
Uniform Delay (d), s/veh	4.4	0.0	4.4	4.0	0.0	0.0	29.2	0.0	0.0	34.4	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.5	0.2	0.0	0.0	0.3	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.3	0.5	0.0	0.0	2.0	0.0	0.0	3.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.8	0.0	4.9	4.1	0.0	0.0	29.5	0.0	0.0	34.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		532			99			116			151	
Approach Delay, s/veh		4.9			4.1			29.5			34.7	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		60.7		19.3		60.7		19.3				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		41.9		27.9		41.9		27.9				
Max Q Clear Time (g_c+I1), s		6.6		9.5		3.6		7.3				
Green Ext Time (p_c), s		5.4		0.5		0.9		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			13.0									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	492	26	0	0	0	15	273	122	264	555	72
Future Volume (veh/h)	23	492	26	0	0	0	15	273	122	264	555	72
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		0.96	1.00		0.94
Parking Bus, Adj	1.00	1.00	0.87				1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	529	24				16	294	58	284	597	63
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	64	1420	68				156	570	110	324	909	96
Arrive On Green	0.45	0.45	0.45				0.09	0.21	0.21	0.18	0.30	0.30
Sat Flow, veh/h	143	3163	151				1781	2757	533	1781	3017	317
Grp Volume(v), veh/h	325	0	253				16	187	165	284	351	309
Grp Sat Flow(s),veh/h/ln	1863	0	1595				1781	1777	1513	1781	1777	1557
Q Serve(g_s), s	9.3	0.0	8.3				0.7	7.5	7.7	12.4	13.8	13.8
Cycle Q Clear(g_c), s	9.3	0.0	8.3				0.7	7.5	7.7	12.4	13.8	13.8
Prop In Lane	0.08		0.09				1.00		0.35	1.00		0.20
Lane Grp Cap(c), veh/h	836	0	716				156	368	313	324	535	469
V/C Ratio(X)	0.39	0.00	0.35				0.10	0.51	0.53	0.88	0.66	0.66
Avail Cap(c_a), veh/h	836	0	716				174	529	450	374	535	469
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.00	0.98				1.00	1.00	1.00	0.74	0.74	0.74
Uniform Delay (d), s/veh	14.7	0.0	14.4				33.6	28.1	28.2	31.9	24.3	24.4
Incr Delay (d2), s/veh	1.3	0.0	1.3				0.1	2.3	2.9	13.2	2.9	3.4
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	4.1	0.0	3.2				0.3	3.4	3.0	6.4	6.1	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.0	0.0	15.8				33.7	30.5	31.1	45.1	27.3	27.8
LnGrp LOS	B	A	B				C	C	C	D	C	C
Approach Vol, veh/h		578						368			944	
Approach Delay, s/veh		15.9						30.9			32.8	
Approach LOS		B						C			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	18.7	20.8		40.5	11.2	28.3
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6	* 4.2	* 4.2
Max Green Setting (Gmax), s	* 17	* 24		26.4	* 7.8	* 24
Max Q Clear Time (g_c+I1), s	14.4	9.7		11.3	2.7	15.8
Green Ext Time (p_c), s	0.1	3.1		5.5	0.0	4.0

Intersection Summary		
HCM 6th Ctrl Delay		27.3
HCM 6th LOS		C

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	13.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	64	192	39	83	275	12	27	74	32	6	101	15
Future Vol, veh/h	64	192	39	83	275	12	27	74	32	6	101	15
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	73	218	44	94	313	14	31	84	36	7	115	17
Number of Lanes	0	2	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	11.2	17.8	11.3	11.2
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	20%	40%	0%	22%	5%
Vol Thru, %	56%	60%	71%	74%	83%
Vol Right, %	24%	0%	29%	3%	12%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	133	160	135	370	122
LT Vol	27	64	0	83	6
Through Vol	74	96	96	275	101
RT Vol	32	0	39	12	15
Lane Flow Rate	151	182	153	420	139
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.257	0.313	0.247	0.64	0.238
Departure Headway (Hd)	6.12	6.198	5.79	5.478	6.189
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	583	578	618	656	577
Service Time	4.192	3.955	3.547	3.528	4.263
HCM Lane V/C Ratio	0.259	0.315	0.248	0.64	0.241
HCM Control Delay	11.3	11.8	10.5	17.8	11.2
HCM Lane LOS	B	B	B	C	B
HCM 95th-tile Q	1	1.3	1	4.6	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	0	199	260	460	92	50	328	0	0	500	28
Future Volume (veh/h)	39	0	199	260	460	92	50	328	0	0	500	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.94	1.00	1.00	1.00	0.86
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	43	0	18	289	511	84	56	364	0	0	556	24
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, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	134	0	119	780	1251	205	71	1085	0	0	750	32
Arrive On Green	0.08	0.00	0.08	0.44	0.44	0.44	0.04	0.33	0.00	0.00	0.23	0.23
Sat Flow, veh/h	1781	0	1585	1781	2855	467	1781	3419	0	0	3311	139
Grp Volume(v), veh/h	43	0	18	289	317	278	56	364	0	0	306	274
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1546	1781	1666	0	0	1777	1580
Q Serve(g_s), s	1.8	0.0	0.9	8.7	9.8	9.9	2.5	6.6	0.0	0.0	12.8	12.8
Cycle Q Clear(g_c), s	1.8	0.0	0.9	8.7	9.8	9.9	2.5	6.6	0.0	0.0	12.8	12.8
Prop In Lane	1.00		1.00	1.00		0.30	1.00		0.00	0.00		0.09
Lane Grp Cap(c), veh/h	134	0	119	780	778	677	71	1085	0	0	414	368
V/C Ratio(X)	0.32	0.00	0.15	0.37	0.41	0.41	0.79	0.34	0.00	0.00	0.74	0.74
Avail Cap(c_a), veh/h	154	0	137	780	778	677	140	1408	0	0	529	470
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)	0.99	0.00	0.99	1.00	1.00	1.00	0.69	0.69	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	0.0	34.6	15.1	15.4	15.4	38.1	20.4	0.0	0.0	28.4	28.4
Incr Delay (d2), s/veh	0.5	0.0	0.2	1.4	1.6	1.8	4.9	0.0	0.0	0.0	2.7	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.3	3.6	4.0	3.6	1.2	2.5	0.0	0.0	5.6	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.6	0.0	34.8	16.4	17.0	17.2	42.9	20.5	0.0	0.0	31.2	31.6
LnGrp LOS	D	A	C	B	B	B	D	C	A	A	C	C
Approach Vol, veh/h		61			884			420			580	
Approach Delay, s/veh		35.4			16.9			23.5			31.4	
Approach LOS		D			B			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.4	22.9		39.6		30.3		10.1				
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6		* 4.2		4.1				
Max Green Setting (Gmax), s	* 6.3	* 24		26.4		* 34		6.9				
Max Q Clear Time (g_c+I1), s	4.5	14.8		11.9		8.6		3.8				
Green Ext Time (p_c), s	0.0	0.6		2.5		0.6		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		23.2
HCM 6th LOS		C

Notes

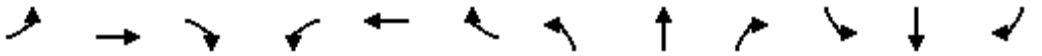
User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	149	47	58	434	35	26	119	56	26	124	30
Future Volume (veh/h)	10	149	47	58	434	35	26	119	56	26	124	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.98		0.94	0.94		0.88	0.94		0.87
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1945	1870	1870	1945	1870
Adj Flow Rate, veh/h	11	166	42	64	482	35	29	132	40	29	138	21
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	793	194	242	1751	126	79	234	65	82	268	38
Arrive On Green	0.66	0.66	0.66	0.66	0.66	0.66	0.21	0.21	0.21	0.21	0.21	0.21
Sat Flow, veh/h	35	1202	294	286	2656	191	128	1099	305	141	1259	176
Grp Volume(v), veh/h	219	0	0	317	0	264	201	0	0	188	0	0
Grp Sat Flow(s),veh/h/ln	1531	0	0	1691	0	1441	1532	0	0	1576	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	6.1	1.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.4	0.0	0.0	5.6	0.0	6.1	9.1	0.0	0.0	8.1	0.0	0.0
Prop In Lane	0.05		0.19	0.20		0.13	0.14		0.20	0.15		0.11
Lane Grp Cap(c), veh/h	1056	0	0	1169	0	950	378	0	0	388	0	0
V/C Ratio(X)	0.21	0.00	0.00	0.27	0.00	0.28	0.53	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	1056	0	0	1169	0	950	559	0	0	572	0	0
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	0.00	0.93	0.00	0.93	0.68	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.4	0.0	0.0	5.6	0.0	5.7	28.3	0.0	0.0	28.0	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.5	0.0	0.7	0.3	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	2.0	0.0	1.7	3.4	0.0	0.0	3.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.8	0.0	0.0	6.1	0.0	6.4	28.6	0.0	0.0	28.3	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		219			581			201			188	
Approach Delay, s/veh		5.8			6.2			28.6			28.3	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		57.8		22.2		57.8		22.2				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		42.9		26.9		42.9		26.9				
Max Q Clear Time (g_c+I1), s		6.4		10.1		8.1		11.1				
Green Ext Time (p_c), s		2.1		0.7		5.9		0.7				

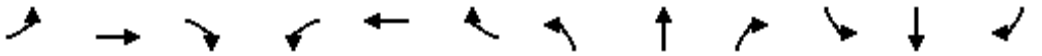
Intersection Summary		
HCM 6th Ctrl Delay		13.4
HCM 6th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	557	36	6	94	19	10	148	96	62	154	21
Future Volume (veh/h)	22	557	36	6	94	19	10	148	96	62	154	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	0.99		0.97	0.96		0.95	0.98		0.92
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	580	34	6	98	14	10	154	67	65	160	16
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	1966	113	70	857	118	53	243	102	121	236	21
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.23	0.23	0.23	0.08	0.08	0.08
Sat Flow, veh/h	63	3052	176	35	1331	184	26	1062	445	280	1032	93
Grp Volume(v), veh/h	356	0	281	118	0	0	231	0	0	241	0	0
Grp Sat Flow(s),veh/h/ln	1839	0	1452	1550	0	0	1533	0	0	1405	0	0
Q Serve(g_s), s	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0
Cycle Q Clear(g_c), s	6.7	0.0	6.8	2.3	0.0	0.0	11.0	0.0	0.0	13.3	0.0	0.0
Prop In Lane	0.06		0.12	0.05		0.12	0.04		0.29	0.27		0.07
Lane Grp Cap(c), veh/h	1232	0	935	1045	0	0	397	0	0	378	0	0
V/C Ratio(X)	0.29	0.00	0.30	0.11	0.00	0.00	0.58	0.00	0.00	0.64	0.00	0.00
Avail Cap(c_a), veh/h	1232	0	935	1045	0	0	577	0	0	543	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	0.98	0.00	0.00	1.00	0.00	0.00	0.72	0.00	0.00
Uniform Delay (d), s/veh	6.3	0.0	6.3	5.5	0.0	0.0	28.0	0.0	0.0	34.4	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.8	0.2	0.0	0.0	0.5	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	2.0	0.7	0.0	0.0	4.0	0.0	0.0	5.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.9	0.0	7.1	5.7	0.0	0.0	28.5	0.0	0.0	34.9	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		637			118			231			241	
Approach Delay, s/veh		7.0			5.7			28.5			34.9	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		56.6		23.4		56.6		23.4				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		41.9		27.9		41.9		27.9				
Max Q Clear Time (g_c+I1), s		8.8		15.3		4.3		13.0				
Green Ext Time (p_c), s		6.7		0.8		1.1		0.8				

Intersection Summary												
HCM 6th Ctrl Delay			16.4									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	693	24	0	0	0	30	343	153	363	507	89
Future Volume (veh/h)	35	693	24	0	0	0	30	343	153	363	507	89
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	0.87				1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	753	23				33	373	133	395	551	79
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	54	1112	36				143	545	191	491	1229	175
Arrive On Green	0.35	0.35	0.35				0.08	0.23	0.23	0.28	0.42	0.42
Sat Flow, veh/h	155	3207	103				1781	2391	836	1781	2903	414
Grp Volume(v), veh/h	457	0	357				33	275	231	395	336	294
Grp Sat Flow(s),veh/h/ln	1863	0	1602				1781	1777	1450	1781	1777	1540
Q Serve(g_s), s	18.5	0.0	16.3				1.5	12.3	12.7	18.0	11.7	11.8
Cycle Q Clear(g_c), s	18.5	0.0	16.3				1.5	12.3	12.7	18.0	11.7	11.8
Prop In Lane	0.08		0.06				1.00		0.58	1.00		0.27
Lane Grp Cap(c), veh/h	646	0	556				143	405	330	491	752	652
V/C Ratio(X)	0.71	0.00	0.64				0.23	0.68	0.70	0.80	0.45	0.45
Avail Cap(c_a), veh/h	646	0	556				160	486	397	491	752	652
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.00	0.97				1.00	1.00	1.00	0.71	0.71	0.71
Uniform Delay (d), s/veh	24.6	0.0	23.9				37.5	30.7	30.8	29.3	17.8	17.9
Incr Delay (d2), s/veh	6.2	0.0	5.5				0.3	4.9	6.6	6.4	0.6	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
%ile BackOfQ(50%),veh/ln	9.1	0.0	6.9				0.7	5.8	5.0	8.4	4.8	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.8	0.0	29.4				37.8	35.6	37.4	35.7	18.5	18.6
LnGrp LOS	C	A	C				D	D	D	D	B	B
Approach Vol, veh/h		814						539			1025	
Approach Delay, s/veh		30.2						36.5			25.1	
Approach LOS		C						D			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	28.2	24.0		34.8	11.2	41.0
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6	* 4.2	* 4.2
Max Green Setting (Gmax), s	* 24	* 24		26.4	* 7.8	* 24
Max Q Clear Time (g_c+I1), s	20.0	14.7		20.5	3.5	13.8
Green Ext Time (p_c), s	0.3	3.5		3.8	0.0	4.6

Intersection Summary		
HCM 6th Ctrl Delay		29.4
HCM 6th LOS		C

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	14.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	88	396	23	30	288	20	13	146	27	23	107	42
Future Vol, veh/h	88	396	23	30	288	20	13	146	27	23	107	42
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	89	400	23	30	291	20	13	147	27	23	108	42
Number of Lanes	0	2	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	14.8	17.2	13.1	12.8
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	7%	31%	0%	9%	13%
Vol Thru, %	78%	69%	90%	85%	62%
Vol Right, %	15%	0%	10%	6%	24%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	186	286	221	338	172
LT Vol	13	88	0	30	23
Through Vol	146	198	198	288	107
RT Vol	27	0	23	20	42
Lane Flow Rate	188	289	223	341	174
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.345	0.523	0.39	0.579	0.319
Departure Headway (Hd)	6.62	6.519	6.288	6.11	6.618
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	543	555	576	594	542
Service Time	4.664	4.229	3.998	4.121	4.663
HCM Lane V/C Ratio	0.346	0.521	0.387	0.574	0.321
HCM Control Delay	13.1	16.2	13	17.2	12.8
HCM Lane LOS	B	C	B	C	B
HCM 95th-tile Q	1.5	3	1.8	3.7	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	0	102	291	608	89	40	271	0	0	536	23
Future Volume (veh/h)	31	0	102	291	608	89	40	271	0	0	536	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.94	1.00	1.00	1.00	0.86
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	34	0	9	323	676	87	44	301	0	0	596	20
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, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	134	0	119	820	1363	175	56	1010	0	0	716	24
Arrive On Green	0.08	0.00	0.08	0.46	0.46	0.46	0.03	0.30	0.00	0.00	0.22	0.22
Sat Flow, veh/h	1781	0	1585	1781	2959	380	1781	3419	0	0	3354	109
Grp Volume(v), veh/h	34	0	9	323	406	357	44	301	0	0	325	291
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1562	1781	1666	0	0	1777	1593
Q Serve(g_s), s	1.4	0.0	0.4	9.6	12.8	12.8	2.0	5.5	0.0	0.0	14.0	14.0
Cycle Q Clear(g_c), s	1.4	0.0	0.4	9.6	12.8	12.8	2.0	5.5	0.0	0.0	14.0	14.0
Prop In Lane	1.00		1.00	1.00		0.24	1.00		0.00	0.00		0.07
Lane Grp Cap(c), veh/h	134	0	119	820	818	719	56	1010	0	0	390	350
V/C Ratio(X)	0.25	0.00	0.08	0.39	0.50	0.50	0.79	0.30	0.00	0.00	0.83	0.83
Avail Cap(c_a), veh/h	154	0	137	820	818	719	140	1408	0	0	529	474
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	0.79	0.79	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	34.9	0.0	34.4	14.2	15.1	15.1	38.5	21.3	0.0	0.0	29.8	29.8
Incr Delay (d2), s/veh	0.4	0.0	0.1	1.4	2.1	2.4	7.3	0.0	0.0	0.0	6.1	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.2	3.9	5.3	4.7	1.0	2.1	0.0	0.0	6.5	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	0.0	34.5	15.6	17.2	17.5	45.7	21.4	0.0	0.0	35.9	36.7
LnGrp LOS	D	A	C	B	B	B	D	C	A	A	D	D
Approach Vol, veh/h		43			1086			345			616	
Approach Delay, s/veh		35.1			16.9			24.5			36.3	
Approach LOS		D			B			C			D	

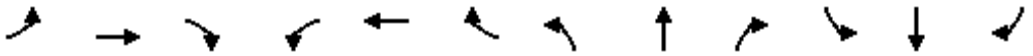
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	6.7	21.8		41.4		28.5		10.1				
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6		* 4.2		4.1				
Max Green Setting (Gmax), s	* 6.3	* 24		26.4		* 34		6.9				
Max Q Clear Time (g_c+I1), s	4.0	16.0		14.8		7.5		3.4				
Green Ext Time (p_c), s	0.0	0.6		3.0		0.5		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		24.2	
HCM 6th LOS		C	

Notes

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

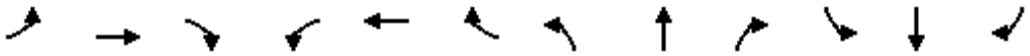
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	78	55	162	448	33	11	69	16	36	108	21
Future Volume (veh/h)	3	78	55	162	448	33	11	69	16	36	108	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.96	0.96		0.91	0.94		0.91
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1945	1870	1870	1945	1870
Adj Flow Rate, veh/h	3	86	41	178	492	33	12	76	6	40	119	14
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	714	332	551	1467	98	67	264	19	99	218	23
Arrive On Green	0.69	0.69	0.69	0.69	0.69	0.69	0.25	0.25	0.25	0.18	0.18	0.18
Sat Flow, veh/h	9	1038	483	704	2132	143	89	1429	104	236	1184	125
Grp Volume(v), veh/h	130	0	0	367	0	336	94	0	0	173	0	0
Grp Sat Flow(s),veh/h/ln	1530	0	0	1522	0	1457	1622	0	0	1545	0	0
Q Serve(g_s), s	0.0	0.0	0.0	5.0	0.0	7.5	0.0	0.0	0.0	3.3	0.0	0.0
Cycle Q Clear(g_c), s	2.3	0.0	0.0	7.3	0.0	7.5	3.7	0.0	0.0	8.0	0.0	0.0
Prop In Lane	0.02		0.32	0.49		0.10	0.13		0.06	0.23		0.08
Lane Grp Cap(c), veh/h	1099	0	0	1114	0	1003	350	0	0	340	0	0
V/C Ratio(X)	0.12	0.00	0.00	0.33	0.00	0.34	0.27	0.00	0.00	0.51	0.00	0.00
Avail Cap(c_a), veh/h	1099	0	0	1114	0	1003	587	0	0	567	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.88	0.00	0.88	0.72	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.3	0.0	0.0	5.0	0.0	5.1	26.0	0.0	0.0	29.8	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.7	0.0	0.8	0.1	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	2.1	0.0	2.0	1.4	0.0	0.0	3.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	4.5	0.0	0.0	5.7	0.0	5.9	26.1	0.0	0.0	30.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		130			703			94			173	
Approach Delay, s/veh		4.5			5.8			26.1			30.2	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		60.1		19.9		60.1		19.9				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		42.9		26.9		42.9		26.9				
Max Q Clear Time (g_c+I1), s		4.3		10.0		9.5		5.7				
Green Ext Time (p_c), s		1.1		0.6		7.4		0.3				

Intersection Summary		
HCM 6th Ctrl Delay		11.2
HCM 6th LOS		B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	430	15	12	60	13	2	107	85	37	132	2
Future Volume (veh/h)	24	430	15	12	60	13	2	107	85	37	132	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.99	0.97		0.96	0.98		0.94
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	500	15	14	70	9	2	124	49	43	153	1
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	2097	62	164	761	94	46	214	83	99	254	2
Arrive On Green	0.68	0.68	0.68	0.68	0.68	0.68	0.19	0.19	0.19	0.06	0.06	0.06
Sat Flow, veh/h	111	3091	91	165	1122	138	4	1102	430	228	1308	8
Grp Volume(v), veh/h	301	0	242	93	0	0	175	0	0	197	0	0
Grp Sat Flow(s),veh/h/ln	1822	0	1471	1424	0	0	1537	0	0	1544	0	0
Q Serve(g_s), s	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0
Cycle Q Clear(g_c), s	4.9	0.0	5.1	1.6	0.0	0.0	8.3	0.0	0.0	9.6	0.0	0.0
Prop In Lane	0.09		0.06	0.15		0.10	0.01		0.28	0.22		0.01
Lane Grp Cap(c), veh/h	1285	0	998	1018	0	0	344	0	0	354	0	0
V/C Ratio(X)	0.23	0.00	0.24	0.09	0.00	0.00	0.51	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	1285	0	998	1018	0	0	580	0	0	579	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	0.99	0.00	0.00	1.00	0.00	0.00	0.79	0.00	0.00
Uniform Delay (d), s/veh	4.9	0.0	4.9	4.4	0.0	0.0	29.3	0.0	0.0	34.6	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.6	0.2	0.0	0.0	0.4	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	1.5	0.5	0.0	0.0	3.1	0.0	0.0	4.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.4	0.0	5.5	4.6	0.0	0.0	29.8	0.0	0.0	35.0	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	D	A	A
Approach Vol, veh/h		543			93			175			197	
Approach Delay, s/veh		5.4			4.6			29.8			35.0	
Approach LOS		A			A			C			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		59.4		20.6		59.4		20.6				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		41.9		27.9		41.9		27.9				
Max Q Clear Time (g_c+I1), s		7.1		11.6		3.6		10.3				
Green Ext Time (p_c), s		5.6		0.7		0.8		0.6				

Intersection Summary												
HCM 6th Ctrl Delay			15.4									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	520	26	0	0	0	21	289	126	264	601	64
Future Volume (veh/h)	23	520	26	0	0	0	21	289	126	264	601	64
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		0.96	1.00		0.94
Parking Bus, Adj	1.00	1.00	0.87				1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	559	25				23	311	67	284	646	56
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	60	1404	66				156	577	122	324	947	82
Arrive On Green	0.44	0.44	0.44				0.09	0.21	0.21	0.18	0.31	0.31
Sat Flow, veh/h	136	3173	149				1781	2709	572	1781	3080	267
Grp Volume(v), veh/h	342	0	267				23	202	176	284	372	330
Grp Sat Flow(s),veh/h/ln	1864	0	1595				1781	1777	1504	1781	1777	1570
Q Serve(g_s), s	10.0	0.0	9.0				1.0	8.1	8.4	12.4	14.7	14.7
Cycle Q Clear(g_c), s	10.0	0.0	9.0				1.0	8.1	8.4	12.4	14.7	14.7
Prop In Lane	0.07		0.09				1.00		0.38	1.00		0.17
Lane Grp Cap(c), veh/h	825	0	706				156	379	321	324	546	483
V/C Ratio(X)	0.41	0.00	0.38				0.15	0.53	0.55	0.88	0.68	0.68
Avail Cap(c_a), veh/h	825	0	706				174	529	448	374	546	483
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.00	0.98				1.00	1.00	1.00	0.72	0.72	0.72
Uniform Delay (d), s/veh	15.2	0.0	14.9				33.7	27.9	28.1	31.9	24.3	24.3
Incr Delay (d2), s/veh	1.5	0.0	1.5				0.2	2.5	3.1	12.9	3.3	3.7
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	4.4	0.0	3.4				0.4	3.6	3.2	6.4	6.5	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	0.0	16.4				33.9	30.4	31.2	44.8	27.5	28.0
LnGrp LOS	B	A	B				C	C	C	D	C	C
Approach Vol, veh/h		609						401			986	
Approach Delay, s/veh		16.6						30.9			32.7	
Approach LOS		B						C			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	18.7	21.3		40.0	11.2	28.8
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6	* 4.2	* 4.2
Max Green Setting (Gmax), s	* 17	* 24		26.4	* 7.8	* 24
Max Q Clear Time (g_c+I1), s	14.4	10.4		12.0	3.0	16.7
Green Ext Time (p_c), s	0.1	3.3		5.7	0.0	3.9

Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	20.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	95	226	39	83	343	14	27	85	32	5	102	48
Future Vol, veh/h	95	226	39	83	343	14	27	85	32	5	102	48
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	108	257	44	94	390	16	31	97	36	6	116	55
Number of Lanes	0	2	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	13.6	32	13.1	13.2
HCM LOS	B	D	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	19%	46%	0%	19%	3%
Vol Thru, %	59%	54%	74%	78%	66%
Vol Right, %	22%	0%	26%	3%	31%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	144	208	152	440	155
LT Vol	27	95	0	83	5
Through Vol	85	113	113	343	102
RT Vol	32	0	39	14	48
Lane Flow Rate	164	236	173	500	176
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.314	0.445	0.305	0.834	0.332
Departure Headway (Hd)	6.901	6.776	6.36	6.002	6.78
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	519	532	563	605	528
Service Time	4.964	4.529	4.113	4.002	4.843
HCM Lane V/C Ratio	0.316	0.444	0.307	0.826	0.333
HCM Control Delay	13.1	14.9	11.9	32	13.2
HCM Lane LOS	B	B	B	D	B
HCM 95th-tile Q	1.3	2.3	1.3	8.8	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	0	199	260	437	92	50	328	0	0	500	27
Future Volume (veh/h)	41	0	199	260	437	92	50	328	0	0	500	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.94	1.00	1.00	1.00	0.86
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	46	0	18	289	486	83	56	364	0	0	556	23
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, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	134	0	119	781	1244	211	71	1084	0	0	751	31
Arrive On Green	0.08	0.00	0.08	0.44	0.44	0.44	0.04	0.33	0.00	0.00	0.23	0.23
Sat Flow, veh/h	1781	0	1585	1781	2838	482	1781	3419	0	0	3318	133
Grp Volume(v), veh/h	46	0	18	289	303	266	56	364	0	0	306	273
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1543	1781	1666	0	0	1777	1581
Q Serve(g_s), s	2.0	0.0	0.9	8.7	9.2	9.4	2.5	6.6	0.0	0.0	12.8	12.8
Cycle Q Clear(g_c), s	2.0	0.0	0.9	8.7	9.2	9.4	2.5	6.6	0.0	0.0	12.8	12.8
Prop In Lane	1.00		1.00	1.00		0.31	1.00		0.00	0.00		0.08
Lane Grp Cap(c), veh/h	134	0	119	781	779	676	71	1084	0	0	414	368
V/C Ratio(X)	0.34	0.00	0.15	0.37	0.39	0.39	0.79	0.34	0.00	0.00	0.74	0.74
Avail Cap(c_a), veh/h	154	0	137	781	779	676	140	1408	0	0	529	470
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)	0.99	0.00	0.99	1.00	1.00	1.00	0.69	0.69	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.1	0.0	34.6	15.1	15.2	15.3	38.1	20.4	0.0	0.0	28.4	28.4
Incr Delay (d2), s/veh	0.6	0.0	0.2	1.3	1.5	1.7	4.9	0.0	0.0	0.0	2.7	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.3	3.6	3.8	3.4	1.2	2.5	0.0	0.0	5.6	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.7	0.0	34.8	16.4	16.7	17.0	42.9	20.5	0.0	0.0	31.1	31.6
LnGrp LOS	D	A	C	B	B	B	D	C	A	A	C	C
Approach Vol, veh/h		64			858			420			579	
Approach Delay, s/veh		35.5			16.7			23.5			31.3	
Approach LOS		D			B			C			C	

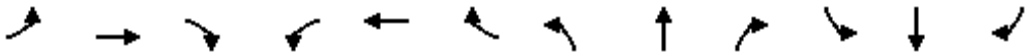
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.4	22.8		39.7		30.2		10.1				
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6		* 4.2		4.1				
Max Green Setting (Gmax), s	* 6.3	* 24		26.4		* 34		6.9				
Max Q Clear Time (g_c+I1), s	4.5	14.8		11.4		8.6		4.0				
Green Ext Time (p_c), s	0.0	0.6		2.5		0.6		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		23.2
HCM 6th LOS		C

Notes

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

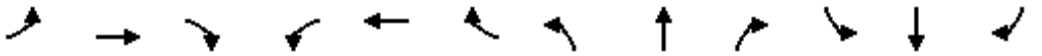
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	149	35	35	434	35	45	120	58	26	123	30
Future Volume (veh/h)	10	149	35	35	434	35	45	120	58	26	123	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.98		0.94	0.94		0.88	0.94		0.88
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1945	1870	1870	1945	1870
Adj Flow Rate, veh/h	11	166	31	39	482	33	50	133	44	29	137	22
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	72	831	150	158	1862	125	106	216	64	83	277	41
Arrive On Green	0.65	0.65	0.65	0.65	0.65	0.65	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	38	1274	230	164	2854	192	232	984	292	142	1258	186
Grp Volume(v), veh/h	208	0	0	307	0	247	227	0	0	188	0	0
Grp Sat Flow(s),veh/h/ln	1541	0	0	1770	0	1441	1508	0	0	1586	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.8	2.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.2	0.0	0.0	5.5	0.0	5.8	10.5	0.0	0.0	8.1	0.0	0.0
Prop In Lane	0.05		0.15	0.13		0.13	0.22		0.19	0.15		0.12
Lane Grp Cap(c), veh/h	1053	0	0	1205	0	940	387	0	0	401	0	0
V/C Ratio(X)	0.20	0.00	0.00	0.25	0.00	0.26	0.59	0.00	0.00	0.47	0.00	0.00
Avail Cap(c_a), veh/h	1053	0	0	1205	0	940	551	0	0	575	0	0
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	0.00	0.94	0.00	0.94	0.83	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.6	0.0	0.0	5.8	0.0	5.8	28.4	0.0	0.0	27.5	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.5	0.0	0.6	0.4	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	1.9	0.0	1.6	3.9	0.0	0.0	3.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.0	0.0	0.0	6.3	0.0	6.5	28.8	0.0	0.0	27.8	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		208			554			227			188	
Approach Delay, s/veh		6.0			6.4			28.8			27.8	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		57.3		22.7		57.3		22.7				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		42.9		26.9		42.9		26.9				
Max Q Clear Time (g_c+I1), s		6.2		10.1		7.8		12.5				
Green Ext Time (p_c), s		1.9		0.7		5.5		0.8				

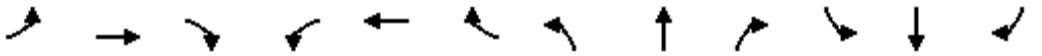
Intersection Summary												
HCM 6th Ctrl Delay			14.0									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	557	36	6	94	18	10	141	96	99	164	32
Future Volume (veh/h)	16	557	36	6	94	18	10	141	96	99	164	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	0.99		0.97	0.98		0.96	0.98		0.93
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	580	33	6	98	12	10	147	68	103	171	27
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	70	1891	106	69	831	98	54	274	122	158	215	31
Arrive On Green	0.61	0.61	0.61	0.61	0.61	0.61	0.26	0.26	0.26	0.09	0.09	0.09
Sat Flow, veh/h	38	3092	173	35	1359	161	26	1051	467	375	825	118
Grp Volume(v), veh/h	353	0	277	116	0	0	225	0	0	301	0	0
Grp Sat Flow(s),veh/h/ln	1852	0	1452	1555	0	0	1545	0	0	1319	0	0
Q Serve(g_s), s	0.0	0.0	7.3	0.0	0.0	0.0	0.0	0.0	0.0	7.8	0.0	0.0
Cycle Q Clear(g_c), s	7.2	0.0	7.3	2.4	0.0	0.0	10.2	0.0	0.0	18.0	0.0	0.0
Prop In Lane	0.05		0.12	0.05		0.10	0.04		0.30	0.34		0.09
Lane Grp Cap(c), veh/h	1180	0	888	998	0	0	450	0	0	404	0	0
V/C Ratio(X)	0.30	0.00	0.31	0.12	0.00	0.00	0.50	0.00	0.00	0.74	0.00	0.00
Avail Cap(c_a), veh/h	1180	0	888	998	0	0	581	0	0	520	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	0.98	0.00	0.00	1.00	0.00	0.00	0.78	0.00	0.00
Uniform Delay (d), s/veh	7.4	0.0	7.5	6.5	0.0	0.0	25.6	0.0	0.0	35.1	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.9	0.2	0.0	0.0	0.3	0.0	0.0	2.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	2.3	0.8	0.0	0.0	3.7	0.0	0.0	6.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.1	0.0	8.4	6.7	0.0	0.0	25.9	0.0	0.0	37.3	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	D	A	A
Approach Vol, veh/h		630			116			225			301	
Approach Delay, s/veh		8.2			6.7			25.9			37.3	
Approach LOS		A			A			C			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		54.0		26.0		54.0		26.0				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		41.9		27.9		41.9		27.9				
Max Q Clear Time (g_c+I1), s		9.3		20.0		4.4		12.2				
Green Ext Time (p_c), s		6.6		0.8		1.0		0.8				

Intersection Summary												
HCM 6th Ctrl Delay			18.1									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	730	25	0	0	0	29	343	153	363	507	89
Future Volume (veh/h)	35	730	25	0	0	0	29	343	153	363	507	89
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	0.87				1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	793	24				32	373	103	395	551	79
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	52	1137	36				143	566	154	491	1209	173
Arrive On Green	0.35	0.35	0.35				0.08	0.22	0.22	0.28	0.42	0.42
Sat Flow, veh/h	148	3215	102				1781	2562	695	1781	2903	414
Grp Volume(v), veh/h	480	0	375				32	257	219	395	336	294
Grp Sat Flow(s),veh/h/ln	1863	0	1603				1781	1777	1480	1781	1777	1540
Q Serve(g_s), s	19.5	0.0	17.2				1.5	11.4	11.8	18.0	11.9	12.0
Cycle Q Clear(g_c), s	19.5	0.0	17.2				1.5	11.4	11.8	18.0	11.9	12.0
Prop In Lane	0.08		0.06				1.00		0.47	1.00		0.27
Lane Grp Cap(c), veh/h	659	0	567				143	393	327	491	740	641
V/C Ratio(X)	0.73	0.00	0.66				0.22	0.65	0.67	0.80	0.45	0.46
Avail Cap(c_a), veh/h	659	0	567				160	486	405	491	740	641
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.00	0.96				1.00	1.00	1.00	0.71	0.71	0.71
Uniform Delay (d), s/veh	24.5	0.0	23.7				37.5	30.9	31.0	29.3	18.3	18.3
Incr Delay (d2), s/veh	6.7	0.0	5.8				0.3	4.1	5.5	6.4	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
%ile BackOfQ(50%),veh/ln	9.6	0.0	7.3				0.6	5.3	4.7	8.4	4.9	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	0.0	29.5				37.7	35.0	36.5	35.7	18.9	19.1
LnGrp LOS	C	A	C				D	C	D	D	B	B
Approach Vol, veh/h		855						508			1025	
Approach Delay, s/veh		30.4						35.8			25.4	
Approach LOS		C						D			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	28.2	23.4		35.4	11.2	40.4
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6	* 4.2	* 4.2
Max Green Setting (Gmax), s	* 24	* 24		26.4	* 7.8	* 24
Max Q Clear Time (g_c+I1), s	20.0	13.8		21.5	3.5	14.0
Green Ext Time (p_c), s	0.3	3.5		3.3	0.0	4.5

Intersection Summary	
HCM 6th Ctrl Delay	29.4
HCM 6th LOS	C

Notes

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

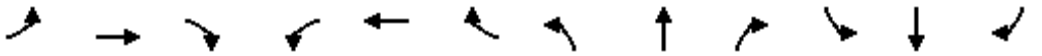
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	15
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	82	396	23	30	288	19	13	145	27	24	108	51
Future Vol, veh/h	82	396	23	30	288	19	13	145	27	24	108	51
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	83	400	23	30	291	19	13	146	27	24	109	52
Number of Lanes	0	2	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	14.7	17.4	13.2	13
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	7%	29%	0%	9%	13%
Vol Thru, %	78%	71%	90%	85%	59%
Vol Right, %	15%	0%	10%	6%	28%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	185	280	221	337	183
LT Vol	13	82	0	30	24
Through Vol	145	198	198	288	108
RT Vol	27	0	23	19	51
Lane Flow Rate	187	283	223	340	185
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.345	0.515	0.393	0.582	0.338
Departure Headway (Hd)	6.648	6.554	6.33	6.15	6.589
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	540	552	571	589	545
Service Time	4.697	4.267	4.043	4.162	4.64
HCM Lane V/C Ratio	0.346	0.513	0.391	0.577	0.339
HCM Control Delay	13.2	16	13.1	17.4	13
HCM Lane LOS	B	C	B	C	B
HCM 95th-tile Q	1.5	2.9	1.9	3.7	1.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	0	118	317	737	107	50	322	0	0	635	24
Future Volume (veh/h)	36	0	118	317	737	107	50	322	0	0	635	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.94	1.00	1.00	1.00	0.86
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	40	0	10	352	819	107	56	358	0	0	706	23
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, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	134	0	119	751	1245	163	71	1139	0	0	814	27
Arrive On Green	0.08	0.00	0.08	0.42	0.42	0.42	0.04	0.34	0.00	0.00	0.25	0.25
Sat Flow, veh/h	1781	0	1585	1781	2952	386	1781	3419	0	0	3357	106
Grp Volume(v), veh/h	40	0	10	352	493	433	56	358	0	0	384	345
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1561	1781	1666	0	0	1777	1593
Q Serve(g_s), s	1.7	0.0	0.5	11.4	17.8	17.8	2.5	6.3	0.0	0.0	16.6	16.6
Cycle Q Clear(g_c), s	1.7	0.0	0.5	11.4	17.8	17.8	2.5	6.3	0.0	0.0	16.6	16.6
Prop In Lane	1.00		1.00	1.00		0.25	1.00		0.00	0.00		0.07
Lane Grp Cap(c), veh/h	134	0	119	751	750	659	71	1139	0	0	443	397
V/C Ratio(X)	0.30	0.00	0.08	0.47	0.66	0.66	0.79	0.31	0.00	0.00	0.87	0.87
Avail Cap(c_a), veh/h	154	0	137	751	750	659	140	1408	0	0	529	474
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	0.73	0.73	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	0.0	34.4	16.7	18.5	18.5	38.1	19.4	0.0	0.0	28.8	28.8
Incr Delay (d2), s/veh	0.5	0.0	0.1	2.1	4.5	5.1	5.1	0.0	0.0	0.0	11.1	12.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.2	4.8	7.7	6.9	1.2	2.4	0.0	0.0	8.2	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.5	0.0	34.6	18.8	23.0	23.6	43.2	19.5	0.0	0.0	39.9	41.0
LnGrp LOS	D	A	C	B	C	C	D	B	A	A	D	D
Approach Vol, veh/h		50			1278			414			729	
Approach Delay, s/veh		35.3			22.0			22.7			40.4	
Approach LOS		D			C			C			D	

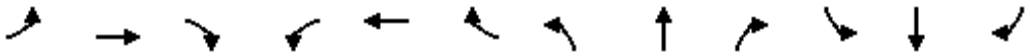
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.4	24.2		38.3		31.6		10.1				
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6		* 4.2		4.1				
Max Green Setting (Gmax), s	* 6.3	* 24		26.4		* 34		6.9				
Max Q Clear Time (g_c+I1), s	4.5	18.6		19.8		8.3		3.7				
Green Ext Time (p_c), s	0.0	0.6		2.7		0.6		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			27.8									
HCM 6th LOS			C									

Notes

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

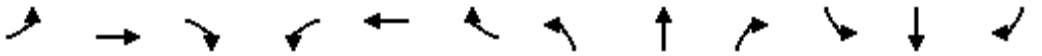
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	92	23	99	672	40	11	88	19	43	133	25
Future Volume (veh/h)	4	92	23	99	672	40	11	88	19	43	133	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.96	0.96		0.90	0.94		0.90
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1945	1870	1870	1945	1870
Adj Flow Rate, veh/h	4	101	17	109	738	41	12	97	9	47	146	19
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	58	886	145	277	1791	98	64	294	25	103	239	28
Arrive On Green	0.67	0.67	0.67	0.67	0.67	0.67	0.14	0.14	0.14	0.21	0.21	0.21
Sat Flow, veh/h	17	1328	218	332	2684	147	70	1433	124	234	1166	138
Grp Volume(v), veh/h	122	0	0	482	0	406	118	0	0	212	0	0
Grp Sat Flow(s),veh/h/ln	1563	0	0	1708	0	1456	1626	0	0	1537	0	0
Q Serve(g_s), s	0.0	0.0	0.0	2.8	0.0	10.3	0.0	0.0	0.0	4.8	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	0.0	9.6	0.0	10.3	5.1	0.0	0.0	9.9	0.0	0.0
Prop In Lane	0.03		0.14	0.23		0.10	0.10		0.08	0.22		0.09
Lane Grp Cap(c), veh/h	1089	0	0	1194	0	971	384	0	0	371	0	0
V/C Ratio(X)	0.11	0.00	0.00	0.40	0.00	0.42	0.31	0.00	0.00	0.57	0.00	0.00
Avail Cap(c_a), veh/h	1089	0	0	1194	0	971	589	0	0	565	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.76	0.00	0.76	0.86	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.8	0.0	0.0	6.0	0.0	6.1	29.6	0.0	0.0	29.1	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.8	0.0	1.0	0.1	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	3.2	0.0	2.8	2.1	0.0	0.0	3.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.0	0.0	0.0	6.8	0.0	7.2	29.8	0.0	0.0	29.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		122			888			118			212	
Approach Delay, s/veh		5.0			6.9			29.8			29.6	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		58.5		21.5		58.5		21.5				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		42.9		26.9		42.9		26.9				
Max Q Clear Time (g_c+I1), s		4.2		11.9		12.3		7.1				
Green Ext Time (p_c), s		1.1		0.7		9.6		0.4				

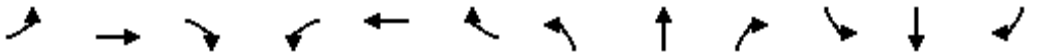
Intersection Summary												
HCM 6th Ctrl Delay			12.4									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	613	18	14	82	13	2	97	85	40	201	14
Future Volume (veh/h)	8	613	18	14	82	13	2	97	85	40	201	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.98	0.97		0.96	0.98		0.94
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	713	19	16	95	9	2	113	47	47	234	13
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	2061	54	136	740	67	47	256	105	91	308	16
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.24	0.24	0.24	0.08	0.08	0.08
Sat Flow, veh/h	11	3240	86	134	1164	105	4	1085	445	166	1302	68
Grp Volume(v), veh/h	414	0	327	120	0	0	162	0	0	294	0	0
Grp Sat Flow(s),veh/h/ln	1865	0	1472	1402	0	0	1534	0	0	1536	0	0
Q Serve(g_s), s	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0
Cycle Q Clear(g_c), s	8.3	0.0	8.3	2.3	0.0	0.0	7.2	0.0	0.0	14.9	0.0	0.0
Prop In Lane	0.02		0.06	0.13		0.07	0.01		0.29	0.16		0.04
Lane Grp Cap(c), veh/h	1232	0	936	943	0	0	408	0	0	415	0	0
V/C Ratio(X)	0.34	0.00	0.35	0.13	0.00	0.00	0.40	0.00	0.00	0.71	0.00	0.00
Avail Cap(c_a), veh/h	1232	0	936	943	0	0	579	0	0	582	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	0.99	0.00	0.00	1.00	0.00	0.00	0.69	0.00	0.00
Uniform Delay (d), s/veh	6.8	0.0	6.8	5.7	0.0	0.0	26.1	0.0	0.0	34.9	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	1.0	0.3	0.0	0.0	0.2	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	2.5	0.8	0.0	0.0	2.6	0.0	0.0	6.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.5	0.0	7.8	6.0	0.0	0.0	26.3	0.0	0.0	35.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	D	A	A
Approach Vol, veh/h		741			120			162			294	
Approach Delay, s/veh		7.7			6.0			26.3			35.5	
Approach LOS		A			A			C			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		56.0		24.0		56.0		24.0				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		41.9		27.9		41.9		27.9				
Max Q Clear Time (g_c+I1), s		10.3		16.9		4.3		9.2				
Green Ext Time (p_c), s		7.9		0.9		1.1		0.6				

Intersection Summary												
HCM 6th Ctrl Delay			16.0									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	668	31	0	0	0	22	333	146	317	666	87
Future Volume (veh/h)	39	668	31	0	0	0	22	333	146	317	666	87
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		0.96	1.00		0.94
Parking Bus, Adj	1.00	1.00	0.87				1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	718	29				24	358	97	341	716	80
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	69	1231	52				156	608	161	374	1075	120
Arrive On Green	0.39	0.39	0.39				0.09	0.24	0.24	0.21	0.36	0.36
Sat Flow, veh/h	176	3148	134				1781	2570	683	1781	2995	334
Grp Volume(v), veh/h	443	0	346				24	245	210	341	424	372
Grp Sat Flow(s),veh/h/ln	1862	0	1597				1781	1777	1476	1781	1777	1552
Q Serve(g_s), s	15.2	0.0	13.5				1.0	9.8	10.1	15.0	16.1	16.1
Cycle Q Clear(g_c), s	15.2	0.0	13.5				1.0	9.8	10.1	15.0	16.1	16.1
Prop In Lane	0.09		0.08				1.00		0.46	1.00		0.22
Lane Grp Cap(c), veh/h	728	0	625				156	420	349	374	638	557
V/C Ratio(X)	0.61	0.00	0.55				0.15	0.58	0.60	0.91	0.67	0.67
Avail Cap(c_a), veh/h	728	0	625				174	529	439	374	638	557
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.00	0.95				1.00	1.00	1.00	0.64	0.64	0.64
Uniform Delay (d), s/veh	19.5	0.0	18.9				33.8	27.1	27.2	30.9	21.6	21.6
Incr Delay (d2), s/veh	3.6	0.0	3.3				0.2	2.7	3.5	18.2	2.3	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	0.0	5.4				0.4	4.4	3.8	8.2	6.9	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.0	0.0	22.3				33.9	29.8	30.7	49.1	23.9	24.2
LnGrp LOS	C	A	C				C	C	C	D	C	C
Approach Vol, veh/h		789						479			1137	
Approach Delay, s/veh		22.7						30.4			31.5	
Approach LOS		C						C			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	21.0	23.1		35.9	11.2	32.9
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6	* 4.2	* 4.2
Max Green Setting (Gmax), s	* 17	* 24		26.4	* 7.8	* 24
Max Q Clear Time (g_c+I1), s	17.0	12.1		17.2	3.0	18.1
Green Ext Time (p_c), s	0.0	3.7		5.3	0.0	3.6

Intersection Summary		
HCM 6th Ctrl Delay		28.4
HCM 6th LOS		C

Notes

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

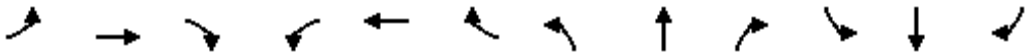
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	31.6
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	230	47	100	343	14	32	90	38	12	168	53
Future Vol, veh/h	80	230	47	100	343	14	32	90	38	12	168	53
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	91	261	53	114	390	16	36	102	43	14	191	60
Number of Lanes	0	2	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	15.6	56.3	15.5	18.7
HCM LOS	C	F	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	20%	41%	0%	22%	5%
Vol Thru, %	56%	59%	71%	75%	72%
Vol Right, %	24%	0%	29%	3%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	160	195	162	457	233
LT Vol	32	80	0	100	12
Through Vol	90	115	115	343	168
RT Vol	38	0	47	14	53
Lane Flow Rate	182	222	184	519	265
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.387	0.469	0.368	0.965	0.539
Departure Headway (Hd)	7.671	7.616	7.196	6.688	7.325
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	467	474	501	545	492
Service Time	5.742	5.337	4.918	4.7	5.387
HCM Lane V/C Ratio	0.39	0.468	0.367	0.952	0.539
HCM Control Delay	15.5	16.9	14.1	56.3	18.7
HCM Lane LOS	C	C	B	F	C
HCM 95th-tile Q	1.8	2.5	1.7	12.8	3.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	0	229	290	643	110	60	384	0	0	595	36
Future Volume (veh/h)	48	0	229	290	643	110	60	384	0	0	595	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.94	1.00	1.00	1.00	0.86
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	53	0	21	322	714	106	67	427	0	0	661	33
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, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	134	0	119	721	1173	174	86	1196	0	0	824	41
Arrive On Green	0.08	0.00	0.08	0.40	0.40	0.40	0.05	0.36	0.00	0.00	0.26	0.26
Sat Flow, veh/h	1781	0	1585	1781	2899	430	1781	3419	0	0	3284	159
Grp Volume(v), veh/h	53	0	21	322	437	383	67	427	0	0	368	326
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1553	1781	1666	0	0	1777	1573
Q Serve(g_s), s	2.3	0.0	1.0	10.5	15.5	15.6	3.0	7.5	0.0	0.0	15.5	15.5
Cycle Q Clear(g_c), s	2.3	0.0	1.0	10.5	15.5	15.6	3.0	7.5	0.0	0.0	15.5	15.5
Prop In Lane	1.00		1.00	1.00		0.28	1.00		0.00	0.00		0.10
Lane Grp Cap(c), veh/h	134	0	119	721	719	628	86	1196	0	0	459	406
V/C Ratio(X)	0.40	0.00	0.18	0.45	0.61	0.61	0.78	0.36	0.00	0.00	0.80	0.80
Avail Cap(c_a), veh/h	154	0	137	721	719	628	140	1408	0	0	529	468
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)	0.98	0.00	0.98	1.00	1.00	1.00	0.63	0.63	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	0.0	34.7	17.3	18.8	18.8	37.7	18.8	0.0	0.0	27.7	27.8
Incr Delay (d2), s/veh	0.7	0.0	0.3	2.0	3.8	4.4	3.6	0.0	0.0	0.0	6.5	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.4	4.5	6.8	6.0	1.4	2.8	0.0	0.0	7.2	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.0	0.0	34.9	19.3	22.6	23.2	41.3	18.9	0.0	0.0	34.2	35.1
LnGrp LOS	D	A	C	B	C	C	D	B	A	A	C	D
Approach Vol, veh/h		74			1142			494			694	
Approach Delay, s/veh		35.7			21.9			21.9			34.6	
Approach LOS		D			C			C			C	

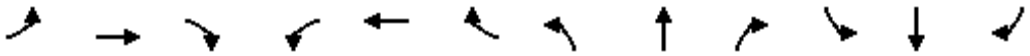
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.1	24.9		37.0		32.9		10.1				
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6		* 4.2		4.1				
Max Green Setting (Gmax), s	* 6.3	* 24		26.4		* 34		6.9				
Max Q Clear Time (g_c+I1), s	5.0	17.5		17.6		9.5		4.3				
Green Ext Time (p_c), s	0.0	0.6		2.9		0.7		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		26.0
HCM 6th LOS		C

Notes

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

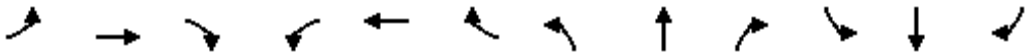
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	180	47	58	639	42	26	143	66	31	149	36
Future Volume (veh/h)	11	180	47	58	639	42	26	143	66	31	149	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.98		0.93	0.93		0.86	0.94		0.86
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1945	1870	1870	1945	1870
Adj Flow Rate, veh/h	12	200	43	64	710	43	29	159	51	34	166	28
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	798	166	173	1825	109	75	251	75	84	282	44
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	30	1238	257	188	2831	168	108	1103	329	143	1237	193
Grp Volume(v), veh/h	255	0	0	448	0	369	239	0	0	228	0	0
Grp Sat Flow(s),veh/h/ln	1525	0	0	1742	0	1445	1540	0	0	1574	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	9.7	0.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.5	0.0	0.0	9.0	0.0	9.7	10.9	0.0	0.0	10.0	0.0	0.0
Prop In Lane	0.05		0.17	0.14		0.12	0.12		0.21	0.15		0.12
Lane Grp Cap(c), veh/h	1031	0	0	1175	0	932	401	0	0	410	0	0
V/C Ratio(X)	0.25	0.00	0.00	0.38	0.00	0.40	0.60	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	1031	0	0	1175	0	932	560	0	0	571	0	0
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	0.00	0.80	0.00	0.80	0.59	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.0	0.0	0.0	6.6	0.0	6.8	28.1	0.0	0.0	27.7	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.8	0.0	1.0	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	3.2	0.0	2.8	4.1	0.0	0.0	3.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.6	0.0	0.0	7.4	0.0	7.8	28.4	0.0	0.0	28.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		255			817			239			228	
Approach Delay, s/veh		6.6			7.6			28.4			28.2	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		56.7		23.3		56.7		23.3				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		42.9		26.9		42.9		26.9				
Max Q Clear Time (g_c+I1), s		7.5		12.0		11.7		12.9				
Green Ext Time (p_c), s		2.5		0.8		8.7		0.8				

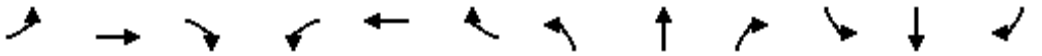
Intersection Summary												
HCM 6th Ctrl Delay			13.7									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	827	43	7	115	23	12	187	96	67	163	24
Future Volume (veh/h)	25	827	43	7	115	23	12	187	96	67	163	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	1.00		0.97	0.96		0.95	0.98		0.91
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	861	41	7	120	18	12	195	75	70	170	20
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	75	1959	92	67	824	120	54	269	100	120	231	25
Arrive On Green	0.63	0.63	0.63	0.63	0.63	0.63	0.24	0.24	0.24	0.08	0.08	0.08
Sat Flow, veh/h	45	3113	146	31	1310	190	28	1108	412	259	951	101
Grp Volume(v), veh/h	519	0	409	145	0	0	282	0	0	260	0	0
Grp Sat Flow(s),veh/h/ln	1847	0	1457	1531	0	0	1547	0	0	1311	0	0
Q Serve(g_s), s	0.0	0.0	11.6	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear(g_c), s	11.4	0.0	11.6	3.0	0.0	0.0	13.5	0.0	0.0	15.7	0.0	0.0
Prop In Lane	0.05		0.10	0.05		0.12	0.04		0.27	0.27		0.08
Lane Grp Cap(c), veh/h	1209	0	917	1011	0	0	423	0	0	376	0	0
V/C Ratio(X)	0.43	0.00	0.45	0.14	0.00	0.00	0.67	0.00	0.00	0.69	0.00	0.00
Avail Cap(c_a), veh/h	1209	0	917	1011	0	0	581	0	0	518	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	0.97	0.00	0.00	1.00	0.00	0.00	0.61	0.00	0.00
Uniform Delay (d), s/veh	7.6	0.0	7.6	6.0	0.0	0.0	28.1	0.0	0.0	34.7	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.6	0.3	0.0	0.0	0.7	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	3.6	1.0	0.0	0.0	5.0	0.0	0.0	5.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.7	0.0	9.2	6.3	0.0	0.0	28.7	0.0	0.0	35.2	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	D	A	A
Approach Vol, veh/h		928			145			282			260	
Approach Delay, s/veh		8.9			6.3			28.7			35.2	
Approach LOS		A			A			C			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		55.4		24.6		55.4		24.6				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		41.9		27.9		41.9		27.9				
Max Q Clear Time (g_c+I1), s		13.6		17.7		5.0		15.5				
Green Ext Time (p_c), s		10.2		0.8		1.4		1.0				

Intersection Summary												
HCM 6th Ctrl Delay			16.4									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	921	26	0	0	0	36	401	168	436	569	109
Future Volume (veh/h)	43	921	26	0	0	0	36	401	168	436	569	109
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	0.87				1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	1001	26				39	436	143	474	618	98
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	48	1073	29				143	593	192	491	1252	198
Arrive On Green	0.33	0.33	0.33				0.08	0.24	0.24	0.28	0.44	0.44
Sat Flow, veh/h	145	3234	88				1781	2443	791	1781	2855	451
Grp Volume(v), veh/h	602	0	472				39	316	263	474	384	332
Grp Sat Flow(s),veh/h/ln	1863	0	1605				1781	1777	1456	1781	1777	1530
Q Serve(g_s), s	27.8	0.0	24.2				1.8	14.2	14.5	22.8	13.5	13.5
Cycle Q Clear(g_c), s	27.8	0.0	24.2				1.8	14.2	14.5	22.8	13.5	13.5
Prop In Lane	0.08		0.06				1.00		0.54	1.00		0.30
Lane Grp Cap(c), veh/h	618	0	532				143	432	354	491	779	671
V/C Ratio(X)	0.97	0.00	0.89				0.27	0.73	0.74	0.96	0.49	0.50
Avail Cap(c_a), veh/h	618	0	532				160	486	398	491	779	671
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.00	0.90				1.00	1.00	1.00	0.63	0.63	0.63
Uniform Delay (d), s/veh	28.7	0.0	27.5				37.6	30.3	30.4	31.1	17.5	17.5
Incr Delay (d2), s/veh	28.6	0.0	17.7				0.4	6.7	8.8	23.7	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
%ile BackOfQ(50%),veh/ln	16.9	0.0	11.6				0.8	6.8	5.9	12.8	5.5	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.3	0.0	45.2				38.0	37.0	39.2	54.7	18.2	18.3
LnGrp LOS	E	A	D				D	D	D	D	B	B
Approach Vol, veh/h		1074						618			1190	
Approach Delay, s/veh		52.0						38.0			32.8	
Approach LOS		D						D			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	28.2	25.3		33.5	11.2	42.3
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6	* 4.2	* 4.2
Max Green Setting (Gmax), s	* 24	* 24		26.4	* 7.8	* 24
Max Q Clear Time (g_c+I1), s	24.8	16.5		29.8	3.8	15.5
Green Ext Time (p_c), s	0.0	3.3		0.0	0.0	4.5

Intersection Summary		
HCM 6th Ctrl Delay		41.0
HCM 6th LOS		D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	17.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	88	396	28	36	294	24	16	183	32	35	136	42
Future Vol, veh/h	88	396	28	36	294	24	16	183	32	35	136	42
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	89	400	28	36	297	24	16	185	32	35	137	42
Number of Lanes	0	2	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	16.8	21.4	15.8	15.2
HCM LOS	C	C	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	7%	31%	0%	10%	16%
Vol Thru, %	79%	69%	88%	83%	64%
Vol Right, %	14%	0%	12%	7%	20%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	231	286	226	354	213
LT Vol	16	88	0	36	35
Through Vol	183	198	198	294	136
RT Vol	32	0	28	24	42
Lane Flow Rate	233	289	228	358	215
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.454	0.563	0.429	0.655	0.422
Departure Headway (Hd)	7.012	7.015	6.769	6.595	7.056
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	511	511	530	547	508
Service Time	5.083	4.782	4.536	4.661	5.128
HCM Lane V/C Ratio	0.456	0.566	0.43	0.654	0.423
HCM Control Delay	15.8	18.5	14.6	21.4	15.2
HCM Lane LOS	C	C	B	C	C
HCM 95th-tile Q	2.3	3.4	2.1	4.7	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	0	118	317	799	107	50	322	0	0	635	26
Future Volume (veh/h)	36	0	118	317	799	107	50	322	0	0	635	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.94	1.00	1.00	1.00	0.86
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	40	0	10	352	888	108	56	358	0	0	706	25
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, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	134	0	119	750	1255	153	71	1141	0	0	813	29
Arrive On Green	0.08	0.00	0.08	0.42	0.42	0.42	0.04	0.34	0.00	0.00	0.25	0.25
Sat Flow, veh/h	1781	0	1585	1781	2980	362	1781	3419	0	0	3347	115
Grp Volume(v), veh/h	40	0	10	352	529	467	56	358	0	0	385	346
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1566	1781	1666	0	0	1777	1591
Q Serve(g_s), s	1.7	0.0	0.5	11.4	19.7	19.7	2.5	6.3	0.0	0.0	16.6	16.6
Cycle Q Clear(g_c), s	1.7	0.0	0.5	11.4	19.7	19.7	2.5	6.3	0.0	0.0	16.6	16.6
Prop In Lane	1.00		1.00	1.00		0.23	1.00		0.00	0.00		0.07
Lane Grp Cap(c), veh/h	134	0	119	750	748	660	71	1141	0	0	444	398
V/C Ratio(X)	0.30	0.00	0.08	0.47	0.71	0.71	0.79	0.31	0.00	0.00	0.87	0.87
Avail Cap(c_a), veh/h	154	0	137	750	748	660	140	1408	0	0	529	473
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	0.73	0.73	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.0	0.0	34.4	16.7	19.1	19.1	38.1	19.4	0.0	0.0	28.7	28.7
Incr Delay (d2), s/veh	0.5	0.0	0.1	2.1	5.6	6.3	5.1	0.0	0.0	0.0	11.2	12.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.2	4.8	8.7	7.8	1.2	2.4	0.0	0.0	8.3	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.5	0.0	34.6	18.8	24.7	25.4	43.2	19.4	0.0	0.0	40.0	41.2
LnGrp LOS	D	A	C	B	C	C	D	B	A	A	D	D
Approach Vol, veh/h		50			1348			414			731	
Approach Delay, s/veh		35.3			23.4			22.6			40.5	
Approach LOS		D			C			C			D	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	7.4	24.2		38.3		31.6		10.1				
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6		* 4.2		4.1				
Max Green Setting (Gmax), s	* 6.3	* 24		26.4		* 34		6.9				
Max Q Clear Time (g_c+I1), s	4.5	18.6		21.7		8.3		3.7				
Green Ext Time (p_c), s	0.0	0.6		2.3		0.6		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		28.4	
HCM 6th LOS		C	

Notes

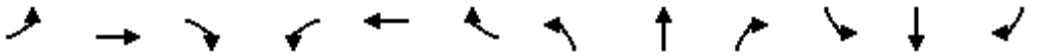
User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	92	55	163	672	40	11	88	19	43	135	25
Future Volume (veh/h)	4	92	55	163	672	40	11	88	19	43	135	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.96	0.96		0.90	0.94		0.90
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1945	1870	1870	1945	1870
Adj Flow Rate, veh/h	4	101	42	179	738	41	12	97	9	47	148	19
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	54	719	291	413	1595	88	64	295	26	103	241	28
Arrive On Green	0.67	0.67	0.67	0.67	0.67	0.67	0.14	0.14	0.14	0.21	0.21	0.21
Sat Flow, veh/h	12	1079	436	528	2393	132	70	1433	124	232	1170	137
Grp Volume(v), veh/h	147	0	0	505	0	453	118	0	0	214	0	0
Grp Sat Flow(s),veh/h/ln	1527	0	0	1594	0	1459	1627	0	0	1539	0	0
Q Serve(g_s), s	0.0	0.0	0.0	8.8	0.0	12.0	0.0	0.0	0.0	4.9	0.0	0.0
Cycle Q Clear(g_c), s	2.8	0.0	0.0	11.7	0.0	12.0	5.1	0.0	0.0	10.0	0.0	0.0
Prop In Lane	0.03		0.29	0.35		0.09	0.10		0.08	0.22		0.09
Lane Grp Cap(c), veh/h	1064	0	0	1124	0	972	385	0	0	372	0	0
V/C Ratio(X)	0.14	0.00	0.00	0.45	0.00	0.47	0.31	0.00	0.00	0.58	0.00	0.00
Avail Cap(c_a), veh/h	1064	0	0	1124	0	972	589	0	0	565	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.72	0.00	0.72	0.82	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	4.9	0.0	0.0	6.3	0.0	6.5	29.6	0.0	0.0	29.1	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.9	0.0	1.2	0.1	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	3.5	0.0	3.3	2.1	0.0	0.0	3.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.2	0.0	0.0	7.3	0.0	7.6	29.7	0.0	0.0	29.6	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		147			958			118			214	
Approach Delay, s/veh		5.2			7.4			29.7			29.6	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		58.4		21.6		58.4		21.6				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		42.9		26.9		42.9		26.9				
Max Q Clear Time (g_c+I1), s		4.8		12.0		14.0		7.1				
Green Ext Time (p_c), s		1.3		0.7		10.5		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			12.3									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	613	18	14	82	15	2	116	85	40	201	14
Future Volume (veh/h)	25	613	18	14	82	15	2	116	85	40	201	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.98	0.97		0.96	0.98		0.94
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	713	19	16	95	11	2	135	55	47	234	13
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	2011	53	134	729	81	46	257	104	92	308	16
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.24	0.24	0.24	0.08	0.08	0.08
Sat Flow, veh/h	69	3159	83	131	1146	126	4	1092	440	167	1307	68
Grp Volume(v), veh/h	423	0	338	122	0	0	192	0	0	294	0	0
Grp Sat Flow(s),veh/h/ln	1838	0	1472	1403	0	0	1535	0	0	1542	0	0
Q Serve(g_s), s	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0	0.0	6.1	0.0	0.0
Cycle Q Clear(g_c), s	8.5	0.0	8.7	2.4	0.0	0.0	8.7	0.0	0.0	14.8	0.0	0.0
Prop In Lane	0.07		0.06	0.13		0.09	0.01		0.29	0.16		0.04
Lane Grp Cap(c), veh/h	1218	0	938	944	0	0	407	0	0	416	0	0
V/C Ratio(X)	0.35	0.00	0.36	0.13	0.00	0.00	0.47	0.00	0.00	0.71	0.00	0.00
Avail Cap(c_a), veh/h	1218	0	938	944	0	0	580	0	0	583	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	0.99	0.00	0.00	1.00	0.00	0.00	0.69	0.00	0.00
Uniform Delay (d), s/veh	6.8	0.0	6.9	5.7	0.0	0.0	26.7	0.0	0.0	34.9	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	1.1	0.3	0.0	0.0	0.3	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	2.7	0.8	0.0	0.0	3.2	0.0	0.0	6.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.6	0.0	7.9	6.0	0.0	0.0	27.0	0.0	0.0	35.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	D	A	A
Approach Vol, veh/h		761			122			192			294	
Approach Delay, s/veh		7.7			6.0			27.0			35.5	
Approach LOS		A			A			C			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		56.0		24.0		56.0		24.0				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		41.9		27.9		41.9		27.9				
Max Q Clear Time (g_c+I1), s		10.7		16.8		4.4		10.7				
Green Ext Time (p_c), s		8.2		0.9		1.2		0.7				

Intersection Summary												
HCM 6th Ctrl Delay			16.3									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	668	31	0	0	0	24	333	146	317	666	87
Future Volume (veh/h)	39	668	31	0	0	0	24	333	146	317	666	87
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99				1.00		0.96	1.00		0.94
Parking Bus, Adj	1.00	1.00	0.87				1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	718	29				26	358	97	341	716	80
Peak Hour Factor	0.93	0.93	0.93				0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	69	1231	52				156	608	161	374	1075	120
Arrive On Green	0.39	0.39	0.39				0.09	0.24	0.24	0.21	0.36	0.36
Sat Flow, veh/h	176	3148	134				1781	2570	683	1781	2995	334
Grp Volume(v), veh/h	443	0	346				26	245	210	341	424	372
Grp Sat Flow(s),veh/h/ln	1862	0	1597				1781	1777	1476	1781	1777	1552
Q Serve(g_s), s	15.2	0.0	13.5				1.1	9.8	10.1	15.0	16.1	16.1
Cycle Q Clear(g_c), s	15.2	0.0	13.5				1.1	9.8	10.1	15.0	16.1	16.1
Prop In Lane	0.09		0.08				1.00		0.46	1.00		0.22
Lane Grp Cap(c), veh/h	728	0	625				156	420	349	374	638	557
V/C Ratio(X)	0.61	0.00	0.55				0.17	0.58	0.60	0.91	0.67	0.67
Avail Cap(c_a), veh/h	728	0	625				174	529	439	374	638	557
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.00	0.94				1.00	1.00	1.00	0.64	0.64	0.64
Uniform Delay (d), s/veh	19.5	0.0	18.9				33.8	27.1	27.2	30.9	21.6	21.6
Incr Delay (d2), s/veh	3.5	0.0	3.3				0.2	2.7	3.5	18.2	2.3	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	0.0	5.4				0.5	4.4	3.8	8.2	6.9	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.0	0.0	22.2				34.0	29.8	30.7	49.1	23.9	24.2
LnGrp LOS	C	A	C				C	C	C	D	C	C
Approach Vol, veh/h		789						481			1137	
Approach Delay, s/veh		22.7						30.4			31.5	
Approach LOS		C						C			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	21.0	23.1		35.9	11.2	32.9
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6	* 4.2	* 4.2
Max Green Setting (Gmax), s	* 17	* 24		26.4	* 7.8	* 24
Max Q Clear Time (g_c+I1), s	17.0	12.1		17.2	3.1	18.1
Green Ext Time (p_c), s	0.0	3.7		5.3	0.0	3.6

Intersection Summary		
HCM 6th Ctrl Delay		28.4
HCM 6th LOS		C

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	33.3
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	95	230	47	100	343	16	32	92	38	12	168	53
Future Vol, veh/h	95	230	47	100	343	16	32	92	38	12	168	53
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	108	261	53	114	390	18	36	105	43	14	191	60
Number of Lanes	0	2	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	16.4	60.3	15.9	19.1
HCM LOS	C	F	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	20%	45%	0%	22%	5%
Vol Thru, %	57%	55%	71%	75%	72%
Vol Right, %	23%	0%	29%	3%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	162	210	162	459	233
LT Vol	32	95	0	100	12
Through Vol	92	115	115	343	168
RT Vol	38	0	47	16	53
Lane Flow Rate	184	239	184	522	265
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.397	0.508	0.369	0.981	0.546
Departure Headway (Hd)	7.772	7.662	7.221	6.772	7.424
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	462	470	497	537	485
Service Time	5.843	5.421	4.979	4.772	5.486
HCM Lane V/C Ratio	0.398	0.509	0.37	0.972	0.546
HCM Control Delay	15.9	18.1	14.2	60.3	19.1
HCM Lane LOS	C	C	B	F	C
HCM 95th-tile Q	1.9	2.8	1.7	13.4	3.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	0	229	290	620	110	60	384	0	0	595	35
Future Volume (veh/h)	50	0	229	290	620	110	60	384	0	0	595	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.94	1.00	1.00	1.00	0.86
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	56	0	21	322	689	105	67	427	0	0	661	32
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, %	2	2	2	2	2	2	2	2	2	0	2	2
Cap, veh/h	134	0	119	721	1169	178	86	1196	0	0	825	40
Arrive On Green	0.08	0.00	0.08	0.40	0.40	0.40	0.05	0.36	0.00	0.00	0.26	0.26
Sat Flow, veh/h	1781	0	1585	1781	2888	440	1781	3419	0	0	3290	155
Grp Volume(v), veh/h	56	0	21	322	424	370	67	427	0	0	367	326
Grp Sat Flow(s),veh/h/ln	1781	0	1585	1781	1777	1551	1781	1666	0	0	1777	1574
Q Serve(g_s), s	2.4	0.0	1.0	10.5	14.9	14.9	3.0	7.5	0.0	0.0	15.5	15.5
Cycle Q Clear(g_c), s	2.4	0.0	1.0	10.5	14.9	14.9	3.0	7.5	0.0	0.0	15.5	15.5
Prop In Lane	1.00		1.00	1.00		0.28	1.00		0.00	0.00		0.10
Lane Grp Cap(c), veh/h	134	0	119	721	719	628	86	1196	0	0	459	406
V/C Ratio(X)	0.42	0.00	0.18	0.45	0.59	0.59	0.78	0.36	0.00	0.00	0.80	0.80
Avail Cap(c_a), veh/h	154	0	137	721	719	628	140	1408	0	0	529	468
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)	0.98	0.00	0.98	1.00	1.00	1.00	0.63	0.63	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	35.3	0.0	34.7	17.3	18.6	18.6	37.7	18.9	0.0	0.0	27.7	27.8
Incr Delay (d2), s/veh	0.8	0.0	0.3	2.0	3.5	4.0	3.6	0.0	0.0	0.0	6.4	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.4	4.5	6.5	5.7	1.4	2.8	0.0	0.0	7.2	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.1	0.0	34.9	19.3	22.1	22.6	41.3	18.9	0.0	0.0	34.2	35.1
LnGrp LOS	D	A	C	B	C	C	D	B	A	A	C	D
Approach Vol, veh/h		77			1116			494			693	
Approach Delay, s/veh		35.8			21.5			21.9			34.6	
Approach LOS		D			C			C			C	

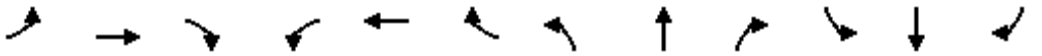
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.1	24.9		37.0		32.9		10.1				
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6		* 4.2		4.1				
Max Green Setting (Gmax), s	* 6.3	* 24		26.4		* 34		6.9				
Max Q Clear Time (g_c+I1), s	5.0	17.5		16.9		9.5		4.4				
Green Ext Time (p_c), s	0.0	0.6		2.9		0.7		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		25.9	
HCM 6th LOS		C	

Notes

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

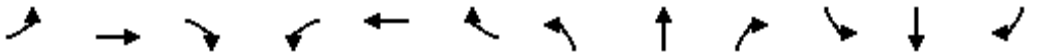
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	180	35	35	639	42	45	144	68	31	148	36
Future Volume (veh/h)	11	180	35	35	639	42	45	144	68	31	148	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.98		0.93	0.93		0.86	0.94		0.86
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1945	1870	1870	1945	1870
Adj Flow Rate, veh/h	12	200	32	39	710	43	50	160	55	34	164	28
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	831	129	112	1897	113	100	233	73	85	287	45
Arrive On Green	0.64	0.64	0.64	0.64	0.64	0.64	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	33	1301	201	99	2971	177	198	998	313	142	1227	194
Grp Volume(v), veh/h	244	0	0	441	0	351	265	0	0	226	0	0
Grp Sat Flow(s),veh/h/ln	1535	0	0	1804	0	1443	1509	0	0	1563	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	9.3	2.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.3	0.0	0.0	8.9	0.0	9.3	12.6	0.0	0.0	10.0	0.0	0.0
Prop In Lane	0.05		0.13	0.09		0.12	0.19		0.21	0.15		0.12
Lane Grp Cap(c), veh/h	1027	0	0	1201	0	921	406	0	0	417	0	0
V/C Ratio(X)	0.24	0.00	0.00	0.37	0.00	0.38	0.65	0.00	0.00	0.54	0.00	0.00
Avail Cap(c_a), veh/h	1027	0	0	1201	0	921	551	0	0	569	0	0
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	0.00	0.81	0.00	0.81	0.78	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.2	0.0	0.0	6.8	0.0	6.9	28.2	0.0	0.0	27.3	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.7	0.0	1.0	0.5	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	3.2	0.0	2.6	4.6	0.0	0.0	3.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.7	0.0	0.0	7.5	0.0	7.9	28.7	0.0	0.0	27.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	C	A	A	C	A	A
Approach Vol, veh/h		244			792			265			226	
Approach Delay, s/veh		6.7			7.7			28.7			27.7	
Approach LOS		A			A			C			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		56.2		23.8		56.2		23.8				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		42.9		26.9		42.9		26.9				
Max Q Clear Time (g_c+I1), s		7.3		12.0		11.3		14.6				
Green Ext Time (p_c), s		2.3		0.8		8.4		0.9				

Intersection Summary												
HCM 6th Ctrl Delay			14.1									
HCM 6th LOS			B									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	827	43	7	115	22	12	180	96	104	173	35
Future Volume (veh/h)	19	827	43	7	115	22	12	180	96	104	173	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.96	1.00		0.96	1.00		0.95	0.98		0.92
Parking Bus, Adj	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	861	41	7	120	16	12	188	75	108	180	30
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	1833	86	65	780	101	55	316	121	160	224	34
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.29	0.29	0.29	0.09	0.09	0.09
Sat Flow, veh/h	31	3132	147	30	1334	172	27	1100	423	349	781	118
Grp Volume(v), veh/h	517	0	405	143	0	0	275	0	0	318	0	0
Grp Sat Flow(s),veh/h/ln	1854	0	1456	1536	0	0	1550	0	0	1247	0	0
Q Serve(g_s), s	0.0	0.0	12.8	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.0	0.0
Cycle Q Clear(g_c), s	12.7	0.0	12.8	3.3	0.0	0.0	12.4	0.0	0.0	20.3	0.0	0.0
Prop In Lane	0.04		0.10	0.05		0.11	0.04		0.27	0.34		0.09
Lane Grp Cap(c), veh/h	1132	0	852	946	0	0	492	0	0	419	0	0
V/C Ratio(X)	0.46	0.00	0.48	0.15	0.00	0.00	0.56	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	1132	0	852	946	0	0	585	0	0	498	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	0.98	0.00	0.00	1.00	0.00	0.00	0.70	0.00	0.00
Uniform Delay (d), s/veh	9.5	0.0	9.5	7.6	0.0	0.0	24.7	0.0	0.0	34.8	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	1.9	0.3	0.0	0.0	0.4	0.0	0.0	3.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	4.1	1.1	0.0	0.0	4.5	0.0	0.0	7.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.8	0.0	11.4	7.9	0.0	0.0	25.1	0.0	0.0	37.9	0.0	0.0
LnGrp LOS	B	A	B	A	A	A	C	A	A	D	A	A
Approach Vol, veh/h		922			143			275			318	
Approach Delay, s/veh		11.1			7.9			25.1			37.9	
Approach LOS		B			A			C			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		51.9		28.1		51.9		28.1				
Change Period (Y+Rc), s		5.1		5.1		5.1		5.1				
Max Green Setting (Gmax), s		41.9		27.9		41.9		27.9				
Max Q Clear Time (g_c+I1), s		14.8		22.3		5.3		14.4				
Green Ext Time (p_c), s		10.0		0.7		1.3		1.0				

Intersection Summary												
HCM 6th Ctrl Delay			18.3									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	958	27	0	0	0	35	401	168	436	569	109
Future Volume (veh/h)	43	958	27	0	0	0	35	401	168	436	569	109
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.96	1.00		0.95
Parking Bus, Adj	1.00	1.00	0.87				1.00	1.00	0.88	1.00	1.00	0.88
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	1041	27				38	436	144	474	618	98
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				2	2	2	2	2	2
Cap, veh/h	46	1074	29				143	593	193	491	1252	198
Arrive On Green	0.33	0.33	0.33				0.08	0.24	0.24	0.28	0.44	0.44
Sat Flow, veh/h	140	3239	88				1781	2438	795	1781	2855	451
Grp Volume(v), veh/h	625	0	490				38	316	264	474	384	332
Grp Sat Flow(s),veh/h/ln	1863	0	1605				1781	1777	1455	1781	1777	1530
Q Serve(g_s), s	28.8	0.0	25.6				1.7	14.3	14.6	22.8	13.5	13.5
Cycle Q Clear(g_c), s	28.8	0.0	25.6				1.7	14.3	14.6	22.8	13.5	13.5
Prop In Lane	0.08		0.06				1.00		0.55	1.00		0.30
Lane Grp Cap(c), veh/h	618	0	532				143	432	354	491	779	671
V/C Ratio(X)	1.01	0.00	0.92				0.27	0.73	0.75	0.96	0.49	0.49
Avail Cap(c_a), veh/h	618	0	532				160	486	398	491	779	671
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.00	0.88				1.00	1.00	1.00	0.63	0.63	0.63
Uniform Delay (d), s/veh	29.1	0.0	28.0				37.6	30.3	30.4	31.1	17.5	17.5
Incr Delay (d2), s/veh	36.9	0.0	21.6				0.4	6.7	8.8	23.7	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
%ile BackOfQ(50%),veh/ln	18.8	0.0	12.7				0.8	6.8	5.9	12.8	5.5	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.0	0.0	49.6				37.9	37.0	39.2	54.7	18.1	18.3
LnGrp LOS	F	A	D				D	D	D	D	B	B
Approach Vol, veh/h		1115						618			1190	
Approach Delay, s/veh		58.8						38.0			32.8	
Approach LOS		E						D			C	

Timer - Assigned Phs	1	2		4	5	6
Phs Duration (G+Y+Rc), s	28.2	25.4		33.4	11.2	42.4
Change Period (Y+Rc), s	* 4.2	* 4.2		4.6	* 4.2	* 4.2
Max Green Setting (Gmax), s	* 24	* 24		26.4	* 7.8	* 24
Max Q Clear Time (g_c+I1), s	24.8	16.6		30.8	3.7	15.5
Green Ext Time (p_c), s	0.0	3.3		0.0	0.0	4.5

Intersection Summary		
HCM 6th Ctrl Delay		43.8
HCM 6th LOS		D

Notes

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

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	17.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	82	396	28	36	294	23	16	182	32	36	137	51
Future Vol, veh/h	82	396	28	36	294	23	16	182	32	36	137	51
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	83	400	28	36	297	23	16	184	32	36	138	52
Number of Lanes	0	2	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	16.7	21.6	15.9	15.6
HCM LOS	C	C	C	C

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	7%	29%	0%	10%	16%
Vol Thru, %	79%	71%	88%	83%	61%
Vol Right, %	14%	0%	12%	7%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	230	280	226	353	224
LT Vol	16	82	0	36	36
Through Vol	182	198	198	294	137
RT Vol	32	0	28	23	51
Lane Flow Rate	232	283	228	357	226
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.455	0.554	0.432	0.657	0.442
Departure Headway (Hd)	7.045	7.054	6.815	6.637	7.032
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	509	509	527	542	509
Service Time	5.118	4.823	4.584	4.706	5.107
HCM Lane V/C Ratio	0.456	0.556	0.433	0.659	0.444
HCM Control Delay	15.9	18.3	14.7	21.6	15.6
HCM Lane LOS	C	C	B	C	C
HCM 95th-tile Q	2.3	3.3	2.2	4.8	2.2

Appendix B:
Signal Warrant Analysis Worksheets

Signal Warrant Analysis Summary for All Scenarios

Intersection	Peak Hour	Existing	Opening Year	Opening Year Plus Project	Cumulative	Cumulative Plus Project
		Warrant A/B Met?	Warrant A/B Met?	Warrant A/B Met?	Warrant A/B Met?	Warrant A/B Met?
5. East 5th Avenue and South Claremont Street	AM	No/No	No/No	No/No	Yes/No	Yes/No
	PM	No/No	No/No	No/No	No/No	No/No

FEHR PEERS

Major Street	East 5th Street	Project	Block 21 TIA
Minor Street	South Claremont Street	Scenario	Opening Year AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	27	6	64	83
Through	74	101	192	275
Right	32	15	39	12
Total	133	122	295	370

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	17.8
Approach with Worst Case Delay	WB
Total Vehicles on Approach	370

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Opening Year AM	**1.8**	**133**	**920**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	East 5th Street
Minor Street	South Claremont Street

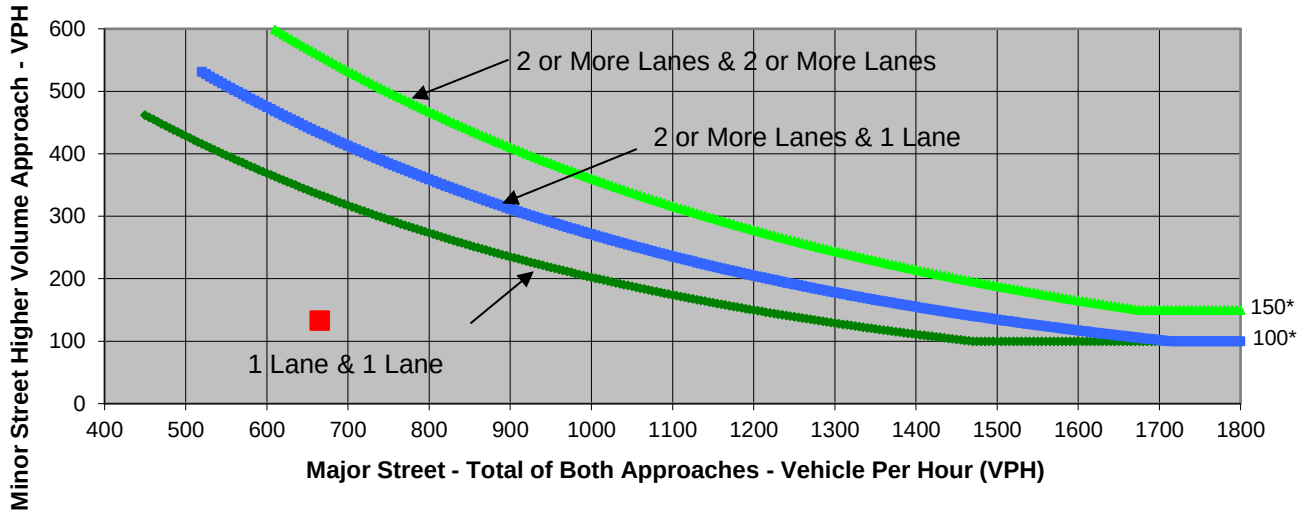
Project	Block 21 TIA
Scenario	Opening Year AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	27	6	64	83
Through	74	101	192	275
Right	32	15	39	12
Total	133	122	295	370

Major Street Direction

	North/South
X	East/West



* 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, 2014

	Major Street	Minor Street	Warrant Met
	East 5th Street	South Claremont Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**665**	**133**	

* 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

Major Street	East 5th Street	Project	Block 21 TIA
Minor Street	South Claremont Street	Scenario	Opening Year PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	13	23	88	30
Through	146	107	396	288
Right	27	42	23	20
Total	186	172	507	338

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	17.2
Approach with Worst Case Delay	WB
Total Vehicles on Approach	338

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Opening Year PM	**1.6**	**186**	**1,203**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	East 5th Street
Minor Street	South Claremont Street

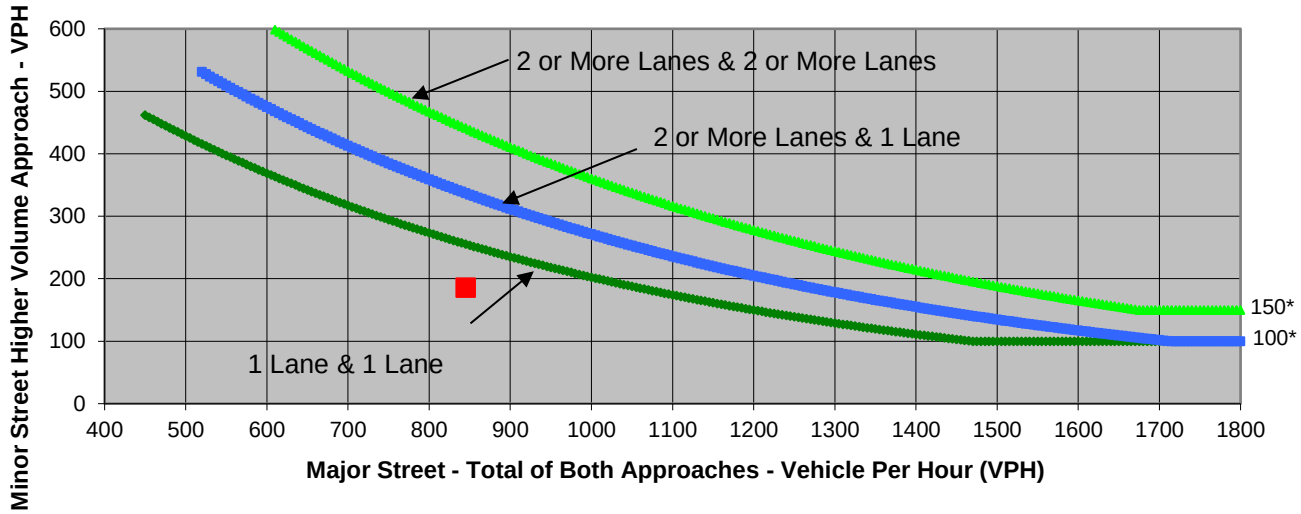
Project	Block 21 TIA
Scenario	Opening Year PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	13	23	88	30
Through	146	107	396	288
Right	27	42	23	20
Total	186	172	507	338

Major Street Direction

	North/South
X	East/West



* 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, 2014

	Major Street	Minor Street	Warrant Met
	East 5th Street	South Claremont Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**845**	**186**	

* 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

Major Street	East 5th Street	Project	Block 21 TIA
Minor Street	South Claremont Street	Scenario	Opening Year Plus Project AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	27	5	95	83
Through	85	102	226	343
Right	32	48	39	14
Total	144	155	360	440

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	32
Approach with Worst Case Delay	WB
Total Vehicles on Approach	440

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Opening Year Plus Project AM	**3.9**	**155**	**1,099**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	East 5th Street
Minor Street	South Claremont Street

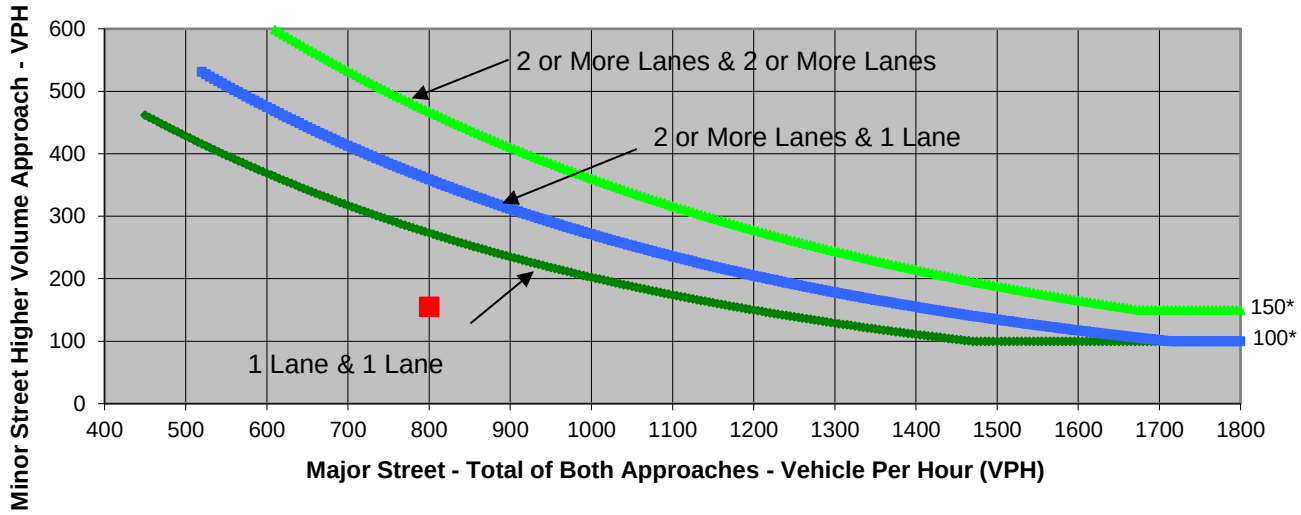
Project	Block 21 TIA
Scenario	Opening Year Plus Project AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	27	5	95	83
Through	85	102	226	343
Right	32	48	39	14
Total	144	155	360	440

Major Street Direction

	North/South
X	East/West



* 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, 2014

	Major Street	Minor Street	Warrant Met
	East 5th Street	South Claremont Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**800**	**155**	

* 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

Major Street	East 5th Street	Project	Block 21 TIA
Minor Street	South Claremont Street	Scenario	Opening Year Plus Project PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	13	24	82	30
Through	145	108	396	288
Right	27	51	23	19
Total	185	183	501	337

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	17.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	337

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Opening Year Plus Project PM	**1.6**	**185**	**1,206**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	East 5th Street
Minor Street	South Claremont Street

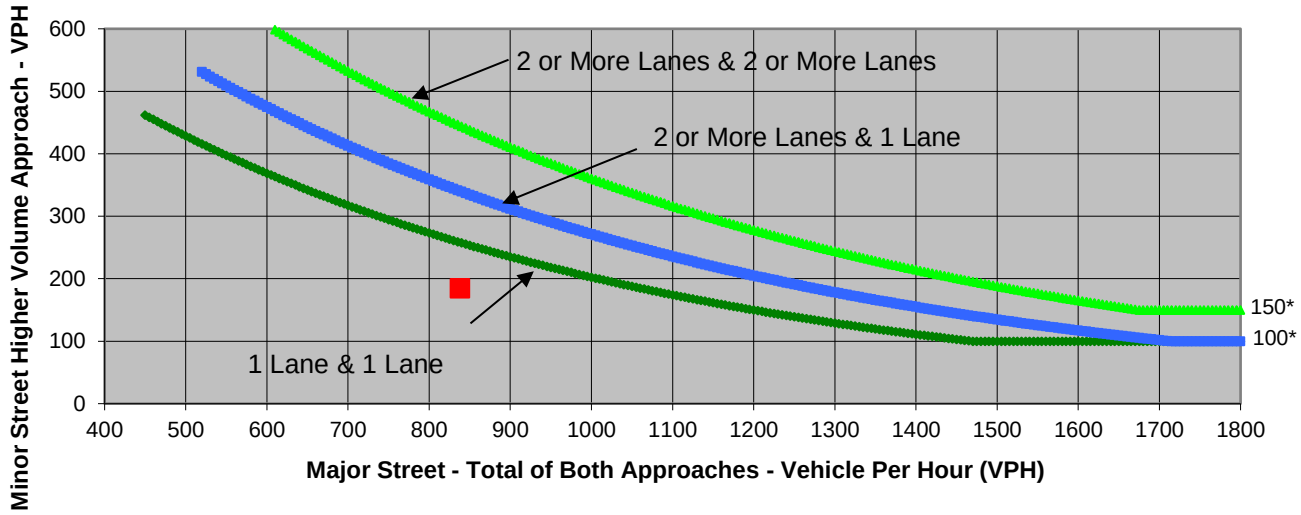
Project	Block 21 TIA
Scenario	Opening Year Plus Project PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	13	24	82	30
Through	145	108	396	288
Right	27	51	23	19
Total	185	183	501	337

Major Street Direction

	North/South
X	East/West



* 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, 2014

	Major Street	Minor Street	Warrant Met
	East 5th Street	South Claremont Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**838**	**185**	

* 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

Major Street	East 5th Street	Project	Block 21 TIA
Minor Street	South Claremont Street	Scenario	Cumulative AM
		Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	32	12	80	100
Through	90	168	230	343
Right	38	53	47	14
Total	160	233	357	457

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	56.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	457

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative AM	**7.1**	**233**	**1,207**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	East 5th Street
Minor Street	South Claremont Street

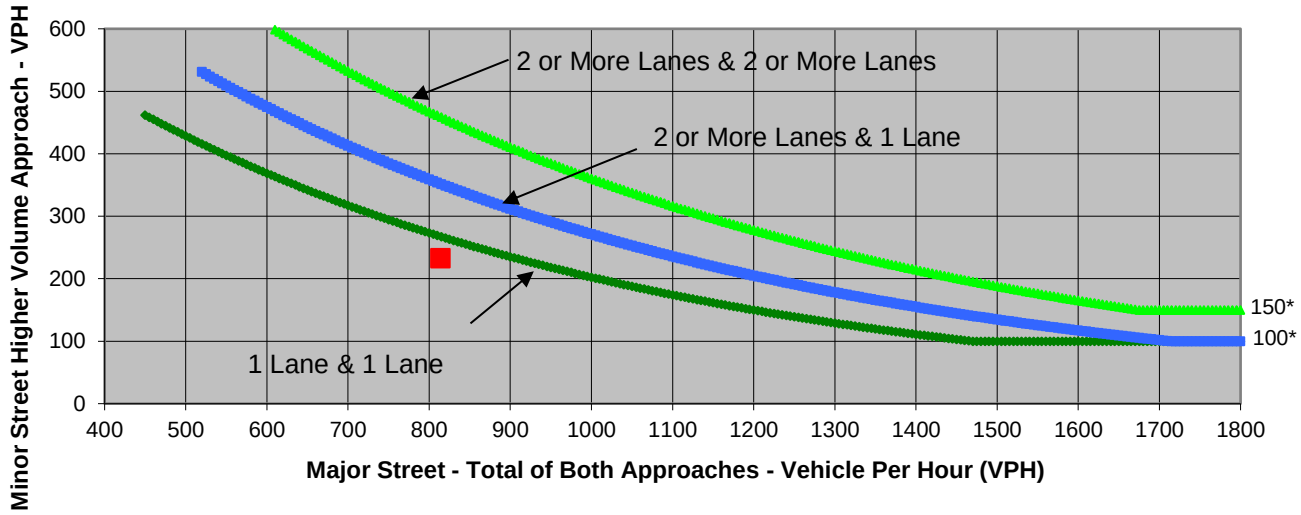
Project	Block 21 TIA
Scenario	Cumulative AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	32	12	80	100
Through	90	168	230	343
Right	38	53	47	14
Total	160	233	357	457

Major Street Direction

	North/South
X	East/West



* 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, 2014

	Major Street	Minor Street	Warrant Met
	East 5th Street	South Claremont Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**814**	**233**	

* 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

Major Street	East 5th Street	Project	Block 21 TIA
Minor Street	South Claremont Street	Scenario	Cumulative PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	16	35	88	36
Through	183	136	396	294
Right	32	42	28	24
Total	231	213	512	354

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	21.4
Approach with Worst Case Delay	WB
Total Vehicles on Approach	354

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative PM	**2.1**	**231**	**1,310**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

Major Street	East 5th Street
Minor Street	South Claremont Street

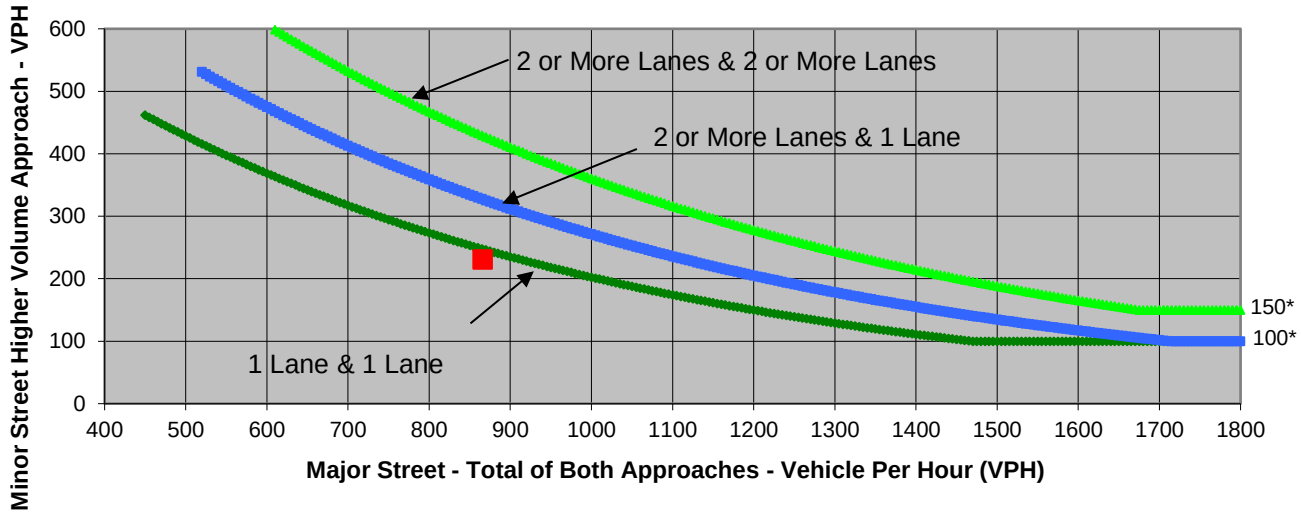
Project	Block 21 TIA
Scenario	Cumulative PM
Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	16	35	88	36
Through	183	136	396	294
Right	32	42	28	24
Total	231	213	512	354

Major Street Direction

	North/South
X	East/West



* 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, 2014

	Major Street	Minor Street	Warrant Met
	East 5th Street	South Claremont Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**866**	**231**	

* 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

Project	Block 21 TIA
Major Street	East 5th Street
Scenario	Cumulative Plus Project AM
Minor Street	South Claremont Street
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	32	12	95	100
Through	92	168	230	343
Right	38	53	47	16
Total	162	233	372	459

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	60.3
Approach with Worst Case Delay	WB
Total Vehicles on Approach	459

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Plus Project AM	**7.7**	**233**	**1,226**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Met**	**Met**	**Met**
Warrant Met	**YES**		

FEHR PEERS

Major Street	East 5th Street
Minor Street	South Claremont Street

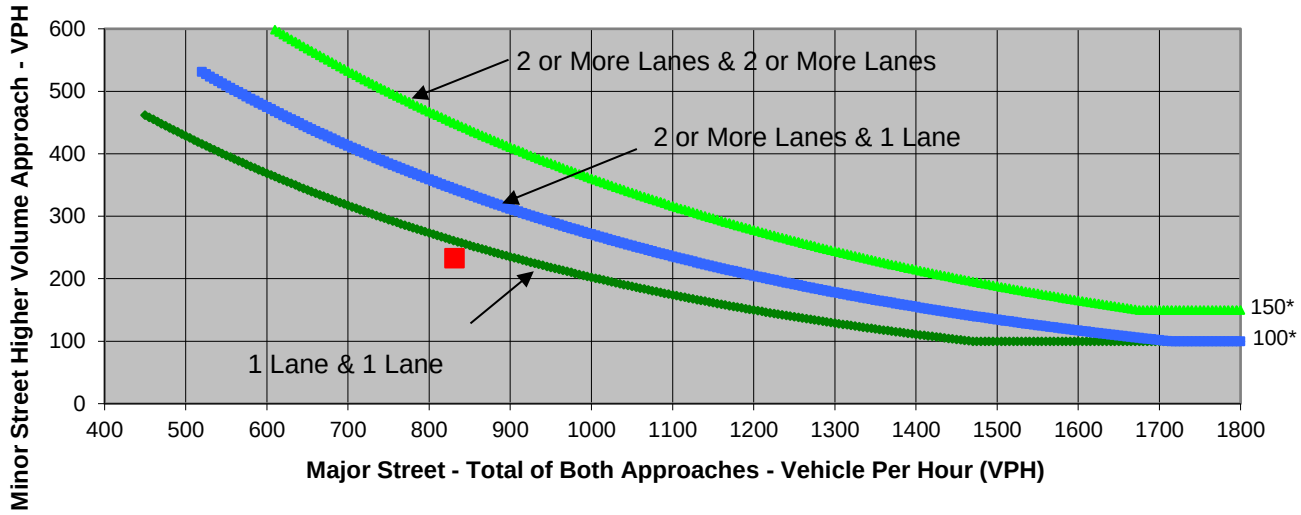
Project	Block 21 TIA
Scenario	Cumulative Plus Project AM
Peak Hour	AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	32	12	95	100
Through	92	168	230	343
Right	38	53	47	16
Total	162	233	372	459

Major Street Direction

	North/South
X	East/West



* 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, 2014

	Major Street	Minor Street	Warrant Met
	East 5th Street	South Claremont Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**831**	**233**	

* 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

Major Street	East 5th Street	Project	Block 21 TIA
Minor Street	South Claremont Street	Scenario	Cumulative Plus Project PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	16	36	82	36
Through	182	137	396	294
Right	32	51	28	23
Total	230	224	506	353

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	21.6
Approach with Worst Case Delay	WB
Total Vehicles on Approach	353

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	**Peak Hour Volume on Minor Approach (vph)**	**Peak Hour Entering Volume Serviced (vph)**
Cumulative Plus Project PM	**2.1**	**230**	**1,313**
Limiting Value	**4**	**100**	**800**
Condition Satisfied?	**Not Met**	**Met**	**Met**
Warrant Met	**NO**		

FEHR PEERS

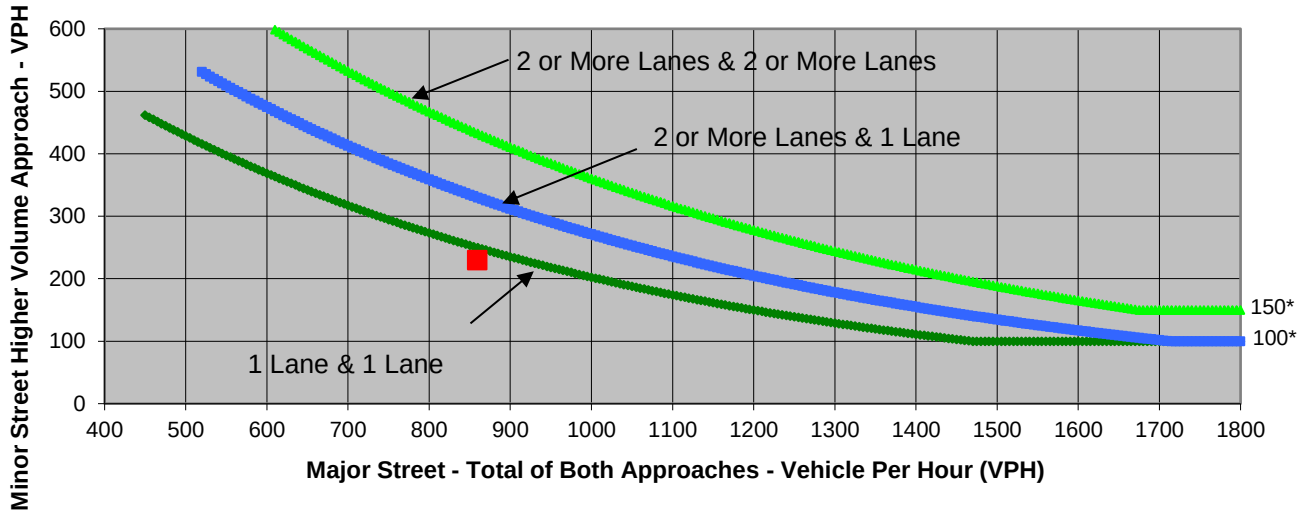
Major Street	East 5th Street	Project	Block 21 TIA
Minor Street	South Claremont Street	Scenario	Cumulative Plus Project PM
		Peak Hour	PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	16	36	82	36
Through	182	137	396	294
Right	32	51	28	23
Total	230	224	506	353

Major Street Direction

	North/South
X	East/West



* 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, 2014

	Major Street	Minor Street	Warrant Met
	East 5th Street	South Claremont Street	
Number of Approach Lanes	**1**	**1**	**NO**
Traffic Volume (VPH) *	**859**	**230**	

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