HEXAGON TRANSPORTATION CONSULTANTS, INC.

120 East Grand Avenue

Local Traffic Operations Report

Prepared for:

Trammell Crow Company

January 3, 2023

Hexagon Transportation Consultants, Inc.
Hexagon Office: 100 Century Center Court, Suite 501
San Jose, CA 95112
Hexagon Job Number: 22GB12
Phone: 408.971.6100
Client Name: Trammell Crow Company

Table of Contents

Appendices

List of Tables

List of Figures

1.Executive Summary

This study was conducted for the purpose of identifying the potential adverse effects on traffic operations related to the proposed development at 120, 130 East Grand Avenue and 129, 145, 160 and 180 Sylvester Road in South San Francisco, California. The project proposes to construct approximately 504,000 square feet of R&D and office space on a site located less than 500 feet east of the South San Francisco Caltrain station. Vehicular access to the project site would be provided via Sylvester Road off East Grand Avenue and also via a right-in/right-out driveway on East Grand Avenue to the east of Sylvester Road.

The potential adverse effects of the project were evaluated in accordance with the standards set forth by the City of South San Francisco. This report includes a discussion on local transportation analysis (LTA) to identify traffic operational issues that may arise due to the project.

The LTA includes an analysis of AM and PM peak hour traffic conditions for nine intersections in the vicinity of the project site. An analysis of vehicle queuing, freeway ramps, site access and on-site circulation, parking, and transit, bicycle, and pedestrian access is also included.

Project Trip Generation

Based on trip generation rates recommended by the Institute of Transportation Engineers (ITE), it is estimated that the proposed project would generate a gross total of 3,685 daily trips, with 342 trips (281 inbound and 61 outbound) during the AM peak hour and 326 trips (52 inbound and 274 outbound) during the PM peak hour after accounting for a 34% trip reduction attributed to the Transportation Demand Management (TDM) program that the project would be required to implement.

Level of Service Analysis

The results of the intersection level of service analysis under existing and cumulative scenarios, with and without the project, are summarized in Table ES-1. The results determined that under existing conditions, all of the study intersections operate in accordance with local standards during both AM and PM peak hours except for the intersection of South Airport Boulevard/Produce Avenue and San Mateo Avenue which operates at LOS E during the PM peak hour. Under cumulative conditions, six intersections would operate at an unacceptable level of service without the project and would continue to operate at LOS E or F with the project. The addition of project-generated trips would not cause any study intersections that operate at acceptable level of service to degrade to an unacceptable level of service.

Since most of the study intersections have been built to capacity, no physical improvements are feasible at these intersections. The City of South San Francisco's General Plan stipulates that all

intersections should strive to maintain LOS D or better during peak hours. The General Plan also states that LOS E or F can be accepted if there is no practical and feasible way to mitigate lower level of service, and the uses resulting in the lower level of service are of clear, overall public benefit. In the future, the city will adjust signal timings at these intersections to better serve the increased traffic levels. The city will primarily rely on investments in infrastructure that will support and encourage alternative modes of transportation to address traffic congestion in the East of 101 Area.

Freeway Ramp Analysis

Off-Ramps

The analysis finds that the queues on the off-ramps under cumulative conditions would not exceed the capacity of the off-ramps. However, these queues may be longer based on the prevailing traffic conditions and vehicular queues on the surface streets as Grand Avenue and East Grand Avenue are expected to have a high increase in traffic volumes by 2040.

On-Ramps

The analysis finds that the volume to capacity ratio would not exceed 1.0 for the two study on-ramps during the peak hours. However, it is noted that the freeway ramps are metered and during the peak traffic periods, ramp metering will always be adjusting the on-ramp flow based upon prevailing freeway operating conditions. Thus, when volume on the on-ramps exceed the metered capacity, there is a potential for vehicular queues to extend onto the surface streets. When the demand so far exceeds the capacity and travel conditions deteriorate, travelers are most likely to change the time they travel resulting in peak spreading or shift to alternative transportation modes.

Recommendations

Based on the traffic operations analysis and site access/ on-site circulation analysis conducted for this project, the following recommendations are provided. No off-site physical improvements are recommended.

1. The city should monitor the traffic operations along Grand Avenue and East Grand Avenue and make signal timing adjustments in the future to better serve the increased traffic levels.
2. All on-site project improvements should meet applicable design standards.
3. It is recommended that truck arrivals and departures be scheduled for non-peak hours to avoid delays to peak hour traffic entering and exiting the site.
4. The project should adhere to any conditions of approval adopted for the project, as well as the TDM Plan.

Table ES-1
Intersection Level of Service Summary

#	Intersection	Control	Peak Hour	Existing Avg. Delay (sec)	Existing LOS	Cumulative (2040) No Project Avg. Delay (sec)	No Project LOS	Cumulative (2040) with Project Avg. Delay (sec)	with Project LOS	Delay Increase (sec)	% Increase in Volume
1	Miller Avenue and Airport Boulevard	Signal	AM	28.1	C	36.0	D	36.4	D	0.4	3.1%
			PM	20.1	C	27.6	C	28.1	C	0.5	1.0%
2	Grand Avenue and Airport Boulevard	Signal	AM	36.8	D	**80+**	**F**	**80+**	**F**	5.9	2.3%
			PM	46.4	D	**80+**	**F**	**80+**	**F**	3.7	1.4%
3	Grand Avenue and Dubuque Avenue	Signal	AM	5.7	A	15.5	B	15.5	B	0.0	3.6%
			PM	47.5	D	**80+**	**F**	**80+**	**F**	24.4	0.9%
4	E. Grand Avenue and Grand Avenue	Signal	AM	18.0	B	**71.3**	**E**	**78.3**	**E**	7.0	3.0%
			PM	8.8	A	**80+**	**F**	**80+**	**F**	49.5	4.0%
5	E. Grand Avenue and Poletti Way	Two - Way Stop	AM	10.8	B	20.2	C	20.3	C	0.1	2.8%
			PM	8.6	A	14.0	B	14.0	B	0.0	1.2%
6	E. Grand Avenue and Gateway Boulevard	Signal	AM	51.4	D	**80+**	**F**	**80+**	**F**	-0.6	0.2%
			PM	45.8	D	**80+**	**F**	**80+**	**F**	-0.4	0.7%
7	S. Airport Road/Gateway Boulevard and Mitchell Avenue	Signal	AM	54.4	D	**80+**	**F**	**80+**	**F**	2.3	0.3%
			PM	**62.6**	**E**	**80+**	**F**	**80+**	**F**	4.9	0.9%
8	S. Airport Road/Produce Avenue and San Mateo Avenue	Signal	AM	38.4	D	**53.7**	D	**55.0**	D	1.3	0.7%
			PM	37.7	D	**80+**	**F**	**80+**	**F**	7.0	1.4%
9	Sylvester Road and East Grand Avenue	Two - Way Stop	AM	17.2	C	44.0	D	43.8	D	-0.2	8.8%
			PM	10.3	B	34.1	C	38.0	D	3.9	11.0%

Note:

Delay reported as seconds per vehicle. At signalized intersections, the delay shown is the weighted average delay for all movements. LOS based on the methodology in Highway Capacity Manual (HCM). Intersections 4,6,7, 8 and 9 are based on HCM 6th Edition methodology. The remaining intersections are based on HCM 2000 methodology. Worst leg delay is reported for the unsignalized intersections.

Bold indicates unacceptable LOS E or LOS F.

1. Introduction

This report presents the results of the Local Transportation Analysis (LTA) conducted for the proposed Office/Research & Development (R&D) building at 120, 130 East Grand Avenue and 129, 145, 160 and 180 Sylvester Road in South San Francisco, California. The project proposes to construct approximately 504,000 square feet of R&D and office space on a site located less than 500 feet east of the South San Francisco Caltrain station.

The project consists of three buildings and a stand-alone parking structure with approximately 756 parking spaces. Building 1 would be constructed on the 160/180 Sylvester Road parcels with eleven stories of lab/office space totaling 326,000 square feet of gross floor area. Building 2 would be constructed on the 120/130 East Grand Avenue parcels with five stories of lab/office space totaling 150,000 feet of gross floor area. Building 3 would be constructed on the 145/129 Sylvester Road parcels with three stories totaling 26,000 square feet gross floor area with amenity/retail space programmed on the ground floor and lab/office space on the upper levels. The parking structure would be constructed on the 145/129 Sylvester Road parcels and is programmed to have 2,000 square feet of amenity/retail space on the ground floor. Vehicular access to the project site would be provided via Sylvester Road off East Grand Avenue and also via a right-in/right-out driveway on East Grand Avenue to the east of Sylvester Road.

The development is consistent with the proposed 2040 General Plan, which plans for higher-density, transit-oriented uses at and around the project site. The site location and the surrounding study area are shown on Figure 1. The project site plan is shown on Figure 2.

Scope of Study

This study was conducted for the purpose of identifying potential adverse effects on traffic operations related to the proposed development. The potential adverse effects of the project were evaluated in accordance with the standards set forth by the City of South San Francisco, and the City/County Association of Governments (C/CAG) of San Mateo County. It is noted that the Level of Service (LOS) analysis is no longer intended to be used for purposes of identifying significant impacts under California Environmental Quality Act (CEQA).

The LTA includes an analysis of AM and PM peak hour traffic operations for eight (7) signalized intersections in the vicinity of the project site and (2) unsignalized intersections. An analysis of vehicle queuing, site access and on-site circulation, parking, and transit, bicycle, and pedestrian access is also included.

Study Intersections

1. Miller Avenue and Airport Boulevard
2. Grand Avenue and Airport Boulevard
3. Grand Avenue and Dubuque Avenue
4. E. Grand Avenue and Grand Avenue
5. E. Grand Avenue and Poletti Way (unsignalized)
6. E. Grand Avenue and Gateway Boulevard
7. S. Airport Road/Gateway Boulevard and Mitchell Avenue
8. S. Airport Road/Produce Avenue and San Mateo Avenue
9. Sylvester Road and East Grand Avenue (unsignalized)

Traffic conditions at the study intersections were analyzed for both the weekday AM and PM peak hours of adjacent street traffic. The AM peak hour typically occurs between 7:00 AM and 9:00 AM and the PM peak hour typically occurs between 4:00 PM and 6:00 PM on a regular weekday. These are the peak commute hours during which most traffic congestion occurs on the roadways. Study intersections were evaluated with a level of service analysis using Synchro software in accordance with the *Highway Capacity Manual* methodology.

Traffic conditions were evaluated for the following scenarios:

Scenario 1: *Existing Conditions.* Due to Covid-19 and regional shelter-in-place orders, the current traffic levels on the roadways are relatively low compared to pre-Covid conditions. Therefore, new traffic counts were not collected for the study. Existing traffic volumes were based on available traffic counts at study intersections conducted in 2019 (pre-Covid) which is representative of future conditions when travel conditions would return to pre-Covid levels.

Scenario 2: *Cumulative No Project Conditions.* Cumulative traffic volumes represent future traffic volumes and roadway conditions projected for the year 2040 assumed with the General Plan buildout minus the project traffic. Cumulative 2040 volumes at study intersections that reflect the buildout of the General Plan was provided by Fehr & Peers. Cumulative no project traffic volumes were obtained by subtracting out the project traffic from the 2040 General Plan buildout volumes.

Scenario 3: *Cumulative Plus Project Conditions.* Cumulative plus project traffic volumes were analyzed using the 2040 General Plan buildout volumes which includes the proposed project. Cumulative plus project conditions were evaluated relative to cumulative conditions in order to determine potential adverse effects at study intersections.

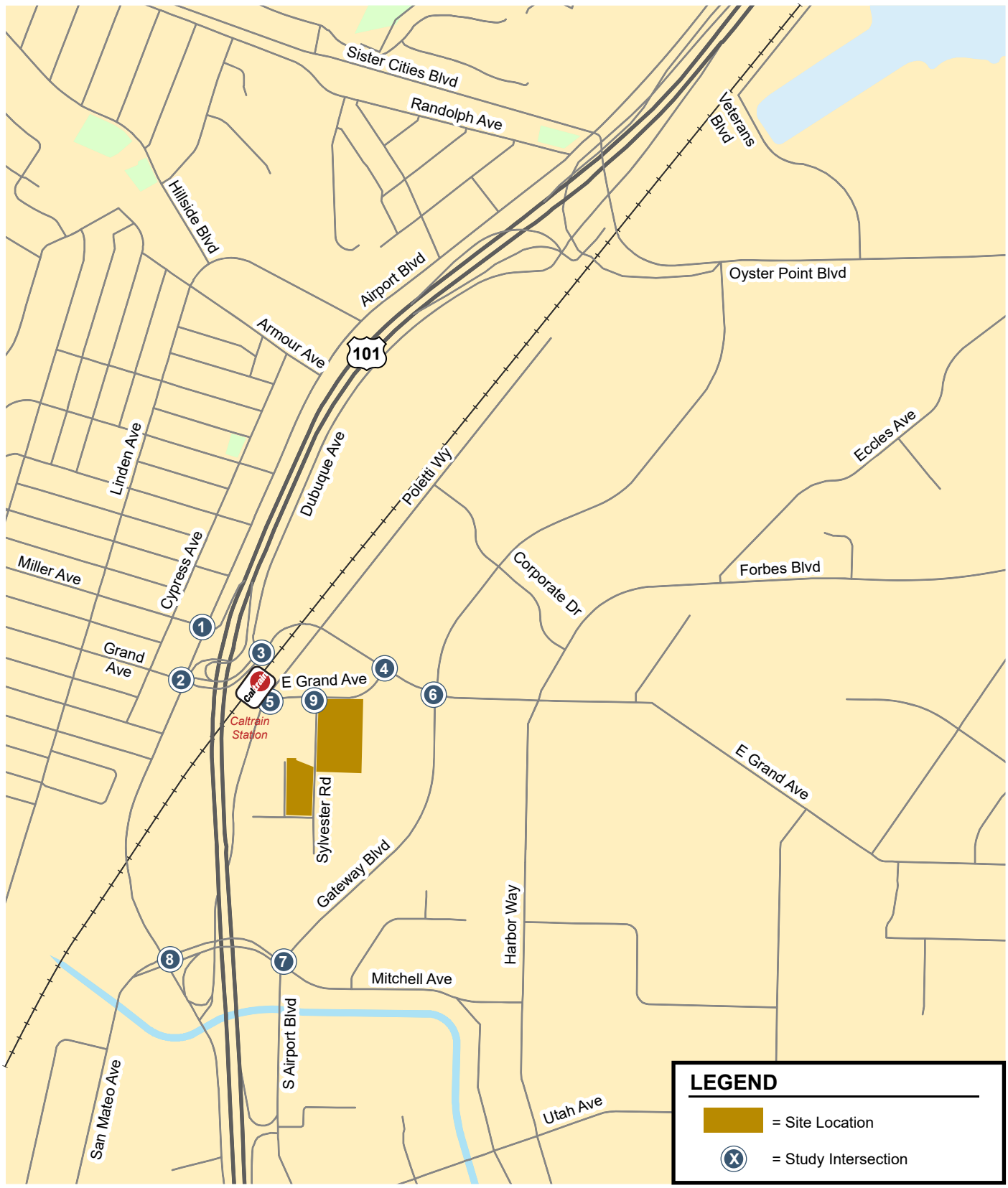


Figure 1
Site Location and Study Intersections

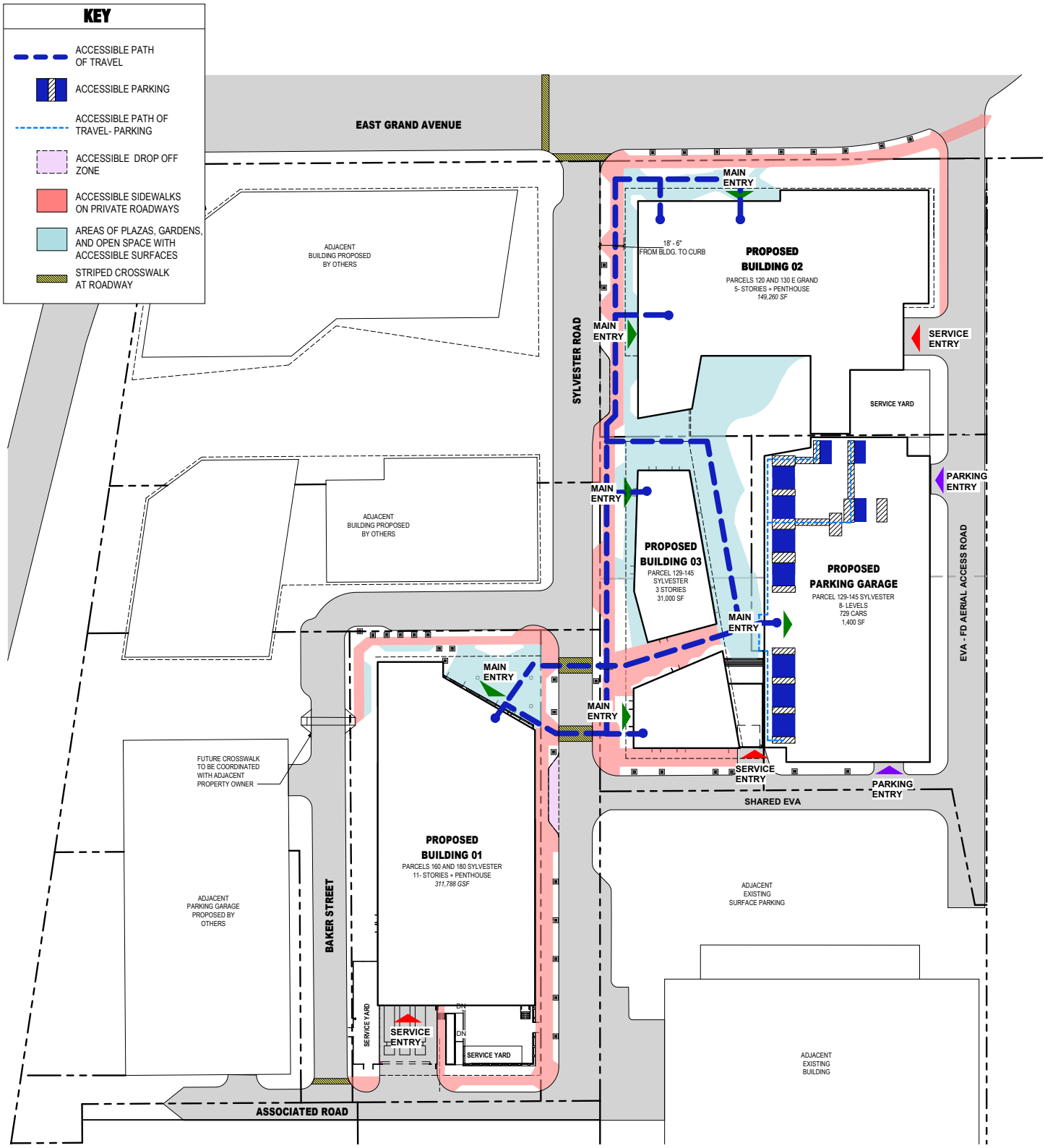


Figure 2
Site Plan

Methodology

This section presents the methods used to determine the traffic conditions for each scenario described above. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards.

Data Requirements

The data required for the analysis were obtained from the City of South San Francisco, Caltrans, previous traffic counts, and studies completed for nearby projects. The following data were collected from these sources:

- existing peak-hour intersection turning-movement volumes
- cumulative traffic volumes
- lane configurations
- intersection signal timing and phasing

Intersection Level of Service Analysis Methodologies

Traffic conditions at the study intersections were evaluated using level of service (LOS). *Level of Service* is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays.

This study utilizes Synchro software to determine intersection level of service. The Synchro software implements the *Highway Capacity Manual* (HCM) methodology for signalized and unsignalized intersections. The HCM method evaluates intersection operations on the basis of average control delay time (measured in seconds per vehicle) for all vehicles at the intersection. This average delay can then be correlated to a level of service as shown in Table 1 for signalized intersections. The level of service correlation for unsignalized, stopped-controlled intersections is shown in Table 2. For stop-controlled intersections, level of service depends on the average delay experienced by vehicles on the stop-controlled approaches. Thus, for two-way or T-intersections, operations are defined by the average control delay experienced by vehicles entering the intersection from the stop-controlled approaches on minor streets or from left-turn approaches on major streets.

LOS for the study intersections were analyzed using the Highway Capacity Manual (HCM) 6th edition methodology to maintain consistency with previous studies. For intersections that could not be analyzed using the 6th edition, HCM 2000 was used.

Table 1
Signalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Control Delay Per Vehicle (sec.)
A	Signal progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay.	10.0 or less
B	Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average vehicle delay.	10.1 to 20.0
C	Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though some vehicles may still pass through the intersection without stopping.	20.1 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	This is considered to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high volume-to-capacity (V/C) ratios. Individual cycle failures occur frequently.	55.1 to 80.0
F	This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes of such delay levels.	greater than 80.0

Source: Transportation Research Board, *Highway Capacity Manual*

Table 2
Unsignalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Delay Per Vehicle (Sec.)
A	Little or no traffic delay	10.0 or less
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays	greater than 50.0

Source: Transportation Research Board, *Highway Capacity Manual*

The City of South San Francisco's General Plan stipulates that all intersections should strive to maintain LOS D or better during peak hours. The General Plan also states that LOS E or F can be accepted if there is no practical and feasible way to mitigate lower level of service, and the uses resulting in the lower level of service are of clear, overall public benefit.

Intersection Vehicle Queuing Analysis

The analysis of intersection operations was supplemented with a vehicle queuing analysis at intersections where the project would add a substantial number of trips to the left-turn movements or stop-controlled approaches. The queuing analysis is presented for informational purposes only, since the City of South San Francisco has not defined a policy related to queuing.

Report Organization

The remainder of this report consists of chapters 2 through 5. Chapter 2 describes the existing roadway network, transit services, and pedestrian facilities. Chapter 3 presents the methods used to estimate project traffic. Chapter 4 presents the intersection operations under existing and cumulative conditions with and without the project. Chapter 5 includes the analysis of project's effect on other transportation issues including site access and circulation, parking, transit, bicycle and pedestrian facilities, and vehicle queuing.

2. Existing Conditions

This chapter describes the existing conditions for transportation facilities in the vicinity of the site, including the roadway network, transit service, and pedestrian and bicycle facilities.

Existing Roadway Network

Regional access to the project study area is provided by US 101.

US 101 is a north-south major freeway through eastern San Mateo County between San Francisco and San Jose. It is the primary north/south route connection to I-280 and I-80 north of South San Francisco. US-101 is typically congested in both directions during both peak periods as people commute to and from San Francisco and the Silicon Valley. Access to the freeway from the project site is provided via interchanges at Grand Avenue, Miller Avenue, East Grand Avenue and Produce Avenue.

Local access to the site is provided by Airport Boulevard, Grand Avenue, East Grand Avenue and Sylvester Road. Descriptions of each roadway facility are presented below.

Airport Boulevard is a major north/south four- to six-lane arterial route through South San Francisco parallel to US-101 that transitions into Bayshore Boulevard in the north and to Produce Avenue in the south. Sidewalks are generally present on both sides of the road, south of Grand Avenue. North of Grand Avenue, sidewalk is provided only on the west side of the road. The posted speed limit on Airport Boulevard is 35 MPH near the project vicinity. Airport Boulevard provides access to the site via Grand Avenue, East Grand Avenue and Sylvester Road.

Grand Avenue is a two- to six-lane roadway that extends from Mission Road to the west to its termination point at Point San Bruno Park in the Genentech campus. West of Airport Boulevard, Grand Avenue has one travel lane in each direction with on-street angled parking on both sides of the street. The posted speed limit on Grand Avenue is 35 MPH near the project vicinity. Grand Avenue provides access to the site via East Grand Avenue and Sylvester Road.

East Grand Avenue is a three-lane roadway that extends from US 101 NB off Ramp/Poletti Way to the west to Grand Avenue in the east. Sidewalks are present along both the north and south side of East Grand Avenue. The posted speed limit on East Grand Avenue is 35 MPH near the project vicinity. East Grand Avenue provides access to the site via Sylvester Road.

Sylvester Road is a two-lane roadway that extends from East Grand Avenue in the north to its termination point at Associated Road to the south. Sylvester Road has on-street angled parking on the west side of the street or parallel parking on both sides. Sylvester Road provides direct access to the project site. Sylvester Road will be reconstructed with new frontage improvements and bike sharrows

with the development of parcels along Sylvester Road, which are planned for higher density, transit-oriented uses consistent with the General Plan.

Existing Pedestrian Facilities

Sidewalks are present along both the north and south sides of E. Grand Avenue, and pedestrian signals are present at the signalized intersection of E. Grand Avenue and Grand Avenue. The project would construct new sidewalks along its frontages on East Grand Avenue and Sylvester Road.

As part of the South San Francisco Caltrain Reconstruction Project, a new pedestrian/bicycle undercrossing was constructed under the Caltrain tracks that provides a direct connection for pedestrians and bicyclists between areas to the west (Airport Boulevard) and east (Poletti Way and East Grand Avenue) of the Caltrain tracks. This undercrossing also provides a connection to the new Caltrain station platform. The project is located less than 500 feet from the Caltrain Station east entrance. The South San Francisco Caltrain Station Eastern Access Study includes the following recommendations, some of which are already under construction:

- Redesign and signalize East Grand Avenue/Poletti Way/US-101 off-ramp and East Grand Avenue/Sylvester Road intersections to improve pedestrian connections.
- Widen sidewalks on East Grand Avenue, Poletti Way, and Sylvester Road.

These improvements will provide crosswalks, curb ramps, and pedestrian-actuated signal phases to provide a safe passage between the project site and the Caltrain station. The Active South City Plan and Downtown Station Area Specific plan have identified the following improvements intersecting with the eastern station entrance for people walking and biking.

- A trail along Poletti Way connecting the station entrance to employment centers to the north (Oyster Point Boulevard, Gateway Boulevard, the Bay Trail, and Sierra Point).
- A trail along East Grand Avenue connecting the station entrance to employment centers and future residential neighborhoods to the east and south (East Grand Avenue, Forbes Boulevard, and South Airport Boulevard).
- A pedestrian priority zone along East Grand Avenue to connect pedestrians to the eastern station entrance.

Existing Bicycle Facilites

Bicycle facilities include bike paths, bike lanes, and bike routes. Bike paths (Class I facilities) are pathways, separate from roadways, which are designated for use by bicycles. Often, these pathways also allow pedestrian access. Bike lanes (Class II facilities) are lanes on roadways designated for use by bicycles with special lane markings, pavement legends, and signage. Bike routes (Class III) are existing rights-of-way that accommodate bicycles but are not separate from the existing travel lanes. Bike routes are typically designated only with signs.

The city has 48.3 miles of existing bikeways, though most of them are not signed. Transit stations, schools, parks and retail centers are all accessible by these bikeways. The existing bicycle facilities near the project site are shown on Figure 3.

The project will provide on-site bicycling parking facilities. Bicyclists would access the project site from East Grand Avenue. Bicycle access between the project site and the South San Francisco Caltrain station would be provided via the trail along East Grand Avenue. Other existing bicycle facilities in the vicinity of the project site are Class II bike lanes on East Grand Avenue, east of Roebling Way, and

Class II bike lanes on Gateway Boulevard, south of East Grand Avenue. The planned improvements in the project's vicinity as discussed under pedestrian facilities, which includes widened sidewalks and an expanded trail along the north side of East Grand Avenue, would serve pedestrians and bicyclists traveling between the project site and the Caltrain station/Downtown and the East of 101 Area.

With the redevelopment of parcels along Sylvester Road and Associated Road, Sylvester Road will be reconstructed with bike sharrows to improve bicycling safety. Sylvester Road will connect to the proposed bike trail on the southern end of the site along the railways spur that will connect to the Class II bike lanes on Gateway Boulevard.

Existing Transit Service

Existing transit service to the study area is provided by Caltrain, Bay Area Rapid Transit (BART), Water Emergency Transit Agency (WETA), San Mateo County Transit District (SamTrans) and commuter shuttles. The project site is located adjacent to the Caltrain station. BART, ferry service (WETA) and bus service (SamTrans) is provided in the greater vicinity of the project site.

Caltrain

Caltrain provides commuter rail service between San Francisco and Gilroy. The South San Francisco Caltrain Station serves local and limited-stops trains with 60-minute headways during weekdays.

The recently reconstructed South San Francisco Caltrain station provides passengers access to the downtown from the station's center platform via ramps connecting to the newly constructed tunnel underneath the Caltrain tracks. The tunnel connects to a pedestrian plaza at Grand Avenue/Airport Boulevard on the west side of the tracks and a transit plaza at the intersection of East Grand Avenue and Poletti Way on the east side of the tracks. Buses and shuttles pick up and drop off Caltrain passengers from the new east-side plaza instead of the parking lot on the west side of the station, which results in time savings for passengers commuting to the City's biotech job center on the east side of the tracks. The project site is located less than 500 feet from the Caltrain station east entrance.

Combined with the Caltrain Electrification project, the reconstructed station is expected to see increased service levels, which has been included in Caltrain planning.

BART

BART operates regional rail service in the Bay Area, connecting between San Francisco International Airport and the Millbrae Intermodal Station to the south, San Francisco to the north, and cities in the East Bay. The BART stations closest to the project area are the San Bruno Station, located near Huntington Avenue east of El Camino Real, and the South San Francisco Station, located on Mission Road and McLellan Drive. Both stations are located within 3 miles of the project site. BART trains operate on 15-minute headways during peak hours and 20-minute headways during off-peak hours. Shuttle service is provided by the Peninsula Traffic congestion Relief Alliance (Commute.org) between South San Francisco BART and Caltrain stations. The Genesis One Tower Place shuttle operated by commute.org provides service between the South San Francisco Caltrain station and the South San Francisco BART station.

WETA

WETA provides weekday commuter ferry service between Oakland/Alameda ferry terminals and the South San Francisco Ferry Terminal at Oyster Point. There are three morning departures from Oakland/Alameda to South San Francisco, and three evening departures from South San Francisco to Oakland/Alameda. The South San Francisco Ferry terminal is located approximately 2 miles from the

Figure 3
Existing Bicycle Facilities

project site. Shuttle service is provided by Commute.org between the South San Francisco ferry terminal and the Caltrain station.

SamTrans

SamTrans provides bus service on the west side of US 101. The closest bus stops to the project site are approximately ¼ mile to the west at the intersection of Airport Boulevard and Grand Avenue (via the new Caltrain Station underpass) and are served by Routes 292 and 397. Employees/visitors to/from the project can access these bus stops via the Caltrain Station Eastern entrance and use the newly constructed bike/pedestrian tunnel under the Caltrain tracks to get to Airport Boulevard. The Sam Trans services are described in Table 3 and shown on Figure 4.

Table 3
Transit Services

Route[1]	Route Description	Weekday Hours of Operation[2]	Headways[2] (minutes)
Express, SFO and Multi-City Route 397	San Francisco – Palo Alto Transit Center (Limited Overnight Service) - Serves SF Airport	12:45 AM - 6:40 AM	60
Express, SFO and Multi-City Route 292	San Francisco – Hillsdale Mall - Serves SF Airport	3:55 AM - 2:45 AM	8 - 30
North County Route 138	Safe Harbour[3]	6:00 AM - 8:00 AM 4:55 PM - 6:45 PM	
North County Route 130	Daly City BART - Airport/Linden	5:00 AM - 12:00 AM	15
North County Route 141	Airport/Linden – Shelter Creek	6:15 AM - 8:00 PM	30

Notes:
Source: SamTrans Service Schedule and Map, August 2022
1. Closest bus stop to bus routes 397 and 292 is located at Airport Boulevard and Grand Avenue (1,200 feet from the project location) and all others are at Airport Boulevard and Linden Avenue (0.4 mile from the project location).

2. Approximate weekday operation hours and headways during peak periods in the project area, as of August 2022.
3. Route 138 continues as route 130 and route 141 between 6:00 AM to 7:00 AM and 5:30 PM to 7:45 PM.

Commuter Shuttles

Additional commuter shuttle service is provided by the Peninsula Traffic congestion Relief Alliance (Commute.org). The shuttles provide weekday commute period first/last mile connections between BART and the Caltrain stations, the WETA ferry terminal, and local employers in the East of 101 Area.

These shuttles are free for all passengers and are open to the general public. All shuttles are wheelchair-accessible and equipped with a bicycle rack on the front of the vehicle. Service is provided from Monday through Friday during morning and afternoon commute hours.

Figure 4
Existing Transit Services

The following shuttle services can be accessed within walking distance from the project, in front of the Caltrain station Eastern entrance. Approximate weekday operation hours and headways provided below in the project area are as of September 2022.

- **The Genesis One Tower Place (OTP) Shuttle** connects the South San Francisco Caltrain and BART stations and provides service to the Genesis Towers and the Dubuque Innovation Center in South San Francisco. This line provides service during peak commute hours, between 6:45 AM and 10:10 AM, and between 4:00 PM and 6:40 PM with 60-minute headways during the AM peak hour and 45-minute headways during the PM peak hour.

- **The Oyster Point Caltrain shuttle (OPC)** operates from the South San Francisco Caltrain Station and provides service to offices and businesses along Oyster Point Boulevard. This line provides service during peak commute hours, between 6:40 AM and 9:45 AM, and between 2:45 PM and 6:10 PM with 20 to 35-minute headways during the AM and PM peak hours.

- **The Utah-Grand Caltrain shuttle (UGC)** operates from the South San Francisco Caltrain Station and provides service to businesses along E. Grand Avenue on the east side of Highway 101 in South San Francisco. This line provides service during peak commute hours, between 6:40 AM and 10:00 AM, and between 2:45 PM and 6:10 PM with 20 to 40-minute headways.

- **The Oyster Point Ferry shuttle (OPF)** connects riders from the South San Francisco Ferry Terminal to the South San Francisco Caltrain station and provides service to Oyster Point Boulevard, Genesis Towers, and the Dubuque Innovation Center. This line provides service during peak commute hours, between 6:50 AM and 9:30 AM, and between 2:45 PM and 5:20 PM with 60-minute headways during the AM and PM peak hours.

3. Project Trip Generation

The magnitude of traffic produced by a new development and the locations where that traffic would appear were estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic traveling to and from the proposed office/R&D development was estimated for the AM and PM peak hours. As part of the project trip distribution, the directions to and from which the project trips would travel were estimated. In the project trip assignment, the project trips were assigned to specific streets and intersections. These procedures are described below.

Trip Generation

Through empirical research, data have been collected that indicate the amount of traffic that can be expected to be generated by many types of land uses. The standard trip generation rates can be applied to predict the future traffic increases that would result from a new development. The standard trip generation rates come from the publication titled Institute of Transportation Engineers (ITE) *Trip Generation, 11th Edition.*

Project trip generation was estimated by multiplying the size of the development by the appropriate trip generation rates obtained from the ITE *Trip Generation Manual, 11th Edition* (2021). The average trip generation rates for Research and Development Center (Land Use 760) were applied to the project. The project includes a total of 32,600 s.f. amenities within the three buildings consisting of an all-hands meeting room, a campus kitchen, a cafe, a restaurant, a day care, a fitness center and an executive meeting suite. These amenities are treated as accessory uses and therefore combined with the total square footage and trip generation of the office/R&D development. These amenities will primarily be used by employees/visitors who would already be at/near the site and therefore assumed to not generate new vehicular trips. The project will be required to implement a TDM program consistent with the revised Chapter 20.400 of the Municipal Code and would be required to achieve a maximum of 50 percent of employees commuting via driving alone. The TDM reduction assumes that 50% of the employees will drive alone and the rest of the employees will telecommute or commute via transit, carpool, bike or walk resulting in a 34% total trip reduction. With a 34% TDM reduction, the project is estimated to generate a total of 3,685 daily trips, with 342 trips (281 inbound and 61 outbound) during the AM peak hour and 326 trips (52 inbound and 274 outbound) during the PM peak hour.

Existing Land Use

The project site is currently occupied by light industrial uses. Trips generated by the existing uses on the site were estimated based on ITE rates for “General Light Industrial (Lane Use Code 110)”. Trips

associated with the existing uses on the project site can be subtracted from the project trip estimates. Based on the ITE average trip rates for General Light Industrial uses, existing uses on the project site are estimated to generate 150 trips during the AM peak hour and 131 trips during PM peak hour.

Net Project Trip Generation

After applying a trip reduction attributable to the required TDM program and taking credit for former use on the project site, it is estimated that the proposed project would generate a net total of 2,700 daily trips, with 192 net new trips (149 inbound and 43 outbound) occurring during the AM peak hour and 195 net new trips (34 inbound and 161 outbound) occurring during the PM peak hour (see Table 4).

Table 4
Project Trip Generation Estimates

			Daily		AM Peak Hour				PM Peak Hour			
Land Use	**Size**	**Unit**	**Rate**	**Trips**	**Rate**	**In**	**Out**	**Total**	**Rate**	**In**	**Out**	**Total**
Proposed Uses												
Office/R&D Development[1]	504	ksf	11.08	5,584	1.03	426	93	519	0.98	79	415	494
34% Trip Reduction[2]				(1899)		(145)	(32)	(177)		(27)	(141)	(168)
Total Trips				**3,685**		**281**	**61**	**342**		**52**	**274**	**326**
Existing Uses												
Light Industrial[3]	202.251	ksf	4.87	(985)	0.74	(132)	(18)	(150)	0.65	(18)	(113)	(131)
Net Project Trips				**2,700**		**149**	**43**	**192**		**34**	**161**	**195**

Notes:

[1] Peak Hour trips based on average rates for Research and Development Center (760) land use from Institute of Transportation Engineers, Trip Generation, 11th Edition. The project includes a total of 32,600 s.f. amenities within the three buildings consisting of an all-hands meeting room, a campus kitchen, a cafe, a restaurant, a day care, a fitness center and an executive meeting suite. These amenities are treated as accessory uses and therefore combined with the total square footage and trip generation of the office/R&D development. These amenities will be primarily be used by people who would already be at/near the site.

[2] The project will be required to implement a TDM program consistent with the revised Chapter 20.400 of the Municipal Code, and would be required to achieve a maximum of 50 percent of employees commuting via driving alone. The TDM reduction assumes that 50% of the employees will drive alone and the rest of the employees will telecommute or commute via transit, carpool, bike or walk.

[3] Peak Hour trips based on average rates for General Light Industrial (110) land use from Institute of Transportation Engineers, Trip Generation, 11th Edition.

Trip Distribution and Trip Assignment

The trip distribution pattern for the project was estimated based on trip distribution patterns developed for the East of 101 Area provided in the Downtown Station Area Specific Plan (DSASP). The peak hour vehicle trips generated by the project were assigned to the roadway network in accordance with the trip distribution pattern. Figure 5 shows the trip distribution pattern for the project site. Figure 6 shows the trip assignment.

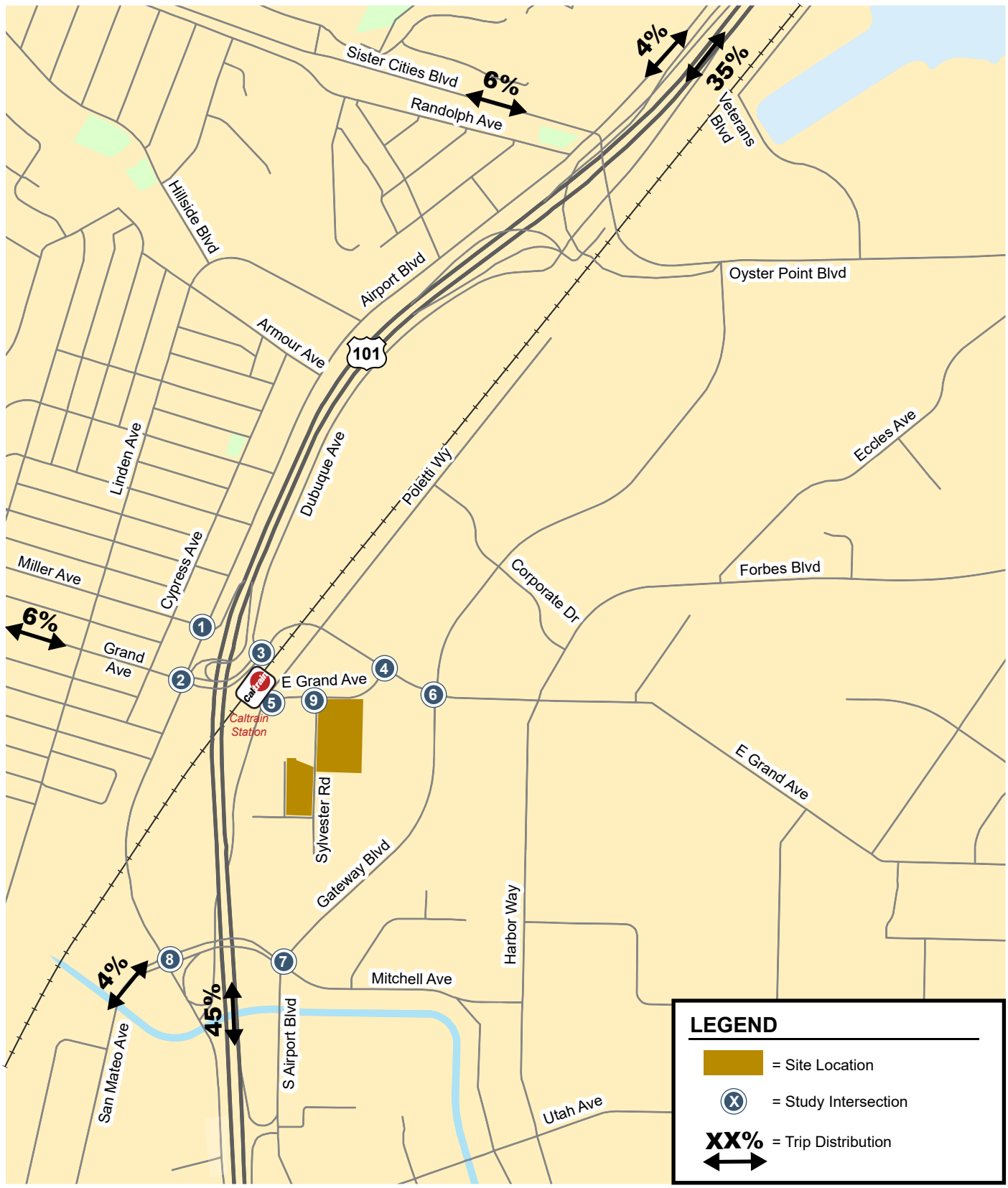


Figure 5
Trip Distribution

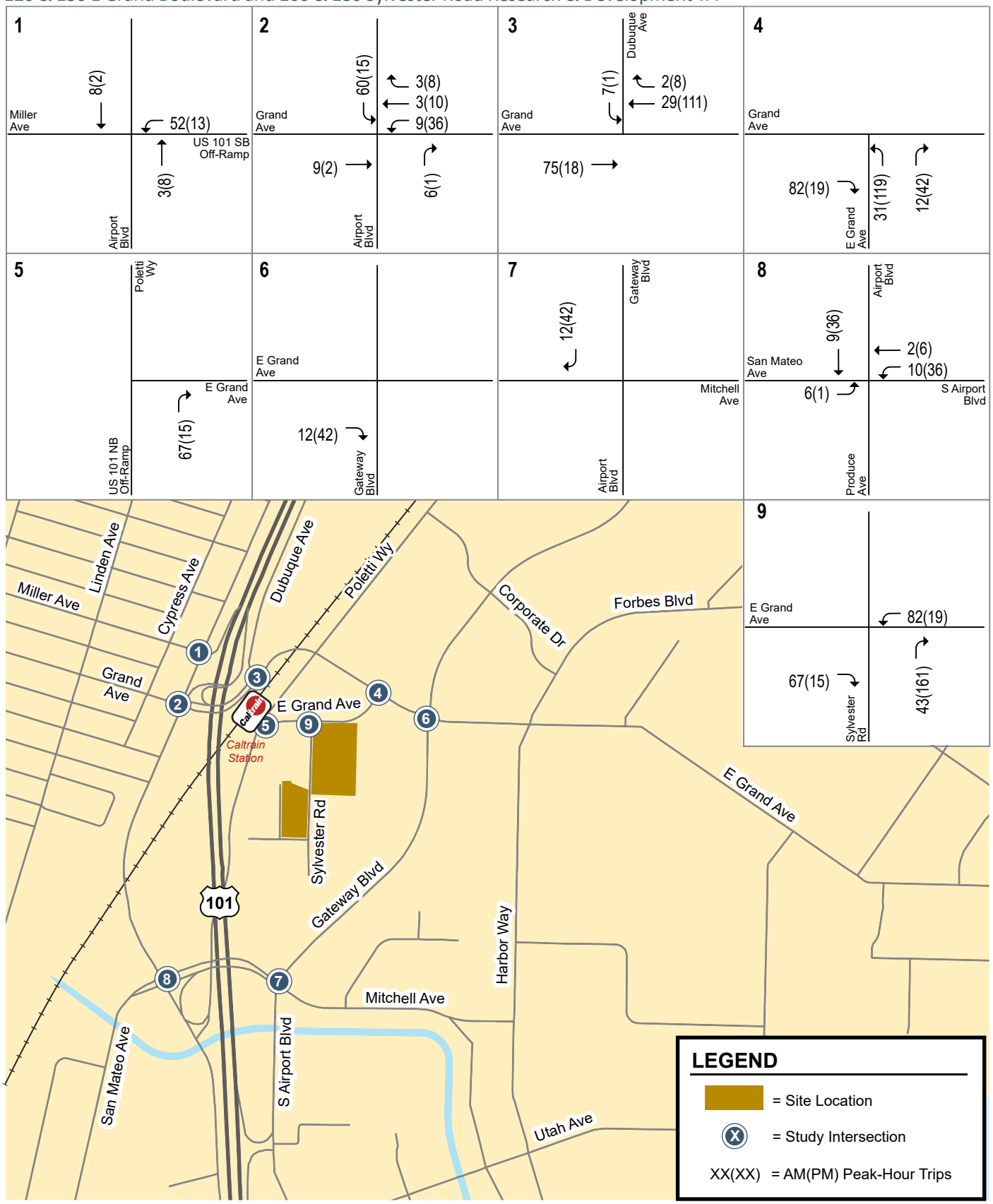


Figure 6
Trip Assignment

NORTH
Not to Scale

4. Traffic Operations Analysis

This chapter presents a summary of the traffic operations analysis that was conducted for the study intersections based on the Highway Capacity Manual methodology.

Traffic conditions at the study intersections were analyzed for both the weekday AM and PM peak hours of adjacent street traffic. The AM peak hour typically occurs between 7:00 AM and 9:00 AM and the PM peak hour typically occurs between 4:00 PM and 6:00 PM on a regular weekday. These are the peak commute hours during which most traffic congestion occurs on the roadways.

Traffic conditions were evaluated for the following scenarios:

Scenario 1: *Existing Conditions.* Due to Covid-19 and regional shelter-in-place orders, the current traffic levels on the roadways are relatively low compared to pre-Covid conditions. Therefore, new traffic counts were not collected for the study. Existing traffic volumes were based on available traffic counts at study intersections conducted in 2019 (pre-Covid) which is representative of future conditions when travel conditions would return to pre-Covid levels. The existing turning movement counts were adjusted for volume balancing between adjacent intersections prior to conducting the traffic operations analysis. Study intersections were evaluated with a level of service analysis using Synchro software in accordance with the *Highway Capacity Manual* methodology.

Scenario 2: *Cumulative No Project Conditions.* Cumulative traffic volumes represent future traffic volumes and roadway conditions projected for the year 2040 assumed with the General Plan buildout. Cumulative 2040 volumes at study intersections that reflect the buildout of the General Plan was provided by Fehr & Peers. Cumulative no project traffic volumes were obtained by subtracting out the project traffic from the 2040 General Plan buildout volumes.

Scenario 3: *Cumulative Plus Project Conditions.* Cumulative plus project traffic volumes were analyzed using the 2040 General Plan buildout volumes which includes the proposed project. Cumulative plus project conditions were evaluated relative to cumulative conditions in order to determine potential adverse effects at study intersections.

Existing Conditions

Intersection Lane Configurations and Traffic Volumes

The existing lane configurations at the study intersections were determined by observations in the field and are shown on Figure 7. Existing traffic volumes at all signalized study intersections were based on 2019 traffic counts (pre-COVID conditions) and included in Appendix A. Existing traffic volumes for the unsignalized intersections #5 and #9 were obtained from the 100 East Grand Avenue Traffic Operations Analysis report, which are based on 2019 counts. The existing turning movement counts were adjusted for volume balancing between adjacent intersection prior to conducting the traffic operations analysis. The existing peak-hour intersection volumes are shown on Figure 8.

Existing Intersection Levels of Service

The results of the existing traffic operations analysis show that all study intersections operate at an acceptable level of service D or better during both AM and PM peak hours (see Table 5) based on the pre-COVID traffic volumes except for the intersection of South Airport Boulevard/Produce Avenue & San Mateo Avenue. The analysis shows that the intersection of South Airport Boulevard/Produce Avenue & San Mateo Avenue operates at unacceptable LOS E during the PM peak hour based on pre-COVID traffic volumes.

Table 5
Existing Intersection Level of Service

Study Numbe	Intersection	Control	Peak Hour	Existing Conditions Avg. Delay (sec)	LOS
1	Miller Avenue and Airport Boulevard	Signal	AM	28.1	C
			PM	20.1	C
2	Grand Avenue and Airport Boulevard	Signal	AM	36.8	D
			PM	46.4	D
3	Grand Avenue and Dubuque Avenue	Signal	AM	5.7	A
			PM	47.5	D
4	E. Grand Avenue and Grand Avenue	Signal	AM	18.0	B
			PM	8.8	A
5	E. Grand Avenue and Poletti Way	Two - Way Stop	AM	10.8	B
			PM	8.6	A
6	E. Grand Avenue and Gateway Boulevard	Signal	AM	51.4	D
			PM	45.8	D
7	S. Airport Road/Gateway Boulevard and Mitchell Avenue	Signal	AM	54.4	D
			PM	**62.6**	**E**
8	S. Airport Road/Produce Avenue and San Mateo Avenue	Signal	AM	38.4	D
			PM	37.7	D
9	Sylvester Road and East Grand Avenue	Two - Way Stop	AM	17.2	C
			PM	10.3	B

Note:
Delay reported as seconds per vehicle. At signalized intersections, the delay shown is the weighted average delay for all movements. LOS based on the methodology in Highway Capacity Manual (HCM). Intersections 4,6,7, and 8 are based on HCM 6th Edition methodology. The remaining intersections are based on HCM 2000 methodology. Worst leg delay is reported for the unsignalized intersections.

Bold indicates unacceptable LOS E or LOS F.

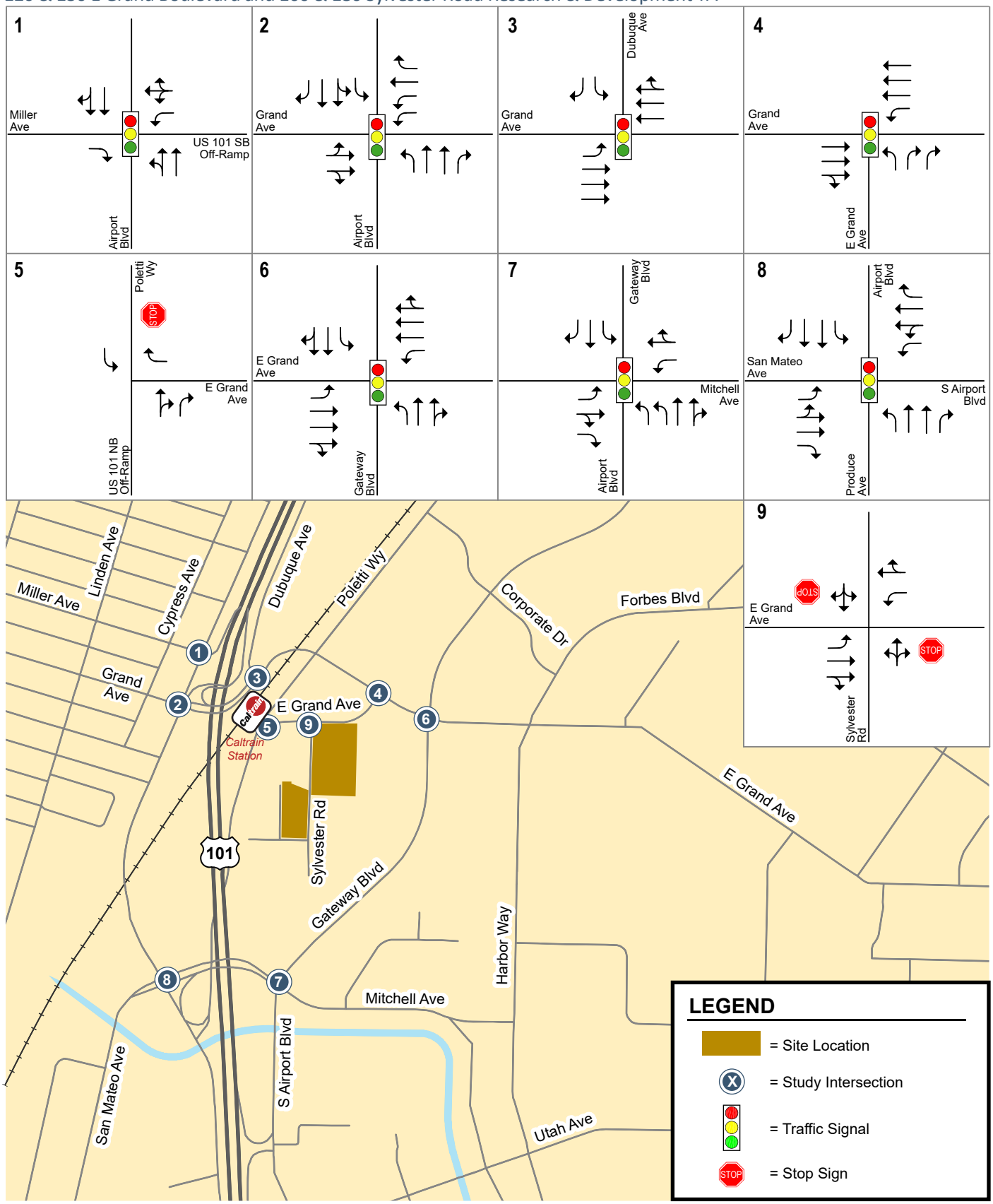


Figure 7
Existing Lane Configuration

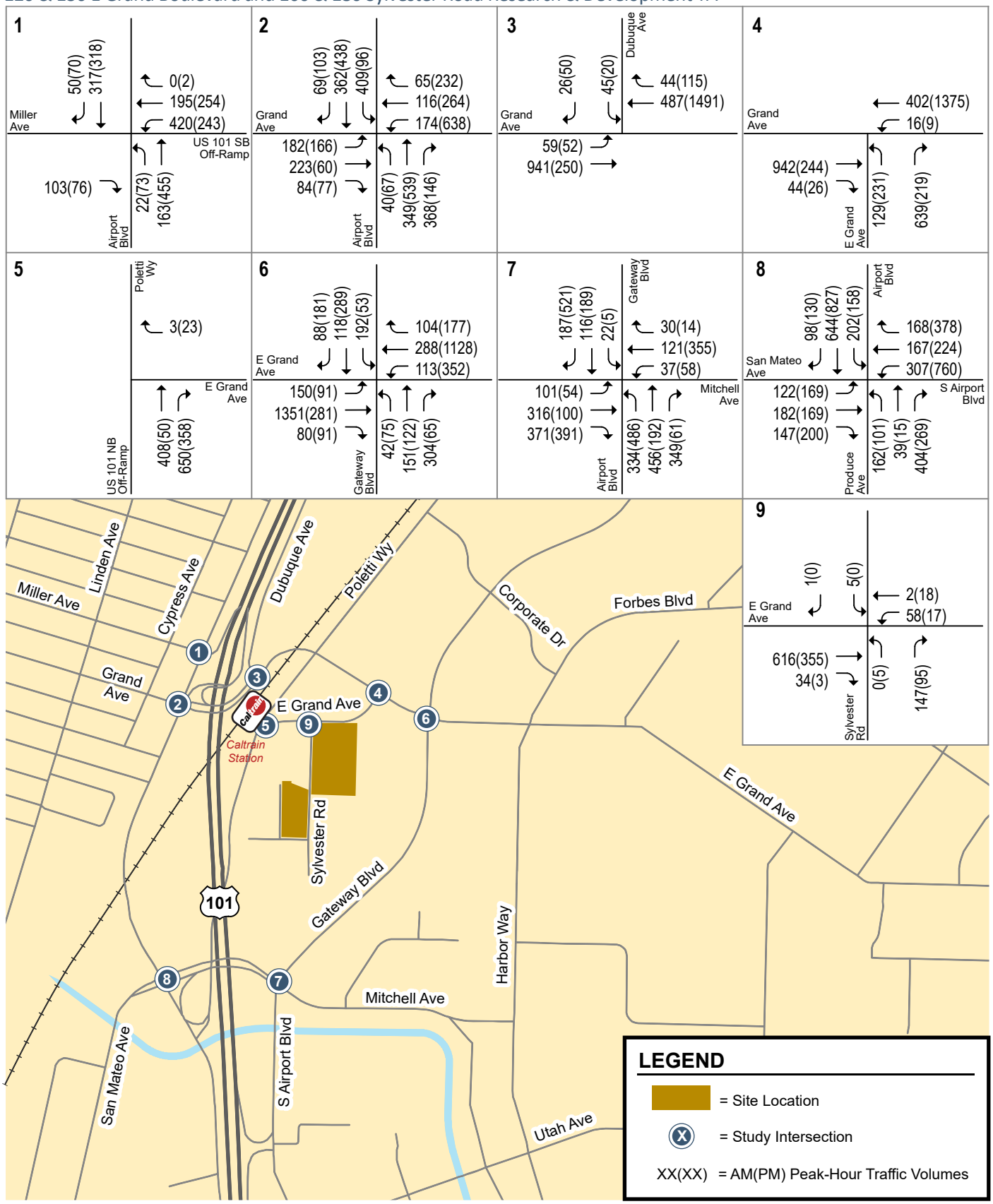


Figure 8
Existing Traffic Volumes

Cumulative Conditions

Cumulative Conditions Roadway Network

Under cumulative conditions, with the full buildout of the General Plan, the following roadway network improvements are assumed to be constructed in the vicinity of the proposed project.

- Redesign and signalization of East Grand Avenue/Poletti Way/US-101 Northbound Offramp intersection – The intersection will be redesigned as a T-intersection to help ensure that vehicles slow down when transitioning from the freeway offramp to surface streets. A separate right-turn lane would be constructed on the freeway offramp. At the signal, the northbound offramp would consist of one through lane and two right turn lanes. A pedestrian crosswalk with a scramble phase will be constructed on the north leg of the intersection across Poletti Way. A free right-turn will be maintained for vehicles on the offramp, turning onto East Grand Avenue
- Redesign and signalization of East Grand Avenue/Sylvester Road – In order to enable access to the proposed project, 100 East Grand Avenue and other parcels along Sylvester Road, the intersection of East Grand Avenue/Sylvester Road would be signalized. A third eastbound through lane is assumed between the US 101 offramp and Grand Avenue. Crosswalks with pedestrian signal heads will be provided to enable pedestrian crossing across East Grand Avenue. The northbound approach on Sylvester Road will be constructed to consist of two outbound lanes, a shared left-right lane and an exclusive right-turn lane.
- Grand Avenue and East Grand Avenue – The crosswalk that currently exists on the east leg of East Grand Avenue will be removed and a new crosswalk across Grand Avenue will be constructed on the west leg to improve pedestrian/bicycle access between the protected bike lane on East Grand Avenue and the Caltrain Station.
- Gateway Boulevard and East Grand Avenue – In order to enhance the walkability to the Caltrain Station East entrance, the northbound and southbound right-turn slip lanes will be removed. Based on the cumulative conditions analysis of this intersection in traffic studies conducted for other projects in the East of 101 Area, it is assumed that the shared through/right turn lane for the northbound approach on Gateway Boulevard would be restriped to an exclusive right turn lane. Other intersection improvements include adding exclusive right-turn pockets for the southbound approach on Gateway Boulevard and the eastbound approach on East Grand Avenue and a second left-turn lane on westbound East Grand Avenue
- Sylvester Road – A new east/west roadway will be constructed along the railway spur to connect Sylvester Road to Gateway Boulevard in order to improve traffic circulation near the Caltrain station east entrance. Traffic generated by the proposed project and other parcels along Sylvester Road, heading towards US 101 south would take this new roadway to connect to Gateway Boulevard to South Airport Boulevard to Produce Avenue.

Cumulative Conditions Traffic Volumes

Fehr & Peers provided the baseline (2019) and 2040 AM and PM peak hour raw turning movement model volumes based on their analysis for the city's General Plan which included the proposed project at 120 E Grand Avenue and redevelopment of other parcels along Sylvester Road. The difference in peak hour volumes between the baseline and 2040 General Plan buildout peak hour volumes were added to the existing (2019) AM and PM peak hour turning movement counts to estimate the cumulative 2040 volumes. The volumes for cumulative no project condition was estimated by subtracting the trips generated by the proposed project from the 2040 cumulative volumes.

The cumulative no project traffic volumes are shown on Figure 9. Figure 10 shows the traffic volumes under cumulative plus project conditions.

Intersection Levels of Service Analysis

The results of the level of service analysis under cumulative conditions are shown in Table 6. As shown in Table 6, the following intersections would operate at unacceptable LOS E or F.

- Grand Avenue and Airport Boulevard (AM & PM)
- Grand Avenue and Dubuque Avenue (PM)
- East Grand Avenue and Grand Avenue (AM & PM)
- East Grand Avenue and Gateway Boulevard (AM & PM)
- South Airport Road/Gateway Boulevard and Mitchell Avenue (AM & PM)
- South Airport Road/Produce Avenue & San Mateo Avenue (PM)

These intersections would continue to operate at unacceptable levels with the project. The addition of project-generated trips would not cause any study intersections that operate at an acceptable level of service to degrade to an unacceptable level of service. At those intersections that would operate at unacceptable levels under cumulative no project conditions and the average delay would increase due to the project, the project would add less than 4% of the total traffic through the intersection. The intersection level of service output from Synchro are provided in Appendix B.

According to the *Mobility 20/20 East of 101 Transportation Plan*, the area hosts approximately 28,000 employees across 21 million square feet of office/R&D, industrial, commercial, and hotel uses, and the city expects to add 13 million square feet of development over the next two decades, comprised primarily of office/R&D uses. Upon reaching full buildout, the East of 101 Area would host approximately 55,000 employees. Doubling employment would increase travel demand, and substantial traffic congestion is expected.

Since most of the study intersections have been built to capacity, no physical improvements are feasible at these intersections. The City of South San Francisco's General Plan stipulates that all intersections should strive to maintain LOS D or better during peak hours. The General Plan also states that LOS E or F can be accepted if there is no practical and feasible way to mitigate lower level of service, and the uses resulting in the lower level of service are of clear, overall public benefit. In the future, the city will adjust signal timings at these intersections to better serve the increased traffic levels. The city will primarily rely on investments in infrastructure that will support and encourage alternative modes of transportation to address traffic congestion in the East of 101 Area.

Table 6
Cumulative Plus Project Intersection Level of Service

Study Number	Intersection	Control	Peak Hour	Cumulative Conditions: No Project Avg. Delay (sec)	No Project LOS	With Project Avg. Delay (sec)	With Project LOS	Delay Increase (Sec)	% Increase in Volume
1	Miller Avenue and Airport Boulevard	Signal	AM	36.0	D	36.4	D	0.4	3.1%
			PM	27.6	C	28.1	C	0.5	1.0%
2	Grand Avenue and Airport Boulevard	Signal	AM	**80+**	**F**	**80+**	**F**	5.9	2.3%
			PM	**80+**	**F**	**80+**	**F**	3.7	1.4%
3	Grand Avenue and Dubuque Avenue	Signal	AM	15.5	B	15.5	B	0.0	3.6%
			PM	**80+**	**F**	**80+**	**F**	24.4	0.9%
4	E. Grand Avenue and Grand Avenue	Signal	AM	**71.3**	**E**	**78.3**	**E**	7.0	3.0%
			PM	**80+**	**F**	**80+**	**F**	49.5	4.0%
5	E. Grand Avenue and Poletti Way	Signal	AM	20.2	C	20.3	C	0.1	2.8%
			PM	14.0	B	14.0	B	0.0	1.2%
6	E. Grand Avenue and Gateway Boulevard	Signal	AM	**80+**	**F**	**80+**	**F**	-0.1	0.2%
			PM	**80+**	**F**	**80+**	**F**	0.0	0.7%
7	S. Airport Road/Gateway Boulevard & Mitchell Avenue	Signal	AM	**80+**	**F**	**80+**	**F**	2.3	0.3%
			PM	**80+**	**F**	**80+**	**F**	4.9	0.9%
8	S. Airport Road/Produce Avenue & San Mateo Avenue	Signal	AM	53.7	D	55.0	D	1.3	0.7%
			PM	**80+**	**F**	**80+**	**F**	7.0	1.4%
9	Sylvester Road and East Grand Avenue	Signal	AM	44.0	D	43.8	D	-0.2	8.8%
			PM	34.1	C	38.0	D	3.9	11.0%

Note:
Delay reported as seconds per vehicle. At signalized intersections, the delay shown is the weighted average delay for all movements. LOS based on the methodology in Highway Capacity Manual (HCM). Intersections 4,6,7, 8 and 9 are based on HCM 6th Edition methodology. The remaining intersections are based on HCM 2000 methodology. Worst leg delay is reported for the unsignalized intersections.

Bold indicates unacceptable LOS E or LOS F.

Freeway Ramp Analysis

A freeway ramp analysis was conducted for freeway ramps that the project would add trips to under cumulative conditions.

Freeway Off-Ramps

The off-ramp analysis was based on the 95th percentile queue from Synchro software. If the queue exceeds available storage, the freeway mainline would be adversely affected. Table 7 shows the results of the freeway off-ramp queuing analysis. The analysis finds that the queues on the off-ramps under cumulative conditions would not exceed the capacity of the off-ramps. However, these queues may be longer based on the prevailing traffic conditions and vehicular queues on the surface streets as Grand Avenue and East Grand Avenue are expected to have a high increase in traffic volumes by 2040.

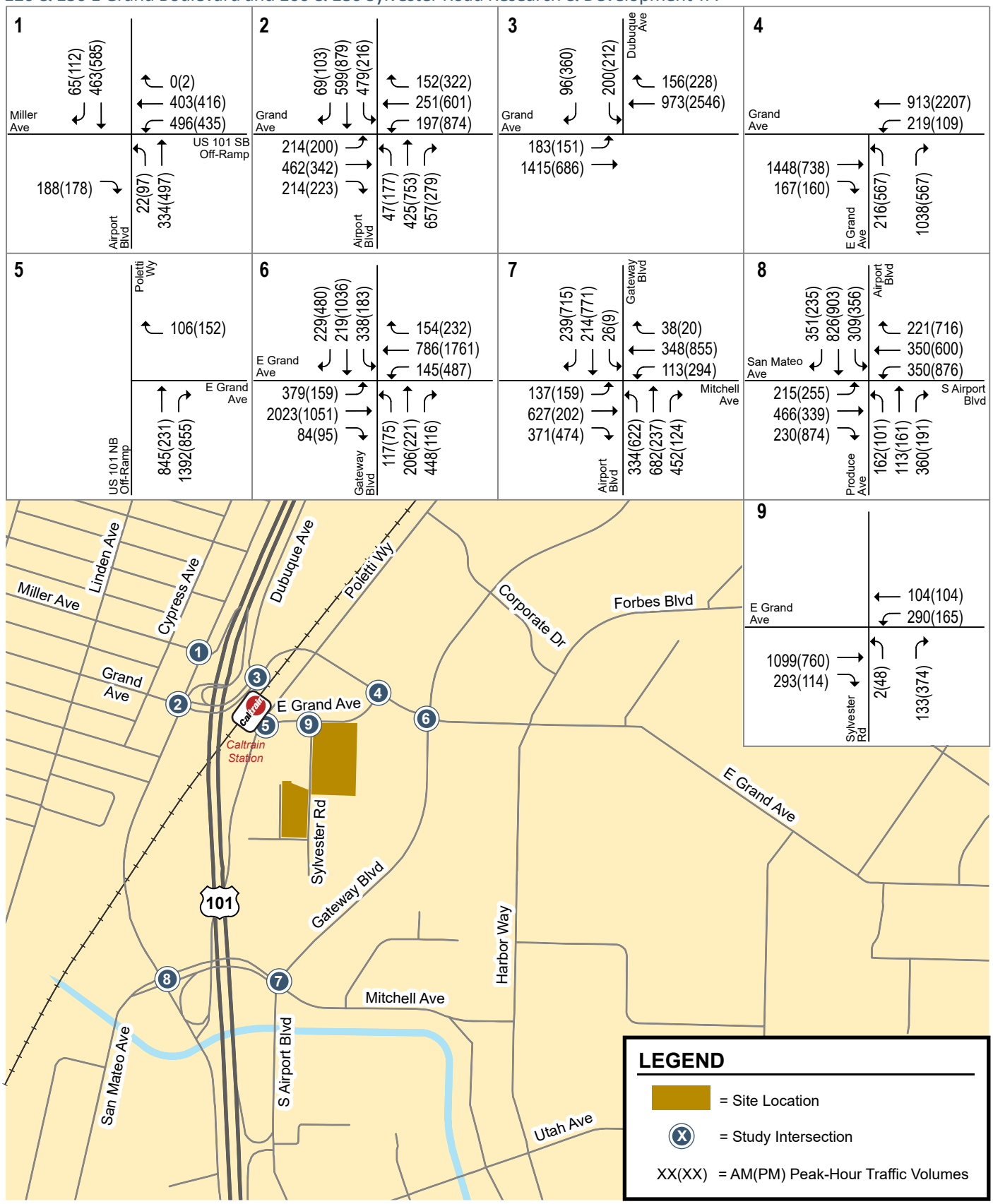


Figure 9
Cumulative No Project Traffic Volumes

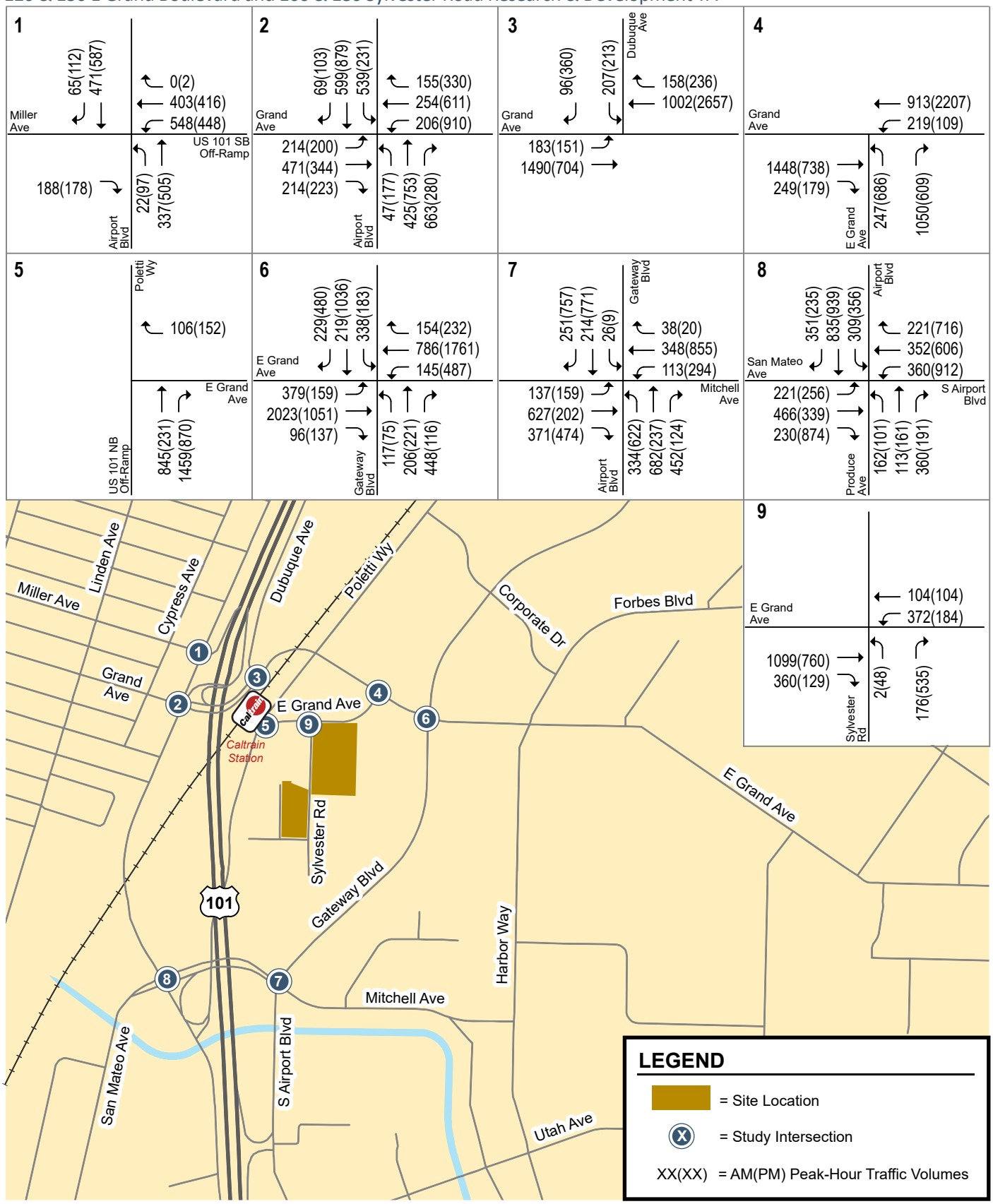


Figure 10
Cumulative Plus Project Traffic Volumes

NORTH
Not to Scale

Table 7
Cumulative Freeway Off-Ramp Analysis

Ramp	Peak Hour	Movement	Available Storage (ft)	Cumulative		Cumulative + Project	
				Peak Volume[1]	Queue[2] (ft)	Peak Volume[1]	Queue[2] (ft)
US 101 southbound off-ramp to Miller Avenue/Airport Boulevard	AM	LT	450	496	358	548	386
		TH-LT	1000	403	367	403	397
	PM	LT	450	435	294	448	304
		TH-LT	1000	418	351	418	354
US 101 northbound off-ramp to Grand Avenue	AM	TH	1000	845	656	845	656
		RT	1000	1392	31	1459	32
	PM	TH	1000	231	104	231	104
		RT	1000	855	28	870	28

Notes:
LT = Left Turn, TH-LT = Shared Through-Left,TH = Through, RT = Right Turn

1. Ramp volumes were obtained from intersection counts.
2. Queue reported represents the 95th percentile queue taken from Synchro analysis software.

Freeway On-Ramps

A planning level capacity check was completed for freeway on-ramps under cumulative conditions (Table 8). The analysis shows that under both cumulative and cumulative plus project conditions, the volume to capacity ratio would not exceed 1.0 for the two study on-ramps during the peak hours. However, it is noted that both freeway ramps are metered and during the peak traffic periods, ramp metering will always be adjusting the on-ramp flow based upon prevailing freeway operating conditions. Thus, when volume on the on-ramps exceed the metered capacity, there is a potential for vehicular queues to extend up to the surface streets. When the demand so far exceeds the capacity and travel conditions deteriorate, travelers are most likely to change the time they travel resulting in peak spreading or shift to alternative transportation modes.

Table 8
Cumulative Freeway On-Ramp Analysis

Ramp	Type	# of Lanes	Peak Hour	Capacity[1]	Cumulative		Cumulative + Project	
					Peak Volume[2]	V/C	Peak Volume[2]	V/C
US 101 northbound on-ramp at Grand Avenue	Diagonal	1	AM	2000	904	0.45	918	0.46
			PM	2000	1790	0.90	1847	0.92
US 101 southbound on-ramp at Dubuque Avenue	Diagonal	2	AM	3300	1406	0.43	1425	0.43
			PM	3300	2653	0.80	2725	0.83

Notes:
1. On-ramp operation is evaluated using planning-level methodology contained in the 2010 HCM. For single-lane curving on-ramps, capacity has been set at 2,000 vehicles per hour and for two-lane on-ramps, capacity is set at 3,300 vph. However, during peak traffic periods, ramp metering will always be adjusting on-ramp flow based upon prevailing freeway operating conditions.
2. Ramp volumes were obtained from intersection counts.

5. Other Transportation Issues

This chapter describes other transportation issues associated with the project. These include an analysis of:

- Intersection queuing
- Site access and circulation
- Parking
- Potential adverse effects to pedestrian, bicycle, and transit facilities

The analyses in this chapter are based on professional judgement in accordance with the standards and methods employed by traffic engineering professionals. Impacts to bicycle, pedestrian and transit facilities or circulation that results in hazardous conditions may be CEQA impacts.

Intersection Queueing Analysis

The operations analysis is based on vehicle queuing for left and right turning movements where the project would add at least 10 new peak-hour trips (see Table 9). For locations where the project would add at least 10 new peak-hour trips, the 95th percentile queue from Synchro is reported (Appendix C). The following turn movements were analyzed as part of the queuing analysis for this project:

- Left turn from westbound US 101 SB Off-ramp/Miller Avenue to southbound Airport Boulevard (AM)
- Left turn from southbound Airport Boulevard to eastbound Grand Avenue (AM)
- Left turn from westbound Grand Avenue to southbound Airport Boulevard (PM)
- Left turn from northbound East Grand Avenue to westbound Grand Avenue (AM and PM)
- Right turn from northbound East Grand Avenue to eastbound Grand Avenue (AM and PM)
- Right turn from US 101 NB Off-ramp/Poletti Way to eastbound East Grand Avenue (AM)
- Left turn from westbound San Mateo Avenue to southbound Produce Avenue (PM)
- Right turn from northbound Sylvester Road to eastbound East Grand Avenue (AM and PM)
- Left turn from westbound East Grand Avenue to southbound Sylvester Road (AM and PM)

Table 9
Queuing Analysis

Measurement	#1 US 101 SB off Ramp & Airport Boulevard	#2 Grand Avenue and Airport Boulevard		#4 E. Grand Avenue and Grand Avenue				#5 E. Grand Avenue and Poletti Way	#8 San Mateo Avenue & Produce	#9 Sylvester Road and East Grand Avenue			
	WBL[4]	SBL[4]	WBL	NBL	NBL	NBR	NBR	NBR[3]	WBL[4]	NBR	NBR	WBL	WBL
	AM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Existing													
Volume (vphpl)	122	205	319	129	231	320	110		380				
95th %. Queue (veh/ln.)[1]	9	17	11	5	8	5	1		15				
95th %. Queue (ft./ln)[2]	225	425	275	125	200	125	25		375				
Storage (ft./ ln.)	725	275	475	250	250	250	250		225				
Adequate (Y/N)	Y	**N**	Y	Y	Y	Y	Y		**N**				
Cumulative													
Volume (vphpl)	248	240	437	216	567	519	284	696	438	67	187	290	165
95th %. Queue (veh/ln.)[1]	14	17	23	8.8	35.2	35.2	11	2	15	2	6	13	6
95th %. Queue (ft./ln)[2]	350	425	575	220	880	880	275	50	375	50	150	325	150
Storage (ft./ ln.)	725	275	475	400	400	400	400	900	225	500	500	150	150
Adequate (Y/N)	Y	**N**	**N**	Y	**N**	**N**	Y	Y	**N**	Y	Y	**N**	Y
Cumulative Plus Project													
Volume (vphpl)	274	270	455	247	686	525	305	730	456	88	268	372	184
95th %. Queue (veh/ln.)[1]	16	19	24	10.4	47	35.2	11	1	15	2	8	14.8	7
95th %. Queue (ft./ln)[2]	400	475	600	260	1175	880	275	25	375	50	200	370	175
Storage (ft./ ln.)	725	275	475	400	400	400	400	900	225	500	500	150	150
Adequate (Y/N)	Y	**N**	**N**	Y	**N**	**N**	Y	Y	**N**	Y	Y	**N**	**N**

Notes:
NBL = northbound left movement; SBL = southbound left movement; WBL = westbound left movement; NBR = northbound right movement
[1] Assumes One Vehicle Queued per 25 feet.
[2] Value taken from Synchro software. Value rounded to the nearest 25 feet.
[3] Two right turning lane during Cumulative scenario.
[4] Two lanes represent a left turning lane and a shared through-left lane. 95th percentile queue reported is the queue for left turning vehicles.

Locations where the vehicular queues would be deficient are discussed below.

Airport Boulevard & Grand Avenue

The southbound left turn movement from Airport Boulevard to Grand Avenue during the AM peak hour would exceed the left turn storage capacity under existing and cumulative conditions. The proposed project would add 60 vehicles to the southbound left turn movement during the AM peak hour. This equates to an approximate 12.5% increase in left turning vehicles under cumulative conditions. With the addition of project-generated trips, the 95th percentile queue would be extended by two vehicles. Any queue spillover in the southbound left-turn lanes will be extended into the upstream southbound through lane on Grand Avenue and the westbound left-turn lanes on the US 101 southbound off-ramp.

The westbound left turn movement from Grand Avenue to Airport Boulevard under cumulative conditions would exceed the left turn storage capacity during the PM peak hour. The proposed project would add 36 vehicles to the westbound left turn movement during the PM peak hour. This equates to an approximate 4.1% increase in left turning vehicles on the westbound approach. With the addition of project-generated trips, the 95th percentile queue under cumulative conditions would be extended by one vehicle during the PM peak hour.

Due to constraints in the right-of-way, it is not possible to make physical improvements that would increase the capacity at this intersection. In the future, the city could consider fine-tuning signal timings to better serve the increase in traffic levels and consider restriping the lanes to improve intersection capacity.

East Grand Avenue & Grand Avenue

During the AM peak hour, vehicular queues for the northbound right turn movement from East Grand Avenue to Grand Avenue would extend past the intersection of Sylvester Road, up to Poletti Way under cumulative no project conditions. The proposed project would add 12 vehicles to the northbound right-turn movement which equates to 1% increase in traffic under cumulative conditions. With the addition of project-generated trips, the 95th percentile queue would not increase.

During the PM peak hour, the northbound left turn movement from East Grand Avenue to Grand Avenue would exceed the left turn storage capacity during the PM peak hour under cumulative no project conditions. The proposed project would add 119 vehicles to the northbound left turn movement during the PM peak hour. This equates to an approximate 21% increase in left turning vehicles under cumulative conditions. With the addition of project-generated trips, the 95th percentile queue would be extended by 11 vehicles compared to cumulative no project conditions. Any queue spillover in the northbound left-turn lanes will be extended into the downstream eastbound through lane on East Grand Avenue.

It is recommended that the city monitor traffic operations at this intersection during the peak hours and consider signal timing adjustments to minimize delays for traffic on East Grand Avenue.

Sylvester Road and East Grand Avenue

Vehicular queues for the westbound left turn movement from East Grand Avenue to Sylvester Road would exceed the left turn storage capacity during the AM peak hour under cumulative conditions. The proposed project would add 82 vehicles to the westbound left turn during the AM peak hour and 19 trips during the PM peak hour. This equates to an approximate 28% and 12% increase in left turning traffic during the AM and PM peak hours respectively under cumulative conditions. With the addition of project-generated trips, the 95th percentile queue would be extended by 3 vehicles during the AM peak hour and 1 vehicle during the PM peak hour. Any queue spillover in the westbound left-turn lanes will

be extended into the upstream westbound left-turn lane on East Grand Avenue and the eastbound right-turn lane at the East Grand Avenue and Grand Avenue intersection.

Due to constraints in the right-of-way, it is not possible to make physical improvements that would increase the capacity at this intersection. In the future, the city could consider fine-tuning signal timings to better serve the increase in traffic levels to improve intersection capacity.

Site Access and Circulation

The site access and on-site circulation evaluation is based on the July 2022 site plan (see Figure 11) prepared by FLAD Architects. Site access was evaluated to determine the adequacy of the site's driveway with regards to the following: traffic volume, delays, vehicle queues, and geometric design. On-site vehicular circulation was reviewed in accordance with generally accepted traffic engineering standards and transportation planning principles.

Project Driveway Design

Access to the project site would be provided via Sylvester Road. With the redevelopment of parcels along Sylvester Road, the intersection of East Grand Avenue and Sylvester Road will be redesigned and signalized. This intersection will be redesigned as a T-intersection without any vehicular access to 121 East Grand Avenue on the north side. The existing eastbound left-turn pocket will be removed, and East Grand Avenue will be widened to accommodate a third eastbound through lane between the US 101 southbound off-ramp and Grand Avenue. The intersection of East Grand Avenue and Sylvester Road will be signalized and crosswalks with pedestrian push buttons and countdown timers will be provided. The northbound approach on Sylvester Road will be widened to accommodate two outbound lanes consisting of a shared left-right turn lane and an exclusive right-turn lane. A secondary access will be provided via a right-in/right out driveway on East Grand Avenue, to the east of Sylvester Road.

The project would reconstruct and widen the sidewalks along its frontages on East Grand Avenue and Sylvester Road to a minimum of 10 feet wide with a landscaped buffer. Pedestrian scale lighting and street trees would be provided along the project frontage on East Grand Avenue and Sylvester Road.

All project improvements would meet applicable design standards. The project would also improve pedestrian and bicycle safety in the areas.

Project Driveway Operations and On-Site Circulation

The project is estimated to generate a gross total of 281 inbound and 61 outbound trips during the AM peak hour and 52 inbound and 274 outbound trips during the PM peak hour. Based on the South San Francisco Caltrain Station Eastern Access study, which assumes redevelopment of all parcels along Sylvester Road, it is estimated that there would be a total of 495 vehicles entering and 236 vehicles leaving Sylvester Road during the AM peak hour and 318 vehicles entering and 535 vehicles leaving Sylvester Road during the PM peak hour via the traffic signal at East Grand Avenue. As shown in Table 6, under cumulative conditions which includes the redevelopment of all parcels on Sylvester Road, this intersection would operate at LOS D during both the AM and PM peak hours. The queuing analysis (Table 9) shows that the 95th percentile queue for the outbound traffic would be less than 200 feet (approximately 10 vehicles) and would not cause any significant operational issues on site.

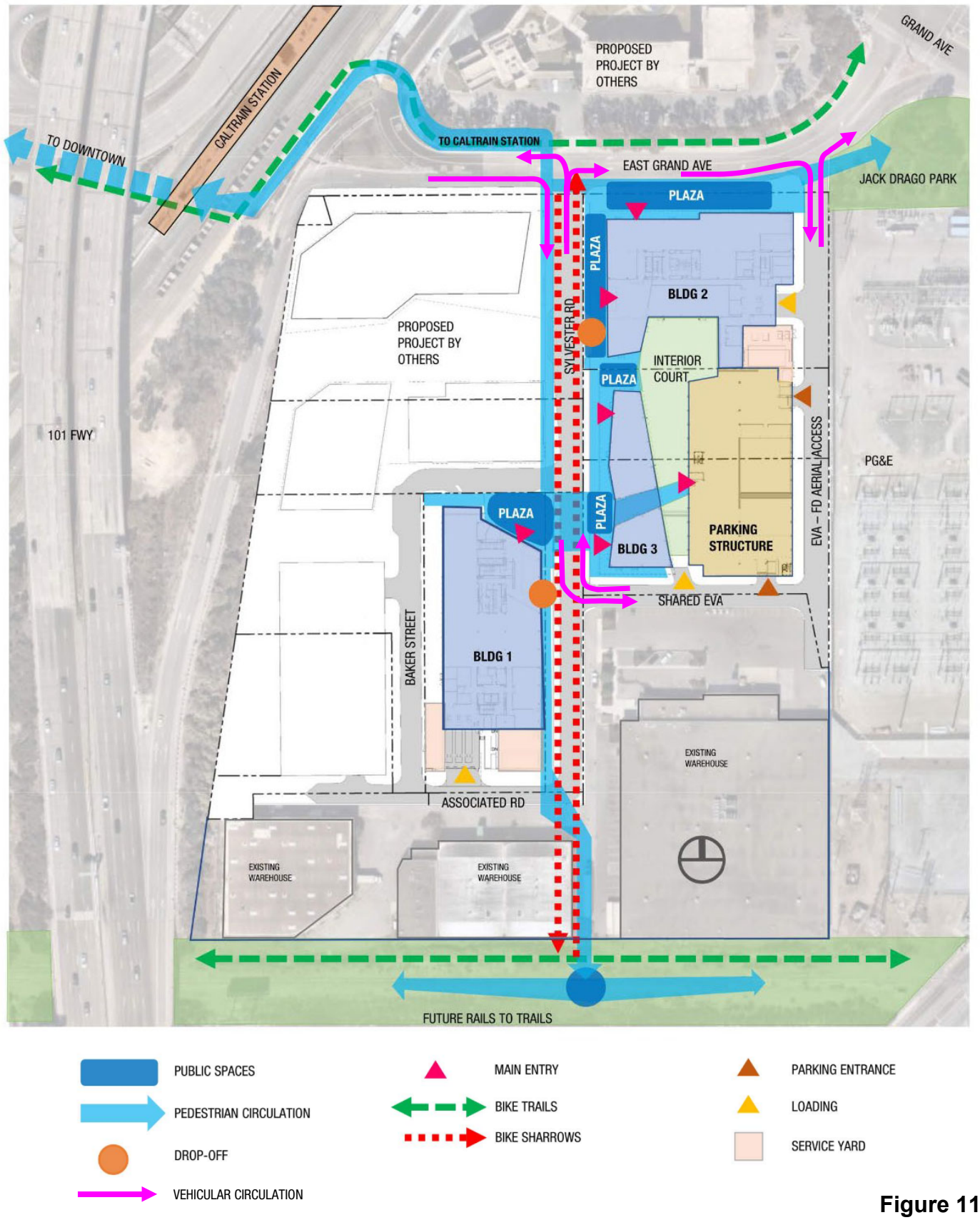


Figure 11
On-Site Circulation

Parking Garage Access and Circulation

Vehicular parking will be provided within a standalone parking structure with 756 parking spaces. Vehicular access to the parking garage will be provided via two new roads: one that would be constructed along the eastern boundary of the project site (north/south EVA access road), parallel to Sylvester Road, and another that would be constructed along the southern end of the project site, to the south of Building 3 and the parking structure (east/west EVA access road). The new north/south EVA access road would provide access to the loading area for Building 2 and the parking structure, and the new east/west EVA access road would provide access to the parking structure. The two new roadways would intersect to the southeast corner of the parking structure.

The project would provide 90-degree parking stalls throughout the parking areas (see Figures 12, 13 and 14). According to the site plan, the drive aisles throughout the parking garage measure at least 25 feet wide. Thus, adequate access to all parking stalls would be provided throughout the site. There are no dead-end parking aisles within the parking structures except on the eighth (roof) level. However, adequate space would be provided adjacent to the parking stall adjacent to the wall for vehicles to back out of the parking space.

At the parking garage entrances, it was assumed that vehicles would turn in and out of the parking garage without having to stop as there would be no conflicting traffic. Therefore, no significant vehicular queues are anticipated at the garage entrance. If the entrance/ exit to the parking garage would be gated, minor on-site vehicle queueing could occur due to the delay associated with the gate operation. For example, if it takes approximately 10 seconds between consecutive vehicles to enter or exit the garage due to gate operation, the total number of vehicles that can enter or exit the garage in one hour would be 360 vehicles each way. With the AM inbound volume of 281 vehicles and PM outbound volume of 274 vehicles, no significant queuing is anticipated at the garage entrances.

Truck Access

The site plan shows that the loading area for Building 1 (with three loading bays) would be located on the south side of the building and would be accessible via Sylvester Road, Associated Road and Baker Street. The loading area for Building 2 (with two loading bays) would be provided on the southeast corner of Building 2 and would be accessible via East Grand Avenue and the new north/south EVA road. A truck loading area is not proposed for Building 3 because the total gross floor area is less than 30,000 s.f. According to the municipal code, for office/R&D buildings with less than 30,000 s.f. gross floor area, a loading area is not required.

Hexagon reviewed the truck turning template prepared by BKF engineers for a WB-40, and a Front Load Truck as these vehicles enter and exit the site. The turning templates showed that these vehicles would be able to navigate through the site to and from the loading dock and centralized trash collection areas provided for Building 1 and Building 2 without obstruction.

The site plan shows two trash enclosures: one next to the Associated Road loading area and one next to the north/south EVA -FD Aerial Access loading area. Since the trash enclosures would be located next to the loading areas, adequate clearance would be provided for garbage trucks to empty the bins over the truck. Since garbage collection would occur on-site, traffic operations would not be affected along Sylvester Road and East Grand Avenue.

Truck arrivals and departures would be scheduled for non-peak hours to avoid delays to peak hour traffic entering and exiting the parking garage.

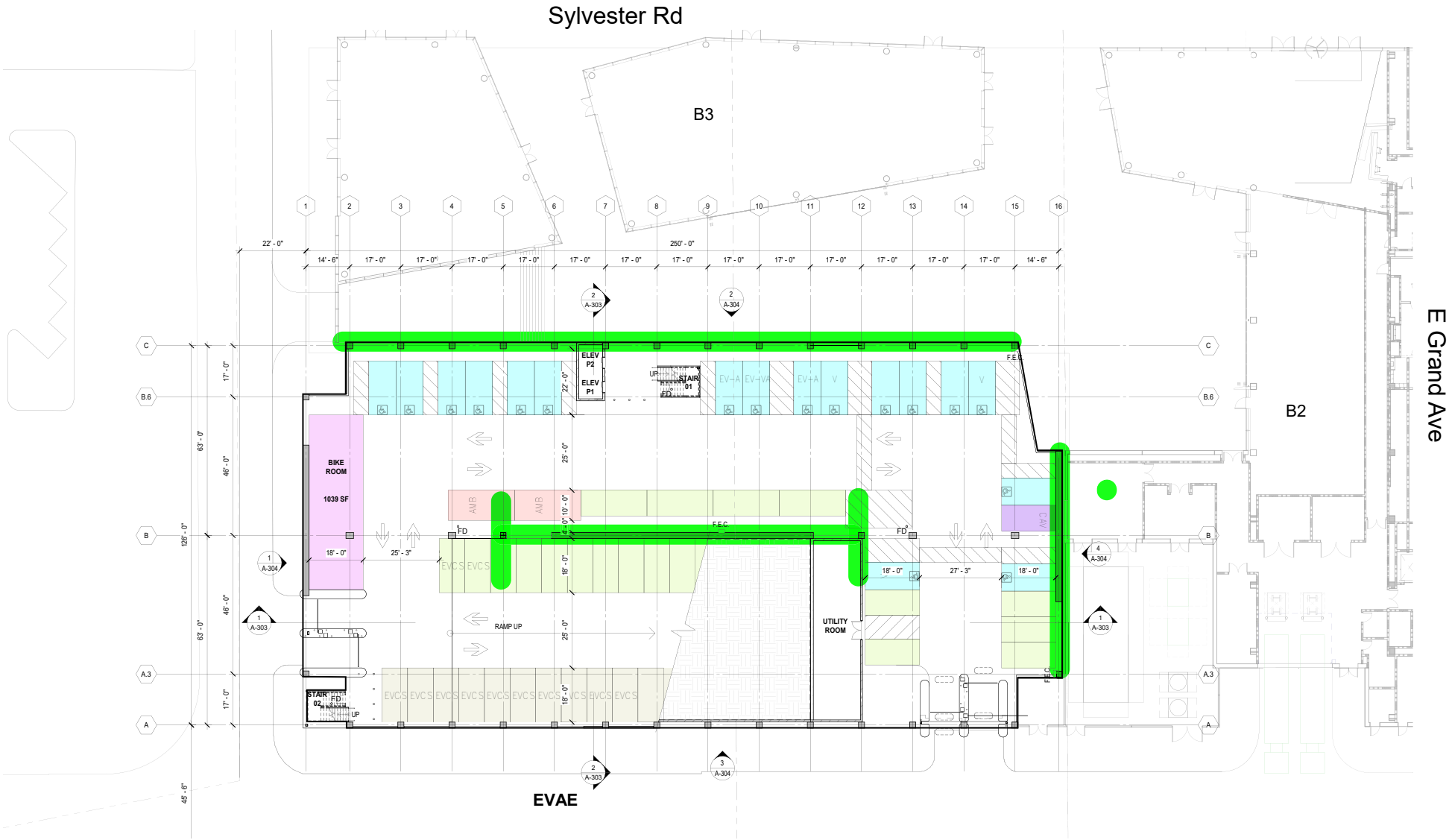


Figure 12
Parking Garage Ground Level Plan

NORTH
Not to Scale

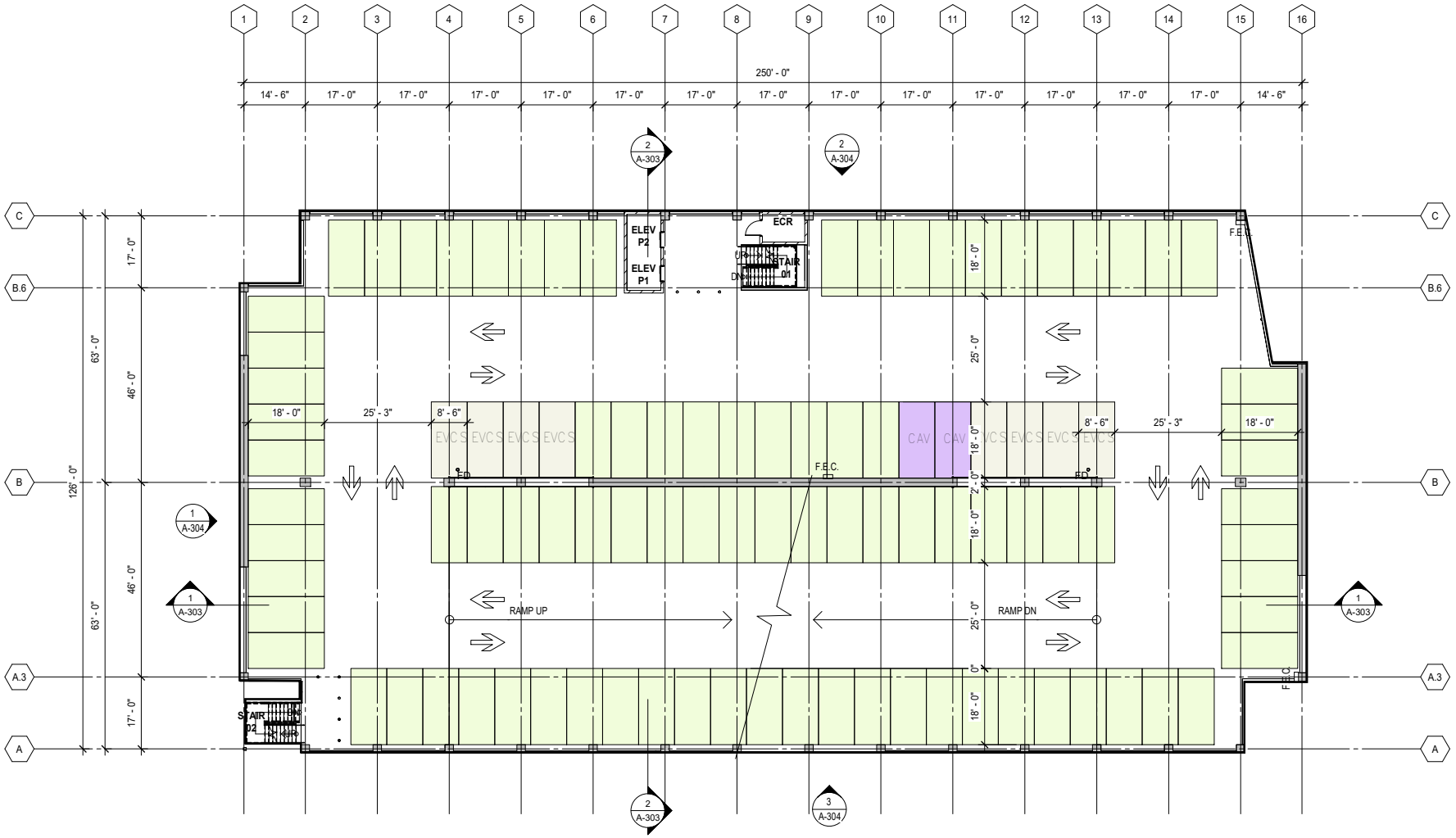


Figure 13
Parking Garage Levels 2 through 7

NORTH
Not to Scale

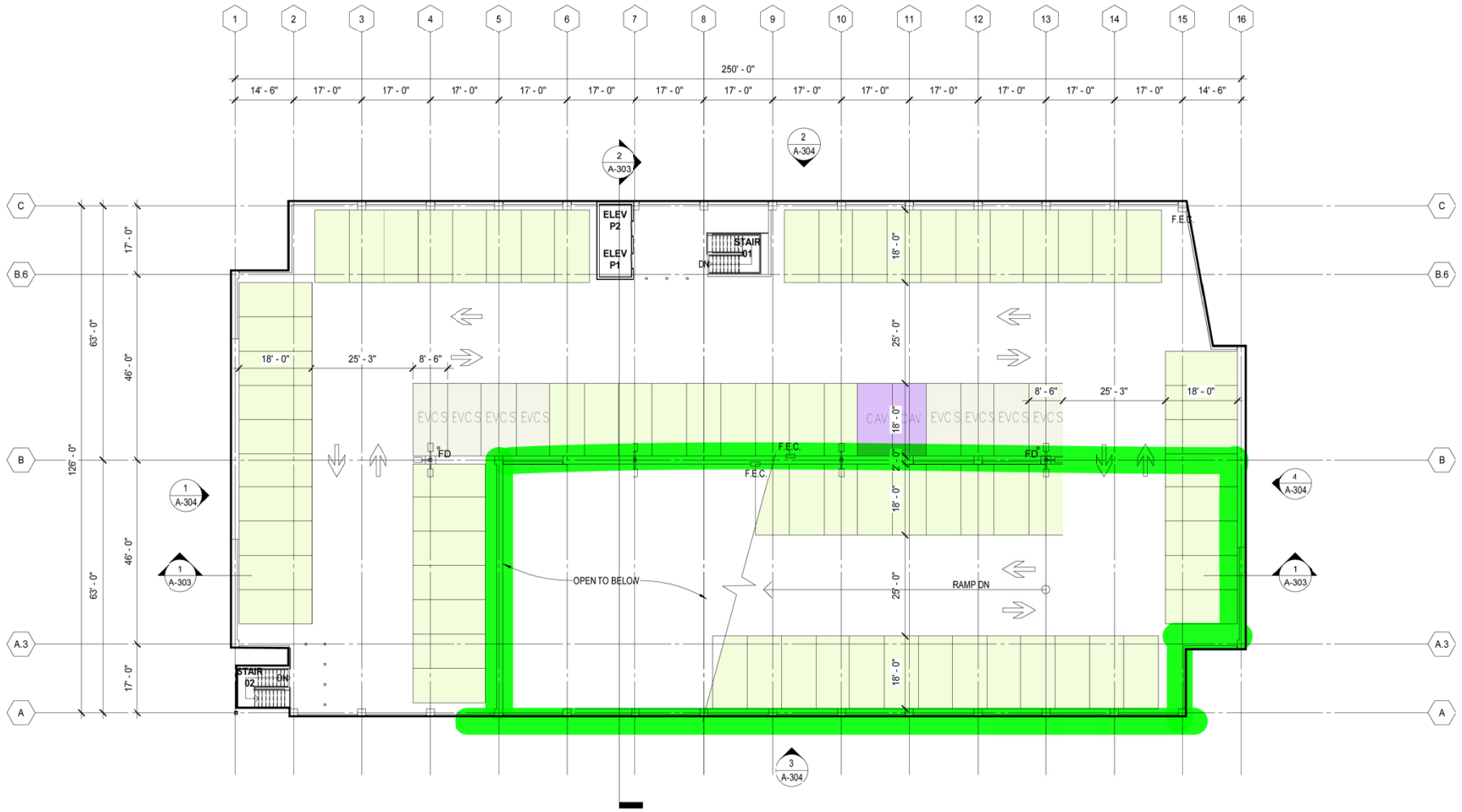


Figure 14
Parking Roof Level

NORTH
Not to Scale

Passenger Loading Demand

The site plan shows that curbside passenger loading area will be provided on Sylvester Road in front of Building 1 and Building 2. The length of the proposed passenger loading area would accommodate two cars along Building 1 and two cars along Building 2. Passenger loading demand was estimated for the project to evaluate whether the proposed passenger loading areas would be adequate. The extent of the curbside space needed to accommodate this demand is based on the trip generation rates and the passenger loading demand methodology outlined in the City of San Francisco TIA Guidelines, Appendix F. The City of South San Francisco does not have standards for passenger loading demand. The requirements were evaluated based on the peak hour trip generation for an urban high density land use type to represent a conservative analysis. Table 10 presents the estimated demand for passenger loading spaces during the peak 15 minutes for the project.

Table 10
Passenger Loading Demand

Land Use	Size (1,000 s.f.)	Person Trips (P) [1]	Loading Mode Type % (L) [2]	Average Stop Duration (D) (minutes) [3]	Peak 15-minute Loading Demand (spaces) [4]
Office - Building 1	326	456	7.3%	1	1.1
Office - Buildings 2&3	176	246	7.3%	1	0.6

Source: San Francisco TIA Guidelines, Appendix F

[1] person trip generation rates were based on urban high density land use (1.4), SF TIA Guidelines Appendix F, Table 1.

[2] SF TIA Guidelines Appendix F, Table 4.

[3] Loading/unloading durations are typically shorter than 1 minute based on previous local studies.

[4] Peak 15-minute Loading demand = ((P*L)/2) *D)/15

Passenger loading demand for Buildings 2 & 3 were evaluated together because the site plan does not show a separate curbside passenger drop off area for Building 3. Due to the close proximity of Building 3 to Building 2, it is assumed that the passenger loading area proposed in front of Building 2 would be used by employees and visitors of both Buildings 2 & 3.A total of two passenger loading spaces would be required to meet the peak 15-minute loading demand. The project would provide a total of four loading spaces, sufficient to meet the passenger loading demand.

Parking Supply

The parking analysis was based on the parking requirement for land uses, Section 20.330.004 of the Municipal Code.

According to the code, the project shall provide no more than 1.5 parking spaces per 1,000 s.f. for Research & Development uses. Based on this requirement, the maximum number of parking spaces that the project can provide calculates to 756 spaces. The site plan shows that the project would provide a total of 756 parking spaces and therefore would not exceed the maximum number of spaces allowed by the code.

Bicycle Parking

According to the Municipal Code, short-term bicycle parking shall be provided to serve visitors to a site who generally stay for a short time. The project shall provide 76 short-term bicycle parking spaces (10% of the required vehicular parking spaces).

According to the Municipal Code, long-term bicycle parking shall be provided to serve employees who generally stay at a site for four hours or longer. For any establishment with 25 or more employees, long-term bicycle parking shall be provided at a ratio of one space per 25 vehicle spaces. The project will provide a total of 756 vehicular parking spaces and therefore the required number of long-term bicycle parking spaces calculate to 31 spaces. The site plan shows that the project would provide a total of 38 parking spaces (5% of the vehicular parking spaces) to satisfy the requirement of California Green Building Code.

Pedestrian, Bicycle, and Transit Analysis

Pedestrian Facilites

The project is well situated to take advantage of the existing and planned pedestrian facilities in the immediate vicinity. The existing network of sidewalks and crosswalks, together with the planned improvements in the immediate vicinity of the project for people walking and biking provide good connectivity and safe routes to transit services and other points of interest in the area. Internal circulation within the project would be provided via sidewalks on Sylvester Road. The project would rebuild the sidewalks on Sylvester Road along its frontages with pedestrian plazas on East Grand Avenue along the frontage of Building 2, on Sylvester Road along the frontages of Buildings 2 and 3, and on the northeast corner of Building 1. The project would provide an internal circulation path through a courtyard surrounded by Buildings 2, 3 and the parking garage that would be located on the east side of Sylvester Road. Pedestrian access between Building 1, which is proposed on the west side of Sylvester Road, and the parking garage on the east side of Sylvester Road would be facilitated via a crosswalk across Sylvester Road between the pedestrian plazas for Buildings 1 and 3. A pedestrian path would be provided on the ground floor of Building 3 for pedestrians to access the parking garage (see Figure 11).

The project would not remove any pedestrian facilities, nor would it conflict with any adopted plans or policies for new pedestrian facilities. Accordingly, the project would have no significant impact on pedestrian facilities.

Bicycle Facilites

The new pedestrian/bicycle undercrossing provides bicycle access between East Grand Avenue/Poletti Way and Airport Boulevard, with direct access to the Caltrain station platform. Bicycle access between the project site and the South San Francisco Caltrain station would be provided via the trail along East Grand Avenue. Other existing bicycle facilities in the vicinity of the project site are Class II bike lanes on East Grand Avenue, east of Roebling Way, and Class II bike lanes on Gateway Boulevard, south of East Grand Avenue. The planned improvements in the project's vicinity as discussed under pedestrian facilities, which includes widened sidewalks and an expanded trail along the north side of East Grand Avenue, would serve pedestrians and bicyclists traveling between the project site and the Caltrain/Downtown and the East of 101 Area.

With the redevelopment of all parcels along Sylvester Road and Associated Road, Sylvester Road will be reconstructed with bike sharrows to improve bicycling safety. Sylvester Road will connect to the proposed bike trail on the southern end of the site along the railways spur that will connect to the Class II bike lanes on Gateway Boulevard.

The project will provide on-site bicycling parking facilities. The project would not remove any bicycle facilities, nor would it conflict with any adopted plans or policies for new bicycle facilities. Accordingly, the project would have no significant impact on bicycle facilities.

Transit Services

Existing transit service to the study area is provided by Caltrain, Bay Area Rapid Transit (BART), the Water Emergency Transit Agency (WETA), San Mateo County Transit District (SamTrans) and commuter shuttles. The project site is located less than 500 feet from the Caltrain station east entrance.

The recently reconstructed South San Francisco Caltrain station provides passengers access to the downtown from the station's center platform via ramps connecting to the newly constructed tunnel underneath the Caltrain tracks. The tunnel connects to a pedestrian plaza at Grand Avenue/Airport Boulevard on the west side of the tracks and a transit plaza at the intersection of East Grand Avenue and Poletti Way on the east side of the tracks. Buses and shuttles pick up and drop off Caltrain passengers from the new east-side plaza.

Combined with the Caltrain Electrification project, the reconstructed station is expected to see increased service levels, which has been included in Caltrain planning. The project is expected to add a significant number of new transit riders. However, given the extensive services available, the new riders could be accommodated. The project would therefore have no significant impact on transit service.

120 East Grand Avenue

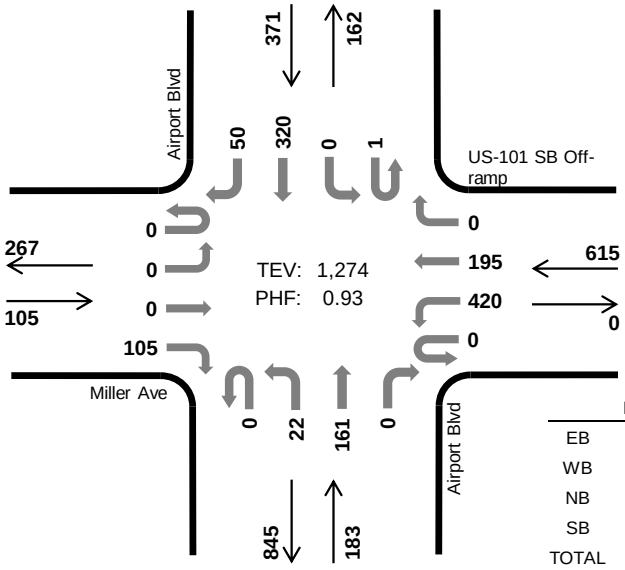
Technical Appendices

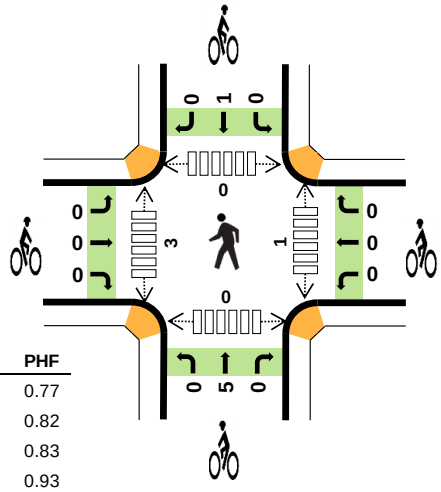
Appendix A
Traffic Counts

Airport Blvd
Miller Ave

Date: 09-24-2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Peak Hour





	HV %:	PHF
EB	2.9%	0.77
WB	2.6%	0.82
NB	6.6%	0.83
SB	5.7%	0.93
TOTAL	4.1%	0.93

Two-Hour Count Summaries

Interval Start		Miller Ave Eastbound				US-101 SB Off-ramp Westbound				Airport Blvd Northbound				Airport Blvd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	8	0	69	28	0	0	4	31	0	0	0	66	8	214	0
7:15 AM		0	0	0	11	0	76	35	1	0	3	32	0	0	0	93	8	259	0
7:30 AM		0	0	0	25	0	84	36	0	0	9	29	0	0	0	93	10	286	0
7:45 AM		0	0	0	21	0	81	49	0	0	6	45	0	0	0	98	19	319	1,078
8:00 AM		**0**	**0**	**0**	**21**	**0**	**85**	**54**	**0**	**0**	**7**	**42**	**0**	**1**	**0**	**86**	**6**	**302**	1,166
8:15 AM		**0**	**0**	**0**	**26**	**0**	**104**	**50**	**0**	**0**	**3**	**44**	**0**	**0**	**0**	**71**	**16**	**314**	1,221
8:30 AM		**0**	**0**	**0**	**34**	**0**	**93**	**41**	**0**	**0**	**7**	**48**	**0**	**0**	**0**	**80**	**11**	**314**	1,249
8:45 AM		**0**	**0**	**0**	**24**	**0**	**138**	**50**	**0**	**0**	**5**	**27**	**0**	**0**	**0**	**83**	**17**	**344**	**1,274**
Count Total		0	0	0	170	0	730	343	1	0	44	298	0	1	0	670	95	2,352	0
Peak Hour	**All**	**0**	**0**	**0**	**105**	**0**	**420**	**195**	**0**	**0**	**22**	**161**	**0**	**1**	**0**	**320**	**50**	**1,274**	**0**
	HV	**0**	**0**	**0**	**3**	**0**	**12**	**4**	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**21**	**0**	**52**	**0**
	HV%	**-**	**-**	**-**	**3%**	**-**	**3%**	**2%**	**-**	**-**	**0%**	**7%**	**-**	**0%**	**-**	**7%**	**0%**	**4%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	3	4	5	*12*	0	0	0	0	*0*	0	1	0	0	*1*
7:15 AM	0	4	5	3	*12*	0	0	0	0	*0*	0	1	0	0	*1*
7:30 AM	0	5	2	4	*11*	0	0	2	3	*5*	0	0	0	0	*0*
7:45 AM	1	2	1	9	*13*	0	0	0	0	*0*	0	2	0	0	*2*
8:00 AM	**1**	**6**	**3**	**6**	***16***	**0**	**0**	**2**	**0**	***2***	**0**	**2**	**0**	**0**	*2*
8:15 AM	**1**	**4**	**3**	**4**	***12***	**0**	**0**	**2**	**0**	***2***	**0**	**0**	**0**	**0**	*0*
8:30 AM	**0**	**2**	**4**	**6**	***12***	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**0**	*0*
8:45 AM	**1**	**4**	**2**	**5**	***12***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**0**	**0**	***2***
Count Total	4	30	24	42	*100*	0	0	7	4	*11*	1	7	0	0	*8*
Peak Hour	**3**	**16**	**12**	**21**	***52***	**0**	**0**	**5**	**1**	***6***	**1**	**3**	**0**	**0**	***4***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Miller Ave				US-101 SB Off-ramp				Airport Blvd				Airport Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	2	1	0	0	0	4	0	0	0	5	0	12	0
7:15 AM	0	0	0	0	0	2	2	0	0	0	5	0	0	0	3	0	12	0
7:30 AM	0	0	0	0	0	4	1	0	0	0	2	0	0	0	4	0	11	0
7:45 AM	0	0	0	1	0	2	0	0	0	0	1	0	0	0	9	0	13	48
8:00 AM	**0**	**0**	**0**	**1**	**0**	**5**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**6**	**0**	**16**	52
8:15 AM	**0**	**0**	**0**	**1**	**0**	**3**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**4**	**0**	**12**	52
8:30 AM	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**6**	**0**	**12**	53
8:45 AM	**0**	**0**	**0**	**1**	**0**	**3**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**5**	**0**	**12**	**52**
Count Total	0	0	0	4	0	22	8	0	0	0	24	0	0	0	42	0	100	0
Peak Hour	**0**	**0**	**0**	**3**	**0**	**12**	**4**	**0**	**0**	**0**	**12**	**0**	**0**	**0**	**21**	**0**	**52**	**0**

Two-Hour Count Summaries - Bikes

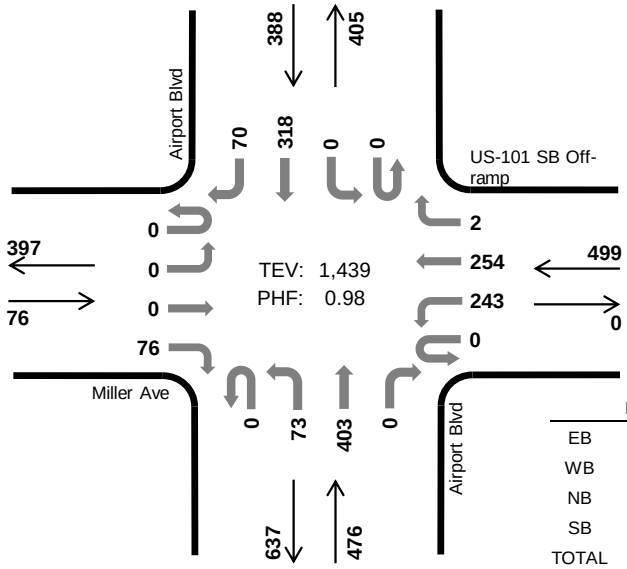
Interval Start	Miller Ave			US-101 SB Off-ramp			Airport Blvd			Airport Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	2	0	0	3	0	5	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	5
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	7
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	9
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**2**	6
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**
Count Total	0	0	0	0	0	0	0	7	0	0	4	0	11	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**1**	**0**	**6**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

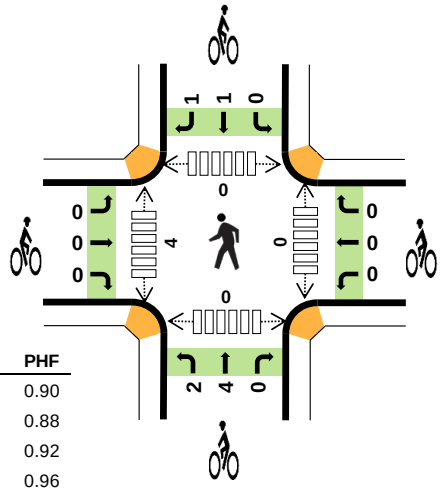
Airport Blvd
Miller Ave

Date: 09-24-2019
Count Period: 4:00 PM to 7:00 PM
Peak Hour: 5:00 PM to 6:00 PM

Peak Hour



	HV %:	PHF
EB	2.6%	0.90
WB	4.2%	0.88
NB	2.1%	0.92
SB	2.8%	0.96
TOTAL	3.1%	0.98



Three-Hour Count Summaries

Interval Start		Miller Ave Eastbound				US-101 SB Off-ramp Westbound				Airport Blvd Northbound				Airport Blvd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM		0	0	0	19	0	72	57	1	0	18	92	0	0	0	78	22	359	0
5:15 PM		0	0	0	21	0	47	56	1	0	22	101	0	0	0	82	19	349	0
5:30 PM		0	0	0	18	0	60	64	0	0	18	111	0	0	0	84	12	367	0
5:45 PM		0	0	0	18	0	64	77	0	0	15	99	0	0	0	74	17	364	1,439
Peak Hour	All	0	0	0	76	0	243	254	2	0	73	403	0	0	0	318	70	1,439	0
	HV	0	0	0	2	0	17	4	0	0	0	10	0	0	0	11	0	44	0
	HV%	-	-	-	3%	-	7%	2%	0%	-	0%	2%	-	-	-	3%	0%	3%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
5:00 PM	0	10	1	3	*14*	0	0	3	0	*3*	0	0	0	0	*0*
5:15 PM	1	4	5	4	*14*	0	0	3	0	*3*	0	3	0	0	*3*
5:30 PM	1	3	2	2	*8*	0	0	0	1	*1*	0	0	0	0	*0*
5:45 PM	0	4	2	2	*8*	0	0	0	1	*1*	0	1	0	0	*1*
Peak Hour	2	21	10	11	*44*	0	0	6	2	*8*	0	4	0	0	*4*

Three-Hour Count Summaries

Interval Start	Miller Ave Eastbound				US-101 SB Off-ramp Westbound				Airport Blvd Northbound				Airport Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	19	0	54	57	0	0	24	52	0	0	0	69	7	282	0
4:15 PM	0	0	0	22	0	56	56	1	0	22	68	0	0	0	64	6	295	0
4:30 PM	0	0	0	19	0	61	61	0	0	27	95	0	0	0	70	8	341	0
4:45 PM	0	0	0	12	0	58	59	1	0	31	86	0	0	0	68	14	329	1,247
5:00 PM	**0**	**0**	**0**	**19**	**0**	**72**	**57**	**1**	**0**	**18**	**92**	**0**	**0**	**0**	**78**	**22**	**359**	1,324
5:15 PM	**0**	**0**	**0**	**21**	**0**	**47**	**56**	**1**	**0**	**22**	**101**	**0**	**0**	**0**	**82**	**19**	**349**	1,378
5:30 PM	**0**	**0**	**0**	**18**	**0**	**60**	**64**	**0**	**0**	**18**	**111**	**0**	**0**	**0**	**84**	**12**	**367**	1,404
5:45 PM	**0**	**0**	**0**	**18**	**0**	**64**	**77**	**0**	**0**	**15**	**99**	**0**	**0**	**0**	**74**	**17**	**364**	**1,439**
6:00 PM	0	0	0	14	0	60	54	0	0	14	105	0	0	0	61	15	323	1,403
6:15 PM	0	0	0	18	0	53	43	1	0	12	99	0	0	0	74	16	316	1,370
6:30 PM	0	0	0	22	0	43	60	0	0	15	94	0	0	0	68	10	312	1,315
6:45 PM	0	0	0	18	0	52	48	0	0	15	76	0	0	0	69	5	283	1,234
Count Total	0	0	0	220	0	680	692	5	0	233	1,078	0	0	0	861	151	3,920	0
Peak Hour All	**0**	**0**	**0**	**76**	**0**	**243**	**254**	**2**	**0**	**73**	**403**	**0**	**0**	**0**	**318**	**70**	**1,439**	**0**
Peak Hour HV	**0**	**0**	**0**	**2**	**0**	**17**	**4**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**11**	**0**	**44**	**0**
Peak Hour HV%	**-**	**-**	**-**	**3%**	**-**	**7%**	**2%**	**0%**	**-**	**0%**	**2%**	**-**	**-**	**-**	**3%**	**0%**	**3%**	**0**

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	9	5	2	*16*	0	0	0	0	*0*	0	3	0	0	*3*
4:15 PM	0	8	2	5	*15*	0	0	2	0	*2*	0	0	0	0	*0*
4:30 PM	0	3	1	6	*10*	0	0	0	0	*0*	1	2	0	0	*3*
4:45 PM	1	3	5	1	*10*	0	0	0	1	*1*	0	3	0	0	*3*
5:00 PM	**0**	**10**	**1**	**3**	***14***	**0**	**0**	**3**	**0**	***3***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**1**	**4**	**5**	**4**	***14***	**0**	**0**	**3**	**0**	***3***	**0**	**3**	**0**	**0**	*3*
5:30 PM	**1**	**3**	**2**	**2**	***8***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	*0*
5:45 PM	**0**	**4**	**2**	**2**	***8***	**0**	**0**	**0**	**1**	***1***	**0**	**1**	**0**	**0**	***1***
6:00 PM	0	6	4	4	*14*	0	0	1	1	*2*	0	5	0	0	*5*
6:15 PM	0	5	4	5	*14*	0	0	0	1	*1*	1	5	0	0	*6*
6:30 PM	0	5	1	2	*8*	0	0	0	1	*1*	1	4	0	0	*5*
6:45 PM	0	6	2	1	*9*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	3	66	34	37	*140*	0	0	9	6	*15*	3	26	0	0	*29*
Peak Hour	**2**	**21**	**10**	**11**	***44***	**0**	**0**	**6**	**2**	***8***	**0**	**4**	**0**	**0**	***4***

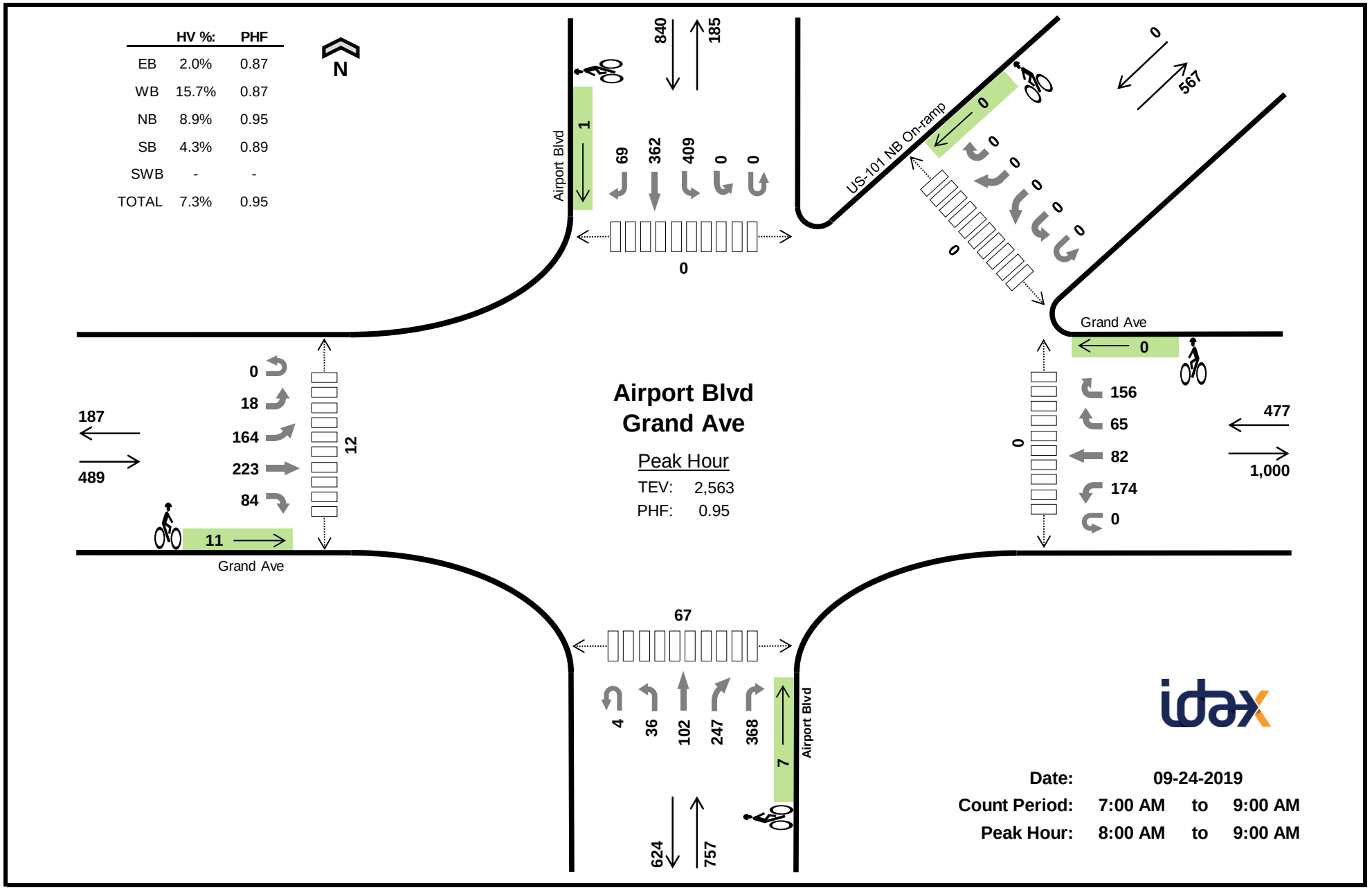
Three-Hour Count Summaries - Heavy Vehicles

Interval Start	Miller Ave				US-101 SB Off-ramp				Airport Blvd				Airport Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	7	2	0	0	0	5	0	0	0	2	0	16	0
4:15 PM	0	0	0	0	0	5	3	0	0	0	2	0	0	0	5	0	15	0
4:30 PM	0	0	0	0	0	2	1	0	0	0	1	0	0	0	5	1	10	0
4:45 PM	0	0	0	1	0	3	0	0	0	3	2	0	0	0	1	0	10	51
5:00 PM	**0**	**0**	**0**	**0**	**0**	**9**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**14**	49
5:15 PM	**0**	**0**	**0**	**1**	**0**	**2**	**2**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**4**	**0**	**14**	48
5:30 PM	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**8**	46
5:45 PM	**0**	**0**	**0**	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**8**	**44**
6:00 PM	0	0	0	0	0	4	2	0	0	0	4	0	0	0	3	1	14	44
6:15 PM	0	0	0	0	0	4	1	0	0	0	4	0	0	0	5	0	14	44
6:30 PM	0	0	0	0	0	4	1	0	0	1	0	0	0	0	2	0	8	44
6:45 PM	0	0	0	0	0	5	1	0	0	0	2	0	0	0	1	0	9	45
Count Total	0	0	0	3	0	51	15	0	0	4	30	0	0	0	35	2	140	0
Peak Hour	**0**	**0**	**0**	**2**	**0**	**17**	**4**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**11**	**0**	**44**	**0**

Three-Hour Count Summaries - Bikes

Interval Start	Miller Ave			US-101 SB Off-ramp			Airport Blvd			Airport Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	2	0	0	0	0	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	3
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**3**	6
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	7
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	8
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**8**
6:00 PM	0	0	0	0	0	0	0	1	0	0	1	0	2	7
6:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	5
6:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	5
6:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Count Total	0	0	0	0	0	0	2	7	0	0	5	1	15	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**4**	**0**	**0**	**1**	**1**	**8**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.


HV %: PHF
EB 2.0% 0.87
WB 15.7% 0.87
NB 8.9% 0.95
SB 4.3% 0.89
SWB - -
TOTAL 7.3% 0.95
N
Airport Blvd
Grand Ave
US-101 NB On-ramp
Airport Blvd
Grand Ave
Peak Hour
TEV: 2,563
PHF: 0.95
840
185
69
362
409
0
0
1
0
0
567
0
0
0
0
0
0
0
0
0
0
187
489
18
164
223
84
12
11
Grand Ave
156
65
82
174
0
477
1,000
67
4
36
102
247
368
7
Airport Blvd
624
757
Date: 09-24-2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM

Two-Hour Count Summaries

Interval Start	Grand Ave Eastbound					Grand Ave Westbound					Airport Blvd Northbound					Airport Blvd Southbound					US-101 NB On-ramp Southwestbound					15-min Total	Rolling One Hour
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
7:00 AM	0	2	55	35	17	0	29	18	13	36	0	7	18	58	41	0	0	56	69	12	0	0	0	0	0	466	0
7:15 AM	0	4	50	31	15	0	25	13	13	33	1	7	17	76	40	0	0	63	86	19	0	0	0	0	0	493	0
7:30 AM	0	4	52	43	17	0	28	18	22	44	2	8	16	64	52	0	0	83	103	16	0	0	0	0	0	572	0
7:45 AM	0	3	44	64	22	0	50	23	17	33	2	7	28	81	73	0	1	77	102	14	0	0	0	0	0	641	2,172
8:00 AM	**0**	**6**	**41**	**42**	**28**	**0**	**41**	**26**	**18**	**35**	**1**	**8**	**27**	**64**	**79**	**0**	**0**	**96**	**93**	**9**	**0**	**0**	**0**	**0**	**0**	**614**	2,320
8:15 AM	**0**	**6**	**49**	**66**	**20**	**0**	**55**	**25**	**16**	**41**	**0**	**6**	**28**	**68**	**98**	**0**	**0**	**84**	**97**	**13**	**0**	**0**	**0**	**0**	**0**	**672**	2,499
8:30 AM	**0**	**5**	**35**	**53**	**20**	**0**	**33**	**13**	**18**	**40**	**1**	**13**	**30**	**58**	**97**	**0**	**0**	**107**	**83**	**21**	**0**	**0**	**0**	**0**	**0**	**627**	2,554
8:45 AM	**0**	**1**	**39**	**62**	**16**	**0**	**45**	**18**	**13**	**40**	**2**	**9**	**17**	**57**	**94**	**0**	**0**	**122**	**89**	**26**	**0**	**0**	**0**	**0**	**0**	**650**	**2,563**
Count Total	0	31	365	396	155	0	306	154	130	302	9	65	181	526	574	0	1	688	722	130	0	0	0	0	0	4,735	0
Peak Hour All	**0**	**18**	**164**	**223**	**84**	**0**	**174**	**82**	**65**	**156**	**4**	**36**	**102**	**247**	**368**	**0**	**0**	**409**	**362**	**69**	**0**	**0**	**0**	**0**	**0**	**2,563**	**0**
Peak Hour HV	**0**	**0**	**3**	**4**	**3**	**0**	**32**	**4**	**3**	**36**	**1**	**0**	**10**	**43**	**13**	**0**	**0**	**10**	**25**	**1**	**0**	**0**	**0**	**0**	**0**	**188**	**0**
Peak Hour HV%	**-**	**0%**	**2%**	**2%**	**4%**	**-**	**18%**	**5%**	**5%**	**23%**	**25%**	**0%**	**10%**	**17%**	**4%**	**-**	**-**	**2%**	**7%**	**1%**	**-**	**-**	**-**	**-**	**-**	**7%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals						Bicycles						Pedestrians (Crossing Leg)					
	EB	WB	NB	SB	SWB	Total	EB	WB	NB	SB	SWB	Total	East	West	North	South	Northeast	Total
7:00 AM	2	19	14	8	0	*43*	1	0	0	0	0	*1*	0	3	0	10	0	*13*
7:15 AM	3	12	15	4	0	*34*	2	0	0	0	0	*2*	1	5	0	28	0	*34*
7:30 AM	6	12	17	10	0	*45*	2	1	1	3	0	*7*	0	5	0	8	0	*13*
7:45 AM	5	15	22	10	0	*52*	2	0	1	0	0	*3*	0	7	0	14	0	*21*
8:00 AM	**1**	**22**	**19**	**14**	**0**	***56***	**5**	**0**	**2**	**0**	**0**	***7***	**0**	**4**	**0**	**23**	**0**	***27***
8:15 AM	**2**	**21**	**18**	**6**	**0**	***47***	**1**	**0**	**2**	**0**	**0**	***3***	**0**	**1**	**0**	**15**	**0**	***16***
8:30 AM	**4**	**14**	**12**	**7**	**0**	***37***	**2**	**0**	**0**	**1**	**0**	***3***	**0**	**2**	**0**	**16**	**0**	***18***
8:45 AM	**3**	**18**	**18**	**9**	**0**	***48***	**3**	**0**	**3**	**0**	**0**	***6***	**0**	**5**	**0**	**13**	**0**	***18***
Count Total	26	133	135	68	0	*362*	18	1	9	4	0	*32*	1	32	0	127	0	*160*
Peak Hr	**10**	**75**	**67**	**36**	**0**	***188***	**11**	**0**	**7**	**1**	**0**	***19***	**0**	**12**	**0**	**67**	**0**	*79*

Project Manager: (415) 310-6469

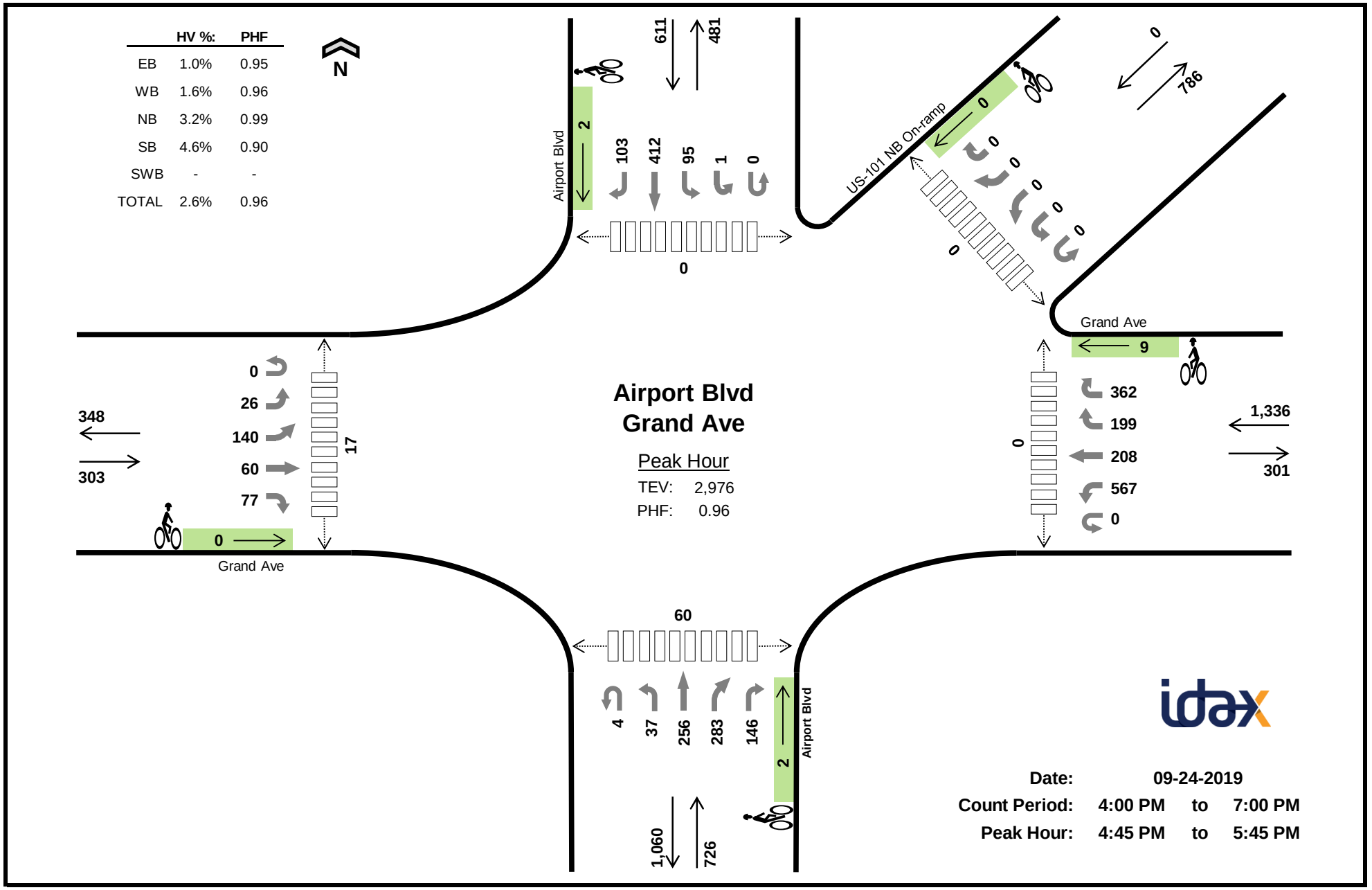
project.manager.ca@idaxdata.com

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Grand Ave Eastbound					Grand Ave Westbound					Airport Blvd Northbound					Airport Blvd Southbound					US-101 NB On-ramp Southwestbound					15-min Total	Rolling One Hour
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
7:00 AM	0	0	0	1	1	0	5	0	2	12	0	0	2	9	3	0	0	2	6	0	0	0	0	0	0	43	0
7:15 AM	0	0	0	1	2	0	6	0	1	5	0	0	3	10	2	0	0	1	3	0	0	0	0	0	0	34	0
7:30 AM	0	0	2	2	2	0	5	1	0	6	0	1	2	10	4	0	0	4	6	0	0	0	0	0	0	45	0
7:45 AM	0	0	4	0	1	0	5	3	1	6	0	1	0	19	2	0	0	4	6	0	0	0	0	0	0	52	174
8:00 AM	**0**	**0**	**0**	**1**	**0**	**0**	**9**	**1**	**1**	**11**	**0**	**0**	**3**	**10**	**6**	**0**	**0**	**4**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**56**	187
8:15 AM	**0**	**0**	**1**	**1**	**0**	**0**	**11**	**0**	**1**	**9**	**0**	**0**	**2**	**13**	**3**	**0**	**0**	**3**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**47**	200
8:30 AM	**0**	**0**	**1**	**1**	**2**	**0**	**2**	**2**	**1**	**9**	**0**	**0**	**3**	**7**	**2**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**37**	192
8:45 AM	**0**	**0**	**1**	**1**	**1**	**0**	**10**	**1**	**0**	**7**	**1**	**0**	**2**	**13**	**2**	**0**	**0**	**3**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**48**	**188**
Count Total	0	0	9	8	9	0	53	8	7	65	1	2	17	91	24	0	0	21	46	1	0	0	0	0	0	362	0
Peak Hour	**0**	**0**	**3**	**4**	**3**	**0**	**32**	**4**	**3**	**36**	**1**	**0**	**10**	**43**	**13**	**0**	**0**	**10**	**25**	**1**	**0**	**0**	**0**	**0**	**0**	188	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Grand Ave Eastbound					Grand Ave Westbound					Airport Blvd Northbound					Airport Blvd Southbound					US-101 NB On-ramp Southwestbound					15-min Total	Rolling One Hour
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
7:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
7:30 AM	0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	3	0	0	0	0	0	0	7	0
7:45 AM	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	13
8:00 AM	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	19
8:15 AM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	20
8:30 AM	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	16
8:45 AM	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**19**
Count Total	0	2	0	15	1	0	0	1	0	0	0	0	7	0	2	0	0	1	3	0	0	0	0	0	0	32	0
Peak Hour	**0**	**1**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	19	**0**


HV %: PHF
EB 1.0% 0.95
WB 1.6% 0.96
NB 3.2% 0.99
SB 4.6% 0.90
SWB - -
TOTAL 2.6% 0.96
N
Airport Blvd
611
481
2
103
412
95
1
0
0
US-101 NB On-ramp
0
786
0
0
0
0
0
0
Grand Ave
9
362
199
208
567
0
1,336
301
0
348
303
0
26
140
60
77
17
0
Grand Ave
Airport Blvd
Grand Ave
Peak Hour
TEV: 2,976
PHF: 0.96
60
4
37
256
283
146
2
Airport Blvd
1,060
726
Date: 09-24-2019
Count Period: 4:00 PM to 7:00 PM
Peak Hour: 4:45 PM to 5:45 PM

Three-Hour Count Summaries

Interval Start		Grand Ave Eastbound					Grand Ave Westbound					Airport Blvd Northbound					Airport Blvd Southbound					US-101 NB On-ramp Southwestbound					15-min Total	Rolling One Hour
		UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
4:00 PM		0	4	25	14	24	0	148	39	49	103	0	8	23	75	30	0	0	19	102	24	0	0	0	0	0	687	0
4:15 PM		0	8	29	11	16	0	127	49	54	112	0	11	30	68	28	0	0	28	84	20	0	0	0	0	0	675	0
4:30 PM		0	6	21	7	19	0	154	52	62	95	1	15	52	46	20	0	0	30	101	17	0	0	0	0	0	698	0
4:45 PM		**0**	**8**	**27**	**16**	**22**	**0**	**137**	**47**	**53**	**101**	**3**	**13**	**60**	**68**	**34**	**0**	**0**	**20**	**91**	**21**	**0**	**0**	**0**	**0**	**0**	**721**	2,781
5:00 PM		**0**	**5**	**35**	**19**	**21**	**0**	**151**	**55**	**43**	**68**	**0**	**10**	**60**	**69**	**42**	**0**	**1**	**30**	**102**	**26**	**0**	**0**	**0**	**0**	**0**	**737**	2,831
5:15 PM		**0**	**6**	**40**	**10**	**20**	**0**	**133**	**51**	**53**	**96**	**0**	**9**	**71**	**78**	**26**	**0**	**0**	**21**	**104**	**26**	**0**	**0**	**0**	**0**	**0**	**744**	2,900
5:30 PM		**0**	**7**	**38**	**15**	**14**	**0**	**146**	**55**	**50**	**97**	**1**	**5**	**65**	**68**	**44**	**0**	**0**	**24**	**115**	**30**	**0**	**0**	**0**	**0**	**0**	**774**	**2,976**
5:45 PM		0	10	26	15	23	0	119	38	53	79	0	11	57	89	42	0	0	19	111	21	0	0	0	0	0	713	2,968
6:00 PM		0	6	27	9	20	0	109	41	34	58	0	3	74	65	38	0	1	24	97	16	0	0	0	0	0	622	2,853
6:15 PM		0	10	20	7	22	0	90	45	31	72	0	18	78	66	17	0	1	18	102	25	0	0	0	0	0	622	2,731
6:30 PM		0	4	27	12	21	0	87	39	37	50	0	13	61	56	16	0	0	25	98	28	0	0	0	0	0	574	2,531
6:45 PM		0	6	21	15	18	0	57	32	37	44	0	12	51	52	9	1	0	18	100	21	0	0	0	0	0	494	2,312
Count Total		0	80	336	150	240	0	1,458	543	556	975	5	128	682	800	346	1	3	276	1,207	275	0	0	0	0	0	8,061	0
Peak Hour	**All**	**0**	**26**	**140**	**60**	**77**	**0**	**567**	**208**	**199**	**362**	**4**	**37**	**256**	**283**	**146**	**0**	**1**	**95**	**412**	**103**	**0**	**0**	**0**	**0**	**0**	**2,976**	**0**
	HV	**0**	**0**	**0**	**0**	**3**	**0**	**10**	**0**	**6**	**6**	**0**	**0**	**7**	**9**	**7**	**0**	**0**	**5**	**22**	**1**	**0**	**0**	**0**	**0**	**0**	**76**	**0**
	HV%	**-**	**0%**	**0%**	**0%**	**4%**	**-**	**2%**	**0%**	**3%**	**2%**	**0%**	**0%**	**3%**	**3%**	**5%**	**-**	**0%**	**5%**	**5%**	**1%**	**-**	**-**	**-**	**-**	**-**	**3%**	**0**

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals						Bicycles						Pedestrians (Crossing Leg)					
	EB	WB	NB	SB	SWB	Total	EB	WB	NB	SB	SWB	Total	East	West	North	South	Northeast	Total
4:00 PM	2	8	10	8	0	*28*	0	0	0	0	0	*0*	0	3	0	12	0	*15*
4:15 PM	1	5	7	10	0	*23*	0	0	2	0	0	*2*	0	1	0	12	0	*13*
4:30 PM	0	3	6	8	0	*17*	1	2	1	0	0	*4*	0	6	0	17	0	*23*
4:45 PM	**1**	**12**	**8**	**5**	**0**	***26***	**0**	**1**	**0**	**1**	**0**	***2***	**0**	**4**	**0**	**9**	**0**	***13***
5:00 PM	**0**	**3**	**7**	**11**	**0**	***21***	**0**	**4**	**1**	**0**	**0**	***5***	**0**	**1**	**0**	**23**	**0**	***24***
5:15 PM	**1**	**4**	**7**	**7**	**0**	***19***	**0**	**4**	**1**	**0**	**0**	***5***	**0**	**6**	**0**	**19**	**0**	***25***
5:30 PM	**1**	**3**	**1**	**5**	**0**	***10***	**0**	**0**	**0**	**1**	**0**	***1***	**0**	**6**	**0**	**9**	**0**	***15***
5:45 PM	1	3	6	5	0	*15*	0	3	0	0	0	*3*	0	5	0	28	0	*33*
6:00 PM	1	5	7	7	0	*20*	1	2	0	1	0	*4*	0	6	1	11	0	*18*
6:15 PM	2	6	6	10	0	*24*	0	1	0	2	0	*3*	0	4	0	16	0	*20*
6:30 PM	0	1	4	6	0	*11*	0	1	2	2	0	*5*	0	1	0	8	0	*9*
6:45 PM	2	3	6	7	0	*18*	0	1	1	0	0	*2*	0	2	0	18	0	*20*
Count Total	12	56	75	89	0	*232*	2	19	8	7	0	*36*	0	45	1	182	0	*228*
Peak Hr	**3**	**22**	**23**	**28**	**0**	***76***	**0**	**9**	**2**	**2**	**0**	***13***	**0**	**17**	**0**	**60**	**0**	*77*

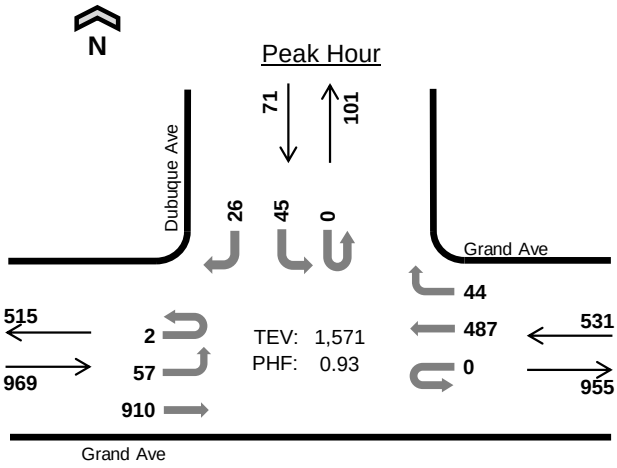
Three-Hour Count Summaries - Heavy Vehicles

Interval Start	Grand Ave Eastbound					Grand Ave Westbound					Airport Blvd Northbound					Airport Blvd Southbound					US-101 NB On-ramp Southwestbound					15-min Total	Rolling One Hour
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
4:00 PM	0	1	0	1	0	0	3	1	0	4	0	0	3	3	4	0	0	0	7	1	0	0	0	0	0	28	0
4:15 PM	0	0	1	0	0	0	2	1	0	2	0	0	2	4	1	0	0	1	6	3	0	0	0	0	0	23	0
4:30 PM	0	0	0	0	0	0	0	0	1	2	0	0	1	3	2	0	0	1	7	0	0	0	0	0	0	17	0
4:45 PM	**0**	**0**	**0**	**0**	**1**	**0**	**5**	**0**	**4**	**3**	**0**	**0**	**1**	**3**	**4**	**0**	**0**	**2**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**26**	94
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**1**	**4**	**2**	**0**	**0**	**2**	**8**	**1**	**0**	**0**	**0**	**0**	**0**	**21**	87
5:15 PM	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**2**	**0**	**0**	**4**	**2**	**1**	**0**	**0**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	83
5:30 PM	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**76**
5:45 PM	0	0	0	0	1	0	2	0	0	1	0	1	2	2	1	0	0	0	5	0	0	0	0	0	0	15	65
6:00 PM	0	0	1	0	0	0	2	0	1	2	0	0	3	2	2	0	0	0	7	0	0	0	0	0	0	20	64
6:15 PM	0	1	0	1	0	0	4	0	0	2	0	0	3	0	3	0	0	1	9	0	0	0	0	0	0	24	69
6:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	1	2	0	0	2	4	0	0	0	0	0	0	11	70
6:45 PM	0	0	1	1	0	0	3	0	0	0	0	0	2	2	2	0	0	2	5	0	0	0	0	0	0	18	73
Count Total	0	2	3	3	4	0	26	2	8	20	0	1	24	26	24	0	0	12	72	5	0	0	0	0	0	232	0
Peak Hour	**0**	**0**	**0**	**0**	**3**	**0**	**10**	**0**	**6**	**6**	**0**	**0**	**7**	**9**	**7**	**0**	**0**	**5**	**22**	**1**	**0**	**0**	**0**	**0**	**0**	76	**0**

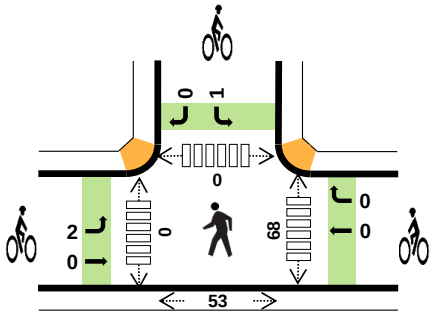
Three-Hour Count Summaries - Bikes

Interval Start	Grand Ave Eastbound					Grand Ave Westbound					Airport Blvd Northbound					Airport Blvd Southbound					US-101 NB On-ramp Southwestbound					15-min Total	Rolling One Hour
	UT	LT	BL	TH	RT	UT	LT	TH	RT	HR	UT	LT	TH	BR	RT	UT	HL	LT	TH	RT	UT	HL	BL	BR	HR		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:30 PM	0	0	0	0	1	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	4	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	8
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	13
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	16
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**13**
5:45 PM	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	14
6:00 PM	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4	13
6:15 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3	11
6:30 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	1	1	0	0	0	0	0	5	15
6:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	2	14
Count Total	0	1	0	0	1	0	2	12	5	0	0	0	7	0	1	0	0	0	5	2	0	0	0	0	0	36	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	13	**0**

Dubuque Ave
Grand Ave



Date: 10-01-2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	2.5%	0.91
WB	14.5%	0.93
NB	-	-
SB	2.8%	0.85
TOTAL	6.6%	0.93

Two-Hour Count Summaries

Interval Start	Grand Ave Eastbound				Grand Ave Westbound				n/a Northbound				Dubuque Ave Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	14	117	0	0	0	104	8	0	0	0	0	0	5	0	8	256	0
7:15 AM	0	14	123	0	0	0	100	6	0	0	0	0	0	9	0	9	261	0
7:30 AM	0	1	185	0	0	0	104	10	0	0	0	0	0	10	0	10	320	0
7:45 AM	2	13	212	0	0	0	98	7	0	0	0	0	0	11	0	7	350	1,187
8:00 AM	**1**	**18**	**216**	**0**	**0**	**0**	**131**	**12**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**8**	**399**	1,330
8:15 AM	**1**	**12**	**201**	**0**	**0**	**0**	**129**	**9**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**4**	**366**	1,435
8:30 AM	**0**	**12**	**243**	**0**	**0**	**0**	**96**	**13**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**7**	**384**	1,499
8:45 AM	**0**	**15**	**250**	**0**	**0**	**0**	**131**	**10**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**7**	**422**	**1,571**
Count Total	4	99	1,547	0	0	0	893	75	0	0	0	0	0	80	0	60	2,758	0
Peak Hour All	**2**	**57**	**910**	**0**	**0**	**0**	**487**	**44**	**0**	**0**	**0**	**0**	**0**	**45**	**0**	**26**	**1,571**	**0**
Peak Hour HV	**0**	**0**	**24**	**0**	**0**	**0**	**72**	**5**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**103**	**0**
Peak Hour HV%	**0%**	**0%**	**3%**	**-**	**-**	**-**	**15%**	**11%**	**-**	**-**	**-**	**-**	**-**	**4%**	**-**	**0%**	**7%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	8	22	0	2	*32*	0	0	0	1	*1*	16	0	0	10	*26*
7:15 AM	4	16	0	2	*22*	0	0	0	0	*0*	17	0	0	14	*31*
7:30 AM	5	12	0	1	*18*	0	0	0	3	*3*	12	0	0	5	*17*
7:45 AM	7	20	0	0	*27*	1	0	0	0	*1*	11	0	0	11	*22*
8:00 AM	**6**	**22**	**0**	**0**	***28***	**1**	**0**	**0**	**0**	***1***	**21**	**0**	**0**	**20**	*41*
8:15 AM	**5**	**17**	**0**	**1**	***23***	**1**	**0**	**0**	**0**	***1***	**22**	**0**	**0**	**24**	*46*
8:30 AM	**7**	**18**	**0**	**0**	***25***	**0**	**0**	**0**	**1**	***1***	**14**	**0**	**0**	**6**	*20*
8:45 AM	**6**	**20**	**0**	**1**	***27***	**0**	**0**	**0**	**0**	***0***	**11**	**0**	**0**	**3**	***14***
Count Total	48	147	0	7	*202*	3	0	0	5	*8*	124	0	0	93	*217*
Peak Hr	**24**	**77**	**0**	**2**	***103***	**2**	**0**	**0**	**1**	***3***	**68**	**0**	**0**	**53**	***121***

Two-Hour Count Summaries - Heavy Vehicles

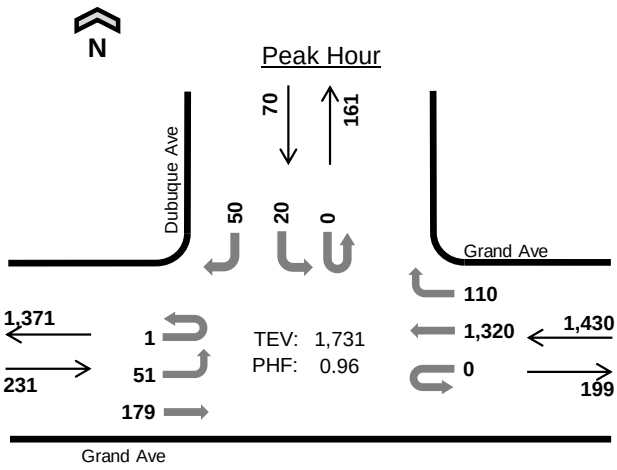
Interval Start	Grand Ave				Grand Ave				n/a				Dubuque Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	6	0	0	0	20	2	0	0	0	0	0	0	0	2	32	0
7:15 AM	0	1	3	0	0	0	14	2	0	0	0	0	0	1	0	1	22	0
7:30 AM	0	0	5	0	0	0	11	1	0	0	0	0	0	1	0	0	18	0
7:45 AM	0	0	7	0	0	0	18	2	0	0	0	0	0	0	0	0	27	99
8:00 AM	**0**	**0**	**6**	**0**	**0**	**0**	**20**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**28**	95
8:15 AM	**0**	**0**	**5**	**0**	**0**	**0**	**17**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**23**	96
8:30 AM	**0**	**0**	**7**	**0**	**0**	**0**	**15**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**25**	103
8:45 AM	**0**	**0**	**6**	**0**	**0**	**0**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**27**	**103**
Count Total	0	3	45	0	0	0	135	12	0	0	0	0	0	4	0	3	202	0
Peak Hour	**0**	**0**	**24**	**0**	**0**	**0**	**72**	**5**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**103**	**0**

Two-Hour Count Summaries - Bikes

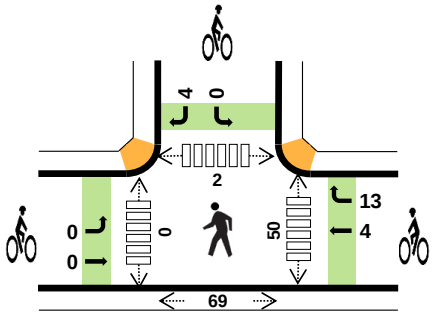
Interval Start	Grand Ave			Grand Ave			n/a			Dubuque Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	3	0	0	3	0
7:45 AM	1	0	0	0	0	0	0	0	0	0	0	0	1	5
8:00 AM	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	5
8:15 AM	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	6
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	4
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
Count Total	3	0	0	0	0	0	0	0	0	4	0	1	8	0
Peak Hour	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Dubuque Ave
Grand Ave



Date: 10-01-2019
Count Period: 4:00 PM to 7:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	9.1%	0.95
WB	2.5%	0.96
NB	-	-
SB	5.7%	0.92
TOTAL	3.5%	0.96

Three-Hour Count Summaries

Interval Start		Grand Ave Eastbound				Grand Ave Westbound				n/a Northbound				Dubuque Ave Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:30 PM		0	8	52	0	0	0	351	22	0	0	0	0	0	6	0	12	451	0
4:45 PM		1	13	43	0	0	0	334	27	0	0	0	0	0	3	0	13	434	0
5:00 PM		0	14	39	0	0	0	311	37	0	0	0	0	0	6	0	13	420	0
5:15 PM		0	16	45	0	0	0	324	24	0	0	0	0	0	5	0	12	426	1,731
Peak Hour	All	1	51	179	0	0	0	1,320	110	0	0	0	0	0	20	0	50	1,731	0
	HV	0	1	20	0	0	0	32	4	0	0	0	0	0	3	0	1	61	0
	HV%	0%	2%	11%	-	-	-	2%	4%	-	-	-	-	-	15%	-	2%	4%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:30 PM	5	11	0	3	*19*	0	1	0	1	*2*	12	0	1	18	*31*
4:45 PM	8	11	0	0	*19*	0	4	0	1	*5*	11	0	1	15	*27*
5:00 PM	4	8	0	1	*13*	0	8	0	0	*8*	19	0	0	23	*42*
5:15 PM	4	6	0	0	*10*	0	4	0	2	*6*	8	0	0	13	*21*
Peak Hour	21	36	0	4	*61*	0	17	0	4	*21*	50	0	2	69	*121*

Three-Hour Count Summaries

Interval Start	Grand Ave Eastbound				Grand Ave Westbound				n/a Northbound				Dubuque Ave Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	15	52	0	0	0	331	26	0	0	0	0	0	8	0	17	449	0
4:15 PM	0	13	34	0	0	0	293	23	0	0	0	0	0	2	0	22	387	0
4:30 PM	**0**	**8**	**52**	**0**	**0**	**0**	**351**	**22**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**12**	**451**	0
4:45 PM	**1**	**13**	**43**	**0**	**0**	**0**	**334**	**27**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**13**	**434**	1,721
5:00 PM	**0**	**14**	**39**	**0**	**0**	**0**	**311**	**37**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**13**	**420**	1,692
5:15 PM	**0**	**16**	**45**	**0**	**0**	**0**	**324**	**24**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**12**	**426**	**1,731**
5:30 PM	0	9	42	0	0	0	348	38	0	0	0	0	0	10	0	4	451	1,731
5:45 PM	1	11	49	0	0	0	306	32	0	0	0	0	0	6	0	14	419	1,716
6:00 PM	0	11	58	0	1	0	241	24	0	0	0	0	0	3	0	11	349	1,645
6:15 PM	0	12	39	0	0	0	242	27	0	0	0	0	0	9	0	16	345	1,564
6:30 PM	0	4	44	0	0	0	197	14	0	0	0	0	0	1	0	2	262	1,375
6:45 PM	1	9	39	0	0	0	185	18	0	0	0	0	0	3	0	7	262	1,218
Count Total	3	135	536	0	1	0	3,463	312	0	0	0	0	0	62	0	143	4,655	0
Peak Hour All	**1**	**51**	**179**	**0**	**0**	**0**	**1,320**	**110**	**0**	**0**	**0**	**0**	**0**	**20**	**0**	**50**	**1,731**	**0**
Peak Hour HV	**0**	**1**	**20**	**0**	**0**	**0**	**32**	**4**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**61**	**0**
Peak Hour HV%	**0%**	**2%**	**11%**	**-**	**-**	**-**	**2%**	**4%**	**-**	**-**	**-**	**-**	**-**	**15%**	**-**	**2%**	**4%**	**0**

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	6	0	2	*11*	0	0	0	0	*0*	2	0	0	2	*4*
4:15 PM	5	4	0	2	*11*	0	0	0	0	*0*	8	0	0	8	*16*
4:30 PM	**5**	**11**	**0**	**3**	***19***	**0**	**1**	**0**	**1**	***2***	**12**	**0**	**1**	**18**	*31*
4:45 PM	**8**	**11**	**0**	**0**	***19***	**0**	**4**	**0**	**1**	***5***	**11**	**0**	**1**	**15**	*27*
5:00 PM	**4**	**8**	**0**	**1**	***13***	**0**	**8**	**0**	**0**	***8***	**19**	**0**	**0**	**23**	*42*
5:15 PM	**4**	**6**	**0**	**0**	***10***	**0**	**4**	**0**	**2**	***6***	**8**	**0**	**0**	**13**	***21***
5:30 PM	1	8	0	1	*10*	0	3	0	0	*3*	4	0	2	7	*13*
5:45 PM	3	3	0	0	*6*	0	3	0	2	*5*	13	0	1	17	*31*
6:00 PM	1	4	0	0	*5*	1	2	0	0	*3*	15	0	0	14	*29*
6:15 PM	4	4	0	2	*10*	1	0	0	0	*1*	7	0	0	13	*20*
6:30 PM	3	6	0	0	*9*	0	2	0	0	*2*	5	0	0	9	*14*
6:45 PM	1	8	0	0	*9*	0	2	0	1	*3*	12	0	0	15	*27*
Count Total	42	79	0	11	*132*	2	29	0	7	*38*	116	0	5	154	*275*
Peak Hr	**21**	**36**	**0**	**4**	***61***	**0**	**17**	**0**	**4**	***21***	**50**	**0**	**2**	**69**	***121***

Three-Hour Count Summaries - Heavy Vehicles

Interval Start	Grand Ave				Grand Ave				n/a				Dubuque Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	3	0	0	0	6	0	0	0	0	0	0	1	0	1	11	0
4:15 PM	0	0	5	0	0	0	4	0	0	0	0	0	0	0	0	2	11	0
4:30 PM	**0**	**0**	**5**	**0**	**0**	**0**	**9**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**19**	0
4:45 PM	**0**	**1**	**7**	**0**	**0**	**0**	**10**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	60
5:00 PM	**0**	**0**	**4**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**13**	62
5:15 PM	**0**	**0**	**4**	**0**	**0**	**0**	**5**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**61**
5:30 PM	0	0	1	0	0	0	7	1	0	0	0	0	0	0	0	1	10	52
5:45 PM	0	0	3	0	0	0	2	1	0	0	0	0	0	0	0	0	6	39
6:00 PM	0	0	1	0	0	0	3	1	0	0	0	0	0	0	0	0	5	31
6:15 PM	0	1	3	0	0	0	3	1	0	0	0	0	0	2	0	0	10	31
6:30 PM	0	0	3	0	0	0	6	0	0	0	0	0	0	0	0	0	9	30
6:45 PM	0	0	1	0	0	0	7	1	0	0	0	0	0	0	0	0	9	33
Count Total	0	2	40	0	0	0	70	9	0	0	0	0	0	6	0	5	132	0
Peak Hour	**0**	**1**	**20**	**0**	**0**	**0**	**32**	**4**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**61**	**0**

Three-Hour Count Summaries - Bikes

Interval Start	Grand Ave			Grand Ave			n/a			Dubuque Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	0
4:45 PM	**0**	**0**	**0**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	7
5:00 PM	**0**	**0**	**0**	**0**	**1**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	15
5:15 PM	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**6**	**21**
5:30 PM	0	0	0	0	1	2	0	0	0	0	0	0	3	22
5:45 PM	0	0	0	0	0	3	0	0	0	0	0	2	5	22
6:00 PM	1	0	0	0	0	2	0	0	0	0	0	0	3	17
6:15 PM	0	1	0	0	0	0	0	0	0	0	0	0	1	12
6:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	11
6:45 PM	0	0	0	0	2	0	0	0	0	0	0	1	3	9
Count Total	1	1	0	0	9	20	0	0	0	0	0	7	38	0
Peak Hour	**0**	**0**	**0**	**0**	**4**	**13**	**0**	**0**	**0**	**0**	**0**	**4**	**21**	**0**

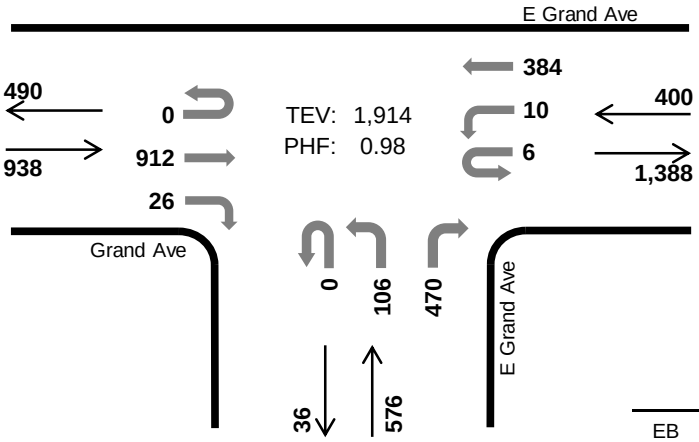
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

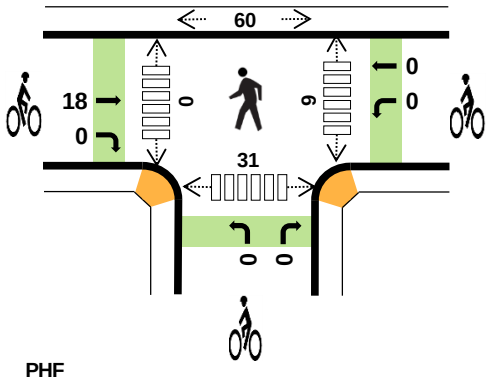
E Grand Ave
Grand Ave

N

Peak Hour

Date: 09-24-2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV %:	PHF
EB	3.1%	0.87
WB	18.8%	0.88
NB	5.2%	0.92
SB	-	-
TOTAL	7.0%	0.98

Two-Hour Count Summaries

Interval Start	Grand Ave Eastbound				E Grand Ave Westbound				E Grand Ave Northbound				n/a Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	125	7	0	2	74	0	0	24	0	145	0	0	0	0	377	0
7:15 AM	0	0	121	10	1	0	66	0	0	19	0	141	0	0	0	0	358	0
7:30 AM	0	0	159	12	0	3	78	0	0	28	0	132	0	0	0	0	412	0
7:45 AM	0	0	193	11	0	4	95	0	0	38	0	116	0	0	0	0	457	1,604
8:00 AM	**0**	**0**	**204**	**9**	**0**	**3**	**85**	**0**	**0**	**35**	**0**	**121**	**0**	**0**	**0**	**0**	**457**	1,684
8:15 AM	**0**	**0**	**215**	**5**	**1**	**1**	**112**	**0**	**0**	**26**	**0**	**125**	**0**	**0**	**0**	**0**	**485**	1,811
8:30 AM	**0**	**0**	**229**	**5**	**4**	**3**	**91**	**0**	**0**	**23**	**0**	**130**	**0**	**0**	**0**	**0**	**485**	1,884
8:45 AM	**0**	**0**	**264**	**7**	**1**	**3**	**96**	**0**	**0**	**22**	**0**	**94**	**0**	**0**	**0**	**0**	**487**	**1,914**
Count Total	0	0	1,510	66	7	19	697	0	0	215	0	1,004	0	0	0	0	3,518	0
Peak Hour All	**0**	**0**	**912**	**26**	**6**	**10**	**384**	**0**	**0**	**106**	**0**	**470**	**0**	**0**	**0**	**0**	**1,914**	**0**
Peak Hour HV	**0**	**0**	**26**	**3**	**0**	**4**	**71**	**0**	**0**	**7**	**0**	**23**	**0**	**0**	**0**	**0**	**134**	**0**
Peak Hour HV%	**-**	**-**	**3%**	**12%**	**0%**	**40%**	**18%**	**-**	**-**	**7%**	**-**	**5%**	**-**	**-**	**-**	**-**	**7%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	6	20	14	0	*40*	2	0	0	0	*2*	1	0	11	7	*19*
7:15 AM	5	12	7	0	*24*	1	0	0	0	*1*	2	0	3	5	*10*
7:30 AM	12	11	8	0	*31*	10	0	0	0	*10*	2	0	14	8	*24*
7:45 AM	8	14	9	0	*31*	4	0	0	0	*4*	0	0	3	4	*7*
8:00 AM	**11**	**23**	**7**	**0**	***41***	**4**	**0**	**0**	**0**	***4***	**2**	**0**	**15**	**6**	*23*
8:15 AM	**7**	**17**	**8**	**0**	***32***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**14**	**7**	*21*
8:30 AM	**5**	**18**	**5**	**0**	***28***	**9**	**0**	**0**	**0**	***9***	**1**	**0**	**13**	**9**	*23*
8:45 AM	**6**	**17**	**10**	**0**	***33***	**5**	**0**	**0**	**0**	***5***	**6**	**0**	**18**	**9**	***33***
Count Total	60	132	68	0	*260*	35	0	0	0	*35*	14	0	91	55	*160*
Peak Hr	**29**	**75**	**30**	**0**	***134***	**18**	**0**	**0**	**0**	***18***	**9**	**0**	**60**	**31**	***100***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Grand Ave				E Grand Ave				E Grand Ave				n/a				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	5	1	0	0	20	0	0	1	0	13	0	0	0	0	40	0
7:15 AM	0	0	5	0	0	0	12	0	0	1	0	6	0	0	0	0	24	0
7:30 AM	0	0	11	1	0	0	11	0	0	2	0	6	0	0	0	0	31	0
7:45 AM	0	0	8	0	0	1	13	0	0	2	0	7	0	0	0	0	31	126
8:00 AM	**0**	**0**	**10**	**1**	**0**	**0**	**23**	**0**	**0**	**2**	**0**	**5**	**0**	**0**	**0**	**0**	**41**	127
8:15 AM	**0**	**0**	**6**	**1**	**0**	**0**	**17**	**0**	**0**	**1**	**0**	**7**	**0**	**0**	**0**	**0**	**32**	135
8:30 AM	**0**	**0**	**4**	**1**	**0**	**3**	**15**	**0**	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**28**	132
8:45 AM	**0**	**0**	**6**	**0**	**0**	**1**	**16**	**0**	**0**	**3**	**0**	**7**	**0**	**0**	**0**	**0**	**33**	**134**
Count Total	0	0	55	5	0	5	127	0	0	13	0	55	0	0	0	0	260	0
Peak Hour	**0**	**0**	**26**	**3**	**0**	**4**	**71**	**0**	**0**	**7**	**0**	**23**	**0**	**0**	**0**	**0**	**134**	**0**

Two-Hour Count Summaries - Bikes

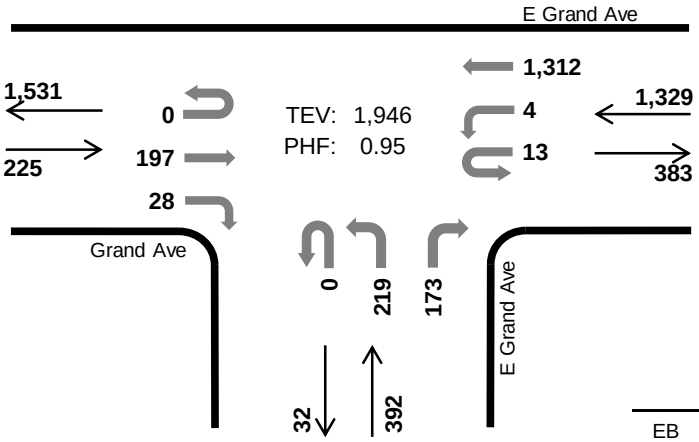
Interval Start	Grand Ave			E Grand Ave			E Grand Ave			n/a			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	2	0	0	0	0	0	0	0	0	0	0	2	0
7:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	10	0	0	0	0	0	0	0	0	0	0	10	0
7:45 AM	0	4	0	0	0	0	0	0	0	0	0	0	4	17
8:00 AM	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	19
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	18
8:30 AM	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	17
8:45 AM	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**18**
Count Total	0	35	0	0	0	0	0	0	0	0	0	0	35	0
Peak Hour	**0**	**18**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**18**	**0**

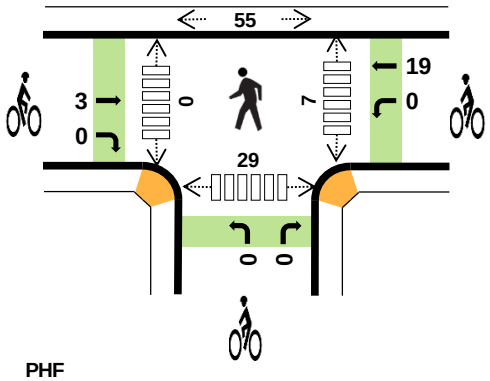
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

E Grand Ave
Grand Ave

Peak Hour

Date: 09-24-2019
Count Period: 4:00 PM to 7:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV %:	PHF
EB	8.0%	0.92
WB	2.2%	0.92
NB	6.9%	0.84
SB	-	-
TOTAL	3.8%	0.95

Three-Hour Count Summaries

Interval Start		Grand Ave Eastbound				E Grand Ave Westbound				E Grand Ave Northbound				n/a Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:15 PM		0	0	49	4	3	1	359	0	0	54	0	42	0	0	0	0	512	0
4:30 PM		0	0	46	8	1	3	302	0	0	65	0	51	0	0	0	0	476	0
4:45 PM		0	0	55	6	3	0	347	0	0	36	0	53	0	0	0	0	500	0
5:00 PM		0	0	47	10	6	0	304	0	0	64	0	27	0	0	0	0	458	1,946
Peak Hour	All	0	0	197	28	13	4	1,312	0	0	219	0	173	0	0	0	0	1,946	0
	HV	0	0	16	2	0	0	29	0	0	1	0	26	0	0	0	0	74	0
	HV%	-	-	8%	7%	0%	0%	2%	-	-	0%	-	15%	-	-	-	-	4%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:15 PM	1	8	4	0	*13*	0	1	0	0	*1*	1	0	0	7	*8*
4:30 PM	5	4	11	0	*20*	0	4	0	0	*4*	3	0	17	12	*32*
4:45 PM	5	11	10	0	*26*	0	3	0	0	*3*	1	0	9	6	*16*
5:00 PM	7	6	2	0	*15*	3	11	0	0	*14*	2	0	29	4	*35*
Peak Hour	18	29	27	0	*74*	3	19	0	0	*22*	7	0	55	29	*91*

Three-Hour Count Summaries

Interval Start	Grand Ave				E Grand Ave				E Grand Ave				n/a				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	52	6	2	1	291	0	0	52	0	47	0	0	0	0	451	0
4:15 PM	**0**	**0**	**49**	**4**	**3**	**1**	**359**	**0**	**0**	**54**	**0**	**42**	**0**	**0**	**0**	**0**	**512**	0
4:30 PM	**0**	**0**	**46**	**8**	**1**	**3**	**302**	**0**	**0**	**65**	**0**	**51**	**0**	**0**	**0**	**0**	**476**	0
4:45 PM	**0**	**0**	**55**	**6**	**3**	**0**	**347**	**0**	**0**	**36**	**0**	**53**	**0**	**0**	**0**	**0**	**500**	1,939
5:00 PM	**0**	**0**	**47**	**10**	**6**	**0**	**304**	**0**	**0**	**64**	**0**	**27**	**0**	**0**	**0**	**0**	**458**	**1,946**
5:15 PM	0	0	44	11	7	2	320	0	0	37	0	36	0	0	0	0	457	1,891
5:30 PM	0	0	55	4	3	4	313	0	0	36	0	25	0	0	0	0	440	1,855
5:45 PM	0	0	51	10	1	2	272	0	0	38	0	21	0	0	0	0	395	1,750
6:00 PM	0	0	44	2	1	4	196	0	0	30	0	29	0	0	0	0	306	1,598
6:15 PM	0	0	38	6	2	1	211	0	0	35	0	24	0	0	0	0	317	1,458
6:30 PM	0	0	34	6	0	4	167	0	0	44	0	33	0	0	0	0	288	1,306
6:45 PM	0	0	38	2	1	2	127	0	0	42	0	35	0	0	0	0	247	1,158
Count Total	0	0	553	75	30	24	3,209	0	0	533	0	423	0	0	0	0	4,847	0
Peak Hour All	**0**	**0**	**197**	**28**	**13**	**4**	**1,312**	**0**	**0**	**219**	**0**	**173**	**0**	**0**	**0**	**0**	**1,946**	**0**
Peak Hour HV	**0**	**0**	**16**	**2**	**0**	**0**	**29**	**0**	**0**	**1**	**0**	**26**	**0**	**0**	**0**	**0**	**74**	**0**
Peak Hour HV%	**-**	**-**	**8%**	**7%**	**0%**	**0%**	**2%**	**-**	**-**	**0%**	**-**	**15%**	**-**	**-**	**-**	**-**	**4%**	**0**

Note: Three-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	7	10	6	0	*23*	0	0	0	0	*0*	0	0	1	4	*5*
4:15 PM	**1**	**8**	**4**	**0**	***13***	**0**	**1**	**0**	**0**	***1***	**1**	**0**	**0**	**7**	*8*
4:30 PM	**5**	**4**	**11**	**0**	***20***	**0**	**4**	**0**	**0**	***4***	**3**	**0**	**17**	**12**	*32*
4:45 PM	**5**	**11**	**10**	**0**	***26***	**0**	**3**	**0**	**0**	***3***	**1**	**0**	**9**	**6**	*16*
5:00 PM	**7**	**6**	**2**	**0**	***15***	**3**	**11**	**0**	**0**	***14***	**2**	**0**	**29**	**4**	***35***
5:15 PM	3	5	2	0	*10*	0	2	0	0	*2*	0	0	1	4	*5*
5:30 PM	1	3	4	0	*8*	0	1	0	0	*1*	4	0	21	8	*33*
5:45 PM	1	5	3	0	*9*	0	11	0	0	*11*	6	0	19	9	*34*
6:00 PM	1	6	4	0	*11*	1	3	0	0	*4*	5	0	14	7	*26*
6:15 PM	7	4	5	0	*16*	0	2	0	0	*2*	1	0	11	1	*13*
6:30 PM	2	3	10	0	*15*	1	2	0	0	*3*	2	0	5	6	*13*
6:45 PM	5	2	8	0	*15*	0	1	0	0	*1*	1	0	6	5	*12*
Count Total	45	67	69	0	*181*	5	41	0	0	*46*	26	0	133	73	*232*
Peak Hr	**18**	**29**	**27**	**0**	***74***	**3**	**19**	**0**	**0**	***22***	**7**	**0**	**55**	**29**	***91***

Three-Hour Count Summaries - Heavy Vehicles

Interval Start	Grand Ave				E Grand Ave				E Grand Ave				n/a				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	6	1	0	0	10	0	0	1	0	5	0	0	0	0	23	0
4:15 PM	**0**	**0**	**1**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**13**	0
4:30 PM	**0**	**0**	**4**	**1**	**0**	**0**	**4**	**0**	**0**	**1**	**0**	**10**	**0**	**0**	**0**	**0**	**20**	0
4:45 PM	**0**	**0**	**5**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**26**	82
5:00 PM	**0**	**0**	**6**	**1**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**15**	**74**
5:15 PM	0	0	2	1	1	0	4	0	0	0	0	2	0	0	0	0	10	71
5:30 PM	0	0	1	0	0	0	3	0	0	0	0	4	0	0	0	0	8	59
5:45 PM	0	0	0	1	0	0	5	0	0	1	0	2	0	0	0	0	9	42
6:00 PM	0	0	1	0	0	0	6	0	0	1	0	3	0	0	0	0	11	38
6:15 PM	0	0	6	1	0	0	4	0	0	2	0	3	0	0	0	0	16	44
6:30 PM	0	0	2	0	0	0	3	0	0	0	0	10	0	0	0	0	15	51
6:45 PM	0	0	5	0	0	0	2	0	0	0	0	8	0	0	0	0	15	57
Count Total	0	0	39	6	1	0	66	0	0	6	0	63	0	0	0	0	181	0
Peak Hour	**0**	**0**	**16**	**2**	**0**	**0**	**29**	**0**	**0**	**1**	**0**	**26**	**0**	**0**	**0**	**0**	**74**	**0**

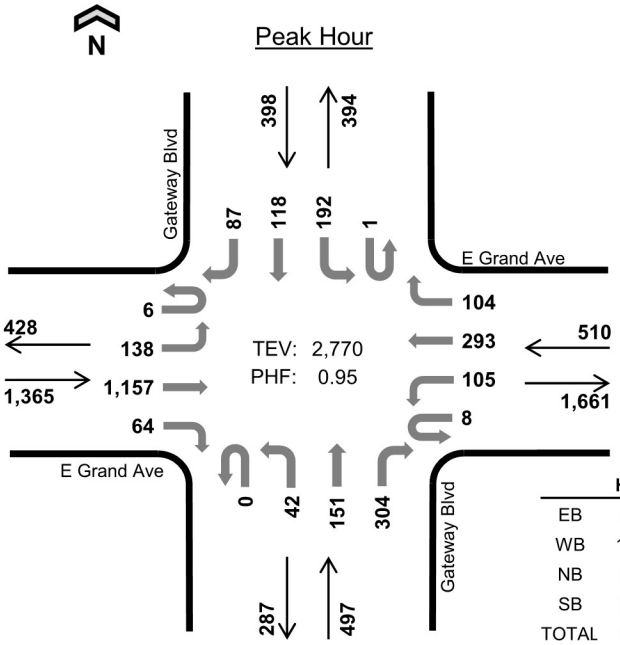
Three-Hour Count Summaries - Bikes

Interval Start	Grand Ave			E Grand Ave			E Grand Ave			n/a			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
4:30 PM	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	0
4:45 PM	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	8
5:00 PM	**0**	**3**	**0**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**22**
5:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	23
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	20
5:45 PM	0	0	0	0	11	0	0	0	0	0	0	0	11	28
6:00 PM	0	1	0	0	3	0	0	0	0	0	0	0	4	18
6:15 PM	0	0	0	0	2	0	0	0	0	0	0	0	2	18
6:30 PM	0	1	0	1	1	0	0	0	0	0	0	0	3	20
6:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	10
Count Total	0	5	0	1	40	0	0	0	0	0	0	0	46	0
Peak Hour	**0**	**3**	**0**	**0**	**19**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**22**	**0**

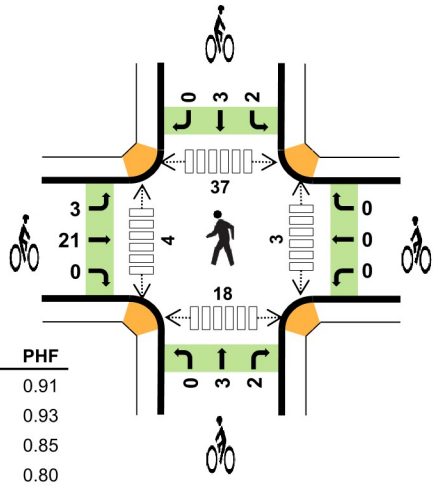
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Gateway Blvd
E Grand Ave

Date: 07-24-2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	4.4%	0.91
WB	18.0%	0.93
NB	9.7%	0.85
SB	9.0%	0.80
TOTAL	8.5%	0.95



Two-Hour Count Summaries

Interval Start	E Grand Ave Eastbound				E Grand Ave Westbound				Gateway Blvd Northbound				Gateway Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	1	24	239	18	1	20	45	19	0	14	20	38	1	31	23	6	500	0
7:15 AM	1	22	260	19	3	20	46	23	0	12	31	54	0	39	19	6	555	0
7:30 AM	2	39	250	18	1	22	59	36	1	21	33	53	0	48	25	10	618	0
7:45 AM	1	39	285	24	0	19	54	24	0	13	31	76	0	54	17	12	649	2,322
8:00 AM	**1**	**33**	**308**	**25**	**1**	**26**	**71**	**27**	**0**	**9**	**36**	**65**	**1**	**50**	**41**	**33**	**727**	2,549
8:15 AM	**0**	**33**	**325**	**16**	**2**	**19**	**71**	**28**	**0**	**12**	**27**	**73**	**0**	**54**	**25**	**28**	**713**	2,707
8:30 AM	**3**	**37**	**265**	**12**	**2**	**29**	**77**	**29**	**0**	**6**	**36**	**86**	**0**	**39**	**29**	**14**	**664**	2,753
8:45 AM	**2**	**35**	**259**	**11**	**3**	**31**	**74**	**20**	**0**	**15**	**52**	**80**	**0**	**49**	**23**	**12**	**666**	**2,770**
Count Total	11	262	2,191	143	13	186	497	206	1	102	266	525	2	364	202	121	5,092	0
Peak Hour All	**6**	**138**	**1,157**	**64**	**8**	**105**	**293**	**104**	**0**	**42**	**151**	**304**	**1**	**192**	**118**	**87**	**2,770**	**0**
Peak Hour HV	**0**	**5**	**43**	**12**	**2**	**21**	**51**	**18**	**0**	**6**	**14**	**28**	**0**	**23**	**10**	**3**	**236**	**0**
Peak Hour HV%	**0%**	**4%**	**4%**	**19%**	**25%**	**20%**	**17%**	**17%**	**-**	**14%**	**9%**	**9%**	**0%**	**12%**	**8%**	**3%**	**9%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	15	20	19	9	*63*	3	0	1	10	*14*	0	0	4	1	*5*
7:15 AM	17	23	13	12	*65*	1	1	1	1	*4*	3	0	5	2	*10*
7:30 AM	16	22	13	11	*62*	6	0	1	2	*9*	0	0	17	4	*21*
7:45 AM	17	22	12	15	*66*	2	0	2	0	*4*	0	1	2	3	*6*
8:00 AM	**12**	**26**	**11**	**9**	***58***	**5**	**0**	**3**	**2**	***10***	**1**	**0**	**4**	**2**	*7*
8:15 AM	**20**	**21**	**6**	**8**	***55***	**5**	**0**	**0**	**1**	***6***	**2**	**2**	**17**	**6**	*27*
8:30 AM	**19**	**22**	**17**	**11**	***69***	**7**	**0**	**2**	**0**	***9***	**0**	**1**	**9**	**5**	*15*
8:45 AM	**9**	**23**	**14**	**8**	***54***	**7**	**0**	**0**	**2**	***9***	**0**	**1**	**7**	**5**	***13***
Count Total	125	179	105	83	*492*	36	1	10	18	*65*	6	5	65	28	*104*
Peak Hour	**60**	**92**	**48**	**36**	***236***	**24**	**0**	**5**	**5**	***34***	**3**	**4**	**37**	**18**	***62***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Grand Ave				E Grand Ave				Gateway Blvd				Gateway Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	11	2	0	5	9	6	0	2	5	12	0	5	4	0	63	0
7:15 AM	0	0	16	1	1	7	9	6	0	3	5	5	0	9	3	0	65	0
7:30 AM	0	3	9	4	1	5	6	10	0	6	2	5	0	10	1	0	62	0
7:45 AM	0	2	14	1	0	5	8	9	0	3	3	6	0	11	3	1	66	256
8:00 AM	**0**	**0**	**7**	**5**	**0**	**6**	**12**	**8**	**0**	**2**	**3**	**6**	**0**	**7**	**1**	**1**	**58**	251
8:15 AM	**0**	**3**	**15**	**2**	**1**	**4**	**11**	**5**	**0**	**1**	**3**	**2**	**0**	**5**	**3**	**0**	**55**	241
8:30 AM	**0**	**2**	**14**	**3**	**0**	**4**	**16**	**2**	**0**	**2**	**3**	**12**	**0**	**6**	**4**	**1**	**69**	248
8:45 AM	**0**	**0**	**7**	**2**	**1**	**7**	**12**	**3**	**0**	**1**	**5**	**8**	**0**	**5**	**2**	**1**	**54**	**236**
Count Total	0	12	93	20	4	43	83	49	0	20	29	56	0	58	21	4	492	0
Peak Hour	**0**	**5**	**43**	**12**	**2**	**21**	**51**	**18**	**0**	**6**	**14**	**28**	**0**	**23**	**10**	**3**	**236**	**0**

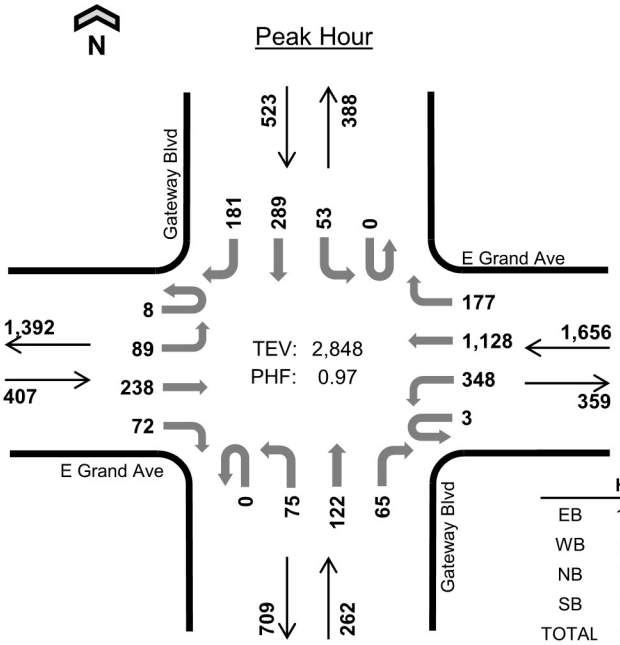
Two-Hour Count Summaries - Bikes

Interval Start	E Grand Ave			E Grand Ave			Gateway Blvd			Gateway Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	2	1	0	0	0	0	1	0	0	10	0	14	0
7:15 AM	0	0	1	0	1	0	0	1	0	0	1	0	4	0
7:30 AM	0	5	1	0	0	0	0	1	0	0	2	0	9	0
7:45 AM	1	1	0	0	0	0	0	2	0	0	0	0	4	31
8:00 AM	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**2**	**0**	**10**	27
8:15 AM	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**6**	29
8:30 AM	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**9**	29
8:45 AM	**2**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**9**	**34**
Count Total	4	29	3	0	1	0	0	8	2	2	16	0	65	0
Peak Hour	**3**	**21**	**0**	**0**	**0**	**0**	**0**	**3**	**2**	**2**	**3**	**0**	**34**	**0**

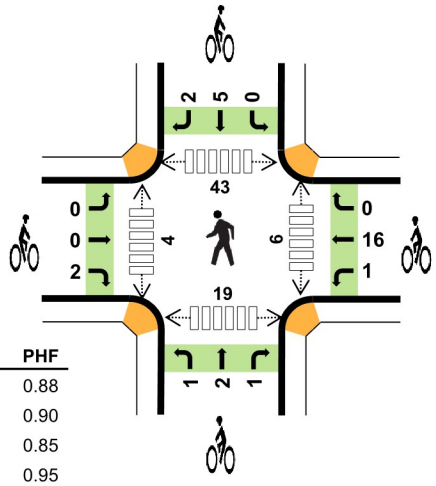
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Gateway Blvd
E Grand Ave

Date: 07-24-2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	11.8%	0.88
WB	2.2%	0.90
NB	8.8%	0.85
SB	3.4%	0.95
TOTAL	4.4%	0.97



Two-Hour Count Summaries

Interval Start	E Grand Ave Eastbound				E Grand Ave Westbound				Gateway Blvd Northbound				Gateway Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	3	19	64	17	1	94	235	49	1	20	18	19	0	20	64	28	652	0
4:15 PM	1	23	65	21	0	93	238	43	0	20	23	20	0	23	77	33	680	0
4:30 PM	2	14	58	24	0	100	267	43	0	16	33	19	1	18	62	42	699	0
4:45 PM	**1**	**17**	**70**	**20**	**1**	**77**	**254**	**37**	**0**	**26**	**33**	**18**	**0**	**16**	**55**	**48**	**673**	2,704
5:00 PM	**2**	**20**	**69**	**25**	**0**	**84**	**266**	**47**	**0**	**12**	**25**	**20**	**0**	**12**	**73**	**50**	**705**	2,757
5:15 PM	**3**	**24**	**46**	**12**	**0**	**98**	**314**	**47**	**0**	**18**	**30**	**11**	**0**	**15**	**80**	**36**	**734**	2,811
5:30 PM	**2**	**28**	**53**	**15**	**2**	**89**	**294**	**46**	**0**	**19**	**34**	**16**	**0**	**10**	**81**	**47**	**736**	**2,848**
5:45 PM	2	21	54	21	2	68	209	31	0	17	44	16	1	11	51	32	580	2,755
Count Total	16	166	479	155	6	703	2,077	343	1	148	240	139	2	125	543	316	5,459	0
Peak Hour All	**8**	**89**	**238**	**72**	**3**	**348**	**1,128**	**177**	**0**	**75**	**122**	**65**	**0**	**53**	**289**	**181**	**2,848**	**0**
Peak Hour HV	**0**	**4**	**38**	**6**	**0**	**6**	**27**	**4**	**0**	**7**	**8**	**8**	**0**	**10**	**6**	**2**	**126**	**0**
Peak Hour HV%	**0%**	**4%**	**16%**	**8%**	**0%**	**2%**	**2%**	**2%**	**-**	**9%**	**7%**	**12%**	**-**	**19%**	**2%**	**1%**	**4%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	15	10	6	6	*37*	0	1	0	1	*2*	0	2	1	3	*6*
4:15 PM	12	7	6	10	*35*	1	4	0	1	*6*	3	0	2	4	*9*
4:30 PM	10	12	6	8	*36*	0	3	0	1	*4*	4	1	17	3	*25*
4:45 PM	**14**	**10**	**10**	**3**	***37***	**0**	**7**	**2**	**1**	***10***	**1**	**1**	**14**	**5**	*21*
5:00 PM	**13**	**12**	**5**	**4**	***34***	**2**	**5**	**1**	**3**	***11***	**4**	**3**	**9**	**6**	*22*
5:15 PM	**9**	**10**	**5**	**5**	***29***	**0**	**3**	**0**	**2**	***5***	**0**	**0**	**3**	**3**	*6*
5:30 PM	**12**	**5**	**3**	**6**	***26***	**0**	**2**	**1**	**1**	***4***	**1**	**0**	**17**	**5**	***23***
5:45 PM	4	7	4	3	*18*	1	4	0	1	*6*	1	2	6	6	*15*
Count Total	89	73	45	45	*252*	4	29	4	11	*48*	14	9	69	35	*127*
Peak Hour	**48**	**37**	**23**	**18**	***126***	**2**	**17**	**4**	**7**	***30***	**6**	**4**	**43**	**19**	***72***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Grand Ave				E Grand Ave				Gateway Blvd				Gateway Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	12	2	0	4	5	1	0	0	0	6	0	5	1	0	37	0
4:15 PM	0	0	11	1	0	1	5	1	0	0	2	4	0	4	5	1	35	0
4:30 PM	0	0	10	0	0	4	6	2	0	2	3	1	0	5	3	0	36	0
4:45 PM	**0**	**3**	**10**	**1**	**0**	**1**	**7**	**2**	**0**	**5**	**2**	**3**	**0**	**2**	**1**	**0**	**37**	145
5:00 PM	**0**	**0**	**10**	**3**	**0**	**2**	**10**	**0**	**0**	**0**	**3**	**2**	**0**	**2**	**1**	**1**	**34**	142
5:15 PM	**0**	**1**	**6**	**2**	**0**	**3**	**5**	**2**	**0**	**1**	**2**	**2**	**0**	**3**	**1**	**1**	**29**	136
5:30 PM	**0**	**0**	**12**	**0**	**0**	**0**	**5**	**0**	**0**	**1**	**1**	**1**	**0**	**3**	**3**	**0**	**26**	**126**
5:45 PM	0	0	4	0	0	3	3	1	0	1	1	2	0	2	1	0	18	107
Count Total	0	5	75	9	0	18	46	9	0	10	14	21	0	26	16	3	252	0
Peak Hour	**0**	**4**	**38**	**6**	**0**	**6**	**27**	**4**	**0**	**7**	**8**	**8**	**0**	**10**	**6**	**2**	**126**	**0**

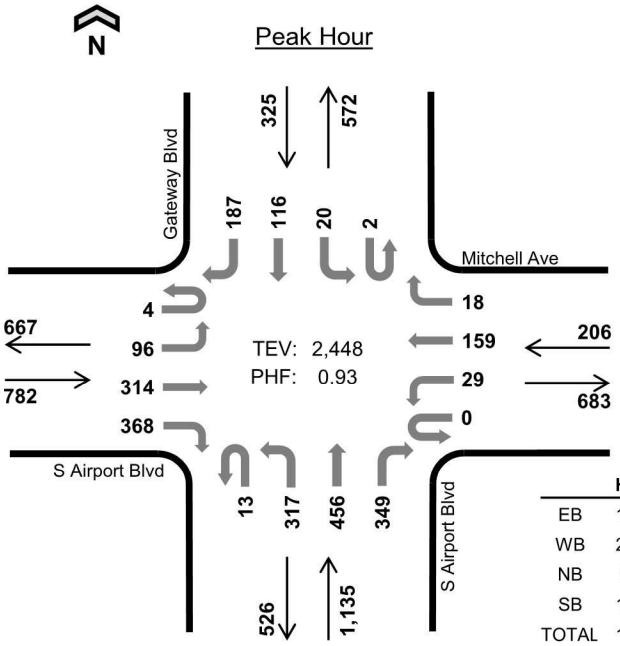
Two-Hour Count Summaries - Bikes

Interval Start	E Grand Ave			E Grand Ave			Gateway Blvd			Gateway Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	1	0	0	0	0	0	1	0	2	0
4:15 PM	0	1	0	0	3	1	0	0	0	0	1	0	6	0
4:30 PM	0	0	0	0	3	0	0	0	0	0	0	1	4	0
4:45 PM	**0**	**0**	**0**	**0**	**7**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**10**	22
5:00 PM	**0**	**0**	**2**	**0**	**5**	**0**	**0**	**1**	**0**	**0**	**3**	**0**	**11**	31
5:15 PM	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**5**	30
5:30 PM	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**4**	**30**
5:45 PM	0	1	0	0	3	1	0	0	0	0	1	0	6	26
Count Total	0	2	2	1	26	2	1	2	1	0	8	3	48	0
Peak Hour	**0**	**0**	**2**	**1**	**16**	**0**	**1**	**2**	**1**	**0**	**5**	**2**	**30**	**0**

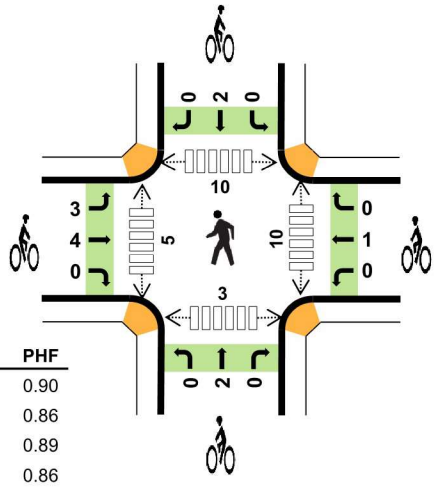
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Airport Blvd
Gateway Blvd

Date: 07-24-2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	11.6%	0.90
WB	22.3%	0.86
NB	8.5%	0.89
SB	16.3%	0.86
TOTAL	11.7%	0.93



Two-Hour Count Summaries

Interval Start		S Airport Blvd Eastbound				Mitchell Ave Westbound				S Airport Blvd Northbound				Gateway Blvd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		1	26	54	83	0	13	38	14	3	74	66	38	0	2	14	23	449	0
7:15 AM		1	31	50	72	0	10	32	7	2	79	63	52	0	3	27	26	455	0
7:30 AM		1	27	61	67	0	5	34	7	5	77	97	61	0	5	25	37	509	0
7:45 AM		1	24	79	100	0	17	34	5	1	86	89	73	0	4	33	39	585	1,998
8:00 AM		**2**	**20**	**57**	**74**	**0**	**5**	**34**	**4**	**3**	**81**	**106**	**79**	**1**	**5**	**41**	**47**	**559**	2,108
8:15 AM		**1**	**33**	**95**	**88**	**0**	**11**	**44**	**5**	**2**	**66**	**102**	**79**	**0**	**3**	**23**	**55**	**607**	2,260
8:30 AM		**0**	**23**	**66**	**108**	**0**	**2**	**42**	**2**	**3**	**86**	**105**	**103**	**0**	**8**	**33**	**40**	**621**	2,372
8:45 AM		**1**	**20**	**96**	**98**	**0**	**11**	**39**	**7**	**5**	**84**	**143**	**88**	**1**	**4**	**19**	**45**	**661**	**2,448**
Count Total		8	204	558	690	0	74	297	51	24	633	771	573	2	34	215	312	4,446	0
Peak Hour	**All**	**4**	**96**	**314**	**368**	**0**	**29**	**159**	**18**	**13**	**317**	**456**	**349**	**2**	**20**	**116**	**187**	**2,448**	**0**
	HV	**0**	**22**	**16**	**53**	**0**	**5**	**35**	**6**	**0**	**46**	**40**	**10**	**0**	**3**	**12**	**38**	**286**	**0**
	HV%	**0%**	**23%**	**5%**	**14%**	**-**	**17%**	**22%**	**33%**	**0%**	**15%**	**9%**	**3%**	**0%**	**15%**	**10%**	**20%**	**12%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	12	18	32	9	*71*	0	0	0	9	*9*	2	2	3	0	*7*
7:15 AM	17	16	15	13	*61*	0	0	1	3	*4*	3	4	0	3	*10*
7:30 AM	13	11	26	10	*60*	0	1	1	2	*4*	3	2	5	0	*10*
7:45 AM	18	17	19	16	*70*	0	0	2	0	*2*	5	0	6	4	*15*
8:00 AM	**14**	**13**	**26**	**12**	***65***	**2**	**1**	**1**	**1**	***5***	**3**	**1**	**6**	**0**	*10*
8:15 AM	**18**	**13**	**18**	**13**	***62***	**2**	**0**	**0**	**1**	***3***	**2**	**0**	**3**	**2**	*7*
8:30 AM	**31**	**6**	**24**	**13**	***74***	**2**	**0**	**1**	**0**	***3***	**4**	**4**	**0**	**0**	*8*
8:45 AM	**28**	**14**	**28**	**15**	***85***	**1**	**0**	**0**	**0**	***1***	**1**	**0**	**1**	**1**	***3***
Count Total	151	108	188	101	*548*	7	2	6	16	*31*	23	13	24	10	*70*
Peak Hour	**91**	**46**	**96**	**53**	***286***	**7**	**1**	**2**	**2**	***12***	**10**	**5**	**10**	**3**	***28***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	S Airport Blvd				Mitchell Ave				S Airport Blvd				Gateway Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	6	1	5	0	4	8	6	0	15	16	1	0	1	4	4	71	0
7:15 AM	0	6	3	8	0	4	7	5	0	11	3	1	0	0	5	8	61	0
7:30 AM	0	4	5	4	0	1	9	1	0	20	4	2	0	0	2	8	60	0
7:45 AM	0	8	1	9	0	5	10	2	0	12	7	0	0	0	5	11	70	262
8:00 AM	**0**	**4**	**5**	**5**	**0**	**0**	**11**	**2**	**0**	**16**	**9**	**1**	**0**	**2**	**3**	**7**	**65**	256
8:15 AM	**0**	**6**	**3**	**9**	**0**	**1**	**11**	**1**	**0**	**8**	**7**	**3**	**0**	**1**	**3**	**9**	**62**	257
8:30 AM	**0**	**8**	**5**	**18**	**0**	**1**	**5**	**0**	**0**	**12**	**9**	**3**	**0**	**0**	**3**	**10**	**74**	271
8:45 AM	**0**	**4**	**3**	**21**	**0**	**3**	**8**	**3**	**0**	**10**	**15**	**3**	**0**	**0**	**3**	**12**	**85**	**286**
Count Total	0	46	26	79	0	19	69	20	0	104	70	14	0	4	28	69	548	0
Peak Hour	**0**	**22**	**16**	**53**	**0**	**5**	**35**	**6**	**0**	**46**	**40**	**10**	**0**	**3**	**12**	**38**	**286**	**0**

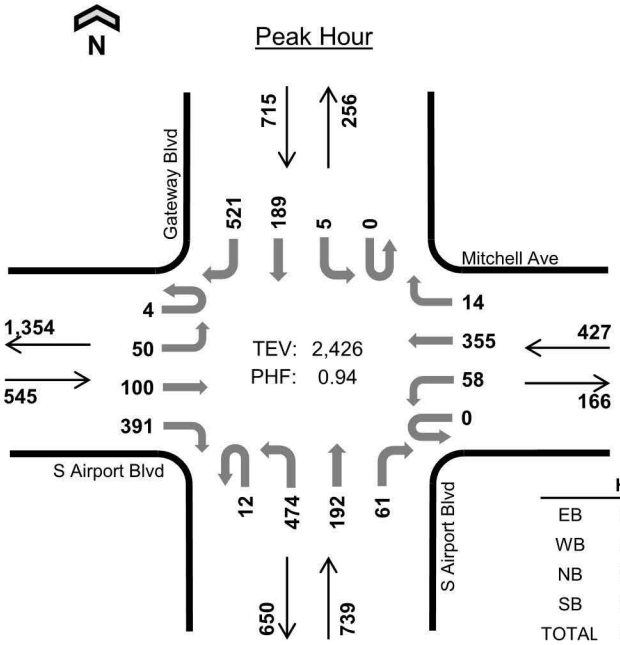
Two-Hour Count Summaries - Bikes

Interval Start	S Airport Blvd			Mitchell Ave			S Airport Blvd			Gateway Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	9	0	9	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	3	0	4	0
7:30 AM	0	0	0	0	1	0	0	1	0	0	2	0	4	0
7:45 AM	0	0	0	0	0	0	0	2	0	0	0	0	2	19
8:00 AM	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**5**	15
8:15 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	14
8:30 AM	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	13
8:45 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**12**
Count Total	3	4	0	0	2	0	0	6	0	0	16	0	31	0
Peak Hour	**3**	**4**	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**12**	**0**

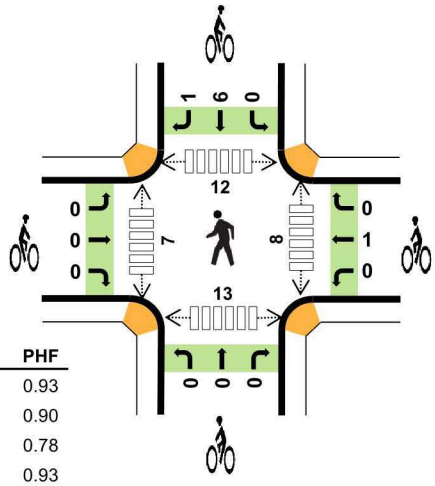
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

S Airport Blvd
Gateway Blvd

Date: 07-24-2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	7.7%	0.93
WB	5.6%	0.90
NB	8.9%	0.78
SB	3.5%	0.93
TOTAL	6.5%	0.94



Two-Hour Count Summaries

Interval Start		S Airport Blvd Eastbound				Mitchell Ave Westbound				S Airport Blvd Northbound				Gateway Blvd Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		4	12	31	81	0	16	77	3	6	124	43	15	0	1	53	121	587	0
4:15 PM		2	9	28	94	0	15	93	3	2	103	53	10	0	0	47	115	574	0
4:30 PM		**0**	**11**	**16**	**100**	**0**	**14**	**76**	**3**	**4**	**146**	**66**	**22**	**0**	**3**	**50**	**136**	**647**	0
4:45 PM		**0**	**10**	**38**	**99**	**0**	**13**	**82**	**8**	**2**	**113**	**35**	**12**	**0**	**0**	**29**	**127**	**568**	2,376
5:00 PM		**2**	**13**	**15**	**97**	**0**	**19**	**96**	**3**	**2**	**104**	**43**	**20**	**0**	**1**	**55**	**137**	**607**	2,396
5:15 PM		**2**	**16**	**31**	**95**	**0**	**12**	**101**	**0**	**4**	**111**	**48**	**7**	**0**	**1**	**55**	**121**	**604**	**2,426**
5:30 PM		1	20	25	101	0	33	100	3	2	106	54	11	0	4	50	123	633	2,412
5:45 PM		0	15	31	85	0	10	66	5	4	102	51	10	0	1	58	132	570	2,414
Count Total		11	106	215	752	0	132	691	28	26	909	393	107	0	11	397	1,012	4,790	0
Peak Hour	**All**	**4**	**50**	**100**	**391**	**0**	**58**	**355**	**14**	**12**	**474**	**192**	**61**	**0**	**5**	**189**	**521**	**2,426**	**0**
	HV	**0**	**8**	**16**	**18**	**0**	**3**	**20**	**1**	**0**	**42**	**15**	**9**	**0**	**1**	**7**	**17**	**157**	**0**
	HV%	**0%**	**16%**	**16%**	**5%**	**-**	**5%**	**6%**	**7%**	**0%**	**9%**	**8%**	**15%**	**-**	**20%**	**4%**	**3%**	**6%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	15	3	21	8	*47*	0	0	0	2	*2*	2	1	2	2	*7*
4:15 PM	10	10	18	5	*43*	0	1	0	0	*1*	2	1	3	2	*8*
4:30 PM	**16**	**4**	**16**	**10**	***46***	**0**	**0**	**0**	**0**	***0***	**4**	**4**	**5**	**6**	*19*
4:45 PM	**6**	**6**	**15**	**2**	***29***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**1**	**2**	*5*
5:00 PM	**6**	**9**	**19**	**8**	***42***	**0**	**0**	**0**	**5**	***5***	**1**	**0**	**3**	**3**	*7*
5:15 PM	**14**	**5**	**16**	**5**	***40***	**0**	**1**	**0**	**2**	***3***	**2**	**2**	**3**	**2**	***9***
5:30 PM	13	6	15	6	*40*	0	0	0	0	*0*	4	1	9	6	*20*
5:45 PM	9	5	14	3	*31*	1	2	0	2	*5*	2	0	3	0	*5*
Count Total	89	48	134	47	*318*	1	4	0	11	*16*	18	10	29	23	*80*
Peak Hour	**42**	**24**	**66**	**25**	***157***	**0**	**1**	**0**	**7**	***8***	**8**	**7**	**12**	**13**	***40***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	S Airport Blvd				Mitchell Ave				S Airport Blvd				Gateway Blvd				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	7	7	0	0	3	0	0	13	6	2	0	0	2	6	47	0
4:15 PM	0	2	5	3	0	1	8	1	0	5	13	0	0	0	1	4	43	0
4:30 PM	**0**	**2**	**6**	**8**	**0**	**0**	**4**	**0**	**0**	**6**	**6**	**4**	**0**	**1**	**2**	**7**	**46**	0
4:45 PM	**0**	**1**	**2**	**3**	**0**	**1**	**4**	**1**	**0**	**13**	**2**	**0**	**0**	**0**	**0**	**2**	**29**	165
5:00 PM	**0**	**2**	**0**	**4**	**0**	**1**	**8**	**0**	**0**	**11**	**3**	**5**	**0**	**0**	**2**	**6**	**42**	160
5:15 PM	**0**	**3**	**8**	**3**	**0**	**1**	**4**	**0**	**0**	**12**	**4**	**0**	**0**	**0**	**3**	**2**	**40**	**157**
5:30 PM	0	1	9	3	0	1	4	1	0	8	6	1	0	1	1	4	40	151
5:45 PM	0	0	6	3	0	1	4	0	0	11	3	0	0	0	0	3	31	153
Count Total	0	12	43	34	0	6	39	3	0	79	43	12	0	2	11	34	318	0
Peak Hour	**0**	**8**	**16**	**18**	**0**	**3**	**20**	**1**	**0**	**42**	**15**	**9**	**0**	**1**	**7**	**17**	**157**	**0**

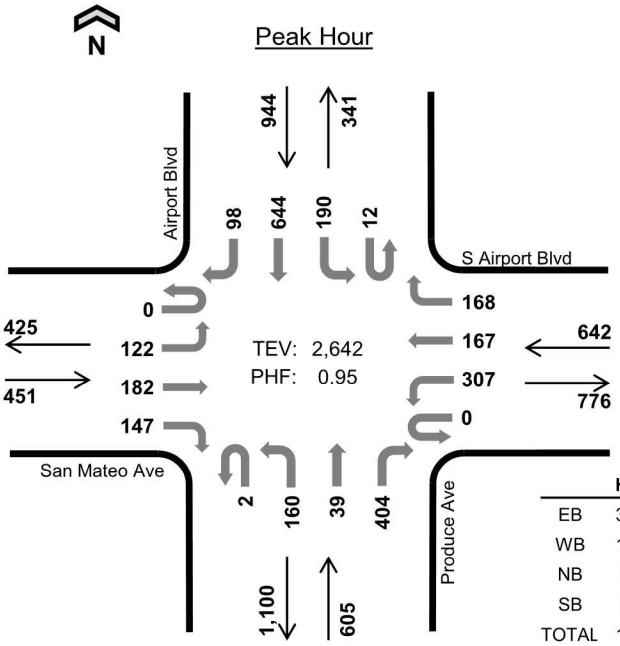
Two-Hour Count Summaries - Bikes

Interval Start	S Airport Blvd			Mitchell Ave			S Airport Blvd			Gateway Blvd			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	2	0
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	3
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**5**	6
5:15 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**3**	**8**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	8
5:45 PM	0	0	1	0	2	0	0	0	0	0	1	1	5	13
Count Total	0	0	1	0	4	0	0	0	0	0	9	2	16	0
Peak Hour	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**6**	**1**	**8**	**0**

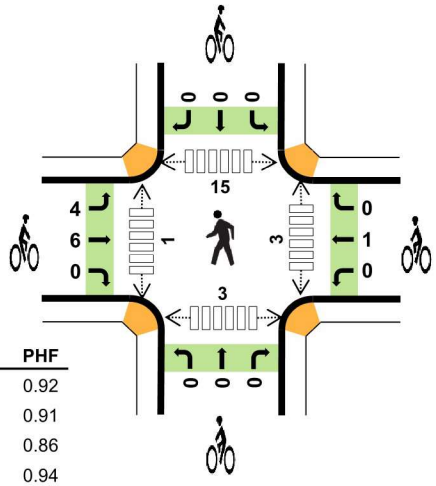
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Airport Blvd
San Mateo Ave

Date: 07-24-2019
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM



	HV %:	PHF
EB	30.6%	0.92
WB	18.5%	0.91
NB	6.8%	0.86
SB	5.8%	0.94
TOTAL	13.4%	0.95



Two-Hour Count Summaries

Interval Start	San Mateo Ave Eastbound				S Airport Blvd Westbound				Produce Ave Northbound				Airport Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	9	39	22	0	61	38	30	0	38	5	98	3	34	149	15	541	0
7:15 AM	0	25	50	18	0	75	34	31	0	27	5	79	2	41	167	15	569	0
7:30 AM	0	14	41	23	2	72	43	30	0	51	11	100	3	32	180	16	618	0
7:45 AM	0	25	45	25	0	77	57	30	1	40	8	96	2	51	137	26	620	2,348
8:00 AM	**0**	**21**	**35**	**43**	**0**	**72**	**38**	**40**	**0**	**46**	**10**	**75**	**3**	**43**	**166**	**26**	**618**	2,425
8:15 AM	**0**	**34**	**54**	**34**	**0**	**86**	**50**	**41**	**1**	**40**	**14**	**120**	**1**	**45**	**159**	**15**	**694**	2,550
8:30 AM	**0**	**38**	**53**	**29**	**0**	**70**	**40**	**48**	**1**	**36**	**5**	**103**	**5**	**46**	**173**	**28**	**675**	2,607
8:45 AM	**0**	**29**	**40**	**41**	**0**	**79**	**39**	**39**	**0**	**38**	**10**	**106**	**3**	**56**	**146**	**29**	**655**	**2,642**
Count Total	0	195	357	235	2	592	339	289	3	316	68	777	22	348	1,277	170	4,990	0
Peak Hour All	**0**	**122**	**182**	**147**	**0**	**307**	**167**	**168**	**2**	**160**	**39**	**404**	**12**	**190**	**644**	**98**	**2,642**	**0**
Peak Hour HV	**0**	**23**	**61**	**54**	**0**	**72**	**33**	**14**	**0**	**17**	**5**	**19**	**2**	**4**	**44**	**5**	**353**	**0**
Peak Hour HV%	**-**	**19%**	**34%**	**37%**	**-**	**23%**	**20%**	**8%**	**0%**	**11%**	**13%**	**5%**	**17%**	**2%**	**7%**	**5%**	**13%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	24	25	7	11	*67*	0	0	0	0	*0*	0	0	5	0	*5*
7:15 AM	28	29	11	14	*82*	0	0	0	0	*0*	0	1	7	2	*10*
7:30 AM	28	34	18	8	*88*	0	1	0	0	*1*	1	1	6	3	*11*
7:45 AM	28	36	10	8	*82*	1	0	0	0	*1*	2	1	3	1	*7*
8:00 AM	**33**	**31**	**9**	**15**	***88***	**3**	**1**	**0**	**0**	***4***	**1**	**0**	**9**	**1**	*11*
8:15 AM	**31**	**31**	**8**	**8**	***78***	**4**	**0**	**0**	**0**	***4***	**1**	**0**	**3**	**1**	*5*
8:30 AM	**39**	**27**	**15**	**23**	***104***	**2**	**0**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	*0*
8:45 AM	**35**	**30**	**9**	**9**	***83***	**1**	**0**	**0**	**0**	***1***	**1**	**1**	**3**	**1**	***6***
Count Total	246	243	87	96	*672*	11	2	0	0	*13*	6	4	36	9	*55*
Peak Hour	**138**	**119**	**41**	**55**	***353***	**10**	**1**	**0**	**0**	***11***	**3**	**1**	**15**	**3**	**22**

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	San Mateo Ave Eastbound				S Airport Blvd Westbound				Produce Ave Northbound				Airport Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	11	12	0	13	7	5	0	6	0	1	0	0	10	1	67	0
7:15 AM	0	7	13	8	0	21	6	2	0	6	1	4	0	2	10	2	82	0
7:30 AM	0	3	15	10	0	22	8	4	0	17	0	1	0	2	5	1	88	0
7:45 AM	0	7	14	7	0	21	15	0	0	7	2	1	0	1	5	2	82	319
8:00 AM	**0**	**5**	**11**	**17**	**0**	**19**	**6**	**6**	**0**	**6**	**0**	**3**	**1**	**1**	**10**	**3**	**88**	340
8:15 AM	**0**	**6**	**13**	**12**	**0**	**19**	**9**	**3**	**0**	**1**	**3**	**4**	**0**	**0**	**8**	**0**	**78**	336
8:30 AM	**0**	**6**	**22**	**11**	**0**	**16**	**9**	**2**	**0**	**6**	**1**	**8**	**0**	**3**	**18**	**2**	**104**	352
8:45 AM	**0**	**6**	**15**	**14**	**0**	**18**	**9**	**3**	**0**	**4**	**1**	**4**	**1**	**0**	**8**	**0**	**83**	**353**
Count Total	0	41	114	91	0	149	69	25	0	53	8	26	2	9	74	11	672	0
Peak Hour	**0**	**23**	**61**	**54**	**0**	**72**	**33**	**14**	**0**	**17**	**5**	**19**	**2**	**4**	**44**	**5**	**353**	**0**

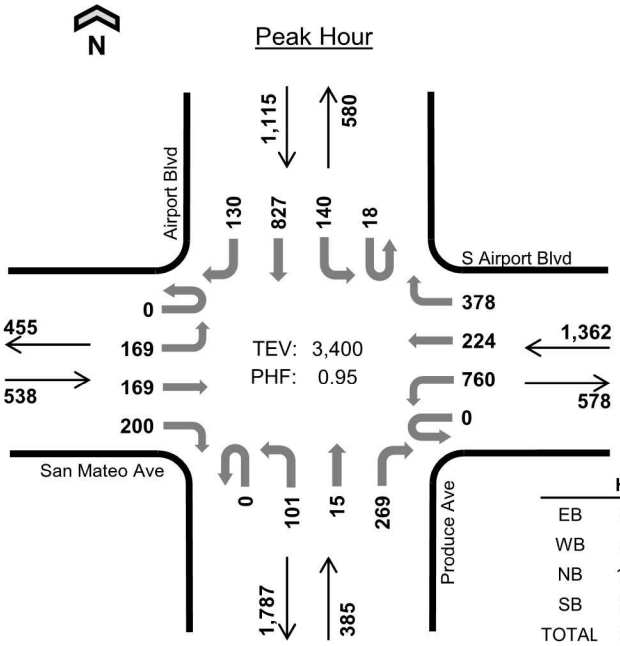
Two-Hour Count Summaries - Bikes

Interval Start	San Mateo Ave Eastbound			S Airport Blvd Westbound			Produce Ave Northbound			Airport Blvd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	2
8:00 AM	**1**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	6
8:15 AM	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	10
8:30 AM	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	11
8:45 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**11**
Count Total	4	7	0	0	1	1	0	0	0	0	0	0	13	0
Peak Hour	**4**	**6**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**

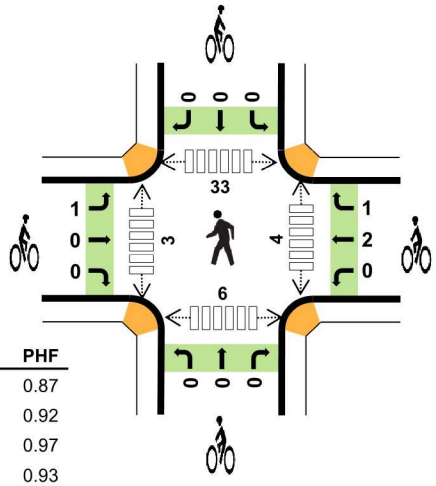
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Airport Blvd
San Mateo Ave

Date: 07-24-2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	5.6%	0.87
WB	5.8%	0.92
NB	14.8%	0.97
SB	3.1%	0.93
TOTAL	5.9%	0.95



Two-Hour Count Summaries

Interval Start	San Mateo Ave Eastbound				S Airport Blvd Westbound				Produce Ave Northbound				Airport Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	37	33	51	0	181	47	108	1	42	6	66	5	30	179	24	810	0
4:15 PM	0	25	41	37	0	180	34	83	0	32	6	67	4	29	209	26	773	0
4:30 PM	**0**	**27**	**41**	**47**	**0**	**198**	**68**	**106**	**0**	**31**	**4**	**61**	**4**	**37**	**207**	**26**	**857**	0
4:45 PM	**0**	**36**	**43**	**37**	**0**	**179**	**51**	**69**	**0**	**24**	**2**	**67**	**2**	**33**	**210**	**38**	**791**	3,231
5:00 PM	**0**	**58**	**35**	**62**	**0**	**204**	**44**	**103**	**0**	**25**	**5**	**67**	**5**	**35**	**195**	**23**	**861**	3,282
5:15 PM	**0**	**48**	**50**	**54**	**0**	**179**	**61**	**100**	**0**	**21**	**4**	**74**	**7**	**35**	**215**	**43**	**891**	**3,400**
5:30 PM	0	38	32	51	1	190	55	95	0	20	3	75	5	26	215	33	839	3,382
5:45 PM	0	41	28	31	0	172	45	99	0	18	5	67	4	35	181	30	756	3,347
Count Total	0	310	303	370	1	1,483	405	763	1	213	35	544	36	260	1,611	243	6,578	0
Peak Hour All	**0**	**169**	**169**	**200**	**0**	**760**	**224**	**378**	**0**	**101**	**15**	**269**	**18**	**140**	**827**	**130**	**3,400**	**0**
Peak Hour HV	**0**	**5**	**15**	**10**	**0**	**33**	**29**	**17**	**0**	**32**	**0**	**25**	**0**	**5**	**20**	**10**	**201**	**0**
Peak Hour HV%	**-**	**3%**	**9%**	**5%**	**-**	**4%**	**13%**	**4%**	**-**	**32%**	**0%**	**9%**	**0%**	**4%**	**2%**	**8%**	**6%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	13	22	21	4	*60*	0	0	0	0	*0*	2	0	0	0	*2*
4:15 PM	9	15	13	7	*44*	0	0	0	0	*0*	1	1	4	1	*7*
4:30 PM	**7**	**18**	**20**	**6**	***51***	**0**	**1**	**0**	**0**	***1***	**0**	**1**	**7**	**3**	*11*
4:45 PM	**7**	**18**	**8**	**8**	***41***	**1**	**0**	**0**	**0**	***1***	**2**	**1**	**7**	**1**	*11*
5:00 PM	**8**	**22**	**12**	**9**	***51***	**0**	**1**	**0**	**0**	***1***	**1**	**1**	**7**	**2**	*11*
5:15 PM	**8**	**21**	**17**	**12**	***58***	**0**	**1**	**0**	**0**	***1***	**1**	**0**	**12**	**0**	***13***
5:30 PM	6	16	11	6	*39*	0	0	0	0	*0*	3	0	10	1	*14*
5:45 PM	5	19	9	5	*38*	1	3	0	0	*4*	0	1	4	1	*6*
Count Total	63	151	111	57	*382*	2	6	0	0	*8*	10	5	51	9	*75*
Peak Hour	**30**	**79**	**57**	**35**	***201***	**1**	**3**	**0**	**0**	***4***	**4**	**3**	**33**	**6**	***46***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	San Mateo Ave Eastbound				S Airport Blvd Westbound				Produce Ave Northbound				Airport Blvd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	8	4	0	7	9	6	0	13	2	6	0	1	2	1	60	0
4:15 PM	0	2	4	3	0	5	5	5	0	10	0	3	0	4	1	2	44	0
4:30 PM	**0**	**1**	**4**	**2**	**0**	**8**	**7**	**3**	**0**	**10**	**0**	**10**	**0**	**2**	**3**	**1**	**51**	0
4:45 PM	**0**	**2**	**2**	**3**	**0**	**6**	**9**	**3**	**0**	**4**	**0**	**4**	**0**	**0**	**7**	**1**	**41**	196
5:00 PM	**0**	**2**	**3**	**3**	**0**	**10**	**6**	**6**	**0**	**8**	**0**	**4**	**0**	**2**	**5**	**2**	**51**	187
5:15 PM	**0**	**0**	**6**	**2**	**0**	**9**	**7**	**5**	**0**	**10**	**0**	**7**	**0**	**1**	**5**	**6**	**58**	**201**
5:30 PM	0	2	2	2	0	9	5	2	0	4	0	7	0	2	2	2	39	189
5:45 PM	0	1	1	3	0	9	5	5	0	4	0	5	0	2	3	0	38	186
Count Total	0	11	30	22	0	63	53	35	0	63	2	46	0	14	28	15	382	0
Peak Hour	**0**	**5**	**15**	**10**	**0**	**33**	**29**	**17**	**0**	**32**	**0**	**25**	**0**	**5**	**20**	**10**	**201**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	San Mateo Ave Eastbound			S Airport Blvd Westbound			Produce Ave Northbound			Airport Blvd Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
4:45 PM	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	2
5:00 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	3
5:15 PM	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	1	0	0	3	0	0	0	0	0	0	0	4	6
Count Total	1	1	0	0	5	1	0	0	0	0	0	0	8	0
Peak Hour	**1**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**

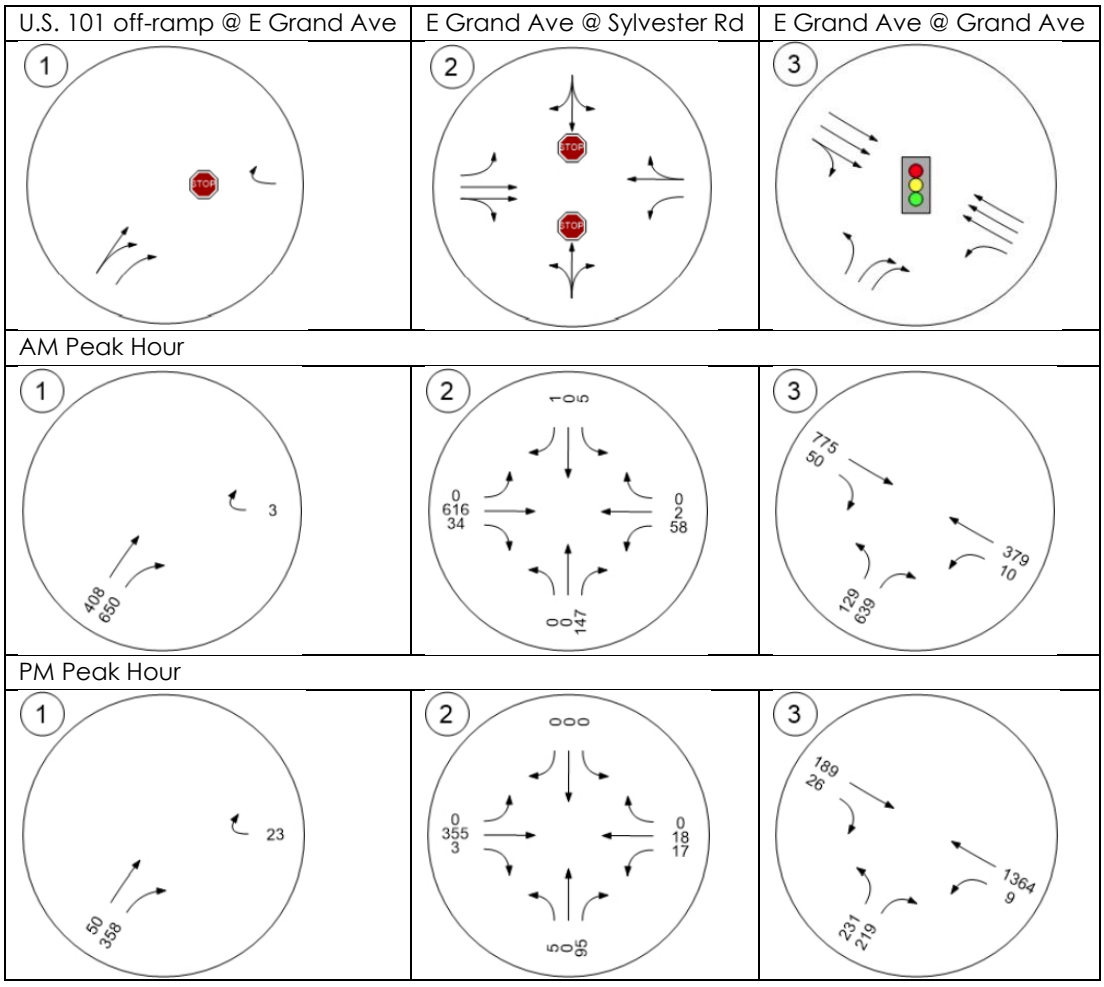
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

on the turning movement proportions from Streetlight data or the 2040 volumes from the East Access Study.

- The US 101 off-ramp volume is controlled by the corresponding PeMS counts on the same day as the available 2019 counts for Intersection 1 and distributed to the left-turn and through movements based on the turning movement proportions that are consistent with the 2040 volumes from the East Access Study.

The resulting volumes used in the analysis for Scenario 1 are shown in Figure 4. Details on the count data and volume estimation process are included in Appendix B.

Figure 4: Study Intersections Configuration and Volumes – Existing Conditions

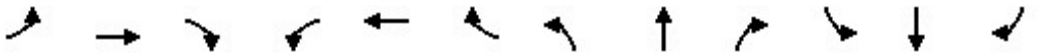


SCENARIO 2: EAST ACCESS STUDY WITHOUT PROJECT

Fehr & Peers provided the 2040 volumes based on their analysis for the city's General Plan which included the proposed Project at 100 E Grand Avenue. The volumes for this without-project scenario were calculated using the provided 2040 volumes minus the trip generation for the Project.

This scenario analyzes the concept geometry, intersection control, and signal timing provided by Fehr & Peers, the same as the recommended scenario from East Access Study. Note that signal timing is only provided for

Appendix B
Level of Service (LOS) Calculations



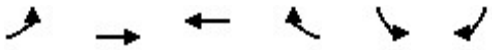
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	103	420	195	0	22	163	0	0	317	50
Future Volume (vph)	0	0	103	420	195	0	22	163	0	0	317	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.2	4.2			4.0			4.9	
Lane Util. Factor			1.00	0.95	0.95			0.95			0.95	
Frpb, ped/bikes			1.00	1.00	1.00			1.00			1.00	
Flpb, ped/bikes			1.00	1.00	1.00			1.00			1.00	
Frt			0.86	1.00	1.00			1.00			0.98	
Flt Protected			1.00	0.95	0.98			0.99			1.00	
Satd. Flow (prot)			1596	1665	1720			3380			3322	
Flt Permitted			1.00	0.95	0.98			0.99			1.00	
Satd. Flow (perm)			1596	1665	1720			3380			3322	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	111	452	210	0	24	175	0	0	341	54
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	14	0
Lane Group Flow (vph)	0	0	111	325	337	0	0	199	0	0	381	0
Confl. Peds. (#/hr)												3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	3%	3%	3%	0%	0%	7%	0%	0%	6%	6%
Turn Type			Over	Split	NA		Split	NA			NA	
Protected Phases			1	6	6		1	1			4	
Permitted Phases												
Actuated Green, G (s)			13.8	60.6	60.6			13.8			17.5	
Effective Green, g (s)			13.8	60.6	60.6			13.8			17.5	
Actuated g/C Ratio			0.13	0.58	0.58			0.13			0.17	
Clearance Time (s)			4.0	4.2	4.2			4.0			4.9	
Vehicle Extension (s)			4.0	3.5	3.5			4.0			3.0	
Lane Grp Cap (vph)			209	960	992			444			553	
v/s Ratio Prot			c0.07	0.20	c0.20			0.06			c0.11	
v/s Ratio Perm												
v/c Ratio			0.53	0.34	0.34			0.45			0.69	
Uniform Delay, d1			42.6	11.7	11.7			42.1			41.2	
Progression Factor			1.00	1.00	1.00			0.85			1.00	
Incremental Delay, d2			3.3	1.0	0.9			0.9			3.6	
Delay (s)			45.9	12.6	12.6			36.8			44.8	
Level of Service			D	B	B			D			D	
Approach Delay (s)		45.9			12.6			36.8			44.8	
Approach LOS		D			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	223	84	174	116	65	40	349	368	409	362	69
Future Volume (vph)	182	223	84	174	116	65	40	349	368	409	362	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.99		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.97		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (prot)		3006		2717	1474	1253	1490	2981	1333	1421	2947	1317
Flt Permitted		0.98		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.98	1.00
Satd. Flow (perm)		3006		2717	1474	1253	1490	2981	1333	1421	2947	1317
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	192	235	88	183	122	68	42	367	387	431	381	73
RTOR Reduction (vph)	0	18	0	0	0	58	0	0	0	0	0	54
Lane Group Flow (vph)	0	497	0	183	122	10	42	367	387	263	549	19
Confl. Peds. (#/hr)			67									12
Confl. Bikes (#/hr)			11						7			1
Heavy Vehicles (%)	2%	2%	2%	16%	16%	16%	9%	9%	9%	4%	4%	4%
Turn Type	Split	NA		Split	NA	Perm	Split	NA	custom	Split	NA	Perm
Protected Phases	8	8!		7	7		6	6	6 7 8!	2	2	
Permitted Phases						7						2
Actuated Green, G (s)		24.4		15.1	15.1	15.1	21.6	21.6	69.1	27.9	27.9	27.9
Effective Green, g (s)		24.4		15.1	15.1	15.1	21.6	21.6	69.1	27.9	27.9	27.9
Actuated g/C Ratio		0.23		0.14	0.14	0.14	0.21	0.21	0.66	0.27	0.27	0.27
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		2.5		3.0	3.0	3.0	2.5	2.5		2.0	2.0	2.0
Lane Grp Cap (vph)		698		390	211	180	306	613	877	377	783	349
v/s Ratio Prot		c0.17		0.07	c0.08		0.03	c0.12	0.29	0.19	c0.19	
v/s Ratio Perm						0.01						0.01
v/c Ratio		0.71		0.47	0.58	0.05	0.14	0.60	0.44	0.70	0.70	0.06
Uniform Delay, d1		37.1		41.3	42.0	38.8	34.1	37.8	8.6	34.7	34.8	28.7
Progression Factor		1.00		1.00	1.00	1.00	1.42	1.30	0.37	0.95	0.95	2.03
Incremental Delay, d2		3.2		0.9	3.8	0.1	0.1	0.9	0.2	9.7	4.9	0.3
Delay (s)		40.3		42.2	45.8	38.9	48.4	49.9	3.4	42.6	37.9	58.8
Level of Service		D		D	D	D	D	D	A	D	D	E
Approach Delay (s)		40.3			42.8			27.2			41.0	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	36.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.1%	ICU Level of Service	D
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	59	941	487	44	45	26
Future Volume (vph)	59	941	487	44	45	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91	0.91		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	5036	4455		1752	1568
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1752	5036	4455		1752	1568
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	63	1012	524	47	48	28
RTOR Reduction (vph)	0	0	3	0	0	26
Lane Group Flow (vph)	63	1012	568	0	48	2
Heavy Vehicles (%)	3%	3%	15%	15%	3%	3%
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	5	2	6		3	
Permitted Phases						3
Actuated Green, G (s)	7.0	85.7	74.7		6.3	6.3
Effective Green, g (s)	7.0	85.7	74.7		6.3	6.3
Actuated g/C Ratio	0.07	0.86	0.75		0.06	0.06
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	122	4315	3327		110	98
v/s Ratio Prot	c0.04	c0.20	0.13		c0.03	
v/s Ratio Perm						0.00
v/c Ratio	0.52	0.23	0.17		0.44	0.02
Uniform Delay, d1	44.9	1.3	3.7		45.1	43.9
Progression Factor	1.00	1.00	0.92		1.00	1.00
Incremental Delay, d2	1.5	0.1	0.1		1.0	0.0
Delay (s)	46.4	1.4	3.5		46.1	44.0
Level of Service	D	A	A		D	D
Approach Delay (s)		4.0	3.5		45.3	
Approach LOS		A	A		D	

Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	32.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	3	408	650	0	0
Future Volume (Veh/h)	0	3	408	650	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	3	434	691	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	434	434			1125	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	434	434			1125	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			100	
cM capacity (veh/h)	579	622			621	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1
Volume Total	3	664	461	0
Volume Left	0	0	0	0
Volume Right	3	230	461	0
cSH	622	1700	1700	1700
Volume to Capacity	0.00	0.39	0.27	0.00
Queue Length 95th (ft)	0	0	0	0
Control Delay (s)	10.8	0.0	0.0	0.0
Lane LOS	B			
Approach Delay (s)	10.8	0.0		0.0
Approach LOS	B			

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	942	44	16	402	129	639
Future Volume (veh/h)	942	44	16	402	129	639
Initial Q (Qb), veh	45	0	0	0	10	51
Ped-Bike Adj(A_pbT)		0.95	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1856	1856	1618	1618	1826	1826
Adj Flow Rate, veh/h	961	45	16	410	132	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	3	3	19	19	5	5
Cap, veh/h	3603	158	33	3508	202	
Arrive On Green	0.51	0.51	0.02	0.83	0.09	0.00
Sat Flow, veh/h	5113	231	1541	4564	1739	2723
Grp Volume(v), veh/h	656	350	16	410	132	0
Grp Sat Flow(s),veh/h/ln	1689	1800	1541	1473	1739	1362
Q Serve(g_s), s	10.9	10.9	1.0	1.8	7.4	0.0
Cycle Q Clear(g_c), s	10.9	10.9	1.0	1.8	7.4	0.0
Prop In Lane		0.13	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2450	1315	33	3508	202	
V/C Ratio(X)	0.27	0.27	0.48	0.12	0.65	
Avail Cap(c_a), veh/h	2580	1375	170	3647	678	
HCM Platoon Ratio	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	0.99	0.99	1.00	0.00
Uniform Delay (d), s/veh	11.8	11.5	48.4	2.8	43.3	0.0
Incr Delay (d2), s/veh	0.3	0.5	3.9	0.1	1.3	0.0
Initial Q Delay(d3),s/veh	1.5	1.3	0.0	0.0	50.8	0.0
%ile BackOfQ(50%),veh/ln	6.8	7.1	0.4	0.4	7.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.5	13.2	52.3	2.9	95.5	0.0
LnGrp LOS	B	B	D	A	F	
Approach Vol, veh/h	1006			426	132	A
Approach Delay, s/veh	13.4			4.7	95.5	
Approach LOS	B			A	F	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	6.2	80.4				86.5	13.5
Change Period (Y+Rc), s	4.0	4.0				4.0	4.0
Max Green Setting (Gmax), s	11.0	38.0				53.0	39.0
Max Q Clear Time (g_c+I1), s	3.0	12.9				3.8	9.4
Green Ext Time (p_c), s	0.0	4.6				2.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	18.0
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	1351	80	113	288	104	42	151	304	192	118	88
Future Volume (veh/h)	150	1351	80	113	288	104	42	151	304	192	118	88
Initial Q (Qb), veh	5	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	969	1841	1633	1633	1633	1752	1752	1752	1767	1767	1767
Adj Flow Rate, veh/h	158	1422	84	119	303	109	44	159	0	202	124	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	18	18	18	10	10	10	9	9	9
Cap, veh/h	197	1500	89	138	1850	620	56	252		225	592	
Arrive On Green	0.10	0.59	0.59	0.09	0.57	0.57	0.03	0.08	0.00	0.13	0.18	0.00
Sat Flow, veh/h	1753	2549	151	1555	3270	1095	1668	3416	0	1682	3445	0
Grp Volume(v), veh/h	158	984	522	119	273	139	44	159	0	202	124	0
Grp Sat Flow(s),veh/h/ln	1753	882	936	1555	1486	1393	1668	1664	0	1682	1678	0
Q Serve(g_s), s	13.3	77.9	77.9	11.3	6.5	7.0	3.9	7.0	0.0	17.7	4.7	0.0
Cycle Q Clear(g_c), s	13.3	77.9	77.9	11.3	6.5	7.0	3.9	7.0	0.0	17.7	4.7	0.0
Prop In Lane	1.00		0.16	1.00		0.79	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	197	1037	551	138	1682	788	56	252		225	592	
V/C Ratio(X)	0.80	0.95	0.95	0.86	0.16	0.18	0.78	0.63		0.90	0.21	
Avail Cap(c_a), veh/h	269	1037	551	164	1709	801	211	732		426	1150	
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)	0.86	0.86	0.86	0.95	0.95	0.95	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	65.8	28.8	28.8	67.5	15.6	15.7	71.9	67.3	0.0	63.9	52.8	0.0
Incr Delay (d2), s/veh	7.2	16.2	24.9	27.1	0.2	0.5	8.6	1.0	0.0	5.0	0.1	0.0
Initial Q Delay(d3),s/veh	23.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	18.2	20.7	5.6	2.3	2.4	1.8	3.0	0.0	7.9	2.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.5	44.9	53.7	94.6	15.8	16.2	80.6	68.2	0.0	68.9	52.9	0.0
LnGrp LOS	F	D	D	F	B	B	F	E		E	D	
Approach Vol, veh/h		1664			531			203	A		326	A
Approach Delay, s/veh		52.5			33.6			70.9			62.8	
Approach LOS		D			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.5	92.4	9.0	31.0	19.5	90.4	24.1	16.0
Change Period (Y+Rc), s	* 4.2	* 4.2	4.0	4.6	4.0	* 4.2	4.0	* 4.6
Max Green Setting (Gmax), s	* 16	* 47	19.0	51.4	23.0	* 40	38.0	* 33
Max Q Clear Time (g_c+I1), s	13.3	79.9	5.9	6.7	15.3	9.0	19.7	9.0
Green Ext Time (p_c), s	0.0	0.0	0.0	0.5	0.2	1.8	0.4	0.6

Intersection Summary	
HCM 6th Ctrl Delay	51.4
HCM 6th LOS	D

Notes

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

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

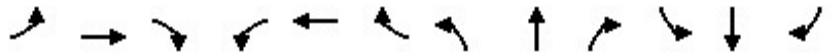
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	316	371	37	121	30	334	456	349	22	116	187
Future Volume (veh/h)	101	316	371	37	121	30	334	456	349	22	116	187
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		1.00	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1574	1574	1574	1811	1811	1811	1663	1663	1663
Adj Flow Rate, veh/h	109	384	370	40	130	32	359	490	0	24	125	201
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	12	12	12	22	22	22	6	6	6	16	16	16
Cap, veh/h	133	407	338	58	235	58	1373	1412		268	282	228
Arrive On Green	0.08	0.24	0.24	0.04	0.19	0.19	0.41	0.41	0.00	0.17	0.17	0.17
Sat Flow, veh/h	1640	1722	1430	1499	1212	298	3346	3532	0	1584	1663	1348
Grp Volume(v), veh/h	109	384	370	40	0	162	359	490	0	24	125	201
Grp Sat Flow(s),veh/h/ln	1640	1722	1430	1499	0	1511	1673	1721	0	1584	1663	1348
Q Serve(g_s), s	7.2	24.1	26.0	2.9	0.0	10.7	7.8	10.8	0.0	1.4	7.4	16.0
Cycle Q Clear(g_c), s	7.2	24.1	26.0	2.9	0.0	10.7	7.8	10.8	0.0	1.4	7.4	16.0
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	133	407	338	58	0	293	1373	1412		268	282	228
V/C Ratio(X)	0.82	0.94	1.09	0.69	0.00	0.55	0.26	0.35		0.09	0.44	0.88
Avail Cap(c_a), veh/h	179	407	338	136	0	330	1373	1412		346	363	294
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)	0.89	0.89	0.89	1.00	0.00	1.00	0.80	0.80	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.8	41.3	42.0	52.2	0.0	40.0	21.4	22.3	0.0	38.5	41.0	44.6
Incr Delay (d2), s/veh	13.3	28.0	74.2	5.5	0.0	0.6	0.4	0.5	0.0	0.1	0.4	18.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	13.3	16.0	1.2	0.0	4.0	3.1	4.4	0.0	0.6	3.1	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.0	69.3	116.2	57.7	0.0	40.6	21.8	22.8	0.0	38.6	41.4	62.7
LnGrp LOS	E	E	F	E	A	D	C	C		D	D	E
Approach Vol, veh/h		863			202			849	A		350	
Approach Delay, s/veh		88.6			44.0			22.4			53.5	
Approach LOS		F			D			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.2	30.0		49.1	12.9	25.3		22.6
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	10.0	26.0		34.0	12.0	24.0		24.0
Max Q Clear Time (g_c+I1), s	4.9	28.0		12.8	9.2	12.7		18.0
Green Ext Time (p_c), s	0.0	0.0		3.0	0.0	0.4		0.6

Intersection Summary	
HCM 6th Ctrl Delay	54.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	182	147	307	167	168	162	39	404	202	644	98
Future Volume (veh/h)	122	182	147	307	167	168	162	39	404	202	644	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1441	1441	1441	1618	1618	1618	1796	1796	1796	1811	1811	1811
Adj Flow Rate, veh/h	107	222	0	323	176	0	171	41	0	213	678	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	31	31	31	19	19	19	7	7	7	6	6	6
Cap, veh/h	150	314		452	237		200	1105		447	1623	
Arrive On Green	0.11	0.11	0.00	0.05	0.05	0.00	0.12	0.32	0.00	0.26	0.47	0.00
Sat Flow, veh/h	1372	2881	1221	3083	1618	1372	1711	3503	0	1725	3441	1535
Grp Volume(v), veh/h	107	222	0	323	176	0	171	41	0	213	678	0
Grp Sat Flow(s),veh/h/ln	1372	1441	1221	1541	1618	1372	1711	1706	0	1725	1721	1535
Q Serve(g_s), s	8.3	8.2	0.0	11.4	11.8	0.0	10.8	0.9	0.0	11.5	14.3	0.0
Cycle Q Clear(g_c), s	8.3	8.2	0.0	11.4	11.8	0.0	10.8	0.9	0.0	11.5	14.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	150	314		452	237		200	1105		447	1623	
V/C Ratio(X)	0.71	0.71		0.71	0.74		0.85	0.04		0.48	0.42	
Avail Cap(c_a), veh/h	287	602		715	375		295	1105		447	1623	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.92	0.92	0.00	1.00	1.00	0.00	0.94	0.94	0.00
Uniform Delay (d), s/veh	47.3	47.3	0.0	50.1	50.3	0.0	47.6	25.4	0.0	34.4	19.1	0.0
Incr Delay (d2), s/veh	2.4	1.1	0.0	2.0	4.2	0.0	10.2	0.0	0.0	0.3	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	3.0	0.0	4.8	5.4	0.0	5.1	0.4	0.0	4.8	5.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.7	48.4	0.0	52.0	54.5	0.0	57.8	25.5	0.0	34.7	19.9	0.0
LnGrp LOS	D	D		D	D		E	C		C	B	
Approach Vol, veh/h		329	A		499	A		212	A		891	A
Approach Delay, s/veh		48.8			52.9			51.6			23.4	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.9	56.5		16.0	33.1	40.2		20.6
Change Period (Y+Rc), s	4.0	4.6		4.0	4.6	* 4.6		4.5
Max Green Setting (Gmax), s	12.9	25.4		23.0	26.0	* 18		25.5
Max Q Clear Time (g_c+I1), s	12.8	16.3		10.3	13.5	2.9		13.8
Green Ext Time (p_c), s	0.2	3.3		1.0	0.3	0.1		2.1

Intersection Summary	
HCM 6th Ctrl Delay	38.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

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

User approved changes to right turn type.

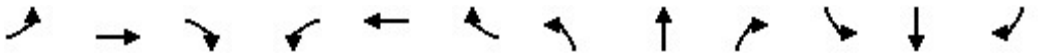
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	616	34	58	2	0	0	0	147	5	0	1
Future Vol, veh/h	0	616	34	58	2	0	0	0	147	5	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	6	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	670	37	63	2	0	0	0	160	5	0	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2	0	0	707	0	0	818	817	354	463	835	2
Stage 1	-	-	-	-	-	-	689	689	-	128	128	-
Stage 2	-	-	-	-	-	-	129	128	-	335	707	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1620	-	-	889	-	0	281	310	643	495	303	1082
Stage 1	-	-	-	-	-	0	403	446	-	875	790	-
Stage 2	-	-	-	-	-	0	874	790	-	653	437	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1620	-	-	889	-	-	266	288	643	352	281	1082
Mov Cap-2 Maneuver	-	-	-	-	-	-	266	288	-	352	281	-
Stage 1	-	-	-	-	-	-	403	446	-	875	734	-
Stage 2	-	-	-	-	-	-	811	734	-	491	437	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	9	12.4	14.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	643	1620	-	-	889	-	397
HCM Lane V/C Ratio	0.248	-	-	-	0.071	-	0.016
HCM Control Delay (s)	12.4	0	-	-	9.4	-	14.2
HCM Lane LOS	B	A	-	-	A	-	B
HCM 95th %tile Q(veh)	1	0	-	-	0.2	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	76	243	254	2	73	455	0	0	318	70
Future Volume (vph)	0	0	76	243	254	2	73	455	0	0	318	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.2	4.2			4.0			4.9	
Lane Util. Factor			1.00	0.95	0.95			0.95			0.95	
Frpb, ped/bikes			1.00	1.00	1.00			1.00			0.99	
Flpb, ped/bikes			1.00	1.00	1.00			1.00			1.00	
Frt			0.86	1.00	1.00			1.00			0.97	
Flt Protected			1.00	0.95	1.00			0.99			1.00	
Satd. Flow (prot)			1596	1649	1726			3515			3393	
Flt Permitted			1.00	0.95	1.00			0.99			1.00	
Satd. Flow (perm)			1596	1649	1726			3515			3393	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	78	248	259	2	74	464	0	0	324	71
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	35	0
Lane Group Flow (vph)	0	0	78	223	285	0	0	538	0	0	360	0
Confl. Peds. (#/hr)												4
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	3%	4%	4%	4%	2%	2%	0%	0%	3%	3%
Turn Type			Over	Split	NA		Split	NA			NA	
Protected Phases			1	6	6		1	1			4	
Permitted Phases												
Actuated Green, G (s)			14.8	20.4	20.4			14.8			11.7	
Effective Green, g (s)			14.8	20.4	20.4			14.8			11.7	
Actuated g/C Ratio			0.25	0.34	0.34			0.25			0.19	
Clearance Time (s)			4.0	4.2	4.2			4.0			4.9	
Vehicle Extension (s)			4.0	3.5	3.5			4.0			3.0	
Lane Grp Cap (vph)			393	560	586			867			661	
v/s Ratio Prot			0.05	0.14	c0.17			c0.15			c0.11	
v/s Ratio Perm												
v/c Ratio			0.20	0.40	0.49			0.62			0.55	
Uniform Delay, d1			17.9	15.1	15.7			20.1			21.8	
Progression Factor			1.00	1.00	1.00			0.95			1.00	
Incremental Delay, d2			0.3	2.1	2.9			1.4			0.9	
Delay (s)			18.2	17.2	18.5			20.6			22.7	
Level of Service			B	B	B			C			C	
Approach Delay (s)		18.2			18.0			20.6			22.7	
Approach LOS		B			B			C			C	

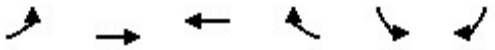
Intersection Summary			
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	50.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	166	60	77	638	264	232	67	539	146	96	438	103
Future Volume (vph)	166	60	77	638	264	232	67	539	146	96	438	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.98		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.97		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		2958		3090	1676	1425	1577	3154	1411	1408	2961	1270
Flt Permitted		0.97		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		2958		3090	1676	1425	1577	3154	1411	1408	2961	1270
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	173	62	80	665	275	242	70	561	152	100	456	107
RTOR Reduction (vph)	0	33	0	0	0	165	0	0	0	0	0	85
Lane Group Flow (vph)	0	283	0	665	275	77	70	561	152	90	466	22
Confl. Peds. (#/hr)			60									17
Confl. Bikes (#/hr)									2			2
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Split	NA		Split	NA	Perm	Split	NA	custom	Split	NA	Perm
Protected Phases	8	8!		7	7		6	6	6 7 8!	2	2	
Permitted Phases						7						2
Actuated Green, G (s)		16.7		38.0	38.0	38.0	24.9	24.9	87.6	24.4	24.4	24.4
Effective Green, g (s)		16.7		38.0	38.0	38.0	24.9	24.9	87.6	24.4	24.4	24.4
Actuated g/C Ratio		0.14		0.32	0.32	0.32	0.21	0.21	0.73	0.20	0.20	0.20
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		2.5		3.0	3.0	3.0	2.5	2.5		2.0	2.0	2.0
Lane Grp Cap (vph)		411		978	530	451	327	654	1030	286	602	258
v/s Ratio Prot		c0.10		c0.22	0.16		0.04	c0.18	0.11	0.06	c0.16	
v/s Ratio Perm						0.05						0.02
v/c Ratio		0.69		0.68	0.52	0.17	0.21	0.86	0.15	0.31	0.77	0.08
Uniform Delay, d1		49.2		35.7	33.5	29.6	39.4	45.8	4.9	40.7	45.2	38.7
Progression Factor		1.02		1.00	1.00	1.00	1.23	1.23	0.77	1.06	1.06	1.42
Incremental Delay, d2		4.3		1.9	0.9	0.2	0.2	9.8	0.0	2.7	9.0	0.6
Delay (s)		54.2		37.6	34.4	29.8	48.9	66.3	3.8	45.9	57.1	55.7
Level of Service		D		D	C	C	D	E	A	D	E	E
Approach Delay (s)		54.2			35.3			52.6			55.3	
Approach LOS		D			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	46.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	52	250	1491	115	20	50
Future Volume (vph)	52	250	1491	115	20	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1656	4759	2050		1703	1524
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1656	4759	4974		1703	1524
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	54	260	1553	120	21	52
RTOR Reduction (vph)	0	0	3	0	0	50
Lane Group Flow (vph)	54	260	1670	0	21	2
Confl. Peds. (#/hr)				2		
Heavy Vehicles (%)	9%	9%	3%	3%	6%	6%
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	5	2	6		3	
Permitted Phases						3
Actuated Green, G (s)	4.8	87.2	78.4		4.8	4.8
Effective Green, g (s)	4.8	87.2	78.4		4.8	4.8
Actuated g/C Ratio	0.05	0.87	0.78		0.05	0.05
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	79	4149	1607		81	73
v/s Ratio Prot	c0.03	0.05	c0.81		c0.01	
v/s Ratio Perm						0.00
v/c Ratio	0.68	0.06	1.04		0.26	0.03
Uniform Delay, d1	46.9	0.9	10.8		45.9	45.4
Progression Factor	1.00	1.00	1.99		1.00	1.00
Incremental Delay, d2	17.7	0.0	32.7		0.6	0.1
Delay (s)	64.5	0.9	54.2		46.5	45.5
Level of Service	E	A	D		D	D
Approach Delay (s)		11.8	54.2		45.8	
Approach LOS		B	D		D	

Intersection Summary			
HCM 2000 Control Delay	47.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	51.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	23	50	358	0	0
Future Volume (Veh/h)	0	23	50	358	0	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	0	24	53	381	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	53	53			434	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	53	53			434	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	955	1014			1126	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1
Volume Total	24	180	254	0
Volume Left	0	0	0	0
Volume Right	24	127	254	0
cSH	1014	1700	1700	1700
Volume to Capacity	0.02	0.11	0.15	0.00
Queue Length 95th (ft)	2	0	0	0
Control Delay (s)	8.6	0.0	0.0	0.0
Lane LOS	A			
Approach Delay (s)	8.6	0.0		0.0
Approach LOS	A			

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	20.0%	ICU Level of Service	A
Analysis Period (min)	15		

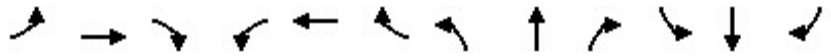
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	244	26	9	1375	231	219
Future Volume (veh/h)	244	26	9	1375	231	219
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		0.96	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1781	1781	1870	1870	1796	1796
Adj Flow Rate, veh/h	257	27	9	1447	243	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	8	8	2	2	7	7
Cap, veh/h	3138	320	24	3863	280	
Arrive On Green	1.00	1.00	0.01	0.76	0.16	0.00
Sat Flow, veh/h	4623	456	1781	5274	1711	2679
Grp Volume(v), veh/h	185	99	9	1447	243	0
Grp Sat Flow(s),veh/h/ln	1621	1676	1781	1702	1711	1340
Q Serve(g_s), s	0.0	0.0	0.5	9.6	13.8	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.5	9.6	13.8	0.0
Prop In Lane		0.27	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2280	1179	24	3863	280	
V/C Ratio(X)	0.08	0.08	0.38	0.37	0.87	
Avail Cap(c_a), veh/h	2280	1179	214	3863	650	
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.87	0.87	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	48.9	4.1	40.8	0.0
Incr Delay (d2), s/veh	0.1	0.1	3.2	0.2	3.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.2	2.7	6.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	0.1	0.1	52.2	4.4	44.0	0.0
LnGrp LOS	A	A	D	A	D	
Approach Vol, veh/h	284			1456	243	A
Approach Delay, s/veh	0.1			4.7	44.0	
Approach LOS	A			A	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	5.3	74.3				79.6	20.4
Change Period (Y+Rc), s	4.0	4.0				4.0	4.0
Max Green Setting (Gmax), s	12.0	38.0				54.0	38.0
Max Q Clear Time (g_c+I1), s	2.5	2.0				11.6	15.8
Green Ext Time (p_c), s	0.0	1.2				9.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	8.8
HCM 6th LOS	A

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	281	91	352	1128	177	75	122	65	53	289	181
Future Volume (veh/h)	91	281	91	352	1128	177	75	122	65	53	289	181
Initial Q (Qb), veh	0	0	0	0	34	0	0	0	0	0	32	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.96	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1870	1870	1870	1767	1767	1767	1856	1856	1856
Adj Flow Rate, veh/h	94	290	94	363	1163	182	77	126	0	55	298	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	12	12	12	2	2	2	9	9	9	3	3	3
Cap, veh/h	113	1686	514	384	2803	408	96	527		71	526	
Arrive On Green	0.07	0.49	0.49	0.22	0.64	0.64	0.06	0.14	0.00	0.04	0.12	0.00
Sat Flow, veh/h	1640	3560	1086	1781	4426	692	1682	3445	0	1767	3618	0
Grp Volume(v), veh/h	94	253	131	363	894	451	77	126	0	55	298	0
Grp Sat Flow(s),veh/h/ln	1640	1567	1512	1781	1702	1714	1682	1678	0	1767	1763	0
Q Serve(g_s), s	8.5	6.7	7.2	30.1	19.1	19.1	6.8	5.1	0.0	4.6	12.2	0.0
Cycle Q Clear(g_c), s	8.5	6.7	7.2	30.1	19.1	19.1	6.8	5.1	0.0	4.6	12.2	0.0
Prop In Lane	1.00		0.72	1.00		0.40	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	113	1485	716	384	2128	1081	96	527		71	526	
V/C Ratio(X)	0.83	0.17	0.18	0.94	0.42	0.42	0.81	0.24		0.78	0.57	
Avail Cap(c_a), veh/h	186	1549	747	413	2187	1101	258	895		283	950	
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	0.99	0.99	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	69.0	22.8	23.0	57.9	15.9	15.5	69.9	55.6	0.0	71.3	61.8	0.0
Incr Delay (d2), s/veh	6.4	0.2	0.6	28.7	0.6	1.2	5.9	0.1	0.0	6.6	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	1.4	1.4	0.0	0.0	0.0	0.0	61.6	0.0
%ile BackOfQ(50%),veh/ln	3.8	2.7	2.8	16.6	10.5	10.6	3.1	2.1	0.0	2.2	12.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.4	23.1	23.5	86.6	17.9	18.1	75.8	55.7	0.0	78.0	123.7	0.0
LnGrp LOS	E	C	C	F	B	B	E	E		E	F	
Approach Vol, veh/h		478			1708			203	A		353	A
Approach Delay, s/veh		33.5			32.6			63.3			116.6	
Approach LOS		C			C			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	36.6	78.3	12.5	22.6	14.4	100.6	10.0	25.1
Change Period (Y+Rc), s	* 4.2	* 4.2	4.0	4.6	4.0	* 4.2	4.0	* 4.6
Max Green Setting (Gmax), s	* 35	* 35	23.0	40.4	17.0	* 53	24.0	* 40
Max Q Clear Time (g_c+I1), s	32.1	9.2	8.8	14.2	10.5	21.1	6.6	7.1
Green Ext Time (p_c), s	0.3	1.6	0.1	1.2	0.1	7.1	0.1	0.5

Intersection Summary	
HCM 6th Ctrl Delay	45.8
HCM 6th LOS	D

Notes

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

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	100	391	58	355	14	486	192	61	5	189	521
Future Volume (veh/h)	54	100	391	58	355	14	486	192	61	5	189	521
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	1.00		0.98	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1811	1811	1811	1767	1767	1767	1841	1841	1841
Adj Flow Rate, veh/h	57	338	261	62	378	15	517	204	0	5	201	554
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	8	8	8	6	6	6	9	9	9	4	4	4
Cap, veh/h	72	377	312	117	409	16	775	797		614	644	529
Arrive On Green	0.01	0.07	0.07	0.07	0.24	0.24	0.24	0.24	0.00	0.35	0.35	0.35
Sat Flow, veh/h	1697	1781	1477	1725	1728	69	3264	3445	0	1753	1841	1511
Grp Volume(v), veh/h	57	338	261	62	0	393	517	204	0	5	201	554
Grp Sat Flow(s),veh/h/ln	1697	1781	1477	1725	0	1797	1632	1678	0	1753	1841	1511
Q Serve(g_s), s	4.0	22.6	20.9	4.2	0.0	25.6	17.2	5.9	0.0	0.2	9.6	42.0
Cycle Q Clear(g_c), s	4.0	22.6	20.9	4.2	0.0	25.6	17.2	5.9	0.0	0.2	9.6	42.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	72	377	312	117	0	425	775	797		614	644	529
V/C Ratio(X)	0.79	0.90	0.84	0.53	0.00	0.92	0.67	0.26		0.01	0.31	1.05
Avail Cap(c_a), veh/h	99	416	345	172	0	494	775	797		614	644	529
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	1.00	0.00	1.00	0.80	0.80	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.6	54.5	53.8	54.1	0.0	44.8	41.5	37.2	0.0	25.4	28.5	39.0
Incr Delay (d2), s/veh	15.0	17.2	12.0	1.4	0.0	20.3	3.6	0.6	0.0	0.0	1.3	52.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	12.6	9.4	1.9	0.0	13.7	7.2	2.5	0.0	0.1	4.5	22.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.6	71.7	65.7	55.5	0.0	65.0	45.1	37.8	0.0	25.4	29.7	91.2
LnGrp LOS	E	E	E	E	A	E	D	D		C	C	F
Approach Vol, veh/h		656			455			721	A		760	
Approach Delay, s/veh		69.5			63.7			43.0			74.5	
Approach LOS		E			E			D			E	

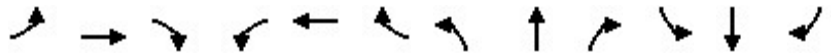
Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.1	29.4		32.5	9.1	32.4		46.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	12.0	28.0		22.0	7.0	33.0		42.0
Max Q Clear Time (g_c+I1), s	6.2	24.6		19.2	6.0	27.6		44.0
Green Ext Time (p_c), s	0.0	0.8		0.8	0.0	0.7		0.0

Intersection Summary	
HCM 6th Ctrl Delay	62.6
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	169	200	760	224	378	101	15	269	158	827	130
Future Volume (veh/h)	169	169	200	760	224	378	101	15	269	158	827	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1678	1678	1678	1856	1856	1856
Adj Flow Rate, veh/h	199	148	0	800	236	0	106	16	0	166	871	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	6	6	6	15	15	15	3	3	3
Cap, veh/h	367	193		956	502		128	754		410	1389	
Arrive On Green	0.11	0.11	0.00	0.09	0.09	0.00	0.08	0.24	0.00	0.46	0.79	0.00
Sat Flow, veh/h	3450	1811	1535	3450	1811	1535	1598	3272	0	1767	3526	1572
Grp Volume(v), veh/h	199	148	0	800	236	0	106	16	0	166	871	0
Grp Sat Flow(s),veh/h/ln	1725	1811	1535	1725	1811	1535	1598	1594	0	1767	1763	1572
Q Serve(g_s), s	6.6	9.5	0.0	27.4	14.8	0.0	7.8	0.5	0.0	7.4	12.4	0.0
Cycle Q Clear(g_c), s	6.6	9.5	0.0	27.4	14.8	0.0	7.8	0.5	0.0	7.4	12.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	367	193		956	502		128	754		410	1389	
V/C Ratio(X)	0.54	0.77		0.84	0.47		0.83	0.02		0.40	0.63	
Avail Cap(c_a), veh/h	489	257		1107	581		160	754		410	1389	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	0.50	0.50	0.00	1.00	1.00	0.00	0.87	0.87	0.00
Uniform Delay (d), s/veh	50.8	52.2	0.0	51.8	46.2	0.0	54.4	35.1	0.0	26.7	9.0	0.0
Incr Delay (d2), s/veh	0.5	6.4	0.0	2.6	0.3	0.0	20.6	0.0	0.0	0.2	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	4.7	0.0	13.1	7.3	0.0	3.9	0.2	0.0	2.8	3.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	58.6	0.0	54.5	46.5	0.0	75.0	35.1	0.0	26.9	10.9	0.0
LnGrp LOS	D	E		D	D		E	D		C	B	
Approach Vol, veh/h		347	A		1036	A		122	A		1037	A
Approach Delay, s/veh		54.4			52.7			69.8			13.5	
Approach LOS		D			D			E			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.6	51.9		16.8	32.5	33.0		37.8
Change Period (Y+Rc), s	4.0	4.6		4.0	4.6	* 4.6		4.5
Max Green Setting (Gmax), s	12.6	35.4		17.0	21.0	* 26		38.5
Max Q Clear Time (g_c+I1), s	9.8	14.4		11.5	9.4	2.5		29.4
Green Ext Time (p_c), s	0.0	6.9		0.5	0.2	0.0		3.9

Intersection Summary	
HCM 6th Ctrl Delay	37.7
HCM 6th LOS	D

Notes

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

User approved volume balancing among the lanes for turning movement.

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

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	355	3	17	18	0	5	0	95	0	0	0
Future Vol, veh/h	0	355	3	17	18	0	5	0	95	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	125	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	386	3	18	20	0	5	0	103	0	0	0

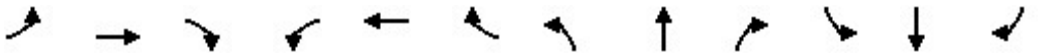
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	20	0	0	389	0	0	444	444	195	249	445	20
Stage 1	-	-	-	-	-	-	388	388	-	56	56	-
Stage 2	-	-	-	-	-	-	56	56	-	193	389	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	1595	-	-	1168	-	0	511	508	814	694	507	1057
Stage 1	-	-	-	-	-	0	608	608	-	956	848	-
Stage 2	-	-	-	-	-	0	956	848	-	791	608	-
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1595	-	-	1168	-	-	505	500	814	599	499	1057
Mov Cap-2 Maneuver	-	-	-	-	-	-	505	500	-	599	499	-
Stage 1	-	-	-	-	-	-	608	608	-	956	835	-
Stage 2	-	-	-	-	-	-	941	835	-	691	608	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	3.9	10.3	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	790	1595	-	-	1168	-	-
HCM Lane V/C Ratio	0.138	-	-	-	0.016	-	-
HCM Control Delay (s)	10.3	0	-	-	8.1	-	0
HCM Lane LOS	B	A	-	-	A	-	A
HCM 95th %tile Q(veh)	0.5	0	-	-	0	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	188	496	403	0	22	334	0	0	463	65
Future Volume (vph)	0	0	188	496	403	0	22	334	0	0	463	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.2	4.2			4.0			4.9	
Lane Util. Factor			1.00	0.95	0.95			0.95			0.95	
Frpb, ped/bikes			1.00	1.00	1.00			1.00			1.00	
Flpb, ped/bikes			1.00	1.00	1.00			1.00			1.00	
Frt			0.86	1.00	1.00			1.00			0.98	
Flt Protected			1.00	0.95	0.99			1.00			1.00	
Satd. Flow (prot)			1596	1665	1742			3377			3330	
Flt Permitted			1.00	0.95	0.99			1.00			1.00	
Satd. Flow (perm)			1596	1665	1742			3377			3330	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	202	533	433	0	24	359	0	0	498	70
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	0	202	474	492	0	0	383	0	0	557	0
Confl. Peds. (#/hr)												3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	3%	3%	3%	0%	0%	7%	0%	0%	6%	6%
Turn Type			Over	Split	NA		Split	NA			NA	
Protected Phases			1	6	6		1	1			4	
Permitted Phases												
Actuated Green, G (s)			18.4	50.8	50.8			18.4			22.7	
Effective Green, g (s)			18.4	50.8	50.8			18.4			22.7	
Actuated g/C Ratio			0.18	0.48	0.48			0.18			0.22	
Clearance Time (s)			4.0	4.2	4.2			4.0			4.9	
Vehicle Extension (s)			4.0	3.5	3.5			4.0			3.0	
Lane Grp Cap (vph)			279	805	842			591			719	
v/s Ratio Prot			c0.13	c0.28	0.28			0.11			c0.17	
v/s Ratio Perm												
v/c Ratio			0.72	0.59	0.58			0.65			0.77	
Uniform Delay, d1			40.9	19.6	19.5			40.3			38.7	
Progression Factor			1.00	1.00	1.00			1.23			1.00	
Incremental Delay, d2			9.6	3.1	3.0			1.2			5.2	
Delay (s)			50.5	22.7	22.5			50.6			44.0	
Level of Service			D	C	C			D			D	
Approach Delay (s)		50.5			22.6			50.6			44.0	
Approach LOS		D			C			D			D	

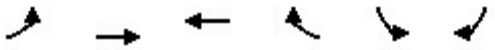
Intersection Summary			
HCM 2000 Control Delay	36.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	462	214	197	251	152	47	425	657	479	599	69
Future Volume (vph)	214	462	214	197	251	152	47	425	657	479	599	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.98		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (prot)		2979		2717	1474	1253	1490	2981	1333	1421	2966	1317
Flt Permitted		0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (perm)		2979		2717	1474	1253	1490	2981	1333	1421	2966	1317
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	225	486	225	207	264	160	49	447	692	504	631	73
RTOR Reduction (vph)	0	29	0	0	0	144	0	0	0	0	0	51
Lane Group Flow (vph)	0	907	0	207	264	16	49	447	692	368	767	22
Confl. Peds. (#/hr)			67									12
Confl. Bikes (#/hr)			11						7			1
Heavy Vehicles (%)	2%	2%	2%	16%	16%	16%	9%	9%	9%	4%	4%	4%
Turn Type	Split	NA		Split	NA	Perm	Split	NA	custom	Split	NA	Perm
Protected Phases	8	8!		7	7		6	6	6 7 8!	2	2	
Permitted Phases						7						2
Actuated Green, G (s)		35.5		10.5	10.5	10.5	12.0	12.0	66.0	31.0	31.0	31.0
Effective Green, g (s)		35.5		10.5	10.5	10.5	12.0	12.0	66.0	31.0	31.0	31.0
Actuated g/C Ratio		0.34		0.10	0.10	0.10	0.11	0.11	0.63	0.30	0.30	0.30
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		2.5		3.0	3.0	3.0	2.5	2.5		2.0	2.0	2.0
Lane Grp Cap (vph)		1007		271	147	125	170	340	837	419	875	388
v/s Ratio Prot		0.30		0.08	c0.18		0.03	c0.15	c0.52	c0.26	0.26	
v/s Ratio Perm						0.01						0.02
v/c Ratio		0.90		0.76	1.80	0.13	0.29	1.31	0.83	0.88	0.88	0.06
Uniform Delay, d1		33.1		46.0	47.2	43.1	42.6	46.5	15.1	35.2	35.2	26.5
Progression Factor		1.00		1.00	1.00	1.00	1.42	1.41	0.58	0.97	0.96	1.17
Incremental Delay, d2		10.9		12.0	383.9	0.5	0.1	143.6	0.6	18.7	10.0	0.2
Delay (s)		44.0		58.1	431.2	43.5	60.3	209.3	9.4	52.8	43.9	31.2
Level of Service		D		E	F	D	E	F	A	D	D	C
Approach Delay (s)		44.0			210.5			86.7			45.9	
Approach LOS		D			F			F			D	

Intersection Summary			
HCM 2000 Control Delay	83.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	107.8%	ICU Level of Service	G
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	183	1415	973	156	200	96
Future Volume (vph)	183	1415	973	156	200	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91	0.91		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	5036	4417		1752	1568
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1752	5036	4417		1752	1568
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	197	1522	1046	168	215	103
RTOR Reduction (vph)	0	0	18	0	0	48
Lane Group Flow (vph)	197	1522	1196	0	215	55
Heavy Vehicles (%)	3%	3%	15%	15%	3%	3%
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	5	2	6		3	
Permitted Phases						3
Actuated Green, G (s)	17.1	71.9	50.8		20.1	20.1
Effective Green, g (s)	17.1	71.9	50.8		20.1	20.1
Actuated g/C Ratio	0.17	0.72	0.51		0.20	0.20
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	299	3620	2243		352	315
v/s Ratio Prot	c0.11	0.30	c0.27		c0.12	
v/s Ratio Perm						0.04
v/c Ratio	0.66	0.42	0.53		0.61	0.17
Uniform Delay, d1	38.7	5.7	16.6		36.4	33.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.0	0.4	0.9		2.2	0.1
Delay (s)	42.7	6.0	17.5		38.6	33.2
Level of Service	D	A	B		D	C
Approach Delay (s)		10.2	17.5		36.8	
Approach LOS		B	B		D	

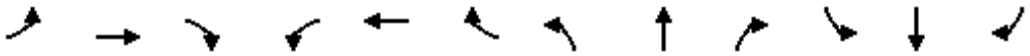
Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	106	845	1392	0	0
Future Volume (vph)	0	106	845	1392	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	0.88		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1550	1792	2682		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1550	1792	2682		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	115	918	1513	0	0
RTOR Reduction (vph)	0	109	0	678	0	0
Lane Group Flow (vph)	0	6	918	835	0	0
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%
Turn Type		Perm	NA	Prot	Prot	
Protected Phases			4	4	1	
Permitted Phases		1				
Actuated Green, G (s)		3.6	41.4	41.4		
Effective Green, g (s)		3.6	41.4	41.4		
Actuated g/C Ratio		0.05	0.55	0.55		
Clearance Time (s)		4.0	4.0	4.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		74	989	1480		
v/s Ratio Prot			c0.51	0.31		
v/s Ratio Perm		c0.00				
v/c Ratio		0.07	0.93	0.56		
Uniform Delay, d1		34.1	15.4	10.9		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		0.4	15.8	1.6		
Delay (s)		34.5	31.2	12.5		
Level of Service		C	C	B		
Approach Delay (s)	34.5		19.6			0.0
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
4: E. Grand Ave. & Grand Ave.

09/26/2022



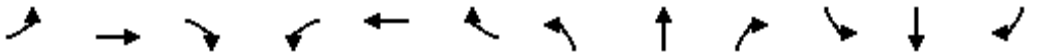
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1448	167	219	913	0	216	0	1038	0	0	0
Future Volume (veh/h)	0	1448	167	219	913	0	216	0	1038	0	0	0
Initial Q (Qb), veh	0	45	0	0	0	0	10	0	51	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1841	1841	1707	1707	0	1811	0	1811	1870	1870	1870
Adj Flow Rate, veh/h	0	1574	182	238	992	0	235	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	4	13	13	0	6	0	6	2	2	2
Cap, veh/h	0	1960	173	572	3760	0	241	0		0	1	0
Arrive On Green	0.00	0.27	0.27	0.13	0.27	0.00	0.05	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	4691	522	1626	4815	0	1725	235		0	-74814	0
Grp Volume(v), veh/h	0	1164	592	238	992	0	235	258.8		0	0	0
Grp Sat Flow(s),veh/h/ln	0	1675	1697	1626	1554	0	1725	F		0	1870	0
Q Serve(g_s), s	0.0	49.8	50.0	20.2	25.2	0.0	20.4			0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	49.8	50.0	20.2	25.2	0.0	20.4			0.0	0.0	0.0
Prop In Lane	0.00		0.31	1.00		0.00	1.00			0.00		0.00
Lane Grp Cap(c), veh/h	0	1399	715	572	3760	0	241			0	1	0
V/C Ratio(X)	0.00	0.83	0.83	0.42	0.26	0.00	0.97			0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	1519	770	619	3760	0	241			0	436	0
HCM Platoon Ratio	1.00	0.67	0.67	0.33	0.33	1.00	0.33			1.00	1.00	1.00
Upstream Filter(I)	0.00	0.90	0.90	0.77	0.77	0.00	1.00			0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	51.5	51.5	52.0	19.9	0.0	71.5			0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	5.4	9.7	1.7	0.1	0.0	50.2			0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	19.7	18.4	0.0	0.0	0.0	137.0			0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	29.2	30.2	9.2	10.6	0.0	22.4			0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	76.6	79.6	53.7	20.0	0.0	258.8			0.0	0.0	0.0
LnGrp LOS	A	E	E	D	C	A	F			A	A	A
Approach Vol, veh/h		1756			1230						0	
Approach Delay, s/veh		77.6			26.5						0.0	
Approach LOS		E			C							

Timer - Assigned Phs	1	2	3	4		6
Phs Duration (G+Y+Rc), s	61.1	63.9	25.0	0.0		125.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	10.0	68.0	21.0	35.0		82.0
Max Q Clear Time (g_c+I1), s	22.2	52.0	22.4	0.0		27.2
Green Ext Time (p_c), s	0.0	8.0	0.0	0.0		5.4

Intersection Summary	
HCM 6th Ctrl Delay	71.3
HCM 6th LOS	E

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	379	2023	84	145	786	154	117	206	448	338	219	229
Future Volume (veh/h)	379	2023	84	145	786	154	117	206	448	338	219	229
Initial Q (Qb), veh	5	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	969	1841	1633	1633	1633	1752	1752	1752	1767	1767	1767
Adj Flow Rate, veh/h	399	2129	88	153	827	162	123	217	0	356	231	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	18	18	18	10	10	10	9	9	9
Cap, veh/h	304	1528	875	192	1746	339	78	243		179	667	
Arrive On Green	0.17	0.58	0.58	0.06	0.47	0.47	0.05	0.14	0.00	0.11	0.20	0.00
Sat Flow, veh/h	1753	2645	1515	3018	3720	723	1668	1752	1485	1682	3357	1497
Grp Volume(v), veh/h	399	2129	88	153	659	330	123	217	0	356	231	0
Grp Sat Flow(s),veh/h/ln	1753	882	1515	1509	1486	1471	1668	1752	1485	1682	1678	1497
Q Serve(g_s), s	26.0	86.7	3.9	7.5	22.7	23.0	7.0	18.3	0.0	16.0	8.9	0.0
Cycle Q Clear(g_c), s	26.0	86.7	3.9	7.5	22.7	23.0	7.0	18.3	0.0	16.0	8.9	0.0
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	304	1528	875	192	1395	690	78	243		179	667	
V/C Ratio(X)	1.31	1.39	0.10	0.80	0.47	0.48	1.58	0.89		1.98	0.35	
Avail Cap(c_a), veh/h	304	1528	875	217	1395	690	78	269		179	703	
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)	0.44	0.44	0.44	0.76	0.76	0.76	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.0	31.7	14.2	69.3	27.1	27.2	71.5	63.5	0.0	67.0	51.7	0.0
Incr Delay (d2), s/veh	151.1	178.8	0.1	11.4	0.9	1.8	313.4	26.0	0.0	462.0	0.1	0.0
Initial Q Delay(d3),s/veh	59.2	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	29.3	43.1	1.4	3.2	8.3	8.5	9.8	9.9	0.0	29.9	3.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	272.3	210.4	14.3	80.7	28.0	29.0	384.9	89.5	0.0	529.0	51.8	0.0
LnGrp LOS	F	F	B	F	C	C	F	F		F	D	
Approach Vol, veh/h		2616			1142			340	A		587	A
Approach Delay, s/veh		213.3			35.4			196.4			341.2	
Approach LOS		F			D			F			F	

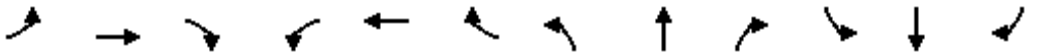
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	90.9	11.0	34.4	30.0	74.6	20.0	25.4
Change Period (Y+Rc), s	* 4.2	* 4.2	4.0	4.6	4.0	* 4.2	4.0	* 4.6
Max Green Setting (Gmax), s	* 11	* 84	7.0	31.4	26.0	* 69	16.0	* 23
Max Q Clear Time (g_c+I1), s	9.5	88.7	9.0	10.9	28.0	25.0	18.0	20.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	0.0	5.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	184.7
HCM 6th LOS	F

Notes

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

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	627	371	113	348	38	334	682	452	26	214	239
Future Volume (veh/h)	137	627	371	113	348	38	334	682	452	26	214	239
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	1.00		0.98	1.00		1.00	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1574	1574	1574	1811	1811	1811	1663	1663	1663
Adj Flow Rate, veh/h	147	674	399	122	374	41	359	733	0	28	230	257
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	12	12	12	22	22	22	6	6	6	16	16	16
Cap, veh/h	171	515	429	72	337	37	1167	1200		245	257	208
Arrive On Green	0.10	0.30	0.30	0.05	0.24	0.24	0.35	0.35	0.00	0.15	0.15	0.15
Sat Flow, veh/h	1640	1722	1432	1499	1390	152	3346	3532	0	1584	1663	1344
Grp Volume(v), veh/h	147	674	399	122	0	415	359	733	0	28	230	257
Grp Sat Flow(s),veh/h/ln	1640	1722	1432	1499	0	1542	1673	1721	0	1584	1663	1344
Q Serve(g_s), s	11.0	37.4	33.8	6.0	0.0	30.3	9.8	22.0	0.0	1.9	17.0	19.3
Cycle Q Clear(g_c), s	11.0	37.4	33.8	6.0	0.0	30.3	9.8	22.0	0.0	1.9	17.0	19.3
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	171	515	429	72	0	374	1167	1200		245	257	208
V/C Ratio(X)	0.86	1.31	0.93	1.70	0.00	1.11	0.31	0.61		0.11	0.90	1.24
Avail Cap(c_a), veh/h	239	515	429	72	0	374	1183	1217		245	257	208
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)	0.44	0.44	0.44	1.00	0.00	1.00	0.68	0.68	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.1	43.8	42.5	59.5	0.0	47.3	29.7	33.7	0.0	45.5	51.9	52.8
Incr Delay (d2), s/veh	7.3	144.9	14.8	365.3	0.0	79.3	0.5	1.6	0.0	0.1	29.8	141.4
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	4.9	36.5	13.6	9.6	0.0	19.8	4.0	9.3	0.0	0.8	9.2	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.4	188.7	57.3	424.8	0.0	126.6	30.2	35.3	0.0	45.6	81.7	194.2
LnGrp LOS	E	F	E	F	A	F	C	D		D	F	F
Approach Vol, veh/h		1220			537			1092	A		515	
Approach Delay, s/veh		130.5			194.3			33.6			135.9	
Approach LOS		F			F			C			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	42.0		48.2	17.7	34.9		24.2				
Change Period (Y+Rc), s	4.6	* 4.6		4.6	4.6	4.6		4.9				
Max Green Setting (Gmax), s	6.0	* 37		44.2	18.2	24.6		19.3				
Max Q Clear Time (g_c+I1), s	8.0	39.4		24.0	13.0	32.3		21.3				
Green Ext Time (p_c), s	0.0	0.0		4.2	0.1	0.0		0.0				

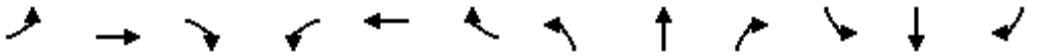
Intersection Summary			
HCM 6th Ctrl Delay		110.0	
HCM 6th LOS		F	

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	466	230	350	350	221	162	113	360	309	826	351
Future Volume (veh/h)	215	466	230	350	350	221	162	113	360	309	826	351
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1441	1441	1441	1618	1618	1618	1796	1796	1796	1811	1811	1811
Adj Flow Rate, veh/h	226	491	0	412	307	0	171	119	0	325	869	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	31	31	31	19	19	19	7	7	7	6	6	6
Cap, veh/h	253	532		599	314		201	364		575	1140	
Arrive On Green	0.18	0.18	0.00	0.19	0.19	0.00	0.12	0.11	0.00	0.11	0.11	0.00
Sat Flow, veh/h	1372	2881	1221	3083	1618	1372	1711	3503	0	1725	3441	1535
Grp Volume(v), veh/h	226	491	0	412	307	0	171	119	0	325	869	0
Grp Sat Flow(s),veh/h/ln	1372	1441	1221	1541	1618	1372	1711	1706	0	1725	1721	1535
Q Serve(g_s), s	16.9	17.6	0.0	13.1	19.8	0.0	10.3	3.4	0.0	18.8	25.8	0.0
Cycle Q Clear(g_c), s	16.9	17.6	0.0	13.1	19.8	0.0	10.3	3.4	0.0	18.8	25.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	253	532		599	314		201	364		575	1140	
V/C Ratio(X)	0.89	0.92		0.69	0.98		0.85	0.33		0.57	0.76	
Avail Cap(c_a), veh/h	253	532		599	314		261	738		575	1140	
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	1.00	0.00	0.60	0.60	0.00	1.00	1.00	0.00	0.87	0.87	0.00
Uniform Delay (d), s/veh	41.8	42.1	0.0	39.3	42.1	0.0	45.4	43.4	0.0	39.5	42.7	0.0
Incr Delay (d2), s/veh	29.2	21.4	0.0	2.0	33.2	0.0	15.4	0.2	0.0	0.7	4.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	7.8	0.0	5.1	10.8	0.0	5.2	1.4	0.0	8.8	12.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.0	63.4	0.0	41.3	75.2	0.0	60.8	43.6	0.0	40.2	47.0	0.0
LnGrp LOS	E	E		D	E		E	D		D	D	
Approach Vol, veh/h		717	A		719	A		290	A		1194	A
Approach Delay, s/veh		65.8			55.8			53.8			45.1	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.3	39.7		24.0	39.9	16.1		25.0				
Change Period (Y+Rc), s	4.0	4.9		4.6	4.9	4.9		4.6				
Max Green Setting (Gmax), s	16.0	31.1		19.4	23.5	22.7		20.4				
Max Q Clear Time (g_c+I1), s	12.3	27.8		19.6	20.8	5.4		21.8				
Green Ext Time (p_c), s	0.1	1.9		0.0	0.2	0.3		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		53.7
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1099	293	290	104	2	133
Future Volume (veh/h)	1099	293	290	104	2	133
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	1099	293	290	104	0	135
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	6	6	6	6	6	6
Cap, veh/h	1395	372	634	1364	333	593
Arrive On Green	0.36	0.36	0.37	0.75	0.00	0.19
Sat Flow, veh/h	4048	1036	1725	1811	1725	3070
Grp Volume(v), veh/h	932	460	290	104	0	135
Grp Sat Flow(s),veh/h/ln	1648	1625	1725	1811	1725	1535
Q Serve(g_s), s	37.9	37.9	19.2	2.3	0.0	5.6
Cycle Q Clear(g_c), s	37.9	37.9	19.2	2.3	0.0	5.6
Prop In Lane		0.64	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1183	583	634	1364	333	593
V/C Ratio(X)	0.79	0.79	0.46	0.08	0.00	0.23
Avail Cap(c_a), veh/h	1824	899	634	1364	333	593
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.65	0.65	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.0	43.0	36.1	4.8	0.0	51.0
Incr Delay (d2), s/veh	3.5	6.9	0.5	0.1	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.1	16.4	8.3	0.9	0.0	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	46.5	49.9	36.6	5.0	0.0	51.9
LnGrp LOS	D	D	D	A	A	D
Approach Vol, veh/h	1392			394	135	
Approach Delay, s/veh	47.6			28.2	51.9	
Approach LOS	D			C	D	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		33.0	59.1	57.9		117.0
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		29.0	26.0	83.0		113.0
Max Q Clear Time (g_c+I1), s		7.6	21.2	39.9		4.3
Green Ext Time (p_c), s		0.4	0.4	13.9		0.6

Intersection Summary	
HCM 6th Ctrl Delay	44.0
HCM 6th LOS	D

Notes

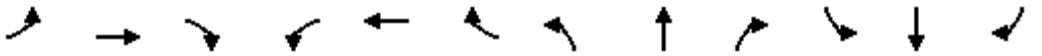
User approved volume balancing among the lanes for turning movement.

HCM Signalized Intersection Capacity Analysis
1: Airport Blvd. & Miller Ave./101 SB/Miller Ave. Off Ramp

09/26/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	178	435	416	2	97	497	0	0	585	112
Future Volume (vph)	0	0	178	435	416	2	97	497	0	0	585	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.2	4.2			4.0			4.9	
Lane Util. Factor			1.00	0.95	0.95			0.95			0.95	
Frpb, ped/bikes			1.00	1.00	1.00			1.00			1.00	
Flpb, ped/bikes			1.00	1.00	1.00			1.00			1.00	
Frt			0.86	1.00	1.00			1.00			0.98	
Flt Protected			1.00	0.95	1.00			0.99			1.00	
Satd. Flow (prot)			1596	1649	1726			3511			3405	
Flt Permitted			1.00	0.95	1.00			0.99			1.00	
Satd. Flow (perm)			1596	1649	1726			3511			3405	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	182	444	424	2	99	507	0	0	597	114
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	27	0
Lane Group Flow (vph)	0	0	182	400	470	0	0	606	0	0	684	0
Confl. Peds. (#/hr)												4
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	3%	4%	4%	4%	2%	2%	0%	0%	3%	3%
Turn Type			Over	Split	NA		Split	NA			NA	
Protected Phases			1	6	6		1	1			4	
Permitted Phases												
Actuated Green, G (s)			13.2	17.8	17.8			13.2			15.9	
Effective Green, g (s)			13.2	17.8	17.8			13.2			15.9	
Actuated g/C Ratio			0.22	0.30	0.30			0.22			0.27	
Clearance Time (s)			4.0	4.2	4.2			4.0			4.9	
Vehicle Extension (s)			4.0	3.5	3.5			4.0			3.0	
Lane Grp Cap (vph)			351	489	512			772			902	
v/s Ratio Prot			0.11	0.24	c0.27			c0.17			c0.20	
v/s Ratio Perm												
v/c Ratio			0.52	0.82	0.92			0.78			0.76	
Uniform Delay, d1			20.6	19.6	20.4			22.1			20.3	
Progression Factor			1.00	1.00	1.00			0.73			1.00	
Incremental Delay, d2			1.7	14.1	23.9			0.5			3.7	
Delay (s)			22.3	33.7	44.3			16.5			24.0	
Level of Service			C	C	D			B			C	
Approach Delay (s)		22.3			39.4			16.5			24.0	
Approach LOS		C			D			B			C	

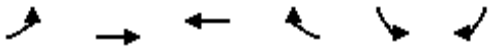
Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	70.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	342	223	874	601	322	177	753	279	216	879	103
Future Volume (vph)	200	342	223	874	601	322	177	753	279	216	879	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.98		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		2974		3090	1676	1425	1577	3154	1411	1408	2960	1271
Flt Permitted		0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		2974		3090	1676	1425	1577	3154	1411	1408	2960	1271
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	208	356	232	910	626	335	184	784	291	225	916	107
RTOR Reduction (vph)	0	38	0	0	0	173	0	0	0	0	0	68
Lane Group Flow (vph)	0	758	0	910	626	162	184	784	291	202	939	39
Confl. Peds. (#/hr)			60									17
Confl. Bikes (#/hr)									2			2
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Split	NA		Split	NA	Perm	Split	NA	custom	Split	NA	Perm
Protected Phases	8	8!		7	7		6	6	6 7 8!	2	2	
Permitted Phases						7						2
Actuated Green, G (s)		34.4		31.6	31.6	31.6	13.0	13.0	87.0	25.0	25.0	25.0
Effective Green, g (s)		34.4		31.6	31.6	31.6	13.0	13.0	87.0	25.0	25.0	25.0
Actuated g/C Ratio		0.29		0.26	0.26	0.26	0.11	0.11	0.72	0.21	0.21	0.21
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		2.5		3.0	3.0	3.0	2.5	2.5		2.0	2.0	2.0
Lane Grp Cap (vph)		852		813	441	375	170	341	1022	293	616	264
v/s Ratio Prot		c0.25		0.29	c0.37		0.12	c0.25	0.21	0.14	c0.32	
v/s Ratio Perm						0.11						0.03
v/c Ratio		0.89		1.12	1.42	0.43	1.08	2.30	0.28	0.69	1.52	0.15
Uniform Delay, d1		41.0		44.2	44.2	36.7	53.5	53.5	5.7	43.9	47.5	38.8
Progression Factor		0.99		1.00	1.00	1.00	1.12	1.12	0.73	1.03	1.03	1.20
Incremental Delay, d2		6.1		69.7	201.7	0.8	64.4	587.8	0.0	9.2	241.9	0.8
Delay (s)		46.7		113.9	245.9	37.5	124.6	647.8	4.2	54.5	291.0	47.3
Level of Service		D		F	F	D	F	F	A	D	F	D
Approach Delay (s)		46.7			144.4			422.6			231.8	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	218.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	128.1%	ICU Level of Service	H
Analysis Period (min)	15		

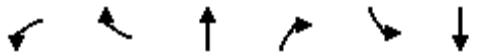
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	151	686	2546	228	212	360
Future Volume (vph)	151	686	2546	228	212	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1656	4759	2050		1703	1524
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1656	4759	4965		1703	1524
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	157	715	2652	238	221	375
RTOR Reduction (vph)	0	0	5	0	0	196
Lane Group Flow (vph)	157	715	2885	0	221	179
Confl. Peds. (#/hr)				2		
Heavy Vehicles (%)	9%	9%	3%	3%	6%	6%
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	5	2	6		3	
Permitted Phases						3
Actuated Green, G (s)	6.0	86.0	76.0		6.0	6.0
Effective Green, g (s)	6.0	86.0	76.0		6.0	6.0
Actuated g/C Ratio	0.06	0.86	0.76		0.06	0.06
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	99	4092	1558		102	91
v/s Ratio Prot	c0.09	0.15	c1.41		c0.13	
v/s Ratio Perm						0.12
v/c Ratio	1.59	0.17	1.85		2.17	1.97
Uniform Delay, d1	47.0	1.2	12.0		47.0	47.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	306.0	0.1	385.8		555.9	474.5
Delay (s)	353.0	1.2	397.8		602.9	521.5
Level of Service	F	A	F		F	F
Approach Delay (s)		64.6	397.8		551.7	
Approach LOS		E	F		F	

Intersection Summary			
HCM 2000 Control Delay	352.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.94		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

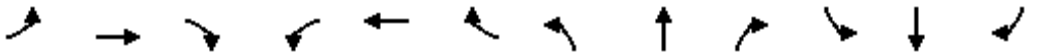


Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	152	231	855	19	0
Future Volume (vph)	0	152	231	855	19	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.88	1.00	
Frt		0.86	1.00	0.85	1.00	
Flt Protected		1.00	1.00	1.00	0.95	
Satd. Flow (prot)		1550	1792	2682	1703	
Flt Permitted		1.00	1.00	1.00	0.95	
Satd. Flow (perm)		1550	1792	2682	1703	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	165	251	929	21	0
RTOR Reduction (vph)	0	152	0	443	0	0
Lane Group Flow (vph)	0	13	251	486	21	0
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%
Turn Type		Perm	NA	Prot	Prot	
Protected Phases			4	4	1	
Permitted Phases		1				
Actuated Green, G (s)		5.8	39.2	39.2	5.8	
Effective Green, g (s)		5.8	39.2	39.2	5.8	
Actuated g/C Ratio		0.08	0.52	0.52	0.08	
Clearance Time (s)		4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		119	936	1401	131	
v/s Ratio Prot			0.14	c0.18	c0.01	
v/s Ratio Perm		0.01				
v/c Ratio		0.11	0.27	0.35	0.16	
Uniform Delay, d1		32.2	9.9	10.4	32.3	
Progression Factor		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.4	0.7	0.7	0.6	
Delay (s)		32.6	10.6	11.1	32.9	
Level of Service		C	B	B	C	
Approach Delay (s)	32.6		11.0		32.9	
Approach LOS	C		B		C	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	39.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
4: E. Grand Ave. & Grand Ave.

09/26/2022



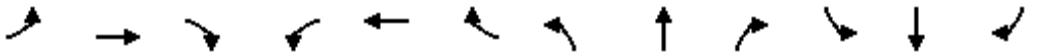
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	738	160	109	2207	0	567	0	567	0	0	0
Future Volume (veh/h)	0	738	160	109	2207	0	567	0	567	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1841	1841	1707	1707	0	1811	0	1811	1870	1870	1870
Adj Flow Rate, veh/h	0	802	174	118	2399	0	616	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	4	13	13	0	6	0	6	2	2	2
Cap, veh/h	0	1746	375	531	3636	0	287	0		0	1	0
Arrive On Green	0.00	0.43	0.43	0.11	0.26	0.00	0.06	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	4259	878	1626	4815	0	1725	616		0	-74814	0
Grp Volume(v), veh/h	0	655	321	118	2399	0	616	596.6		0	0	0
Grp Sat Flow(s),veh/h/ln	0	1675	1621	1626	1554	0	1725	F		0	1870	0
Q Serve(g_s), s	0.0	20.9	21.2	10.0	69.1	0.0	25.0			0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	20.9	21.2	10.0	69.1	0.0	25.0			0.0	0.0	0.0
Prop In Lane	0.00		0.54	1.00		0.00	1.00			0.00		0.00
Lane Grp Cap(c), veh/h	0	1429	692	531	3636	0	287			0	1	0
V/C Ratio(X)	0.00	0.46	0.46	0.22	0.66	0.00	2.14			0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	1429	692	531	3636	0	287			0	436	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00	0.33			1.00	1.00	1.00
Upstream Filter(I)	0.00	0.72	0.72	0.09	0.09	0.00	1.00			0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	30.6	30.7	49.5	37.9	0.0	70.9			0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	1.6	0.0	0.1	0.0	525.7			0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.7	8.7	4.4	28.9	0.0	53.7			0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	31.4	32.4	49.5	38.0	0.0	596.6			0.0	0.0	0.0
LnGrp LOS	A	C	C	D	D	A	F			A	A	A
Approach Vol, veh/h		976			2517						0	
Approach Delay, s/veh		31.7			38.5						0.0	
Approach LOS		C			D							

Timer - Assigned Phs	1	2	3	4		6
Phs Duration (G+Y+Rc), s	53.0	68.0	29.0	0.0		121.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	10.0	64.0	25.0	35.0		78.0
Max Q Clear Time (g_c+I1), s	12.0	23.2	27.0	0.0		71.1
Green Ext Time (p_c), s	0.0	4.8	0.0	0.0		5.8

Intersection Summary	
HCM 6th Ctrl Delay	120.6
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	1051	95	487	1761	232	75	221	116	183	1036	480
Future Volume (veh/h)	159	1051	95	487	1761	232	75	221	116	183	1036	480
Initial Q (Qb), veh	0	0	0	0	34	0	0	0	0	0	32	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.95	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1870	1870	1870	1767	1767	1767	1856	1856	1856
Adj Flow Rate, veh/h	164	1084	98	502	1815	239	77	228	0	189	1068	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	12	12	12	2	2	2	9	9	9	3	3	3
Cap, veh/h	109	1920	588	456	2234	233	96	402		210	1020	
Arrive On Green	0.02	0.13	0.13	0.13	0.48	0.48	0.06	0.23	0.00	0.12	0.29	0.00
Sat Flow, veh/h	1640	4701	1439	3456	4542	592	1682	1767	1497	1767	3526	1572
Grp Volume(v), veh/h	164	1084	98	502	1356	698	77	228	0	189	1068	0
Grp Sat Flow(s),veh/h/ln	1640	1567	1439	1728	1702	1730	1682	1767	1497	1767	1763	1572
Q Serve(g_s), s	10.0	32.4	9.0	19.8	52.1	53.2	6.8	17.2	0.0	15.8	43.4	0.0
Cycle Q Clear(g_c), s	10.0	32.4	9.0	19.8	52.1	53.2	6.8	17.2	0.0	15.8	43.4	0.0
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	109	1920	588	456	1617	833	96	402		210	1020	
V/C Ratio(X)	1.50	0.56	0.17	1.10	0.84	0.84	0.80	0.57		0.90	1.05	
Avail Cap(c_a), veh/h	109	1920	588	456	1617	822	314	636		212	1020	
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	73.4	52.4	42.3	65.1	36.1	35.9	69.9	51.4	0.0	65.2	53.3	0.0
Incr Delay (d2), s/veh	262.2	1.1	0.5	72.3	5.4	9.8	5.8	0.5	0.0	34.8	41.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	8.8	8.2	0.0	0.0	0.0	0.0	112.9	0.0
%ile BackOfQ(50%),veh/ln	12.4	13.9	3.5	13.3	27.3	28.9	3.1	7.7	0.0	9.1	40.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	335.6	53.5	42.8	137.4	50.2	53.9	75.7	51.9	0.0	100.0	207.5	0.0
LnGrp LOS	F	D	D	F	D	D	E	D		F	F	
Approach Vol, veh/h		1346			2556			305	A		1257	A
Approach Delay, s/veh		87.1			68.4			57.9			191.4	
Approach LOS		F			E			E			F	

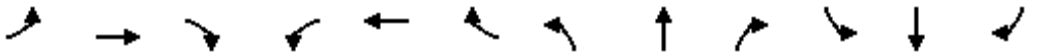
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.0	65.5	12.5	48.0	14.0	75.5	21.8	38.7
Change Period (Y+Rc), s	* 4.2	* 4.2	4.0	4.6	4.0	* 4.2	4.0	* 4.6
Max Green Setting (Gmax), s	* 20	* 42	28.0	43.4	10.0	* 52	18.0	* 54
Max Q Clear Time (g_c+I1), s	21.8	34.4	8.8	45.4	12.0	55.2	17.8	19.2
Green Ext Time (p_c), s	0.0	3.3	0.1	0.0	0.0	0.0	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	100.7
HCM 6th LOS	F

Notes

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

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	202	474	294	855	20	622	237	124	9	771	715
Future Volume (veh/h)	159	202	474	294	855	20	622	237	124	9	771	715
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	1.00		0.98	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1811	1811	1811	1767	1767	1767	1841	1841	1841
Adj Flow Rate, veh/h	169	432	360	313	910	21	662	252	0	10	820	761
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	8	8	8	6	6	6	9	9	9	4	4	4
Cap, veh/h	87	406	337	110	424	10	1119	1151		663	697	572
Arrive On Green	0.05	0.23	0.23	0.06	0.24	0.24	0.34	0.34	0.00	0.38	0.38	0.38
Sat Flow, veh/h	1697	1781	1478	1725	1762	41	3264	3445	0	1753	1841	1512
Grp Volume(v), veh/h	169	432	360	313	0	931	662	252	0	10	820	761
Grp Sat Flow(s),veh/h/ln	1697	1781	1478	1725	0	1803	1632	1678	0	1753	1841	1512
Q Serve(g_s), s	6.4	28.5	28.5	8.0	0.0	30.1	20.9	6.7	0.0	0.4	47.3	47.3
Cycle Q Clear(g_c), s	6.4	28.5	28.5	8.0	0.0	30.1	20.9	6.7	0.0	0.4	47.3	47.3
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	87	406	337	110	0	434	1119	1151		663	697	572
V/C Ratio(X)	1.95	1.06	1.07	2.84	0.00	2.14	0.59	0.22		0.02	1.18	1.33
Avail Cap(c_a), veh/h	87	406	337	110	0	434	1119	1151		663	697	572
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)	0.71	0.71	0.71	1.00	0.00	1.00	0.86	0.86	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.3	48.3	48.3	58.5	0.0	47.5	33.8	29.2	0.0	24.3	38.9	38.8
Incr Delay (d2), s/veh	453.9	55.7	60.6	850.4	0.0	522.8	2.0	0.4	0.0	0.0	94.3	160.3
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	13.7	18.9	16.1	29.6	0.0	76.5	8.5	2.7	0.0	0.2	39.2	42.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	513.2	103.9	108.9	908.9	0.0	570.3	35.8	29.6	0.0	24.3	133.1	199.1
LnGrp LOS	F	F	F	F	A	F	D	C		C	F	F
Approach Vol, veh/h		961			1244			914	A		1591	
Approach Delay, s/veh		177.8			655.5			34.1			164.0	
Approach LOS		F			F			C			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.6	33.1		47.9	11.0	34.7		52.2				
Change Period (Y+Rc), s	4.6	* 4.6		4.6	4.6	4.6		4.9				
Max Green Setting (Gmax), s	8.0	* 29		23.1	6.4	29.5		47.3				
Max Q Clear Time (g_c+I1), s	10.0	30.5		22.9	8.4	32.1		49.3				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	0.0		0.0				

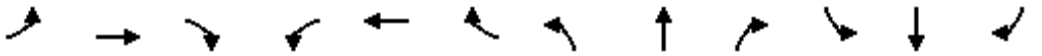
Intersection Summary		
HCM 6th Ctrl Delay		271.4
HCM 6th LOS		F

Notes

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

User approved volume balancing among the lanes for turning movement.

* 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)	255	339	874	876	600	716	101	161	191	356	903	235
Future Volume (veh/h)	255	339	874	876	600	716	101	161	191	356	903	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1678	1678	1678	1856	1856	1856
Adj Flow Rate, veh/h	208	441	0	922	632	0	106	169	0	375	951	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	6	6	6	15	15	15	3	3	3
Cap, veh/h	240	503		718	377		128	673		513	1510	
Arrive On Green	0.14	0.14	0.00	0.07	0.07	0.00	0.08	0.21	0.00	0.29	0.43	0.00
Sat Flow, veh/h	1725	3622	1535	3450	1811	1535	1598	3272	0	1767	3526	1572
Grp Volume(v), veh/h	208	441	0	922	632	0	106	169	0	375	951	0
Grp Sat Flow(s),veh/h/ln	1725	1811	1535	1725	1811	1535	1598	1594	0	1767	1763	1572
Q Serve(g_s), s	14.8	14.9	0.0	26.0	26.0	0.0	8.2	5.5	0.0	23.9	26.4	0.0
Cycle Q Clear(g_c), s	14.8	14.9	0.0	26.0	26.0	0.0	8.2	5.5	0.0	23.9	26.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	503		718	377		128	673		513	1510	
V/C Ratio(X)	0.87	0.88		1.28	1.68		0.83	0.25		0.73	0.63	
Avail Cap(c_a), veh/h	254	533		718	377		192	673		530	1510	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.09	0.09	0.00	1.00	1.00	0.00	0.37	0.37	0.00
Uniform Delay (d), s/veh	52.7	52.8	0.0	58.2	58.2	0.0	56.7	41.1	0.0	40.0	28.0	0.0
Incr Delay (d2), s/veh	23.6	13.9	0.0	129.2	306.0	0.0	10.8	0.1	0.0	1.6	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	7.7	0.0	25.0	44.7	0.0	3.7	2.2	0.0	10.5	11.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.3	66.6	0.0	187.5	364.2	0.0	67.4	41.2	0.0	41.6	28.7	0.0
LnGrp LOS	E	E		F	F		E	D		D	C	
Approach Vol, veh/h		649	A		1554	A		275	A		1326	A
Approach Delay, s/veh		69.7			259.3			51.3			32.4	
Approach LOS		E			F			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.0	58.5		22.0	41.2	31.3		30.6				
Change Period (Y+Rc), s	4.0	4.9		4.6	4.9	4.9		4.6				
Max Green Setting (Gmax), s	15.0	47.5		18.4	37.5	24.1		26.0				
Max Q Clear Time (g_c+I1), s	10.2	28.4		16.9	25.9	7.5		28.0				
Green Ext Time (p_c), s	0.1	7.3		0.4	0.7	0.5		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	132.8	
HCM 6th LOS	F	

Notes

User approved volume balancing among the lanes for turning movement.

User approved changes to right turn type.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

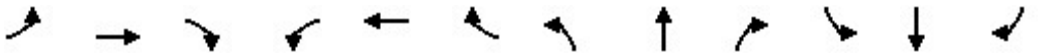
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	760	114	165	104	48	374
Future Volume (veh/h)	760	114	165	104	48	374
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	826	124	179	113	0	463
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	6	6	6	6
Cap, veh/h	2207	329	204	1183	506	900
Arrive On Green	0.51	0.51	0.12	0.65	0.00	0.29
Sat Flow, veh/h	4506	648	1725	1811	1725	3070
Grp Volume(v), veh/h	626	324	179	113	0	463
Grp Sat Flow(s),veh/h/ln	1648	1694	1725	1811	1725	1535
Q Serve(g_s), s	17.3	17.5	15.3	3.5	0.0	18.8
Cycle Q Clear(g_c), s	17.3	17.5	15.3	3.5	0.0	18.8
Prop In Lane		0.38	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1675	861	204	1183	506	900
V/C Ratio(X)	0.37	0.38	0.88	0.10	0.00	0.51
Avail Cap(c_a), veh/h	1675	861	425	1183	506	900
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.4	22.4	65.0	9.6	0.0	44.1
Incr Delay (d2), s/veh	0.5	1.1	11.2	0.2	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	7.3	7.4	1.4	0.0	7.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.9	23.5	76.3	9.8	0.0	46.2
LnGrp LOS	C	C	E	A	A	D
Approach Vol, veh/h	950			292	463	
Approach Delay, s/veh	23.1			50.5	46.2	
Approach LOS	C			D	D	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		48.0	21.8	80.2		102.0
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		44.0	37.0	57.0		98.0
Max Q Clear Time (g_c+I1), s		20.8	17.3	19.5		5.5
Green Ext Time (p_c), s		1.9	0.5	7.8		0.7

Intersection Summary	
HCM 6th Ctrl Delay	34.1
HCM 6th LOS	C

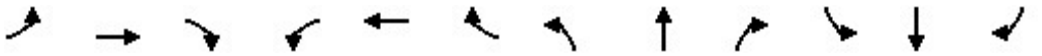
Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	188	548	403	0	22	337	0	0	471	65
Future Volume (vph)	0	0	188	548	403	0	22	337	0	0	471	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.2	4.2			4.0			4.9	
Lane Util. Factor			1.00	0.95	0.95			0.95			0.95	
Frpb, ped/bikes			1.00	1.00	1.00			1.00			1.00	
Flpb, ped/bikes			1.00	1.00	1.00			1.00			1.00	
Frt			0.86	1.00	1.00			1.00			0.98	
Flt Protected			1.00	0.95	0.99			1.00			1.00	
Satd. Flow (prot)			1596	1665	1738			3377			3331	
Flt Permitted			1.00	0.95	0.99			1.00			1.00	
Satd. Flow (perm)			1596	1665	1738			3377			3331	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	202	589	433	0	24	362	0	0	506	70
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	0	202	501	521	0	0	386	0	0	565	0
Confl. Peds. (#/hr)												3
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	3%	3%	3%	0%	0%	7%	0%	0%	6%	6%
Turn Type			Over	Split	NA		Split	NA			NA	
Protected Phases			1	6	6		1	1			4	
Permitted Phases												
Actuated Green, G (s)			18.0	50.9	50.9			18.0			23.0	
Effective Green, g (s)			18.0	50.9	50.9			18.0			23.0	
Actuated g/C Ratio			0.17	0.48	0.48			0.17			0.22	
Clearance Time (s)			4.0	4.2	4.2			4.0			4.9	
Vehicle Extension (s)			4.0	3.5	3.5			4.0			3.0	
Lane Grp Cap (vph)			273	807	842			578			729	
v/s Ratio Prot			c0.13	c0.30	0.30			0.11			c0.17	
v/s Ratio Perm												
v/c Ratio			0.74	0.62	0.62			0.67			0.78	
Uniform Delay, d1			41.3	19.9	19.9			40.7			38.6	
Progression Factor			1.00	1.00	1.00			1.24			1.00	
Incremental Delay, d2			10.7	3.6	3.4			1.2			5.2	
Delay (s)			52.0	23.5	23.3			51.6			43.7	
Level of Service			D	C	C			D			D	
Approach Delay (s)		52.0			23.4			51.6			43.7	
Approach LOS		D			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	36.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	63.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

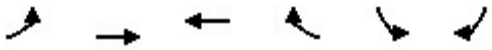


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	471	214	206	254	155	47	425	663	539	599	69
Future Volume (vph)	214	471	214	206	254	155	47	425	663	539	599	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.98		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.94
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (prot)		2981		2717	1474	1253	1490	2981	1333	1421	2960	1317
Flt Permitted		0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (perm)		2981		2717	1474	1253	1490	2981	1333	1421	2960	1317
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	225	496	225	217	267	163	49	447	698	567	631	73
RTOR Reduction (vph)	0	28	0	0	0	147	0	0	0	0	0	51
Lane Group Flow (vph)	0	918	0	217	267	16	49	447	698	391	807	22
Confl. Peds. (#/hr)			67									12
Confl. Bikes (#/hr)			11						7			1
Heavy Vehicles (%)	2%	2%	2%	16%	16%	16%	9%	9%	9%	4%	4%	4%
Turn Type	Split	NA		Split	NA	Perm	Split	NA	custom	Split	NA	Perm
Protected Phases	8	8!		7	7		6	6	6 7 8!	2	2	
Permitted Phases						7						2
Actuated Green, G (s)		35.6		10.4	10.4	10.4	11.3	11.3	65.3	31.7	31.7	31.7
Effective Green, g (s)		35.6		10.4	10.4	10.4	11.3	11.3	65.3	31.7	31.7	31.7
Actuated g/C Ratio		0.34		0.10	0.10	0.10	0.11	0.11	0.62	0.30	0.30	0.30
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		2.5		3.0	3.0	3.0	2.5	2.5		2.0	2.0	2.0
Lane Grp Cap (vph)		1010		269	145	124	160	320	828	429	893	397
v/s Ratio Prot		0.31		0.08	c0.18		0.03	c0.15	c0.52	c0.28	0.27	
v/s Ratio Perm						0.01						0.02
v/c Ratio		0.91		0.81	1.84	0.13	0.31	1.40	0.84	0.91	0.90	0.06
Uniform Delay, d1		33.1		46.3	47.3	43.2	43.2	46.9	15.8	35.3	35.2	26.0
Progression Factor		1.00		1.00	1.00	1.00	1.41	1.41	0.58	0.97	0.97	1.18
Incremental Delay, d2		11.6		16.0	404.1	0.5	0.1	180.4	0.8	21.5	11.4	0.2
Delay (s)		44.7		62.3	451.4	43.6	60.8	246.3	9.8	55.9	45.6	30.9
Level of Service		D		E	F	D	E	F	A	E	D	C
Approach Delay (s)		44.7			218.2			100.5			47.9	
Approach LOS		D			F			F			D	

Intersection Summary			
HCM 2000 Control Delay	89.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	109.6%	ICU Level of Service	H
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	183	1490	1002	158	207	96
Future Volume (vph)	183	1490	1002	158	207	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91	0.91		1.00	1.00
Frt	1.00	1.00	0.98		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1752	5036	4418		1752	1568
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1752	5036	4418		1752	1568
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	197	1602	1077	170	223	103
RTOR Reduction (vph)	0	0	18	0	0	47
Lane Group Flow (vph)	197	1602	1229	0	223	56
Heavy Vehicles (%)	3%	3%	15%	15%	3%	3%
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	5	2	6		3	
Permitted Phases						3
Actuated Green, G (s)	17.2	72.3	51.1		19.7	19.7
Effective Green, g (s)	17.2	72.3	51.1		19.7	19.7
Actuated g/C Ratio	0.17	0.72	0.51		0.20	0.20
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	301	3641	2257		345	308
v/s Ratio Prot	c0.11	0.32	c0.28		c0.13	
v/s Ratio Perm						0.04
v/c Ratio	0.65	0.44	0.54		0.65	0.18
Uniform Delay, d1	38.6	5.6	16.6		36.9	33.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	3.9	0.4	0.9		3.1	0.1
Delay (s)	42.5	6.0	17.5		40.1	33.6
Level of Service	D	A	B		D	C
Approach Delay (s)		10.0	17.5		38.0	
Approach LOS		B	B		D	

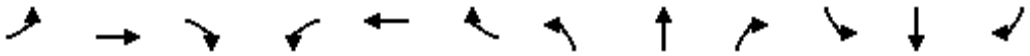
Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	54.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	106	845	1459	0	0
Future Volume (vph)	0	106	845	1459	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		
Lane Util. Factor		1.00	1.00	0.88		
Frt		0.86	1.00	0.85		
Flt Protected		1.00	1.00	1.00		
Satd. Flow (prot)		1550	1792	2682		
Flt Permitted		1.00	1.00	1.00		
Satd. Flow (perm)		1550	1792	2682		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	115	918	1586	0	0
RTOR Reduction (vph)	0	109	0	711	0	0
Lane Group Flow (vph)	0	6	918	875	0	0
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%
Turn Type		Perm	NA	Prot	Prot	
Protected Phases			4	4	1	
Permitted Phases		1				
Actuated Green, G (s)		3.6	41.4	41.4		
Effective Green, g (s)		3.6	41.4	41.4		
Actuated g/C Ratio		0.05	0.55	0.55		
Clearance Time (s)		4.0	4.0	4.0		
Vehicle Extension (s)		3.0	3.0	3.0		
Lane Grp Cap (vph)		74	989	1480		
v/s Ratio Prot			c0.51	0.33		
v/s Ratio Perm		c0.00				
v/c Ratio		0.07	0.93	0.59		
Uniform Delay, d1		34.1	15.4	11.2		
Progression Factor		1.00	1.00	1.00		
Incremental Delay, d2		0.4	15.8	1.7		
Delay (s)		34.5	31.2	12.9		
Level of Service		C	C	B		
Approach Delay (s)	34.5		19.6			0.0
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
4: E. Grand Ave. & Grand Ave.

09/26/2022



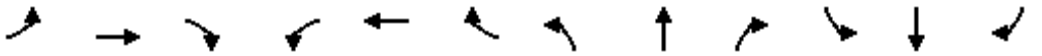
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1448	249	219	913	0	247	0	1050	0	0	0
Future Volume (veh/h)	0	1448	249	219	913	0	247	0	1050	0	0	0
Initial Q (Qb), veh	0	45	0	0	0	0	10	0	51	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1841	1841	1707	1707	0	1811	0	1811	1870	1870	1870
Adj Flow Rate, veh/h	0	1574	271	238	992	0	268	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	4	13	13	0	6	0	6	2	2	2
Cap, veh/h	0	1965	245	555	3760	0	241	0		0	1	0
Arrive On Green	0.00	0.28	0.28	0.12	0.27	0.00	0.05	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	4429	730	1626	4815	0	1725	268		0	-74814	0
Grp Volume(v), veh/h	0	1235	610	238	992	0	268	311.2		0	0	0
Grp Sat Flow(s),veh/h/ln	0	1675	1643	1626	1554	0	1725	F		0	1870	0
Q Serve(g_s), s	0.0	52.9	53.4	20.3	25.2	0.0	21.0			0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	52.9	53.4	20.3	25.2	0.0	21.0			0.0	0.0	0.0
Prop In Lane	0.00		0.44	1.00		0.00	1.00			0.00		0.00
Lane Grp Cap(c), veh/h	0	1450	723	555	3760	0	241			0	1	0
V/C Ratio(X)	0.00	0.85	0.84	0.43	0.26	0.00	1.11			0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	1519	745	589	3760	0	241			0	436	0
HCM Platoon Ratio	1.00	0.67	0.67	0.33	0.33	1.00	0.33			1.00	1.00	1.00
Upstream Filter(I)	0.00	0.88	0.88	0.77	0.77	0.00	1.00			0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	51.2	51.1	52.9	19.9	0.0	71.5			0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	5.8	10.3	1.9	0.1	0.0	90.5			0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	20.7	19.8	0.0	0.0	0.0	149.1			0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	31.1	31.5	9.3	10.6	0.0	25.9			0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	77.7	81.2	54.8	20.0	0.0	311.2			0.0	0.0	0.0
LnGrp LOS	A	E	F	D	C	A	F			A	A	A
Approach Vol, veh/h		1845			1230						0	
Approach Delay, s/veh		78.9			26.7						0.0	
Approach LOS		E			C							

Timer - Assigned Phs	1	2	3	4		6
Phs Duration (G+Y+Rc), s	58.3	66.7	25.0	0.0		125.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	10.0	68.0	21.0	35.0		82.0
Max Q Clear Time (g_c+I1), s	22.3	55.4	23.0	0.0		27.2
Green Ext Time (p_c), s	0.0	7.3	0.0	0.0		5.4

Intersection Summary	
HCM 6th Ctrl Delay	78.3
HCM 6th LOS	E

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	379	2023	96	145	786	154	117	206	448	338	219	229
Future Volume (veh/h)	379	2023	96	145	786	154	117	206	448	338	219	229
Initial Q (Qb), veh	5	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	969	1841	1633	1633	1633	1752	1752	1752	1767	1767	1767
Adj Flow Rate, veh/h	399	2129	101	153	827	162	123	217	0	356	231	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	18	18	18	10	10	10	9	9	9
Cap, veh/h	304	1528	875	192	1746	339	78	243		179	667	
Arrive On Green	0.17	0.58	0.58	0.06	0.47	0.47	0.05	0.14	0.00	0.11	0.20	0.00
Sat Flow, veh/h	1753	2645	1515	3018	3720	723	1668	1752	1485	1682	3357	1497
Grp Volume(v), veh/h	399	2129	101	153	659	330	123	217	0	356	231	0
Grp Sat Flow(s),veh/h/ln	1753	882	1515	1509	1486	1471	1668	1752	1485	1682	1678	1497
Q Serve(g_s), s	26.0	86.7	4.5	7.5	22.7	23.0	7.0	18.3	0.0	16.0	8.9	0.0
Cycle Q Clear(g_c), s	26.0	86.7	4.5	7.5	22.7	23.0	7.0	18.3	0.0	16.0	8.9	0.0
Prop In Lane	1.00		1.00	1.00		0.49	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	304	1528	875	192	1395	690	78	243		179	667	
V/C Ratio(X)	1.31	1.39	0.12	0.80	0.47	0.48	1.58	0.89		1.98	0.35	
Avail Cap(c_a), veh/h	304	1528	875	217	1395	690	78	269		179	703	
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)	0.39	0.39	0.39	0.76	0.76	0.76	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.0	31.7	14.3	69.3	27.1	27.2	71.5	63.5	0.0	67.0	51.7	0.0
Incr Delay (d2), s/veh	150.0	178.6	0.1	11.4	0.9	1.8	313.4	26.0	0.0	462.0	0.1	0.0
Initial Q Delay(d3),s/veh	59.2	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	29.3	43.0	1.6	3.2	8.3	8.5	9.8	9.9	0.0	29.9	3.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	271.2	210.2	14.4	80.7	28.0	29.0	384.9	89.5	0.0	529.0	51.8	0.0
LnGrp LOS	F	F	B	F	C	C	F	F		F	D	
Approach Vol, veh/h		2629			1142			340	A		587	A
Approach Delay, s/veh		212.0			35.4			196.4			341.2	
Approach LOS		F			D			F			F	

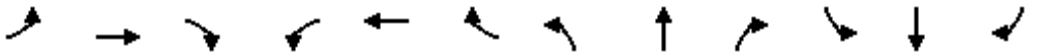
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	90.9	11.0	34.4	30.0	74.6	20.0	25.4
Change Period (Y+Rc), s	* 4.2	* 4.2	4.0	4.6	4.0	* 4.2	4.0	* 4.6
Max Green Setting (Gmax), s	* 11	* 84	7.0	31.4	26.0	* 69	16.0	* 23
Max Q Clear Time (g_c+I1), s	9.5	88.7	9.0	10.9	28.0	25.0	18.0	20.3
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	0.0	5.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	184.1
HCM 6th LOS	F

Notes

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

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	627	371	113	348	38	334	682	452	26	214	251
Future Volume (veh/h)	137	627	371	113	348	38	334	682	452	26	214	251
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	1.00		0.98	1.00		1.00	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1574	1574	1574	1811	1811	1811	1663	1663	1663
Adj Flow Rate, veh/h	147	674	399	122	374	41	359	733	0	28	230	270
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	12	12	12	22	22	22	6	6	6	16	16	16
Cap, veh/h	171	515	429	72	337	37	1167	1200		245	257	208
Arrive On Green	0.10	0.30	0.30	0.05	0.24	0.24	0.35	0.35	0.00	0.15	0.15	0.15
Sat Flow, veh/h	1640	1722	1432	1499	1390	152	3346	3532	0	1584	1663	1344
Grp Volume(v), veh/h	147	674	399	122	0	415	359	733	0	28	230	270
Grp Sat Flow(s),veh/h/ln	1640	1722	1432	1499	0	1542	1673	1721	0	1584	1663	1344
Q Serve(g_s), s	11.0	37.4	33.8	6.0	0.0	30.3	9.8	22.0	0.0	1.9	17.0	19.3
Cycle Q Clear(g_c), s	11.0	37.4	33.8	6.0	0.0	30.3	9.8	22.0	0.0	1.9	17.0	19.3
Prop In Lane	1.00		1.00	1.00		0.10	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	171	515	429	72	0	374	1167	1200		245	257	208
V/C Ratio(X)	0.86	1.31	0.93	1.70	0.00	1.11	0.31	0.61		0.11	0.90	1.30
Avail Cap(c_a), veh/h	239	515	429	72	0	374	1183	1217		245	257	208
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)	0.43	0.43	0.43	1.00	0.00	1.00	0.68	0.68	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.1	43.8	42.5	59.5	0.0	47.3	29.7	33.7	0.0	45.5	51.9	52.8
Incr Delay (d2), s/veh	7.2	144.7	14.5	365.3	0.0	79.3	0.5	1.6	0.0	0.1	29.8	166.0
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	4.9	36.5	13.6	9.6	0.0	19.8	4.0	9.3	0.0	0.8	9.2	16.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.2	188.5	57.1	424.8	0.0	126.6	30.2	35.3	0.0	45.6	81.7	218.8
LnGrp LOS	E	F	E	F	A	F	C	D		D	F	F
Approach Vol, veh/h		1220			537			1092	A		528	
Approach Delay, s/veh		130.3			194.3			33.6			149.9	
Approach LOS		F			F			C			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	42.0		48.2	17.7	34.9		24.2				
Change Period (Y+Rc), s	4.6	* 4.6		4.6	4.6	4.6		4.9				
Max Green Setting (Gmax), s	6.0	* 37		44.2	18.2	24.6		19.3				
Max Q Clear Time (g_c+I1), s	8.0	39.4		24.0	13.0	32.3		21.3				
Green Ext Time (p_c), s	0.0	0.0		4.2	0.1	0.0		0.0				

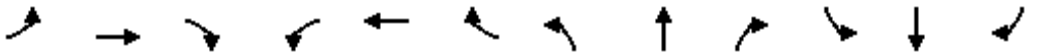
Intersection Summary			
HCM 6th Ctrl Delay		112.3	
HCM 6th LOS		F	

Notes

User approved volume balancing among the lanes for turning movement.

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

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	466	230	360	352	221	162	113	360	309	835	351
Future Volume (veh/h)	221	466	230	360	352	221	162	113	360	309	835	351
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1441	1441	1441	1618	1618	1618	1796	1796	1796	1811	1811	1811
Adj Flow Rate, veh/h	233	491	0	419	314	0	171	119	0	325	879	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	31	31	31	19	19	19	7	7	7	6	6	6
Cap, veh/h	253	532		599	314		201	359		578	1140	
Arrive On Green	0.18	0.18	0.00	0.19	0.19	0.00	0.12	0.11	0.00	0.11	0.11	0.00
Sat Flow, veh/h	1372	2881	1221	3083	1618	1372	1711	3503	0	1725	3441	1535
Grp Volume(v), veh/h	233	491	0	419	314	0	171	119	0	325	879	0
Grp Sat Flow(s),veh/h/ln	1372	1441	1221	1541	1618	1372	1711	1706	0	1725	1721	1535
Q Serve(g_s), s	17.5	17.6	0.0	13.3	20.4	0.0	10.3	3.4	0.0	18.8	26.1	0.0
Cycle Q Clear(g_c), s	17.5	17.6	0.0	13.3	20.4	0.0	10.3	3.4	0.0	18.8	26.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	253	532		599	314		201	359		578	1140	
V/C Ratio(X)	0.92	0.92		0.70	1.00		0.85	0.33		0.56	0.77	
Avail Cap(c_a), veh/h	253	532		599	314		261	738		578	1140	
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	1.00	0.00	0.60	0.60	0.00	1.00	1.00	0.00	0.86	0.86	0.00
Uniform Delay (d), s/veh	42.0	42.1	0.0	39.4	42.3	0.0	45.4	43.6	0.0	39.4	42.9	0.0
Incr Delay (d2), s/veh	35.0	21.4	0.0	2.2	38.9	0.0	15.4	0.2	0.0	0.7	4.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	7.8	0.0	5.2	11.5	0.0	5.2	1.4	0.0	8.7	12.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.1	63.4	0.0	41.6	81.2	0.0	60.8	43.8	0.0	40.1	47.3	0.0
LnGrp LOS	E	E		D	F		E	D		D	D	
Approach Vol, veh/h		724	A		733	A		290	A		1204	A
Approach Delay, s/veh		67.8			58.6			53.8			45.3	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	16.3	39.7		24.0	40.1	15.9		25.0				
Change Period (Y+Rc), s	4.0	4.9		4.6	4.9	4.9		4.6				
Max Green Setting (Gmax), s	16.0	31.1		19.4	23.5	22.7		20.4				
Max Q Clear Time (g_c+I1), s	12.3	28.1		19.6	20.8	5.4		22.4				
Green Ext Time (p_c), s	0.1	1.7		0.0	0.2	0.3		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		55.0
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1099	360	372	104	2	176
Future Volume (veh/h)	1099	360	372	104	2	176
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	1099	360	372	104	0	178
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	6	6	6	6	6	6
Cap, veh/h	1389	455	603	1364	333	593
Arrive On Green	0.38	0.38	0.35	0.75	0.00	0.19
Sat Flow, veh/h	3846	1207	1725	1811	1725	3070
Grp Volume(v), veh/h	983	476	372	104	0	178
Grp Sat Flow(s),veh/h/ln	1648	1594	1725	1811	1725	1535
Q Serve(g_s), s	39.7	39.7	26.8	2.3	0.0	7.4
Cycle Q Clear(g_c), s	39.7	39.7	26.8	2.3	0.0	7.4
Prop In Lane		0.76	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1243	601	603	1364	333	593
V/C Ratio(X)	0.79	0.79	0.62	0.08	0.00	0.30
Avail Cap(c_a), veh/h	1824	882	603	1364	333	593
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.62	0.62	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.5	41.5	40.5	4.8	0.0	51.8
Incr Delay (d2), s/veh	3.3	6.6	1.9	0.1	0.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.7	16.7	11.8	0.9	0.0	3.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.7	48.0	42.4	5.0	0.0	53.1
LnGrp LOS	D	D	D	A	A	D
Approach Vol, veh/h	1459			476	178	
Approach Delay, s/veh	45.8			34.2	53.1	
Approach LOS	D			C	D	

Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		33.0	56.4	60.6		117.0
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		29.0	26.0	83.0		113.0
Max Q Clear Time (g_c+I1), s		9.4	28.8	41.7		4.3
Green Ext Time (p_c), s		0.6	0.0	14.9		0.6

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

Notes

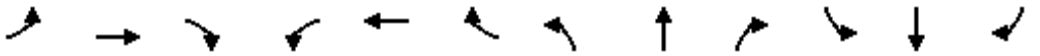
User approved volume balancing among the lanes for turning movement.

HCM Signalized Intersection Capacity Analysis
1: Airport Blvd. & Miller Ave./101 SB/Miller Ave. Off Ramp

09/26/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	178	448	416	2	97	505	0	0	587	112
Future Volume (vph)	0	0	178	448	416	2	97	505	0	0	587	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.2	4.2			4.0			4.9	
Lane Util. Factor			1.00	0.95	0.95			0.95			0.95	
Frpb, ped/bikes			1.00	1.00	1.00			1.00			1.00	
Flpb, ped/bikes			1.00	1.00	1.00			1.00			1.00	
Frt			0.86	1.00	1.00			1.00			0.98	
Flt Protected			1.00	0.95	1.00			0.99			1.00	
Satd. Flow (prot)			1596	1649	1726			3511			3406	
Flt Permitted			1.00	0.95	1.00			0.99			1.00	
Satd. Flow (perm)			1596	1649	1726			3511			3406	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	0	0	182	457	424	2	99	515	0	0	599	114
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	27	0
Lane Group Flow (vph)	0	0	182	411	472	0	0	614	0	0	686	0
Confl. Peds. (#/hr)												4
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	0%	0%	3%	4%	4%	4%	2%	2%	0%	0%	3%	3%
Turn Type			Over	Split	NA		Split	NA			NA	
Protected Phases			1	6	6		1	1			4	
Permitted Phases												
Actuated Green, G (s)			13.2	17.8	17.8			13.2			15.9	
Effective Green, g (s)			13.2	17.8	17.8			13.2			15.9	
Actuated g/C Ratio			0.22	0.30	0.30			0.22			0.27	
Clearance Time (s)			4.0	4.2	4.2			4.0			4.9	
Vehicle Extension (s)			4.0	3.5	3.5			4.0			3.0	
Lane Grp Cap (vph)			351	489	512			772			902	
v/s Ratio Prot			0.11	0.25	c0.27			c0.17			c0.20	
v/s Ratio Perm												
v/c Ratio			0.52	0.84	0.92			0.80			0.76	
Uniform Delay, d1			20.6	19.8	20.4			22.1			20.3	
Progression Factor			1.00	1.00	1.00			0.73			1.00	
Incremental Delay, d2			1.7	15.9	24.5			0.6			3.8	
Delay (s)			22.3	35.7	44.9			16.7			24.1	
Level of Service			C	D	D			B			C	
Approach Delay (s)		22.3			40.6			16.7			24.1	
Approach LOS		C			D			B			C	

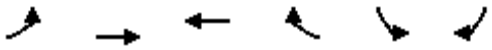
Intersection Summary			
HCM 2000 Control Delay	28.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	344	223	910	611	330	177	753	280	231	879	103
Future Volume (vph)	200	344	223	910	611	330	177	753	280	231	879	103
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor		0.95		0.97	1.00	1.00	1.00	0.95	1.00	0.91	0.91	1.00
Frpb, ped/bikes		0.98		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.92
Flpb, ped/bikes		1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		2974		3090	1676	1425	1577	3154	1411	1408	2960	1271
Flt Permitted		0.99		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)		2974		3090	1676	1425	1577	3154	1411	1408	2960	1271
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	208	358	232	948	636	344	184	784	292	241	916	107
RTOR Reduction (vph)	0	38	0	0	0	176	0	0	0	0	0	68
Lane Group Flow (vph)	0	760	0	948	636	168	184	784	292	217	940	39
Confl. Peds. (#/hr)			60									17
Confl. Bikes (#/hr)									2			2
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Split	NA		Split	NA	Perm	Split	NA	custom	Split	NA	Perm
Protected Phases	8	8!		7	7		6	6	6 7 8!	2	2	
Permitted Phases						7						2
Actuated Green, G (s)		34.5		31.5	31.5	31.5	13.0	13.0	87.0	25.0	25.0	25.0
Effective Green, g (s)		34.5		31.5	31.5	31.5	13.0	13.0	87.0	25.0	25.0	25.0
Actuated g/C Ratio		0.29		0.26	0.26	0.26	0.11	0.11	0.72	0.21	0.21	0.21
Clearance Time (s)		4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)		2.5		3.0	3.0	3.0	2.5	2.5		2.0	2.0	2.0
Lane Grp Cap (vph)		855		811	439	374	170	341	1022	293	616	264
v/s Ratio Prot		c0.26		0.31	c0.38		0.12	c0.25	0.21	0.15	c0.32	
v/s Ratio Perm						0.12						0.03
v/c Ratio		0.89		1.17	1.45	0.45	1.08	2.30	0.29	0.74	1.53	0.15
Uniform Delay, d1		40.9		44.2	44.2	37.0	53.5	53.5	5.7	44.5	47.5	38.8
Progression Factor		0.99		1.00	1.00	1.00	1.12	1.12	0.73	1.03	1.03	1.18
Incremental Delay, d2		6.1		89.1	214.4	0.9	64.5	587.8	0.0	11.4	242.6	0.8
Delay (s)		46.6		133.4	258.7	37.9	124.5	647.8	4.2	57.0	291.4	46.8
Level of Service		D		F	F	D	F	F	A	E	F	D
Approach Delay (s)		46.6			157.7			422.3			230.5	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	221.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.39		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	128.7%	ICU Level of Service	H
Analysis Period (min)	15		

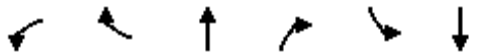
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	151	704	2657	236	213	360
Future Volume (vph)	151	704	2657	236	213	360
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.91	0.91		1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1656	4759	2050		1703	1524
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1656	4759	4966		1703	1524
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	157	733	2768	246	222	375
RTOR Reduction (vph)	0	0	5	0	0	195
Lane Group Flow (vph)	157	733	3009	0	222	180
Confl. Peds. (#/hr)				2		
Heavy Vehicles (%)	9%	9%	3%	3%	6%	6%
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	5	2	6		3	
Permitted Phases						3
Actuated Green, G (s)	6.0	86.0	76.0		6.0	6.0
Effective Green, g (s)	6.0	86.0	76.0		6.0	6.0
Actuated g/C Ratio	0.06	0.86	0.76		0.06	0.06
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Lane Grp Cap (vph)	99	4092	1558		102	91
v/s Ratio Prot	c0.09	0.15	c1.47		c0.13	
v/s Ratio Perm						0.12
v/c Ratio	1.59	0.18	1.93		2.18	1.98
Uniform Delay, d1	47.0	1.2	12.0		47.0	47.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	306.0	0.1	421.5		560.3	479.0
Delay (s)	353.0	1.3	433.5		607.3	526.0
Level of Service	F	A	F		F	F
Approach Delay (s)		63.3	433.5		556.2	
Approach LOS		E	F		F	

Intersection Summary			
HCM 2000 Control Delay	376.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.02		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

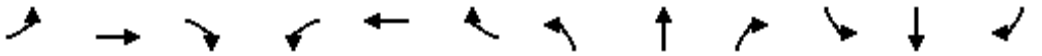


Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	152	231	870	19	0
Future Volume (vph)	0	152	231	870	19	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.88	1.00	
Frt		0.86	1.00	0.85	1.00	
Flt Protected		1.00	1.00	1.00	0.95	
Satd. Flow (prot)		1550	1792	2682	1703	
Flt Permitted		1.00	1.00	1.00	0.95	
Satd. Flow (perm)		1550	1792	2682	1703	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	165	251	946	21	0
RTOR Reduction (vph)	0	152	0	452	0	0
Lane Group Flow (vph)	0	13	251	494	21	0
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%
Turn Type		Perm	NA	Prot	Prot	
Protected Phases			4	4	1	
Permitted Phases		1				
Actuated Green, G (s)		5.8	39.2	39.2	5.8	
Effective Green, g (s)		5.8	39.2	39.2	5.8	
Actuated g/C Ratio		0.08	0.52	0.52	0.08	
Clearance Time (s)		4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		119	936	1401	131	
v/s Ratio Prot			0.14	c0.18	c0.01	
v/s Ratio Perm		0.01				
v/c Ratio		0.11	0.27	0.35	0.16	
Uniform Delay, d1		32.2	9.9	10.5	32.3	
Progression Factor		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.4	0.7	0.7	0.6	
Delay (s)		32.6	10.6	11.2	32.9	
Level of Service		C	B	B	C	
Approach Delay (s)	32.6		11.1			32.9
Approach LOS	C		B			C

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
4: E. Grand Ave. & Grand Ave.

09/26/2022



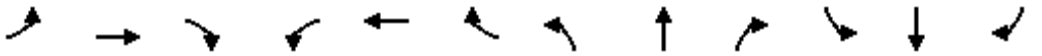
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	738	179	109	2207	0	686	0	609	0	0	0
Future Volume (veh/h)	0	738	179	109	2207	0	686	0	609	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	0	1841	1841	1707	1707	0	1811	0	1811	1870	1870	1870
Adj Flow Rate, veh/h	0	802	195	118	2399	0	746	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	4	4	13	13	0	6	0	6	2	2	2
Cap, veh/h	0	1703	410	531	3636	0	287	0		0	1	0
Arrive On Green	0.00	0.43	0.43	0.11	0.26	0.00	0.06	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	4157	960	1626	4815	0	1725	746		0	-74814	0
Grp Volume(v), veh/h	0	672	325	118	2399	0	746	798.7		0	0	0
Grp Sat Flow(s),veh/h/ln	0	1675	1601	1626	1554	0	1725	F		0	1870	0
Q Serve(g_s), s	0.0	21.6	21.9	10.0	69.1	0.0	25.0			0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	21.6	21.9	10.0	69.1	0.0	25.0			0.0	0.0	0.0
Prop In Lane	0.00		0.60	1.00		0.00	1.00			0.00		0.00
Lane Grp Cap(c), veh/h	0	1429	683	531	3636	0	287			0	1	0
V/C Ratio(X)	0.00	0.47	0.48	0.22	0.66	0.00	2.60			0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	1429	683	531	3636	0	287			0	436	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00	0.33			1.00	1.00	1.00
Upstream Filter(I)	0.00	0.72	0.72	0.09	0.09	0.00	1.00			0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	30.8	30.9	49.5	37.9	0.0	70.9			0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	1.7	0.0	0.1	0.0	727.8			0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.0	8.9	4.4	28.9	0.0	69.8			0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	31.6	32.7	49.5	38.0	0.0	798.7			0.0	0.0	0.0
LnGrp LOS	A	C	C	D	D	A	F			A	A	A
Approach Vol, veh/h		997			2517						0	
Approach Delay, s/veh		32.0			38.5						0.0	
Approach LOS		C			D							

Timer - Assigned Phs	1	2	3	4		6
Phs Duration (G+Y+Rc), s	53.0	68.0	29.0	0.0		121.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	10.0	64.0	25.0	35.0		78.0
Max Q Clear Time (g_c+I1), s	12.0	23.9	27.0	0.0		71.1
Green Ext Time (p_c), s	0.0	5.0	0.0	0.0		5.8

Intersection Summary	
HCM 6th Ctrl Delay	170.1
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	1051	137	487	1761	232	75	221	116	183	1036	480
Future Volume (veh/h)	159	1051	137	487	1761	232	75	221	116	183	1036	480
Initial Q (Qb), veh	0	0	0	0	34	0	0	0	0	0	32	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.95	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1722	1722	1722	1870	1870	1870	1767	1767	1767	1856	1856	1856
Adj Flow Rate, veh/h	164	1084	141	502	1815	239	77	228	0	189	1068	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	12	12	12	2	2	2	9	9	9	3	3	3
Cap, veh/h	109	1920	588	456	2234	233	96	402		210	1020	
Arrive On Green	0.02	0.13	0.13	0.13	0.48	0.48	0.06	0.23	0.00	0.12	0.29	0.00
Sat Flow, veh/h	1640	4701	1439	3456	4542	592	1682	1767	1497	1767	3526	1572
Grp Volume(v), veh/h	164	1084	141	502	1356	698	77	228	0	189	1068	0
Grp Sat Flow(s),veh/h/ln	1640	1567	1439	1728	1702	1730	1682	1767	1497	1767	1763	1572
Q Serve(g_s), s	10.0	32.4	13.1	19.8	52.1	53.2	6.8	17.2	0.0	15.8	43.4	0.0
Cycle Q Clear(g_c), s	10.0	32.4	13.1	19.8	52.1	53.2	6.8	17.2	0.0	15.8	43.4	0.0
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	109	1920	588	456	1617	833	96	402		210	1020	
V/C Ratio(X)	1.50	0.56	0.24	1.10	0.84	0.84	0.80	0.57		0.90	1.05	
Avail Cap(c_a), veh/h	109	1920	588	456	1617	822	314	636		212	1020	
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	73.4	52.4	44.1	65.1	36.1	35.9	69.9	51.4	0.0	65.2	53.3	0.0
Incr Delay (d2), s/veh	261.9	1.1	0.8	72.3	5.4	9.8	5.8	0.5	0.0	34.8	41.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	8.8	8.2	0.0	0.0	0.0	0.0	112.9	0.0
%ile BackOfQ(50%),veh/ln	12.4	13.9	5.2	13.3	27.3	28.9	3.1	7.7	0.0	9.1	40.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	335.2	53.5	44.9	137.4	50.2	53.9	75.7	51.9	0.0	100.0	207.5	0.0
LnGrp LOS	F	D	D	F	D	D	E	D		F	F	
Approach Vol, veh/h		1389			2556			305	A		1257	A
Approach Delay, s/veh		85.9			68.4			57.9			191.4	
Approach LOS		F			E			E			F	

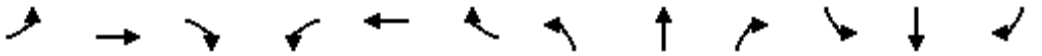
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.0	65.5	12.5	48.0	14.0	75.5	21.8	38.7
Change Period (Y+Rc), s	* 4.2	* 4.2	4.0	4.6	4.0	* 4.2	4.0	* 4.6
Max Green Setting (Gmax), s	* 20	* 42	28.0	43.4	10.0	* 52	18.0	* 54
Max Q Clear Time (g_c+I1), s	21.8	34.4	8.8	45.4	12.0	55.2	17.8	19.2
Green Ext Time (p_c), s	0.0	3.4	0.1	0.0	0.0	0.0	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	100.3
HCM 6th LOS	F

Notes

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

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	202	474	294	855	20	622	237	124	9	771	757
Future Volume (veh/h)	159	202	474	294	855	20	622	237	124	9	771	757
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	1.00		0.98	1.00		1.00	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1781	1781	1781	1811	1811	1811	1767	1767	1767	1841	1841	1841
Adj Flow Rate, veh/h	169	432	360	313	910	21	662	252	0	10	820	805
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	8	8	8	6	6	6	9	9	9	4	4	4
Cap, veh/h	87	406	337	110	424	10	1119	1151		663	697	572
Arrive On Green	0.05	0.23	0.23	0.06	0.24	0.24	0.34	0.34	0.00	0.38	0.38	0.38
Sat Flow, veh/h	1697	1781	1478	1725	1762	41	3264	3445	0	1753	1841	1512
Grp Volume(v), veh/h	169	432	360	313	0	931	662	252	0	10	820	805
Grp Sat Flow(s),veh/h/ln	1697	1781	1478	1725	0	1803	1632	1678	0	1753	1841	1512
Q Serve(g_s), s	6.4	28.5	28.5	8.0	0.0	30.1	20.9	6.7	0.0	0.4	47.3	47.3
Cycle Q Clear(g_c), s	6.4	28.5	28.5	8.0	0.0	30.1	20.9	6.7	0.0	0.4	47.3	47.3
Prop In Lane	1.00		1.00	1.00		0.02	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	87	406	337	110	0	434	1119	1151		663	697	572
V/C Ratio(X)	1.95	1.06	1.07	2.84	0.00	2.14	0.59	0.22		0.02	1.18	1.41
Avail Cap(c_a), veh/h	87	406	337	110	0	434	1119	1151		663	697	572
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)	0.70	0.70	0.70	1.00	0.00	1.00	0.86	0.86	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.3	48.3	48.3	58.5	0.0	47.5	33.8	29.2	0.0	24.3	38.9	38.8
Incr Delay (d2), s/veh	453.5	55.4	60.4	850.4	0.0	522.8	2.0	0.4	0.0	0.0	94.3	193.4
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	13.7	18.8	16.1	29.6	0.0	76.5	8.5	2.7	0.0	0.2	39.2	47.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	512.8	103.7	108.6	908.9	0.0	570.3	35.8	29.6	0.0	24.3	133.1	232.3
LnGrp LOS	F	F	F	F	A	F	D	C		C	F	F
Approach Vol, veh/h		961			1244			914	A		1635	
Approach Delay, s/veh		177.5			655.5			34.1			181.3	
Approach LOS		F			F			C			F	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.6	33.1		47.9	11.0	34.7		52.2				
Change Period (Y+Rc), s	4.6	* 4.6		4.6	4.6	4.6		4.9				
Max Green Setting (Gmax), s	8.0	* 29		23.1	6.4	29.5		47.3				
Max Q Clear Time (g_c+I1), s	10.0	30.5		22.9	8.4	32.1		49.3				
Green Ext Time (p_c), s	0.0	0.0		0.1	0.0	0.0		0.0				

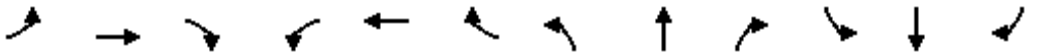
Intersection Summary		
HCM 6th Ctrl Delay		276.3
HCM 6th LOS		F

Notes

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

User approved volume balancing among the lanes for turning movement.

* 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)	256	339	874	912	606	716	101	161	191	356	939	235
Future Volume (veh/h)	256	339	874	912	606	716	101	161	191	356	939	235
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811	1678	1678	1678	1856	1856	1856
Adj Flow Rate, veh/h	209	441	0	960	638	0	106	169	0	375	988	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	6	6	6	15	15	15	3	3	3
Cap, veh/h	240	503		718	377		128	637		532	1510	
Arrive On Green	0.14	0.14	0.00	0.07	0.07	0.00	0.08	0.20	0.00	0.30	0.43	0.00
Sat Flow, veh/h	1725	3622	1535	3450	1811	1535	1598	3272	0	1767	3526	1572
Grp Volume(v), veh/h	209	441	0	960	638	0	106	169	0	375	988	0
Grp Sat Flow(s),veh/h/ln	1725	1811	1535	1725	1811	1535	1598	1594	0	1767	1763	1572
Q Serve(g_s), s	14.8	14.9	0.0	26.0	26.0	0.0	8.2	5.6	0.0	23.5	27.8	0.0
Cycle Q Clear(g_c), s	14.8	14.9	0.0	26.0	26.0	0.0	8.2	5.6	0.0	23.5	27.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	503		718	377		128	637		532	1510	
V/C Ratio(X)	0.87	0.88		1.34	1.69		0.83	0.27		0.70	0.65	
Avail Cap(c_a), veh/h	254	533		718	377		192	637		532	1510	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.09	0.09	0.00	1.00	1.00	0.00	0.31	0.31	0.00
Uniform Delay (d), s/veh	52.7	52.8	0.0	58.2	58.2	0.0	56.7	42.2	0.0	38.7	28.4	0.0
Incr Delay (d2), s/veh	24.3	13.9	0.0	153.0	313.2	0.0	10.8	0.1	0.0	1.1	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	7.7	0.0	27.4	45.5	0.0	3.7	2.2	0.0	10.2	11.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.1	66.6	0.0	211.2	371.4	0.0	67.4	42.3	0.0	39.9	29.1	0.0
LnGrp LOS	E	E		F	F		E	D		D	C	
Approach Vol, veh/h		650	A		1598	A		275	A		1363	A
Approach Delay, s/veh		70.0			275.1			52.0			32.0	
Approach LOS		E			F			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.0	58.5		22.0	42.5	29.9		30.6				
Change Period (Y+Rc), s	4.0	4.9		4.6	4.9	4.9		4.6				
Max Green Setting (Gmax), s	15.0	47.5		18.4	37.5	24.1		26.0				
Max Q Clear Time (g_c+I1), s	10.2	29.8		16.9	25.5	7.6		28.0				
Green Ext Time (p_c), s	0.1	7.4		0.4	0.7	0.5		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	139.8	
HCM 6th LOS	F	

Notes

User approved volume balancing among the lanes for turning movement.

User approved changes to right turn type.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	760	129	184	104	48	535
Future Volume (veh/h)	760	129	184	104	48	535
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1811	1811	1811	1811	1811	1811
Adj Flow Rate, veh/h	826	140	200	113	0	638
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	6	6	6	6
Cap, veh/h	2113	356	225	1183	506	900
Arrive On Green	0.50	0.50	0.13	0.65	0.00	0.29
Sat Flow, veh/h	4424	718	1725	1811	1725	3070
Grp Volume(v), veh/h	638	328	200	113	0	638
Grp Sat Flow(s),veh/h/ln	1648	1682	1725	1811	1725	1535
Q Serve(g_s), s	18.1	18.3	17.1	3.5	0.0	27.8
Cycle Q Clear(g_c), s	18.1	18.3	17.1	3.5	0.0	27.8
Prop In Lane		0.43	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1635	834	225	1183	506	900
V/C Ratio(X)	0.39	0.39	0.89	0.10	0.00	0.71
Avail Cap(c_a), veh/h	1635	834	425	1183	506	900
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.6	23.7	64.1	9.6	0.0	47.3
Incr Delay (d2), s/veh	0.6	1.2	11.1	0.2	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	7.7	8.2	1.4	0.0	11.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.2	24.9	75.2	9.8	0.0	52.0
LnGrp LOS	C	C	E	A	A	D
Approach Vol, veh/h	966			313	638	
Approach Delay, s/veh	24.4			51.6	52.0	
Approach LOS	C			D	D	

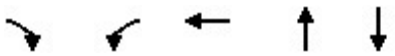
Timer - Assigned Phs		2	3	4		8
Phs Duration (G+Y+Rc), s		48.0	23.6	78.4		102.0
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s		44.0	37.0	57.0		98.0
Max Q Clear Time (g_c+I1), s		29.8	19.1	20.3		5.5
Green Ext Time (p_c), s		2.4	0.5	7.9		0.7

Intersection Summary	
HCM 6th Ctrl Delay	38.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Appendix C
Queueing Analysis



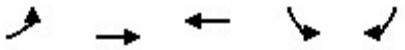
Lane Group	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	111	325	337	199	395
v/c Ratio	0.53	0.34	0.34	0.45	0.70
Control Delay	51.1	14.5	14.4	38.3	45.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	51.1	14.5	14.4	38.3	45.9
Queue Length 50th (ft)	71	111	115	67	127
Queue Length 95th (ft)	120	221	228	96	168
Internal Link Dist (ft)			385	131	284
Turn Bay Length (ft)					
Base Capacity (vph)	242	961	993	513	964
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.46	0.34	0.34	0.39	0.41

Intersection Summary

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	515	183	122	68	42	367	387	263	549	73
v/c Ratio	0.72	0.47	0.58	0.26	0.14	0.60	0.44	0.70	0.70	0.17
Control Delay	40.8	44.5	52.2	6.4	48.4	51.9	4.0	47.8	41.7	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0
Total Delay	40.8	44.5	52.2	6.4	48.4	51.9	6.0	47.8	41.7	11.2
Queue Length 50th (ft)	160	57	76	0	23	111	30	197	206	6
Queue Length 95th (ft)	200	92	135	22	m34	m132	m21	#423	#371	33
Internal Link Dist (ft)	588		161			305			103	
Turn Bay Length (ft)					150					
Base Capacity (vph)	961	443	240	283	340	681	882	377	783	418
Starvation Cap Reductn	0	0	0	0	0	0	343	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.41	0.51	0.24	0.12	0.54	0.72	0.70	0.70	0.17

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

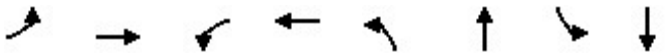


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	63	1012	571	48	28
v/c Ratio	0.44	0.23	0.17	0.37	0.20
Control Delay	52.8	1.5	4.0	51.3	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	52.8	1.5	4.0	51.3	18.8
Queue Length 50th (ft)	39	29	45	30	0
Queue Length 95th (ft)	79	48	50	64	26
Internal Link Dist (ft)		350	795	607	
Turn Bay Length (ft)	130				55
Base Capacity (vph)	262	4395	3437	332	320
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.24	0.23	0.17	0.14	0.09

Intersection Summary

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1006	16	410	132	652
v/c Ratio	0.27	0.17	0.12	0.55	0.84
Control Delay	5.3	48.1	3.4	47.0	21.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.3	48.1	3.4	47.0	21.5
Queue Length 50th (ft)	45	10	17	81	62
Queue Length 95th (ft)	107	31	39	125	123
Internal Link Dist (ft)	795		295	409	
Turn Bay Length (ft)		70		240	
Base Capacity (vph)	3667	166	3396	670	1320
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.27	0.10	0.12	0.20	0.49

Intersection Summary

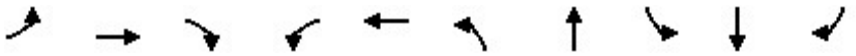


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	158	1506	119	412	44	479	202	217
v/c Ratio	0.76	1.08	0.71	0.19	0.46	0.86	0.80	0.32
Control Delay	86.2	81.4	86.2	18.5	83.3	37.7	83.9	29.2
Queue Delay	0.0	9.7	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	86.2	91.1	86.2	18.5	83.3	37.7	83.9	29.2
Queue Length 50th (ft)	152	~600	114	63	43	83	194	55
Queue Length 95th (ft)	223	#842	179	115	84	144	271	86
Internal Link Dist (ft)		295		591		345		356
Turn Bay Length (ft)	170		195		210		200	
Base Capacity (vph)	270	1397	183	2215	207	889	419	1114
Starvation Cap Reductn	0	192	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	1.25	0.65	0.19	0.21	0.54	0.48	0.19

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	109	396	343	40	162	359	865	24	125	201
v/c Ratio	0.63	0.78	0.52	0.39	0.43	0.28	0.65	0.13	0.66	0.60
Control Delay	68.5	44.4	9.6	59.5	36.8	26.0	26.0	43.0	62.3	13.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.5	44.4	9.6	59.5	36.8	26.0	26.0	43.0	62.3	13.9
Queue Length 50th (ft)	79	232	34	28	85	96	225	15	86	0
Queue Length 95th (ft)	137	#463	125	63	161	141	316	39	141	66
Internal Link Dist (ft)		696			379		1044		733	
Turn Bay Length (ft)	140			70		300		90		
Base Capacity (vph)	195	508	662	134	380	1271	1322	339	357	453
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.78	0.52	0.30	0.43	0.28	0.65	0.07	0.35	0.44

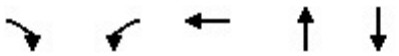
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	104	216	155	165	334	177	171	466	213	678	103
v/c Ratio	0.65	0.64	0.54	0.65	0.64	0.46	0.75	0.86dr	0.27	0.50	0.16
Control Delay	62.7	53.5	13.7	41.0	35.1	8.0	65.3	17.2	23.3	30.1	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.7	53.5	13.7	41.0	35.1	8.0	65.3	17.2	23.3	30.1	7.0
Queue Length 50th (ft)	78	81	0	124	125	12	117	14	86	185	0
Queue Length 95th (ft)	132	115	58	196	170	79	186	62	196	#339	44
Internal Link Dist (ft)		341			696			493		1450	
Turn Bay Length (ft)	150		150	225		85	130		150		
Base Capacity (vph)	262	548	371	325	669	442	291	833	786	1345	648
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.39	0.42	0.51	0.50	0.40	0.59	0.56	0.27	0.50	0.16

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
dr Defacto Right Lane. Recode with 1 though lane as a right lane.



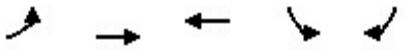
Lane Group	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	78	223	286	538	395
v/c Ratio	0.20	0.40	0.49	0.62	0.57
Control Delay	18.9	19.3	20.5	22.1	22.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.9	19.3	20.5	22.1	22.3
Queue Length 50th (ft)	21	66	87	85	61
Queue Length 95th (ft)	53	130	165	125	90
Internal Link Dist (ft)			385	131	284
Turn Bay Length (ft)					
Base Capacity (vph)	402	561	589	885	997
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.19	0.40	0.49	0.61	0.40

Intersection Summary

Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	316	665	275	242	70	561	152	90	466	107
v/c Ratio	0.71	0.68	0.52	0.39	0.21	0.86	0.15	0.31	0.77	0.31
Control Delay	52.6	38.8	36.0	5.0	49.1	68.6	4.0	52.9	58.4	17.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.6	38.8	36.0	5.0	49.1	68.6	4.0	52.9	58.4	17.0
Queue Length 50th (ft)	116	228	172	0	52	237	23	65	204	1
Queue Length 95th (ft)	155	263	231	51	m86	m294	m18	#200	#442	56
Internal Link Dist (ft)	588		161			305			103	
Turn Bay Length (ft)					150					
Base Capacity (vph)	792	1057	573	646	354	709	1055	286	603	342
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.63	0.48	0.37	0.20	0.79	0.14	0.31	0.77	0.31

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	54	260	1673	21	52
v/c Ratio	0.55	0.06	1.01	0.21	0.37
Control Delay	66.7	1.0	46.4	49.8	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	66.7	1.0	46.4	49.8	20.9
Queue Length 50th (ft)	34	5	~293	13	0
Queue Length 95th (ft)	#86	8	#527	37	38
Internal Link Dist (ft)		350	796	607	
Turn Bay Length (ft)	130				55
Base Capacity (vph)	99	4225	1659	102	140
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.06	1.01	0.21	0.37

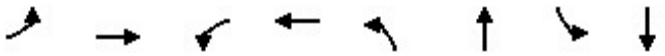
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

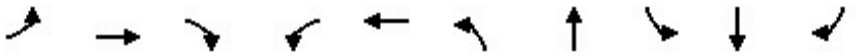
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	284	9	1447	243	231
v/c Ratio	0.09	0.08	0.39	0.75	0.34
Control Delay	7.9	46.2	6.1	52.4	5.5
Queue Delay	0.0	0.0	0.7	0.0	0.0
Total Delay	7.9	46.2	6.7	52.4	5.5
Queue Length 50th (ft)	20	6	108	148	0
Queue Length 95th (ft)	51	22	175	212	31
Internal Link Dist (ft)	796		267	402	
Turn Bay Length (ft)		70		240	
Base Capacity (vph)	3340	212	3705	641	1135
Starvation Cap Reductn	0	0	1747	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.09	0.04	0.74	0.38	0.20

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	94	384	363	1345	77	193	55	485
v/c Ratio	0.67	0.21	0.85	0.48	0.62	0.31	0.51	0.83
Control Delay	88.1	26.9	73.3	21.1	87.2	35.9	83.6	62.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	88.1	26.9	73.3	21.1	87.2	35.9	83.6	62.6
Queue Length 50th (ft)	91	75	340	270	74	58	53	202
Queue Length 95th (ft)	149	124	441	398	128	92	100	256
Internal Link Dist (ft)		267		1278		374		334
Turn Bay Length (ft)	170		195		210		200	
Base Capacity (vph)	186	1866	447	2816	253	876	280	947
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.21	0.81	0.48	0.30	0.22	0.20	0.51

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	57	268	254	62	393	517	269	5	201	554
v/c Ratio	0.61	0.79	0.54	0.34	0.90	0.70	0.36	0.01	0.31	0.82
Control Delay	87.6	52.4	12.2	54.3	67.5	49.7	37.6	25.6	30.2	32.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	87.6	52.4	12.2	54.3	67.5	49.7	37.6	25.6	30.2	32.1
Queue Length 50th (ft)	43	169	38	44	288	199	85	3	113	246
Queue Length 95th (ft)	m#104	223	74	91	#434	#295	130	12	177	#445
Internal Link Dist (ft)		696			379		1044		733	
Turn Bay Length (ft)	140			70		300		90		
Base Capacity (vph)	97	395	518	201	490	743	757	607	639	675
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.68	0.49	0.31	0.80	0.70	0.36	0.01	0.31	0.82

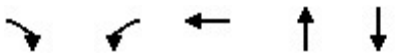
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	116	240	211	400	636	398	106	299	166	871	137
v/c Ratio	0.66	0.66	0.64	0.82	0.64	0.65	0.75	0.72	0.25	0.73	0.23
Control Delay	68.8	59.6	19.2	36.2	26.3	10.4	83.8	18.2	19.8	29.3	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.8	59.6	19.2	36.2	26.3	10.4	83.8	18.2	19.8	29.3	4.7
Queue Length 50th (ft)	96	99	18	221	171	47	81	6	77	272	22
Queue Length 95th (ft)	162	141	94	m#370	m219	m110	#162	50	170	410	53
Internal Link Dist (ft)		341			696			493		1450	
Turn Bay Length (ft)	150		150	225		85	130		150		
Base Capacity (vph)	219	456	366	509	1039	628	157	803	655	1189	608
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.53	0.58	0.79	0.61	0.63	0.68	0.37	0.25	0.73	0.23

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	202	474	492	383	568
v/c Ratio	0.72	0.59	0.59	0.65	0.78
Control Delay	56.8	24.5	24.2	51.9	45.3
Queue Delay	0.4	0.0	0.0	0.0	0.3
Total Delay	57.2	24.5	24.2	51.9	45.6
Queue Length 50th (ft)	123	256	265	132	184
Queue Length 95th (ft)	#257	358	367	m146	235
Internal Link Dist (ft)			385	131	284
Turn Bay Length (ft)					
Base Capacity (vph)	286	824	862	605	870
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	6	0	0	0	48
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.72	0.58	0.57	0.63	0.69

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

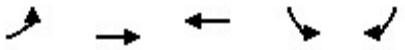
Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	936	207	264	160	49	447	692	368	767	73
v/c Ratio	0.90	0.76	1.80	0.59	0.29	1.31	0.83	0.88	0.88	0.16
Control Delay	44.8	65.3	412.4	17.1	64.3	190.0	11.5	53.0	43.8	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	50.1	2.3	2.3	0.0
Total Delay	44.8	65.3	412.4	17.1	64.3	190.0	61.6	55.3	46.0	4.6
Queue Length 50th (ft)	298	71	~272	0	35	~233	159	279	290	6
Queue Length 95th (ft)	#420	#131	#433	65	m34	m#150	m95	#428	348	m8
Internal Link Dist (ft)	588		161			305			103	
Turn Bay Length (ft)					150					
Base Capacity (vph)	1049	272	147	269	170	341	834	446	932	478
Starvation Cap Reductn	0	0	0	0	0	0	218	24	75	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.76	1.80	0.59	0.29	1.31	1.12	0.87	0.89	0.15

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	197	1522	1214	215	103
v/c Ratio	0.66	0.42	0.54	0.61	0.28
Control Delay	48.7	5.9	16.9	48.2	20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	48.7	5.9	16.9	48.2	20.9
Queue Length 50th (ft)	118	120	176	127	23
Queue Length 95th (ft)	179	83	201	#308	78
Internal Link Dist (ft)		350	795	607	
Turn Bay Length (ft)	130				55
Base Capacity (vph)	306	3620	2259	352	363
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.64	0.42	0.54	0.61	0.28

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBR	NBT	NBR
Lane Group Flow (vph)	115	918	1513
v/c Ratio	0.16	0.93	0.70
Control Delay	0.5	34.5	2.6
Queue Delay	0.0	0.0	0.0
Total Delay	0.5	34.5	2.6
Queue Length 50th (ft)	0	386	0
Queue Length 95th (ft)	0	#656	31
Internal Link Dist (ft)		876	
Turn Bay Length (ft)			
Base Capacity (vph)	702	989	2158
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.16	0.93	0.70

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1756	238	992	235	1128
v/c Ratio	0.71	0.98	0.31	0.71	1.03
Control Delay	29.6	114.8	9.5	61.2	77.4
Queue Delay	0.7	0.0	0.4	0.0	31.4
Total Delay	30.3	114.8	9.9	61.2	108.8
Queue Length 50th (ft)	477	246	219	129	~401
Queue Length 95th (ft)	457	m#530	m242	222	#879
Internal Link Dist (ft)	795		295		
Turn Bay Length (ft)		100			
Base Capacity (vph)	2469	244	3160	331	1098
Starvation Cap Reductn	0	0	1496	0	0
Spillback Cap Reductn	356	0	0	0	538
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.83	0.98	0.60	0.71	2.01

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

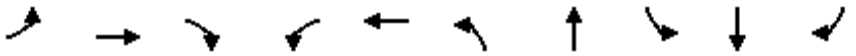
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	399	2129	88	153	989	123	217	472	356	231	241
v/c Ratio	1.33	1.44	0.10	0.75	0.50	1.62	0.82	1.44	2.02	0.33	0.49
Control Delay	209.4	225.0	1.6	90.9	28.5	371.6	85.8	245.7	511.0	52.0	9.1
Queue Delay	1.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	210.7	225.2	1.6	90.9	28.5	371.6	85.8	245.7	511.0	52.0	9.1
Queue Length 50th (ft)	~507	~1031	0	76	237	~172	209	~517	~543	102	0
Queue Length 95th (ft)	m#623	m#1071	m4	#126	280	#310	#344	#743	#748	144	76
Internal Link Dist (ft)		295			591		345			356	
Turn Bay Length (ft)	170			195		210			200		150
Base Capacity (vph)	300	1475	873	213	1961	76	264	328	176	693	494
Starvation Cap Reductn	28	72	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.47	1.52	0.10	0.72	0.50	1.62	0.82	1.44	2.02	0.33	0.49

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	147	714	359	122	415	359	1219	28	230	257
v/c Ratio	0.77	1.47	0.63	1.72	1.19	0.31	1.01	0.12	0.93	0.61
Control Delay	78.0	256.8	17.5	410.2	151.1	30.2	64.1	47.1	95.4	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	78.0	256.8	17.5	410.2	151.1	30.2	64.1	47.1	95.4	12.3
Queue Length 50th (ft)	116	~845	82	~145	~416	107	~484	20	185	0
Queue Length 95th (ft)	187	#1098	197	#273	#649	147	#642	49	#339	82
Internal Link Dist (ft)		696			379		1044		733	
Turn Bay Length (ft)	140			70		300		90		
Base Capacity (vph)	234	485	573	71	350	1167	1207	240	252	426
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	1.47	0.63	1.72	1.19	0.31	1.01	0.12	0.91	0.60

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	203	514	242	239	497	233	171	498	325	869	369
v/c Ratio	0.84	1.01	0.57	0.90	0.90	0.61	0.77	0.80	0.56	0.82	0.52
Control Delay	70.9	86.0	10.8	77.3	62.4	20.8	66.7	21.9	32.6	39.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.9	86.0	10.8	77.3	62.4	20.8	66.7	21.9	32.6	39.5	5.9
Queue Length 50th (ft)	147	~208	0	173	180	42	111	40	164	284	27
Queue Length 95th (ft)	#293	#320	73	#331	#279	126	#194	90	m237	m304	m27
Internal Link Dist (ft)		341			696			493		1450	
Turn Bay Length (ft)	150		150	225		85	130		150		
Base Capacity (vph)	242	509	424	268	557	381	257	934	578	1057	716
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	1.01	0.57	0.89	0.89	0.61	0.67	0.53	0.56	0.82	0.52

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

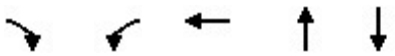
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1392	290	104	67	68
v/c Ratio	0.74	0.75	0.09	0.13	0.14
Control Delay	37.9	67.5	9.4	11.4	10.8
Queue Delay	0.3	0.0	0.0	0.0	0.0
Total Delay	38.2	67.5	9.4	11.4	10.8
Queue Length 50th (ft)	404	265	60	1	0
Queue Length 95th (ft)	394	m325	m24	45	45
Internal Link Dist (ft)	272		127	371	
Turn Bay Length (ft)		150			
Base Capacity (vph)	2653	386	1349	508	485
Starvation Cap Reductn	615	0	0	0	0
Spillback Cap Reductn	81	0	0	1	1
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.68	0.75	0.08	0.13	0.14

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	182	400	470	606	711
v/c Ratio	0.52	0.82	0.92	0.79	0.76
Control Delay	26.9	37.4	49.0	16.9	25.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	26.9	37.4	49.0	16.9	25.1
Queue Length 50th (ft)	59	144	175	118	113
Queue Length 95th (ft)	114	#294	#351	m82	168
Internal Link Dist (ft)			385	131	284
Turn Bay Length (ft)					
Base Capacity (vph)	351	489	512	774	996
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.52	0.82	0.92	0.78	0.71

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

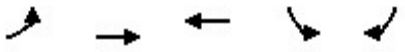
Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	796	910	626	335	184	784	291	202	939	107
v/c Ratio	0.89	1.12	1.42	0.61	1.08	2.30	0.28	0.69	1.52	0.32
Control Delay	45.3	111.4	236.7	17.4	119.5	613.9	4.5	55.4	276.6	16.7
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	1.3	0.0	0.7	0.0
Total Delay	45.3	111.6	236.7	17.4	119.5	613.9	5.8	55.4	277.3	16.7
Queue Length 50th (ft)	292	~435	~671	64	~162	~533	33	152	~559	12
Queue Length 95th (ft)	m265	#562	#897	169	m#182	m#477	m82	m223	m#697	m41
Internal Link Dist (ft)	588		161			305			103	
Turn Bay Length (ft)					150					
Base Capacity (vph)	929	812	441	547	170	341	1016	293	616	332
Starvation Cap Reductn	0	0	0	0	0	0	516	0	0	0
Spillback Cap Reductn	1	27	0	0	0	0	0	0	58	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	1.16	1.42	0.61	1.08	2.30	0.58	0.69	1.68	0.32

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	157	715	2890	221	375
v/c Ratio	1.59	0.17	1.85	2.17	1.31
Control Delay	339.0	1.3	402.9	580.9	181.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	339.0	1.3	402.9	580.9	181.4
Queue Length 50th (ft)	~143	17	~1042	~227	~176
Queue Length 95th (ft)	#271	21	#1136	#373	#358
Internal Link Dist (ft)		350	796	607	
Turn Bay Length (ft)	130				55
Base Capacity (vph)	99	4092	1563	102	286
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.59	0.17	1.85	2.17	1.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBR	NBT	NBR	SBL
Lane Group Flow (vph)	165	251	929	21
v/c Ratio	0.20	0.27	0.50	0.16
Control Delay	1.0	11.0	1.8	35.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	1.0	11.0	1.8	35.2
Queue Length 50th (ft)	0	61	0	9
Queue Length 95th (ft)	11	104	28	30
Internal Link Dist (ft)		876		
Turn Bay Length (ft)				
Base Capacity (vph)	811	935	1844	136
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	85	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.20	0.27	0.53	0.15

Intersection Summary

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	976	118	2399	616	616
v/c Ratio	0.48	1.11	1.01	1.00	0.45
Control Delay	30.5	135.0	58.0	83.3	15.9
Queue Delay	0.0	0.0	37.7	0.0	1.3
Total Delay	30.5	135.0	95.7	83.3	17.2
Queue Length 50th (ft)	239	~134	~915	632	247
Queue Length 95th (ft)	281	m#140	m784	#880	261
Internal Link Dist (ft)	796		283		
Turn Bay Length (ft)		100			
Base Capacity (vph)	2045	106	2386	618	1370
Starvation Cap Reductn	0	0	1059	0	251
Spillback Cap Reductn	8	0	0	0	519
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	1.11	1.81	1.00	0.72

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

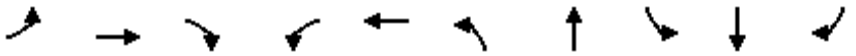
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	164	1084	98	502	2054	77	228	120	189	1068	495
v/c Ratio	1.22	0.84	0.21	0.98	1.19	0.62	0.38	0.21	0.93	0.80	0.69
Control Delay	195.7	69.3	14.1	98.0	135.9	87.2	38.8	6.0	110.6	46.6	27.6
Queue Delay	0.0	47.5	0.0	0.0	4.3	72.3	0.0	0.0	0.0	0.0	2.4
Total Delay	195.7	116.8	14.1	98.0	140.2	159.5	38.8	6.0	110.6	46.6	30.0
Queue Length 50th (ft)	~196	407	18	256	~886	74	168	0	185	484	241
Queue Length 95th (ft)	#379	458	45	#406	#979	128	240	44	#334	591	393
Internal Link Dist (ft)		283			619		355			347	
Turn Bay Length (ft)	170			195		210			200		150
Base Capacity (vph)	134	1290	477	511	1719	309	627	597	210	1343	716
Starvation Cap Reductn	0	303	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	1041	236	0	0	0	0	117
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.22	1.10	0.21	0.98	3.03	1.05	0.36	0.20	0.90	0.80	0.83

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	169	376	343	313	931	662	384	10	820	761
v/c Ratio	1.99	1.01	0.59	2.90	2.21	1.12	0.61	0.02	1.19	1.16
Control Delay	506.4	96.5	18.1	899.4	575.1	119.6	43.1	24.6	133.7	118.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	506.4	96.5	18.1	899.4	575.1	119.6	43.1	24.6	133.7	118.4
Queue Length 50th (ft)	~219	~292	98	~435	~1224	~316	125	5	~798	~658
Queue Length 95th (ft)	m#365	#521	182	#618	#1478	#436	179	17	#1043	#904
Internal Link Dist (ft)		696			379		1044		733	
Turn Bay Length (ft)	140			70		300		90		
Base Capacity (vph)	85	374	581	108	422	593	628	656	691	656
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.99	1.01	0.59	2.90	2.21	1.12	0.61	0.02	1.19	1.16

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

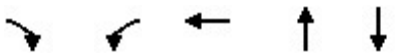
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	204	421	920	507	1047	754	106	370	375	951	247
v/c Ratio	0.69	0.68	2.04	1.57	1.57	1.61	0.70	0.80	0.61	0.75	0.35
Control Delay	62.0	54.8	496.6	292.8	292.0	299.9	77.9	37.8	38.4	39.4	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.0	54.8	496.6	292.8	292.0	299.9	77.9	37.8	38.4	39.4	4.5
Queue Length 50th (ft)	173	178	~1040	~648	~670	~744	84	70	244	348	0
Queue Length 95th (ft)	#338	#280	#1323	m#374	m#386	m#352	144	121	360	419	53
Internal Link Dist (ft)		341			696			493		1450	
Turn Bay Length (ft)	150		150	225		85	130		150		
Base Capacity (vph)	295	616	451	322	665	468	188	712	614	1331	733
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.68	2.04	1.57	1.57	1.61	0.56	0.52	0.61	0.71	0.34

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	202	501	521	386	576
v/c Ratio	0.74	0.62	0.62	0.67	0.78
Control Delay	58.8	25.2	24.9	52.9	45.3
Queue Delay	0.5	0.0	0.0	0.0	0.4
Total Delay	59.3	25.2	24.9	52.9	45.7
Queue Length 50th (ft)	123	278	289	133	186
Queue Length 95th (ft)	#257	386	397	m144	238
Internal Link Dist (ft)			385	131	284
Turn Bay Length (ft)					
Base Capacity (vph)	279	822	858	591	870
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	6	0	0	0	61
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.74	0.61	0.61	0.65	0.71

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

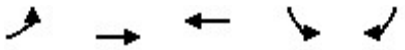
Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	946	217	267	163	49	447	698	391	807	73
v/c Ratio	0.91	0.81	1.83	0.60	0.31	1.40	0.84	0.91	0.90	0.16
Control Delay	45.7	69.7	428.6	17.3	63.9	225.7	11.9	56.9	45.9	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	49.8	4.3	4.2	0.0
Total Delay	45.7	69.7	428.6	17.3	63.9	225.7	61.7	61.2	50.1	4.5
Queue Length 50th (ft)	303	75	~276	0	35	~233	163	291	299	5
Queue Length 95th (ft)	#428	#140	#438	65	m35	m#152	m97	#465	#391	m8
Internal Link Dist (ft)	588		161			305			103	
Turn Bay Length (ft)					150					
Base Capacity (vph)	1049	269	146	270	160	320	824	446	930	478
Starvation Cap Reductn	0	0	0	0	0	0	217	24	73	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.81	1.83	0.60	0.31	1.40	1.15	0.93	0.94	0.15

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	197	1602	1247	223	103
v/c Ratio	0.66	0.44	0.55	0.65	0.29
Control Delay	48.6	5.9	16.8	50.1	21.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	5.9	16.8	50.1	21.8
Queue Length 50th (ft)	118	127	181	133	24
Queue Length 95th (ft)	179	86	207	#326	80
Internal Link Dist (ft)		350	795	607	
Turn Bay Length (ft)	130				55
Base Capacity (vph)	306	3640	2277	345	355
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.64	0.44	0.55	0.65	0.29

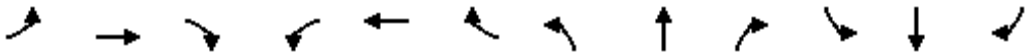
Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBR	NBT	NBR
Lane Group Flow (vph)	115	918	1586
v/c Ratio	0.16	0.93	0.72
Control Delay	3.3	34.5	2.8
Queue Delay	0.0	0.0	0.5
Total Delay	3.3	34.5	3.4
Queue Length 50th (ft)	1	386	0
Queue Length 95th (ft)	57	#656	32
Internal Link Dist (ft)		876	
Turn Bay Length (ft)			
Base Capacity (vph)	702	989	2191
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	233
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.16	0.93	0.81

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	0		0	0		0
Storage Lanes	0		0	1		0	1		2	0		0
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		875			375			284			166	
Travel Time (s)		19.9			8.5			6.5			3.8	
Lane Group Flow (vph)	0	1845	0	238	992	0	268	0	1141	0	0	0
v/c Ratio		0.76		1.33	0.34		0.66		1.03			
Control Delay		31.2		230.3	13.4		47.0		69.6			
Queue Delay		1.2		0.0	0.6		0.0		30.0			
Total Delay		32.4		230.3	13.9		47.0		99.6			
Queue Length 50th (ft)		513		~289	233		132		~377			
Queue Length 95th (ft)		518		m#530	m250		257		#869			
Internal Link Dist (ft)		795			295			204			86	
Turn Bay Length (ft)				100								
Base Capacity (vph)		2441		179	2960		405		1103			
Starvation Cap Reductn		0		0	1453		0		0			
Spillback Cap Reductn		351		0	0		0		602			
Storage Cap Reductn		0		0	0		0		0			
Reduced v/c Ratio		0.88		1.33	0.66		0.66		2.28			

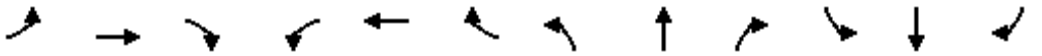
Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1000	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	170		0	195		0	210		0	200		150
Storage Lanes	1		1	2		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		375			671			425			436	
Travel Time (s)		8.5			15.3			8.3			8.5	
Lane Group Flow (vph)	399	2129	101	153	989	0	123	217	472	356	231	241
v/c Ratio	1.33	1.44	0.12	0.75	0.50		1.62	0.82	1.44	2.02	0.33	0.49
Control Delay	208.4	227.3	3.1	90.9	28.5		371.6	85.8	245.7	511.0	52.0	9.1
Queue Delay	1.2	0.2	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	209.6	227.5	3.1	90.9	28.5		371.6	85.8	245.7	511.0	52.0	9.1
Queue Length 50th (ft)	~508	~1033	4	76	237		~172	209	~517	~543	102	0
Queue Length 95th (ft)	m#619	m#1068	m8	#126	280		#310	#344	#743	#748	144	76
Internal Link Dist (ft)		295			591			345			356	
Turn Bay Length (ft)	170			195			210			200		150
Base Capacity (vph)	300	1475	873	213	1961		76	264	328	176	693	494
Starvation Cap Reductn	28	89	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	11		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.47	1.54	0.12	0.72	0.51		1.62	0.82	1.44	2.02	0.33	0.49

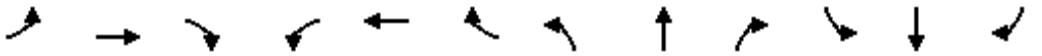
Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



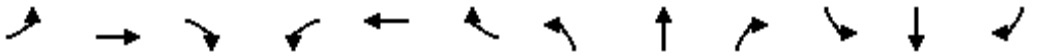
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	140		0	70		0	300		0	90		0
Storage Lanes	1		1	1		0	2		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			30			35			30	
Link Distance (ft)		776			459			1124			813	
Travel Time (s)		17.6			10.4			21.9			18.5	
Lane Group Flow (vph)	147	714	359	122	415	0	359	1219	0	28	230	270
v/c Ratio	0.77	1.47	0.63	1.72	1.19		0.31	1.01		0.12	0.93	0.62
Control Delay	78.0	256.8	17.5	410.2	151.1		30.2	64.1		47.1	95.4	12.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	78.0	256.8	17.5	410.2	151.1		30.2	64.1		47.1	95.4	12.4
Queue Length 50th (ft)	116	~845	82	~145	~416		107	~484		20	185	0
Queue Length 95th (ft)	187	#1098	197	#273	#649		147	#642		49	#339	84
Internal Link Dist (ft)		696			379			1044			733	
Turn Bay Length (ft)	140			70			300			90		
Base Capacity (vph)	234	485	573	71	350		1167	1207		240	252	437
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.63	1.47	0.63	1.72	1.19		0.31	1.01		0.12	0.91	0.62

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	225		85	130		0	150		0
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Right Turn on Red			Yes			Yes			Yes			Yes
Link Speed (mph)		30			25			35			35	
Link Distance (ft)		421			776			573			1530	
Travel Time (s)		9.6			21.2			11.2			29.8	
Lane Group Flow (vph)	210	514	242	243	507	233	171	498	0	325	879	369
v/c Ratio	0.87	1.01	0.57	0.91	0.91	0.61	0.77	0.80		0.56	0.83	0.52
Control Delay	75.8	87.0	10.8	79.1	64.2	20.8	66.7	21.9		32.0	39.3	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	75.8	87.0	10.8	79.1	64.2	20.8	66.7	21.9		32.0	39.3	5.5
Queue Length 50th (ft)	153	~208	0	176	184	42	111	40		159	286	23
Queue Length 95th (ft)	#307	#320	73	#339	#287	126	#194	90		m235	m307	m27
Internal Link Dist (ft)		341			696			493			1450	
Turn Bay Length (ft)	150		150	225		85	130			150		
Base Capacity (vph)	241	507	423	268	557	381	257	934		577	1056	716
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.87	1.01	0.57	0.91	0.91	0.61	0.67	0.53		0.56	0.83	0.52

Intersection Summary

Area Type: Other

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

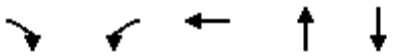
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	150		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			25		25	
Right Turn on Red		Yes				Yes
Link Speed (mph)	30			30	30	
Link Distance (ft)	352			207	451	
Travel Time (s)	8.0			4.7	10.3	
Lane Group Flow (vph)	1459	0	372	104	88	90
v/c Ratio	0.74		0.70	0.08	0.24	0.25
Control Delay	36.1		52.4	5.5	11.7	11.1
Queue Delay	0.5		0.0	0.0	0.0	0.0
Total Delay	36.6		52.4	5.5	11.7	11.1
Queue Length 50th (ft)	414		321	39	2	0
Queue Length 95th (ft)	404		m369	m19	52	51
Internal Link Dist (ft)	272			127	371	
Turn Bay Length (ft)			150			
Base Capacity (vph)	2646		530	1349	373	360
Starvation Cap Reductn	663		0	0	0	0
Spillback Cap Reductn	76		0	0	1	1
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.74		0.70	0.08	0.24	0.25

Intersection Summary	
Area Type:	Other

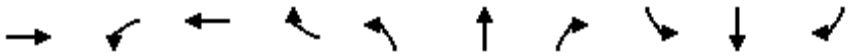
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	182	411	472	614	713
v/c Ratio	0.52	0.84	0.92	0.80	0.77
Control Delay	26.8	39.9	50.0	17.0	25.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	26.8	39.9	50.0	17.0	25.2
Queue Length 50th (ft)	59	148	176	121	114
Queue Length 95th (ft)	114	#304	#354	m85	168
Internal Link Dist (ft)			385	131	284
Turn Bay Length (ft)					
Base Capacity (vph)	351	487	511	774	997
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.52	0.84	0.92	0.79	0.72

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



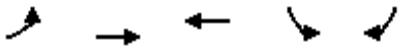
Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	798	948	636	344	184	784	292	217	940	107
v/c Ratio	0.89	1.17	1.45	0.63	1.08	2.30	0.29	0.74	1.53	0.32
Control Delay	45.4	128.9	246.9	18.0	119.4	613.9	4.5	57.9	277.1	16.5
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	1.3	0.0	0.7	0.0
Total Delay	45.4	129.1	246.9	18.0	119.4	613.9	5.8	57.9	277.8	16.5
Queue Length 50th (ft)	293	~466	~688	69	~162	~533	33	163	~558	11
Queue Length 95th (ft)	m266	#595	#915	177	m#184	m#476	m82	m239	m#696	m40
Internal Link Dist (ft)	588		161			305			103	
Turn Bay Length (ft)					150					
Base Capacity (vph)	929	811	440	549	170	341	1016	293	616	332
Starvation Cap Reductn	0	0	0	0	0	0	516	0	0	0
Spillback Cap Reductn	1	33	0	0	0	0	0	0	59	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.86	1.22	1.45	0.63	1.08	2.30	0.58	0.74	1.69	0.32

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	157	733	3014	222	375
v/c Ratio	1.59	0.18	1.93	2.18	1.31
Control Delay	339.0	1.3	438.3	585.1	181.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	339.0	1.3	438.3	585.1	181.5
Queue Length 50th (ft)	~143	17	~1104	~228	~177
Queue Length 95th (ft)	#271	22	#1197	#375	#359
Internal Link Dist (ft)		350	796	607	
Turn Bay Length (ft)	130				55
Base Capacity (vph)	99	4092	1563	102	286
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.59	0.18	1.93	2.18	1.31

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Lane Group	WBR	NBT	NBR	SBL
Lane Group Flow (vph)	165	251	946	21
v/c Ratio	0.20	0.27	0.51	0.16
Control Delay	0.9	11.0	1.8	35.2
Queue Delay	0.0	0.0	0.1	0.0
Total Delay	0.9	11.0	1.9	35.2
Queue Length 50th (ft)	0	61	0	9
Queue Length 95th (ft)	8	104	28	30
Internal Link Dist (ft)		876		
Turn Bay Length (ft)				
Base Capacity (vph)	811	935	1852	136
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	101	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.20	0.27	0.54	0.15

Intersection Summary

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	966	200	113	320	314
v/c Ratio	0.61	0.77	0.12	0.41	0.39
Control Delay	42.0	66.7	7.6	15.0	4.4
Queue Delay	0.9	0.0	0.0	0.0	0.0
Total Delay	42.9	66.7	7.6	15.0	4.4
Queue Length 50th (ft)	282	138	15	90	0
Queue Length 95th (ft)	310	m165	m2	190	67
Internal Link Dist (ft)	272		145	506	
Turn Bay Length (ft)		150			
Base Capacity (vph)	1834	420	1170	780	812
Starvation Cap Reductn	552	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.75	0.48	0.10	0.41	0.39

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	997	118	2399	746	662
v/c Ratio	0.49	1.11	1.01	1.21	0.48
Control Delay	30.5	135.0	58.0	148.2	15.9
Queue Delay	0.0	0.0	37.7	0.0	1.5
Total Delay	30.5	135.0	95.7	148.2	17.4
Queue Length 50th (ft)	243	~134	~915	~901	255
Queue Length 95th (ft)	286	m#140	m784	#1157	265
Internal Link Dist (ft)	796		283		
Turn Bay Length (ft)		100			
Base Capacity (vph)	2041	106	2386	618	1370
Starvation Cap Reductn	0	0	1059	0	216
Spillback Cap Reductn	9	0	0	0	497
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.49	1.11	1.81	1.21	0.76

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

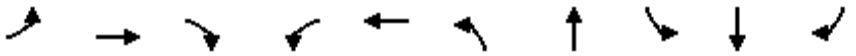
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	164	1084	141	502	2054	77	228	120	189	1068	495
v/c Ratio	1.22	0.84	0.29	0.98	1.19	0.62	0.38	0.21	0.93	0.80	0.69
Control Delay	196.0	67.4	21.1	98.0	135.9	87.2	38.8	6.0	110.6	46.6	27.6
Queue Delay	0.0	43.9	0.0	0.0	4.3	72.3	0.0	0.0	0.0	0.0	2.4
Total Delay	196.0	111.3	21.1	98.0	140.2	159.5	38.8	6.0	110.6	46.6	30.0
Queue Length 50th (ft)	~196	405	34	256	~886	74	168	0	185	484	241
Queue Length 95th (ft)	#378	452	96	#406	#979	128	240	44	#334	591	393
Internal Link Dist (ft)		283			619		355			347	
Turn Bay Length (ft)	170			195		210			200		150
Base Capacity (vph)	134	1290	478	511	1719	309	627	597	210	1343	716
Starvation Cap Reductn	0	295	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	1041	236	0	0	0	0	117
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.22	1.09	0.29	0.98	3.03	1.05	0.36	0.20	0.90	0.80	0.83

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	169	376	343	313	931	662	384	10	820	805
v/c Ratio	1.99	1.01	0.59	2.90	2.21	1.12	0.61	0.02	1.19	1.23
Control Delay	506.1	96.1	18.0	899.4	575.1	119.6	43.1	24.6	133.7	144.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	506.1	96.1	18.0	899.4	575.1	119.6	43.1	24.6	133.7	144.9
Queue Length 50th (ft)	~219	~292	96	~435	~1224	~316	125	5	~798	~734
Queue Length 95th (ft)	m#358	#521	182	#618	#1478	#436	179	17	#1043	#981
Internal Link Dist (ft)		696			379		1044		733	
Turn Bay Length (ft)	140			70		300		90		
Base Capacity (vph)	85	374	581	108	422	593	628	656	691	656
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.99	1.01	0.59	2.90	2.21	1.12	0.61	0.02	1.19	1.23

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	202	424	920	518	1080	754	106	370	375	988	247
v/c Ratio	0.71	0.72	2.09	1.61	1.63	1.63	0.70	0.80	0.60	0.77	0.35
Control Delay	64.1	56.6	516.7	307.6	314.6	307.6	77.9	37.8	37.6	39.5	4.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.1	56.6	516.7	307.6	314.6	307.6	77.9	37.8	37.6	39.5	4.8
Queue Length 50th (ft)	173	181	~1050	~669	~701	~752	84	70	241	363	2
Queue Length 95th (ft)	#331	#283	#1326	m#374	m#394	m#341	144	121	360	441	55
Internal Link Dist (ft)		341			696			493		1450	
Turn Bay Length (ft)	150		150	225		85	130		150		
Base Capacity (vph)	284	593	441	322	664	463	188	712	626	1331	730
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.72	2.09	1.61	1.63	1.63	0.56	0.52	0.60	0.74	0.34

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.