

APPENDIX I

Transportation Impact Analysis





HEXAGON TRANSPORTATION CONSULTANTS, INC.



45 Midway Drive Affordable Housing

Transportation Impact Analysis



Prepared for:

City of Daly City

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Executive Summary

The purpose of this report is to analyze the transportation impacts of the proposed affordable housing development located at 45 Midway Drive in Daly City, California. The project would replace 150 existing affordable housing units and a childcare center on site with 566 new affordable housing units, a park, and expanded childcare center. Project access would be provided via four driveways on Schwerin Street and one driveway on Martin Street.

The potential impacts of the project were evaluated relative to the applicable level of service standards and methodologies in order to satisfy the requirements of the California Environmental Quality Act (CEQA), the City of Daly City, the City of San Francisco, the City of Brisbane, and the San Mateo County Congestion Management Program (CMP). The City/County Association of Governments (C/CAG) of San Mateo County administers the San Mateo County CMP. The study includes an analysis of AM and PM peak-hour traffic conditions during weekdays at 10 existing and 3 future study intersections in the vicinity of the project site, and includes an evaluation of vehicle queuing, signal warrants, bike/pedestrian/transit conditions, vehicle miles traveled (VMT), C/CAG Travel Demand Management (TDM) compliance, site access, and on-site circulation.

Based on trip generation rates recommended by the Institute of Transportation Engineers, it is estimated that the proposed project would generate 3,106 net new daily vehicle trips, with 203 net new trips occurring during the AM peak hour and 245 net new trips occurring during the PM peak hour.

The analysis showed the following significant cumulative impact:

Significant Impact: Under cumulative conditions, the intersection of Bayshore Boulevard and Geneva Avenue would operate at LOS F during the PM peak hour without the proposed project. The project would add traffic to the intersection. According to the City of Daly City and San Mateo County CMP significance criteria, this would constitute a significant adverse cumulative impact at this intersection.

Mitigation: To mitigate this impact would require an overlap traffic signal phase be added at the future northbound Bayshore Boulevard to eastbound Geneva Avenue right turn movement in conjunction with the Geneva Avenue extension to U.S. 101. Construction of this overlap phase would allow northbound right turns on Bayshore Boulevard to go concurrently with westbound left turns on Geneva Avenue. This would improve the overall intersection average delay to 58.4 seconds. Under cumulative no project conditions, the intersection delay is shown to be 80.9 seconds. Thus, this improvement would return the average delay to better than no project conditions. Because this impact does not occur under existing plus project conditions and is the result of cumulative traffic increases, the

proposed project would be responsible for a fair share monetary contribution towards the improvement. Under existing conditions, there are approximately 2,601 PM peak hour trips at the intersection. Cumulative projects (not including project traffic) would add approximately 2,995 PM peak hour trips to the intersection between 2019 and 2035. The proposed project is projected to add approximately 95 PM peak hour trips to the intersection.

The proposed project would not result in significant impacts to any other study locations, nor would it result in any significant impacts to bike, pedestrian, or transit facilities. The report also produced the following conclusions and recommendations:

- Recommendation 1:** Parking on the east side of Schwerin Street at the Midway Drive driveway should be restricted as needed to maintain adequate sight distance, subject to review and approval by the City's Traffic Safety Committee and City Council. In addition, the project shall maintain the landscaping near the driveway such that it doesn't obstruct the line of sight down Schwerin Street. Placement of any monument signs or other permanent fixtures would need to be located out of the line of sight of exiting drivers. The final site plan will need to be reviewed by city staff.
- Recommendation 2:** The project shall ensure that alignments of the drive aisles and the corner radii are adequate for the circulation of standard vehicles as well as trucks, garbage collection, and emergency vehicles, subject to review by city staff.
- Recommendation 3:** The project shall ensure that the garage ingress/egress, internal circulation, ramp design and other relevant design features meet the city code requirements or otherwise accord with industry standards. Final design will be subject to review by city staff.
- Recommendation 4:** The project should consider establishing a time limit for childcare parking. Because all streets within the development are private roadways, parking restrictions would need to be enforced by private security. In addition, the childcare facility should consider preparing an access plan to show parents how to access the designated parking areas.
- Recommendation 5:** Prior to final design, the project applicant shall work with City of Daly City and SamTrans staff to consider the desirability of upgrades to the existing shuttle stop along the project frontage.
- Recommendation 6:** The project shall provide and/or implement CMP-approved TDM measures in order to meet the CMP TDM requirements.

1.

Introduction

This report presents the results of the transportation impact analysis conducted for the proposed affordable housing development located at 45 Midway Drive in Daly City, California. The project would replace 150 existing affordable housing units and a childcare center on site with 566 new affordable housing units, a park, and expanded childcare center. Project access would be provided via four driveways on Schwerin Street and one driveway on Martin Street. The project site and the surrounding study area are shown on Figure 1. The project site plan is shown on Figure 2.

Scope of Study

The potential impacts of the project were evaluated relative to the applicable level of service standards and methodologies in order to satisfy the requirements of the California Environmental Quality Act (CEQA), the City of Daly City, the City of San Francisco, the City of Brisbane, and the San Mateo County Congestion Management Program (CMP). The City/County Association of Governments (C/CAG) of San Mateo County administers the CMP.

The study includes an analysis of peak-hour intersection levels of service, vehicle queuing, signal warrants, bike/pedestrian/transit conditions, vehicle miles traveled (VMT), C/CAG Travel Demand Management (TDM) compliance, site access, and on-site circulation. The traffic analysis evaluated conditions at seven signalized intersections and six unsignalized intersections, as follows:

1. Carter Street and Martin Street
2. Carter Street and Guadalupe Canyon Parkway
3. Schwerin Street and Geneva Avenue
4. Schwerin Street and Ottilia Street*
5. Schwerin Street and Partridge Street/Project Driveway*
6. Schwerin Street and Martin Street*
7. U.S. 101 southbound off-ramp and Bayshore Boulevard (San Francisco)
8. Bayshore Boulevard and Geneva Avenue (Brisbane/Daly City/CMP)
9. Bayshore Boulevard and Main Street* (Brisbane)
10. Bayshore Boulevard and Guadalupe Canyon Parkway (Brisbane)
11. Schwerin Street and New Street A* (project driveway)
12. New Street B and Martin Street* (project driveway)
13. Linda Vista Drive and Martin Street* (planned)

* denotes unsignalized intersection

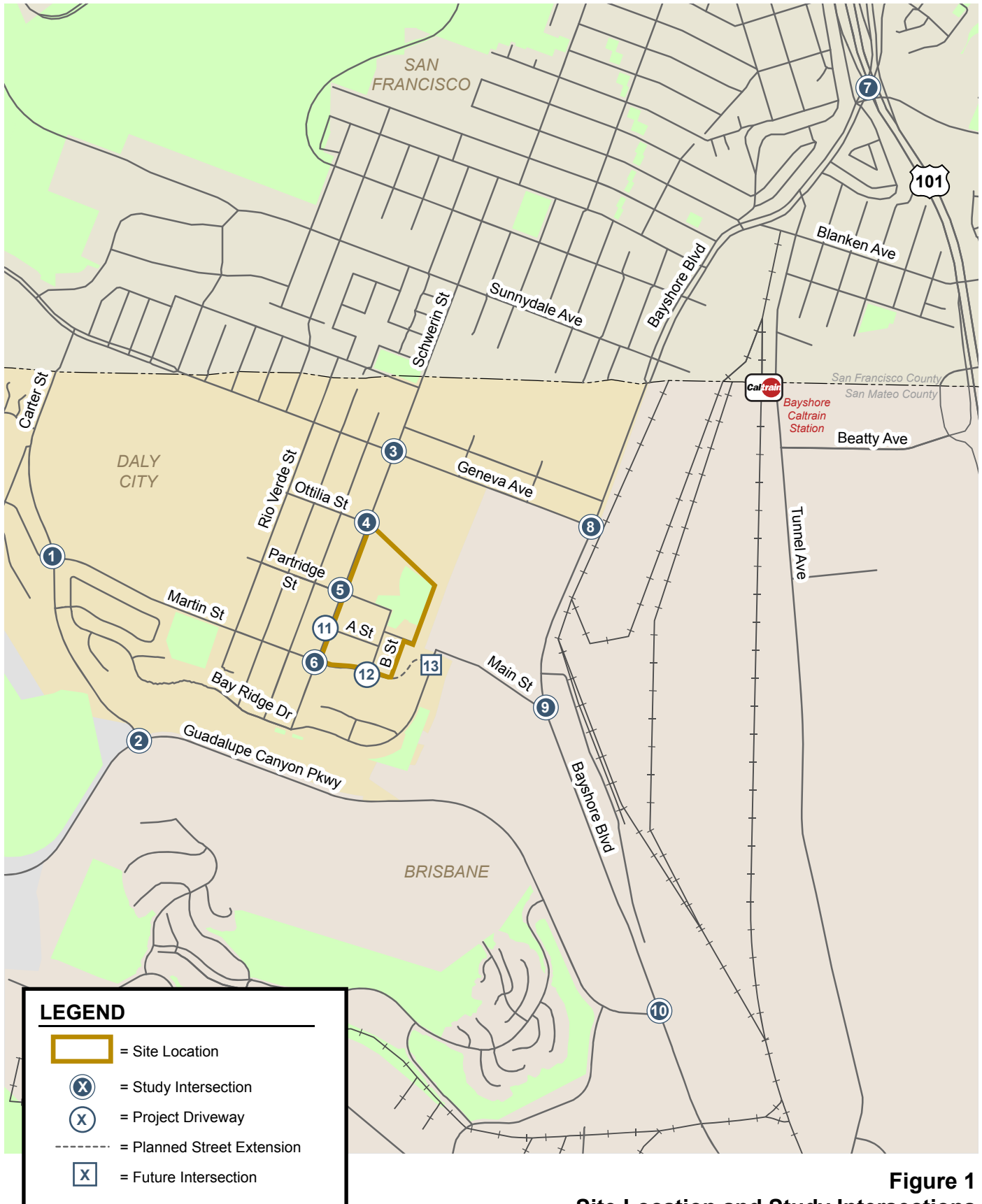


Figure 1
Site Location and Study Intersections



Figure 2
Site Plan

Traffic conditions at the study locations were analyzed for the weekday AM and PM peak hours. The AM peak hour of traffic is typically between 7:00 AM and 9:00 AM and the PM peak hour is typically between 4:00 PM and 6:00 PM. These periods represent the most congested traffic conditions on the surrounding street network during a typical weekday.

The project is anticipated to generate more than 100 trips in the peak hours. Per the County CMP requirements, a CMP analysis was required.

Traffic conditions were evaluated for the following scenarios:

- Scenario 1:** *Existing Conditions.* Existing conditions were represented by existing traffic volumes on the existing roadway network. Existing traffic volumes were obtained from recent traffic counts.
- Scenario 2:** *Existing Plus Project Conditions.* Existing plus Project conditions represent existing peak-hour traffic volumes with the addition of net project traffic resulting from the increase in number of affordable units and the increase in childcare center enrollment. Existing plus Project traffic volumes were obtained from the Daly City Travel Demand Forecast model. Existing plus project conditions were evaluated relative to existing conditions in order to identify potential impacts associated with the proposed project.
- Scenario 3:** *Cumulative No Project Conditions.* Cumulative No Project conditions were represented by Cumulative No Project traffic volumes on the existing roadway network with the addition of planned transportation improvements. Cumulative No Project traffic volumes were obtained from the Daly City Travel Demand Forecast model. The Cumulative No Project traffic volumes reflect all approved and pending development in the City.
- Scenario 4:** *Cumulative Plus Project Conditions.* Cumulative plus Project conditions were represented by Cumulative plus Project traffic volumes on the existing roadway network with the addition of planned transportation improvements. Cumulative plus Project traffic volumes were estimated using the City's Travel Demand Forecast model based on the project's proposed land use changes (increase in number of affordable units and increase in childcare center enrollment) on the site. Cumulative plus Project conditions were evaluated relative to Cumulative No Project conditions in order to determine potential cumulative project impacts.

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 traffic counts, published data, public documents, previous traffic studies, the City's traffic model, and field observations. The following data were collected from these sources:

- existing traffic volumes
- existing traffic observations
- lane configurations
- signal timing and phasing
- existing bicycle facilities
- existing transit service
- project traffic volumes
- cumulative traffic volumes

Level of Service Standards and Analysis Methodologies

Traffic conditions at the study locations 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 congested conditions with excessive delays. The analysis methods are described in detail below.

Signalized Intersections

The City of Daly City, City of Brisbane and the San Mateo County CMP evaluate level of service at signalized intersections based on the HCM level of service methodology using Synchro software. The HCM method evaluates signalized intersection operations based on average control delay time for all vehicles at the intersection. *Control delay* is the amount of delay that is attributed to the type of traffic control device at the intersection, and includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The correlation between average delay and level of service is shown in Table 1.

The City of Daly City and City of Brisbane have a level of service standard of LOS D or better for signalized intersections. The San Mateo County CMP has a level of service standard of LOS E or better for the signalized CMP intersection evaluated in this study.

City of Daly City and San Mateo County

Significance criteria are used to establish what constitutes an impact. For this analysis, the criteria used to determine significant impacts are based on CEQA Guidelines and the LOS standards of Daly City, the City of Brisbane, and the San Mateo County CMP.

For signalized San Mateo County CMP intersections and intersections in Daly City, the project would result in a significant impact if, for any peak hour under evaluation:

- the addition of project traffic would increase peak hour traffic volumes such that signalized intersection level of service would degrade to a level of service below the adopted standard.
- the project would add traffic to a signalized intersection that operates below the adopted level of service standard.

The San Mateo County CMP has additional, separate criteria for what constitutes an impact under cumulative conditions. For a CMP intersection currently in compliance with the adopted LOS standard, a project will be considered to have a CMP impact if the cumulative analysis indicates that:

- the combination of the proposed project and future cumulative traffic demand would cause operations of the CMP intersection to degrade to a level of service below the adopted CMP standard for the intersection, AND the proposed project would increase average control delay at the intersection by four (4) seconds or more relative to cumulative conditions without the project.

City of Brisbane

For signalized intersections in the City of Brisbane, the project would result in a significant impact if, for any peak hour under evaluation:

- the addition of project traffic would increase peak hour traffic volumes such that signalized intersection level of service would degrade to a level of service below the adopted standard (LOS D), or
- at a signalized intersection that operates below the adopted level of service standard without the project, the project would increase traffic at the critical movements by 5 percent or more

A significant impact at a signalized intersection is said to be satisfactorily mitigated when measures are implemented that would restore intersection levels of service to an acceptable level of service or restore the intersection to operating levels that are equal to or better than no project conditions.

City of San Francisco and San Francisco CMP

The City and County (CMP) of San Francisco no longer define project traffic impacts on the basis of level of service, having adopted vehicle-miles-travelled (VMT) as the metric for evaluating project impacts. In addition, the one study intersection within the jurisdiction of San Francisco- U.S. southbound ramps and Bayshore Boulevard- is located within a district that has been defined as exempt from impact analysis. There are therefore no applicable criteria for determining significant impacts at this intersection. The intersection at U.S. southbound ramps and Bayshore Boulevard was analyzed for informational purposes only.

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	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*.

Unsignalized Intersections

Level of service at unsignalized intersections is also based on the Highway Capacity Manual (HCM) method. Synchro software was used to apply the HCM operations method for evaluation of conditions at unsignalized intersections. This method is applicable for one-way, two-way, and all-way stop-controlled intersections. For side-street stop-controlled intersections, the LOS is reported for the overall intersection average delay and the average delay at the worst approach. The correlation between average delay and level of service for unsignalized, stop-controlled intersections is shown in Table 2.

Unlike signalized intersections, which typically represent constraint points for the roadway network, unsignalized intersections rarely limit the potential capacity of a roadway. The determination of appropriate improvements to unsignalized intersections typically includes a qualitative and quantitative analysis of movement delay, traffic signal warrants, movement traffic volumes, availability of alternate routes, and intersection safety. For this reason, improvements to unsignalized intersections are frequently determined on the basis of professional engineering judgment.

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* (HCM).

The City of Daly City and the San Mateo County CMP do not apply significance thresholds to unsignalized intersections. The City of Brisbane does, however, have LOS standards and significance criteria for impacts at unsignalized intersections. As with signalized intersections, the level of service standard for unsignalized intersections in Brisbane is LOS D.

For unsignalized intersections in the City of Brisbane, the project would result in a significant impact if, for any peak hour under evaluation:

- the addition of project traffic would increase peak hour traffic volumes such that unsignalized intersection level of service would degrade to a level of service below the adopted standard, or
- at an unsignalized intersection that operates below the adopted level of service standard without the project, the project would increase traffic by 5 percent or more (a) for the critical movements of an all-way-stop-controlled intersection, or (b) on the worst approach of a side-street-stop-controlled intersection.

Signal Warrant Methodology

The level of service analysis at unsignalized intersections is supplemented with an assessment of the need for signalization of the intersections. For this study, the need for signalization is assessed, in part, on the basis of the operating conditions at the intersections (i.e., level of service) and on the peak hour volume signal warrant – warrant #3 – described in the *California Manual on Uniform Traffic Control Devices* (MUTCD). This method provides an indication of whether traffic conditions and peak hour traffic levels are, or would be, sufficient to justify installation of a traffic signal.

Freeway Segment Capacity Analysis

A freeway segment analysis was performed using City/County Association of Governments (C/CAG) Congestion Management Program (CMP) guidelines. According to the 2017 San Mateo County Congestion Management Program guidelines, a freeway segment shall be included in a traffic impact analysis if it is expected to be impacted by the proposed project.

The selected LOS method for freeway segments is based on calculating V/C ratios for each direction of travel, wherein the traffic volume for each segment is divided by the capacity of the segment. The capacity is estimated as the number of lanes multiplied by 2,200 vehicles per hour per lane for four-lane freeway segments and 2,300 vehicles per hour per lane for segments with six or more lanes. The level of service standard for the freeway segments studied is LOS E.

Freeway impacts are generally considered to occur when a project causes a traffic increase equal to or greater than one-percent of capacity. A screen-line analysis of project traffic on U.S. 101 to and from the project site showed the project would add considerably less than one percent of the segment capacity on any study segment. Table 3 shows the project's expected contribution to traffic on the freeways in the vicinity of the project site. In accordance with County CMP guidelines, since no freeway segment is expected to be impacted by the proposed project, no further analysis of freeways is required.

Vehicle Queuing

A vehicle queuing analysis was performed for intersection turning movements where the project would add a considerable number of trips. Vehicle queues were estimated using a Poisson probability distribution, which estimates the probability of “n” vehicles for a vehicle movement using the following formula:

$$P(x=n) = \frac{\lambda^n e^{-\lambda}}{n!}$$

Where:

$P(x=n)$ = probability of “n” vehicles in queue

n = number of vehicles in the queue

λ = Average number of vehicles in the queue per lane (vehicles per hour / signal cycles per hour)

The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th-percentile maximum number of queued vehicles per signal cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the movement.

Table 3
Freeway Analysis

Freeway	Segment	# of Lanes ¹	Capacity (vphpl) ²	1% of Capacity	Project Peak Hour Trips	
					AM	PM
<u>Southbound Direction</u>						
US 101	north of Bayshore Blvd	5	11500	115	10	31
US 101	Bayshore Bl to Beatty Ave ³	4	9200	92	8	23
US 101	Beatty Ave to Lagoon Rd ³	4	9200	92	8	5
US 101	South of Lagoon Rd	4	9200	92	15	9
<u>Northbound Direction</u>						
US 101	South of Lagoon Rd	4	9200	92	5	15
US 101	Lagoon Rd to Beatty Ave ³	4	9200	92	3	8
US 101	Beatty Ave to Bayshore Bl ³	4	9200	92	23	14
US 101	north of Bayshore Blvd	5	11500	115	31	18
¹ includes mixed-flow lanes only; based on the narrowest part of the segment.						
² capacity is based on the ideal capacity cited in San Mateo County CMP Guidelines: 2,200 vehicles per lane for 4-lane freeways, and 2,300 vehicles per lane for freeway segments with six or more lanes.						
³ segments are applicable only under future conditions, because project traffic would use those segments only after the Geneva Avenue extension connects to the Beatty Ave (Candlestick) interchange.						

Transportation Demand Management (TDM) Measures

In its role as the Congestion Management Agency (CMA) for San Mateo County, the City/County Association of Governments (C/CAG) is responsible for maintaining the performance and standards of the Congestion Management Program (CMP) roadway network. The CMP requires new developments that are projected to generate 100 or more peak-hour trips to implement TDM measures that would reduce the demand for new peak-hour trips. The project is expected to generate more than 100 peak-hour trips and therefore would be subject to the C/CAG TDM guidelines.

Report Organization

The remainder of this report is divided into five chapters. Chapter 2 describes the existing roadway network, transit service, existing bicycle and pedestrian facilities, and existing traffic conditions. Chapter 3 explains the method used to estimate project traffic. Chapter 4 describes the potential project impacts on the transportation system under Existing plus Project traffic conditions. Chapter 5 presents Cumulative traffic conditions without and with project traffic. Chapter 6 describes the evaluation of other transportation related issues, including site access and circulation, TDM measures, and VMT assessment.



2. Existing Conditions

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

Existing Roadway Network

The existing roadways in the project vicinity are U.S. 101, Geneva Avenue, Bayshore Boulevard, Guadalupe Canyon Parkway, Carter Street, Martin Street, Linda Vista Drive, Schwerin Street, and Partridge Street. These roadways are described below.

U.S. Highway 101 (U.S. 101) near the project site is a limited-access eight- to 10-lane freeway that connects Brisbane and the Peninsula with San Francisco and Marin Counties to the north and San Jose to the south. U.S. 101 provides direct access to the Project Site to and from the north at the Bayshore Boulevard interchange located approximately one mile north of the site. Access to and from the south is provided via interchanges at Beatty Avenue and Lagoon Road, and via ramps at Sierra Point Parkway and Bayshore Boulevard/Airport Parkway approximately 3 miles south of the site.

Geneva Avenue is a four lane, east-west primary arterial in the vicinity of the project site. It begins at Bayshore Boulevard and ends at Ocean Avenue in San Francisco. It has a center left-turn lane and parking on both sides between Schwerin Street and Bayshore Boulevard in the vicinity of the project site. It provides direct access for various commercial uses and surrounding residential properties. Access to Geneva Avenue from the project site is provided primarily via Schwerin Street. There's a mix of Class II and Class III bike facilities on Geneva Avenue between Ocean Avenue and Bayshore Boulevard.

Bayshore Boulevard is a four-lane, north-south primary arterial with Class II bike lanes on both sides in the vicinity of the project site. It parallels U.S. 101 between Caesar Chavez Boulevard in San Francisco and South San Francisco, where it becomes Airport Boulevard. It provides a direct connection to the Third Street corridor in San Francisco and also serves the surrounding light industrial and residential uses. Access to Bayshore Boulevard from the project site is provided via Geneva Avenue, Linda Vista Drive and Main Street.

Guadalupe Canyon Parkway is a four lane, east-west secondary arterial in the vicinity of the project site. It begins at Bayshore Boulevard and runs westerly through the San Bruno Mountains where it connects with East Market Street to the east. Access to the site would be provided via

Carter Street and Martin Street. It also provides access to some office and residential land uses in the City of Brisbane.

Carter Street is a two-lane, north-south collector street in the vicinity of the project site. It begins at Geneva Avenue in the north and ends at Guadalupe Canyon Parkway in the south. It provides direct access to the surrounding residential properties. Access to Carter Street from the project site would be provided via Martin Street.

Martin Street is a two-lane, east-west local roadway that directly borders the site at its southern end. It begins in the east near the eastern boundary of the project site and ends at Carter Street in the west, where it becomes Martin Trail. It would provide direct access to the site via a new driveway. As part of the City's planned improvements, Martin Street would be extended easterly from its current eastern end to intersect with Linda Vista Drive, providing project site access to Bayshore Boulevard.

Linda Vista Drive is a two-lane local roadway with parking on both sides in the vicinity of the project site. It extends from Main Street at the east end to Schwerin Street at its west end, where it becomes Bay Ridge Drive. It provides direct access to the surrounding residential properties.

Schwerin Street is a two-lane, north-south local street with parking on both sides in the vicinity of the project site. Schwerin Street borders the western boundary of the site and would provide direct access to the site via the extension of Partridge Street and a new driveway between Partridge Street and Martin Street.

Partridge Street is an east-west, two-lane local street with parking on both sides in the vicinity of the project site. Partridge Street is proposed to be extended eastward to connect to the site via a new driveway; this portion of Partridge Street will be privately maintained.

Existing Bicycle and Pedestrian Facilities

Geneva Avenue and Bayshore Boulevard have existing Class II bicycle lanes in the vicinity of the project site. Carter Street between Geneva Avenue and Guadalupe Canyon Parkway, Martin Street between Carter Street and Schwerin Street, and Schwerin Street along the site frontage between Martin Street and Geneva Avenue, are all existing Class III bike routes. On the local streets surrounding the project site, the volume and speed of vehicular traffic is generally low enough such that shared use between bikes and motor vehicles is feasible.

In addition to the existing bicycle facilities described above, the City of Brisbane has "unclassified On-Street" improvements planned for Guadalupe Canyon Parkway. Class II bicycle lanes are also planned along the planned Geneva Avenue extension east of Bayshore Boulevard. The planned bicycle facilities within the study area are shown on Figure 3.

Pedestrian facilities in the area include sidewalks along streets, curb ramps and crosswalks at intersections, pedestrian signals at controlled locations, and pedestrian paths. Direct pedestrian access to the site is provided by sidewalks along the site frontage on Schwerin Street and Martin Street. Pedestrian facilities in the project area consist of sidewalks along all previously described streets: Geneva Avenue, Schwerin Street, Partridge Street, Martin Street, and Linda Vista Drive. Bayshore Boulevard has no sidewalks south of Geneva Avenue, nor on the east side north of Geneva Avenue. According to the Daly City Pedestrian Master Plan, pedestrian access improvements are proposed at various crossings along Geneva Avenue.

Existing Transit Service

Existing transit service to the study area is provided by the San Francisco Municipal Transportation Agency (MUNI), San Mateo County Transit District (SamTrans), Caltrain and BART. Figure 4 shows the existing transit service routes in the study area.

MUNI

MUNI provides bus service near the project site via Route 9, which travels between Daly City and San Francisco. The closest bus stop to the project site is located on Schwerin Street at MacDonalds Avenue, approximately 0.30 miles north of the site.

SamTrans

SamTrans provides bus service near the project site on Geneva Avenue via Routes 24 and 29. Route 24 operates only on school days between Brisbane and Westmoor High School in Daly City with one daily westbound AM departure and one daily eastbound PM departure. Route 29 also operates only on school days between Lipman Middle School in Brisbane and central Daly City. Route 29 has one daily eastbound AM departure and one daily westbound PM departure. For both routes, the closest bus stop from the project site is located on Geneva Avenue at the intersection with Schwerin Street, approximately 0.25 miles from the site.

Route 292 provides service between downtown San Francisco and Hillsdale Shopping Center in San Mateo, with service to San Francisco International Airport. From the Hillsdale Mall Shopping Center terminus, connections are provided to AC Transit. The route serves Daly City, with the stop at Bayshore Boulevard and Geneva Avenue, located approximately 0.65 miles away, being nearest to the project site.

SamTrans Route 397 provides limited overnight “night owl” service between downtown San Francisco and the Palo Alto transit center, with service to San Francisco International Airport. From the San Francisco terminus, connections are provided to AC Transit and Golden Gate Transit. From the Palo Alto transit center, connections are provided to VTA. The route serves Daly City, with the stop at Bayshore Boulevard and Geneva Avenue, located approximately 0.65 miles away, being nearest to the project site.

The Daly City Bayshore (DSB) Shuttle, operated by SamTrans, provides free shuttle service between the Daly City BART station and Bayshore Boulevard/Geneva Avenue, with a connection to the Balboa BART station on weekdays. The shuttle has a stop immediately fronting the site, at the Schwerin Street/Martin Street intersection.

The Bayshore/Brisbane Commuter Shuttle is a free service which runs between the Bayshore Caltrain Station and the Brisbane–Crocker Industrial Park area during commute hours on weekdays. The closest stop for the shuttle is on Bayshore Boulevard near Geneva Avenue.

The Bayshore/Brisbane Senior Shuttle is operated by SamTrans and the San Mateo County Transportation Authority. It operates similar to a paratransit service except that it circles on a fixed route between Bayshore Caltrain Station and South San Francisco (with connections to other SamTrans bus routes) until it receives a call to book a trip.

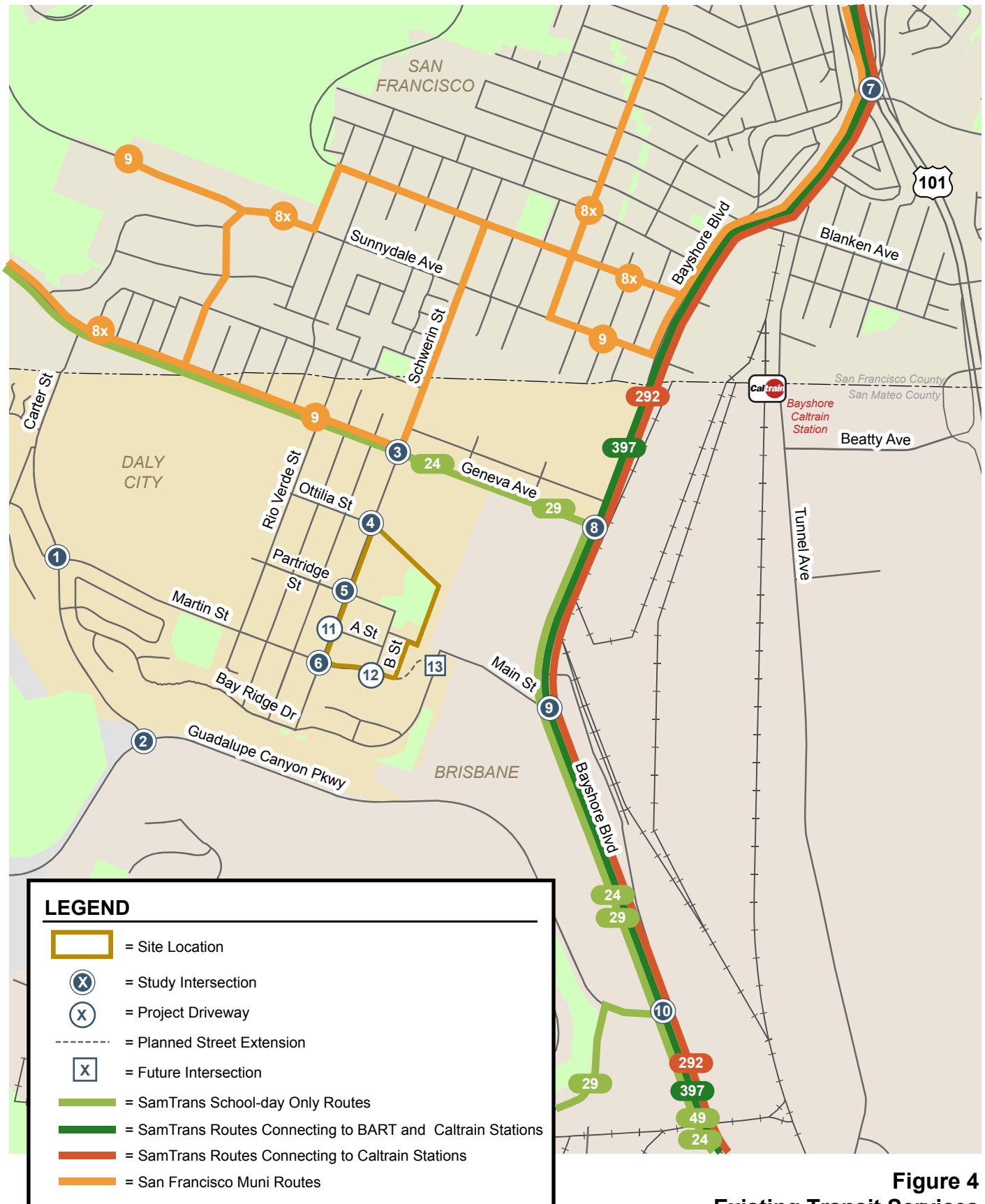


Figure 4
Existing Transit Services

Caltrain

Caltrain provides commuter rail service between Gilroy and San Francisco and most peninsula cities in between. Caltrain provides key transfer points to other transit lines in San Francisco at 4th & King, in Millbrae (to SFO via BART), Palo Alto Transit Center, Mountain View (to VTA Light Rail), and San Jose stations. The Caltrain station nearest to the project site is the Bayshore Station, which is located approximately 1.5 miles from the project site, on Tunnel Avenue at the border of Brisbane and San Francisco.

BART

The nearest BART station is the Balboa BART station, located approximately 2.25 miles northwest of the project site. From the Balboa BART station, riders can access Fremont, Pleasanton/Dublin, Richmond and Pittsburg as well as numerous points in between. Trains run on approximately 15 minute headways during commute hours. There are also a number of bus routes and shuttles operated by SamTrans and SFMTA that stop at the Daly City BART station.

Existing Intersection Lane Configurations and Traffic Volumes

The existing lane configurations at the study intersections were obtained from field observations. The existing intersection lane configurations are shown on Figure 5. The existing peak hour traffic volumes at the study intersections were obtained from turning movement counts conducted in February 2019. The peak hour traffic volumes are shown on Figure 6. The intersection traffic count data are included in Appendix A.

Existing Signalized Intersection Levels of Service

The results of the signalized intersection level of service analysis under existing conditions are summarized in Table 4. The results indicate that, measured against the City of Daly City, City of Brisbane and San Mateo County CMP level of service standards, all of the signalized study intersections currently operate at an acceptable level of service during the AM and PM peak hours.

Existing Unsignalized Intersection Levels of Service

The results of the unsignalized intersection level of service analysis under existing conditions are summarized in Table 4. The results indicate that all of the unsignalized study intersections currently operate at LOS B or better during the AM and PM peak hours. The level of service calculation sheets are included in Appendix B.

Table 4
Existing Intersection Levels of Service

Study No.	Intersection	Traffic Control ¹	Peak Hour	LOS Std ²	Avg. Delay ³	LOS ⁴
<u>City of Daly City Intersections</u>						
1	Carter Street and Martin Street	signal	AM PM	D D	6.7 4.6	A A
2	Carter Street and Guadalupe Canyon Parkway	signal	AM PM	D D	15.5 13.2	B B
3	Schwerin Street and Geneva Avenue	signal	AM PM	D D	8.3 10.5	A B
4	Schwerin Street and Otilia Street	AWSC	AM PM	D D	8.1 7.6	A A
5	Schwerin Street and Partridge Street/Project Driveway	AWSC	AM PM	D D	7.6 7.6	A A
6	Schwerin Street and Martin Street	AWSC	AM PM	D D	7.4 7.4	A A
8	Bayshore Boulevard and Geneva Avenue ⁵	signal	AM PM	D D	13.1 15.5	B B
11	Schwerin Street and Project Driveway (New Street A)	SSSC	AM PM	D D	---- ----	---- ----
12	Project Driveway (New Street B) and Martin Street	SSSC	AM PM	D D	---- ----	---- ----
13	Linda Vista Drive and Martin Street (planned) ⁶	SSSC	AM PM	D D	---- ----	---- ----
<u>City of San Francisco Intersections</u>						
7	U.S. 101 southbound off-ramp and Bayshore Blvd	signal	AM PM	n/a ⁷ n/a ⁷	22.7 20.3	C C
<u>City of Brisbane Intersections</u>						
9	Bayshore Boulevard and Main Street	SSSC	AM PM	D D	0.6 / 13.3 0.6 / 10.3	A / B A / B
10	Bayshore Boulevard and Guadalupe Canyon Parkway	signal	AM PM	D D	25.3 15.1	C B

¹ AWSC - All Way Stop Control. SSSC = Side Street Stop Control.

² There is no official LOS standard for unsignalized (AWSC and SSSC) intersections, except in the City of Brisbane, which uses standard LOS D for unsignalized intersections.

³ Signalized intersection levels of service and delays reported are for average control delay per vehicle. The intersection levels of service and delays reported for the AWSC intersections pertain to overall average delay. SSSC intersection levels of service and delays are reported for both the overall average delay / the approach with highest delay.

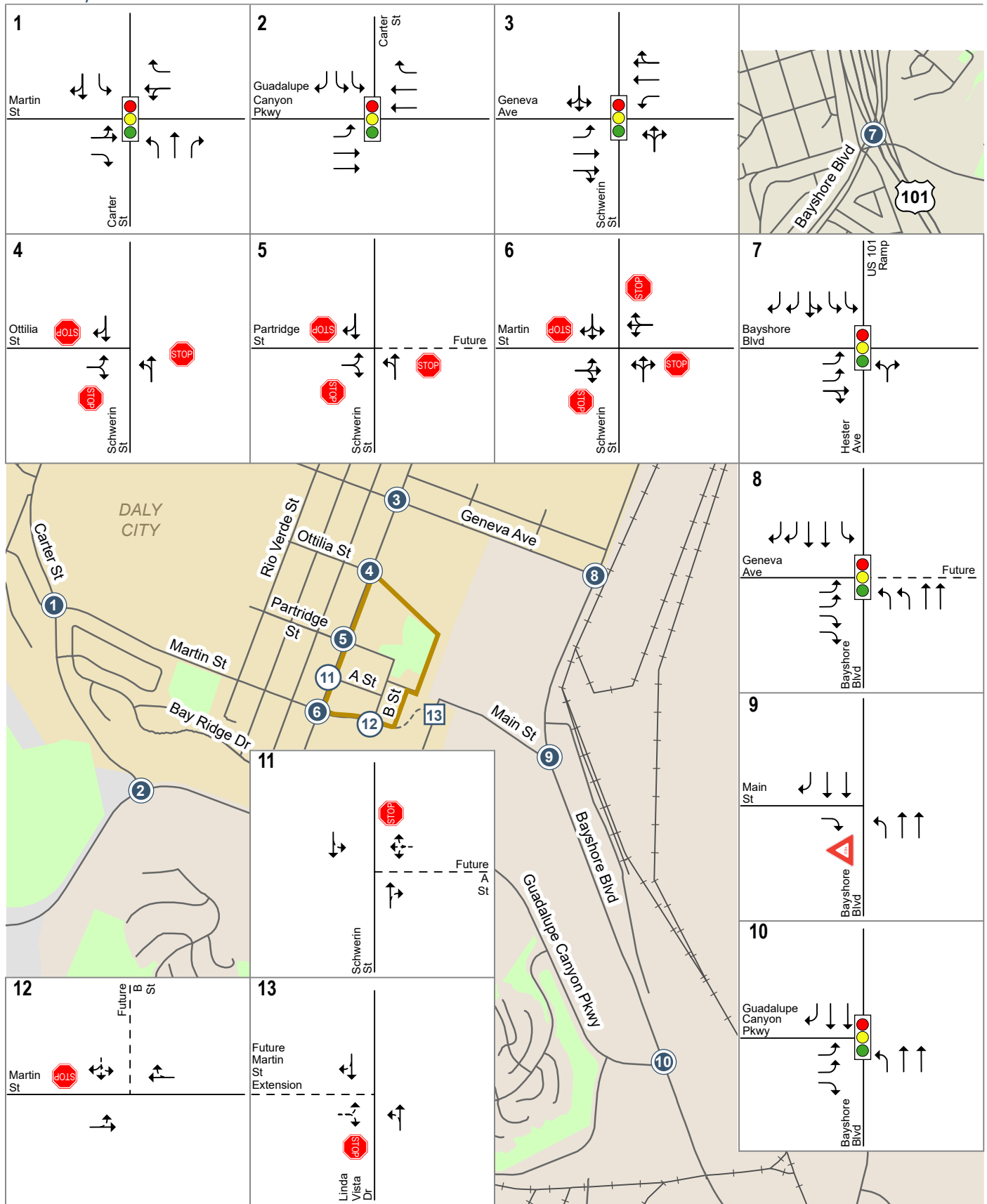
⁴ Level of service was calculated based on the HCM methodology using Synchro software.

⁵ The Bayshore Blvd & Geneva Avenue intersection operates under jurisdictions of Daly City, Brisbane and County (CMP). The CMP LOS standard at the intersection is LOS E.

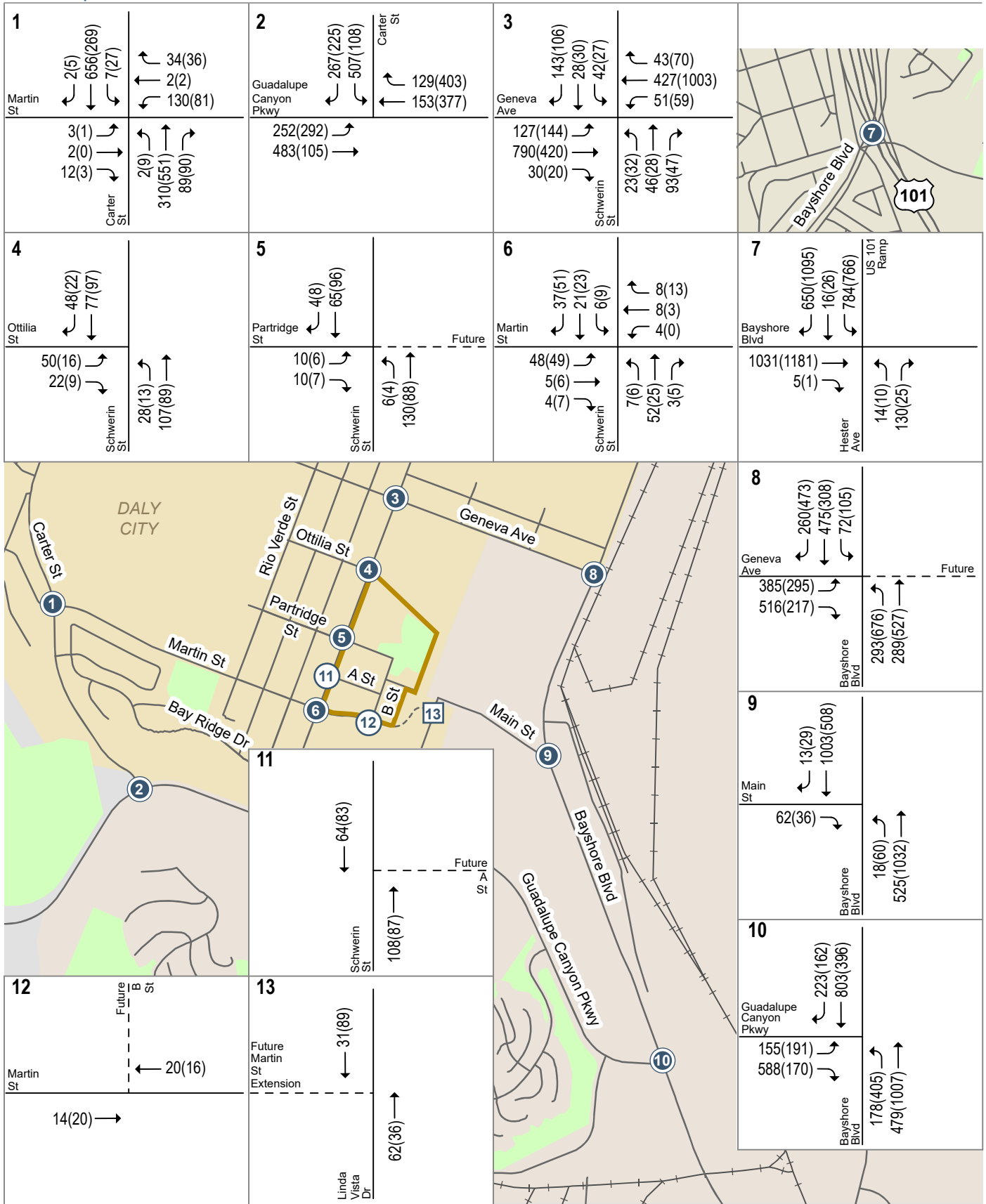
⁶ The planned intersection is assumed as SSSC, per the assumption in the Martin Street Residential TIA.

⁷ The intersection of US 101 SB ramps and Bayshore Boulevard is exempt from the City and County CMP LOS standard because of its location within an IOZ (Infill Opportunity Zone).

45 Midway Drive Residential



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LEGEND

= Site Location
 XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 6

Existing Traffic Volumes

Observed Existing Traffic Conditions

Traffic conditions in the field were observed in order to identify existing operational deficiencies and to confirm the accuracy of calculated levels of service. The purpose of this effort was (1) to identify any existing traffic problems that may not be directly related to intersection level of service, and (2) to identify any locations where the level of service calculation does not accurately reflect level of service in the field.

With one exception, the level of service analysis appears to accurately reflect actual existing traffic conditions. Observations at the intersection of the U.S. 101 southbound off-ramp and Bayshore Boulevard revealed heavy traffic congestion during both the AM and PM peak hours. However, these conditions are not directly related to operations at the intersection itself. The source of congestion is a vehicle queue that extends from the northbound U.S. 101 freeway mainline all the way back to the intersection, which thereby obstructs traffic flow at the intersection.

At Bayshore Boulevard and Main Street, the sight distance for the eastbound right-turn from Main Street onto southbound Bayshore Boulevard is limited due to vegetation. This vegetation needs to be trimmed back and maintained to ensure adequate sight distance.

3.

Project Characteristics

This chapter describes the method by which project traffic is estimated. The proposed project would replace 150 existing affordable housing units and a childcare center on site with 566 new affordable housing units, a park, and expanded childcare center. Project access would be provided via four driveways on Schwerin Street and one driveway on Martin Street. The streets within the project site will be privately maintained.

Project Traffic Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear were estimated using a two-step process: (1) trip generation, and (2) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site was estimated for the weekday AM and PM peak hours. In the project trip assignment step, the project trips were assigned to specific streets and intersections in the study area. These procedures are described further in the following sections.

Through empirical research, data have been collected that correlate common land uses to their propensity for producing traffic. Thus, for the most common land uses there are standard trip generation rates that can be applied to help predict the future traffic increases that would result from a new development. Project trip generation was estimated by applying to the size and uses of the development the appropriate trip generation rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation, 10th Edition*.

The representative land use for the project was assumed to be low-rise multi-family housing (ITE code 220) and day-care center (ITE code 565). The proposed park use was assumed to be local-serving and generate little traffic external to the surrounding neighborhood (also note that the existing development on-site includes a park). Trip generation estimates were based on the net increase in development, which is an increase of 416 dwelling units and 15 daycare center students. Accordingly, ITE's trip generation rates for the project would generate 3,106 net new daily vehicle trips, with 203 net new trips occurring during the AM peak hour and 245 net new trips occurring during the PM peak hour. The trip generation estimates are shown in Table 5.

Table 5
Project Trip Generation Estimates

Land Use	Size ¹	Daily Rate	Daily Trips	AM Peak Hour				PM Peak Hour			
				Rate	Total Trips	In	Out	Rate	Total Trips	In	Out
Residential ²	416 units	7.32	3,045	0.46	191	44	147	0.56	233	147	86
Child Care Center ³	15 students	4.09	61	0.78	12	6	6	0.79	12	6	6
Total Trips			3,106		203	50	153		245	153	92
¹ Size based on increase in development levels. Residential units: 566 units planned, 150 units existing. Child care center: 124 enrollment planned, 109 enrollment existing. ² Rate per dwelling unit, based on ITE <i>Trip Generation, 10th Edition</i> , 2017 for Multi-family housing - low-rise (ITE land-use code 220). ³ Rate per enrolled child, based on ITE <i>Trip Generation, 10th Edition</i> , 2017 for Day Care Center (ITE land-use code 565).											

The project trip assignment was carried out directly within the Daly City travel demand model for each project condition study scenario (existing+project, cumulative+project, AM and PM peak hours). However, the general directions of approach and departure of project traffic are shown on Figure 7.

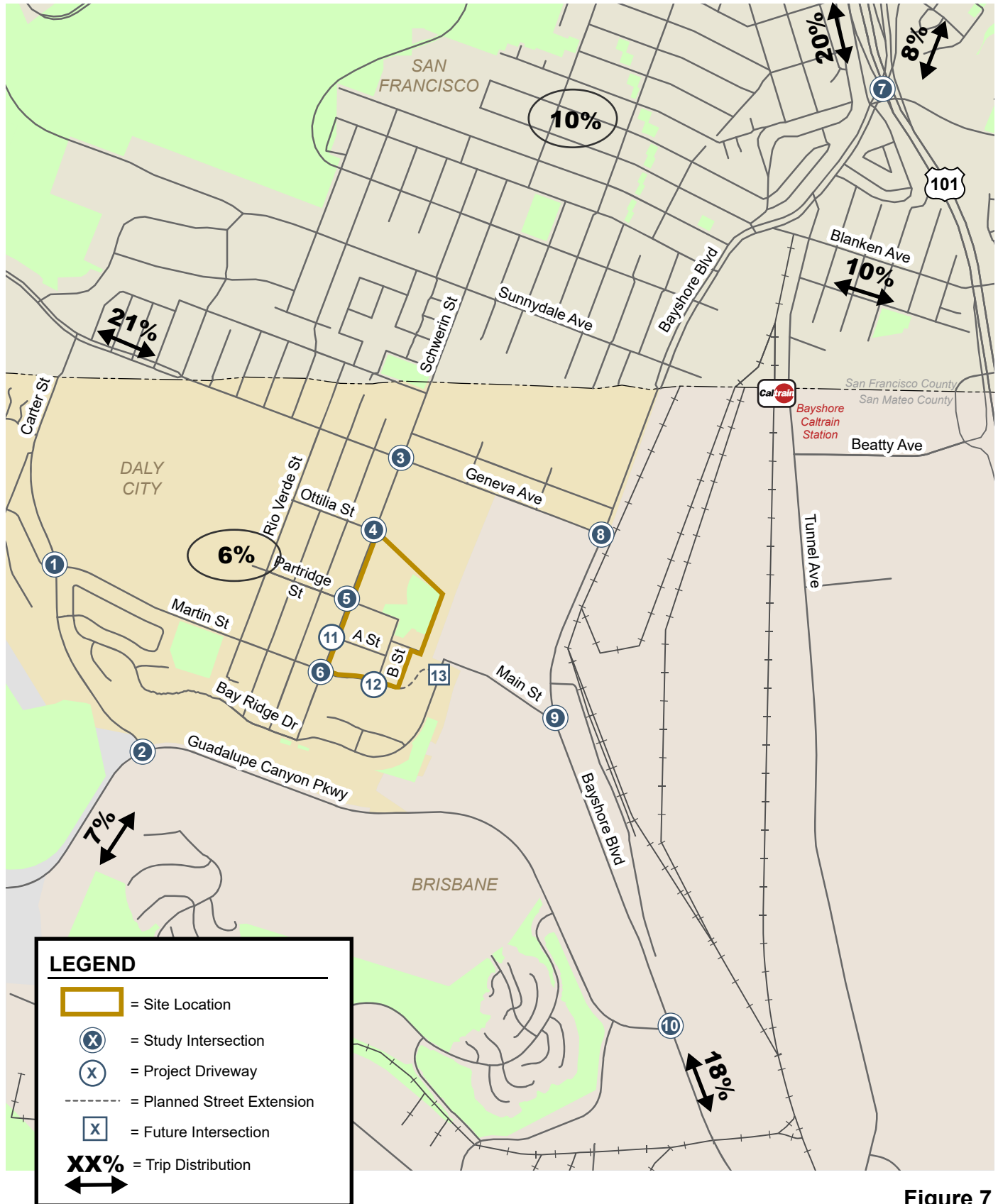


Figure 7
Project Trip Distribution

4. Existing Plus Project Conditions

This chapter describes existing plus project traffic conditions. Existing plus project traffic conditions represent the traffic conditions that would occur if the project were constructed and occupied today. This scenario is used to determine project-specific impacts.

Existing Plus Project Traffic Volumes & Transportation Network

It is assumed in this analysis that the roadway network and the study intersection lane configurations under existing plus project conditions would be the same as those described under existing conditions, with the exception of inclusion of the planned extension of Martin Street to Linda Vista Drive. Existing plus Project traffic volumes were provided by Daly City staff, via Kittelson Associates, using the Daly City Travel Demand Forecast (TDF) model. The existing plus project traffic volumes at the study intersections are shown graphically on Figure 8.

Existing Plus Project Signalized Intersection Levels of Service

The signalized intersection level of service results under existing plus project conditions are summarized in Table 6. The results show that, measured against the City of Daly City, City of Brisbane and San Mateo County CMP level of service standards, all of the signalized study intersections would operate at an acceptable level of service under existing plus project conditions during the AM and PM peak hours. Therefore, the proposed project would not create a significant impact at these locations.

Existing Plus Project Unsignalized Intersection Levels of Service

The unsignalized intersection level of service results under existing plus project conditions are summarized in Table 6. The results show that all of the unsignalized study intersections would operate at overall LOS A under existing plus project conditions during the AM and PM peak hours. All of the side-street-stop-controlled intersections would operate at LOS B or better on the worst approach in all cases.

Table 6
Existing Plus Project Intersection Levels of Service

Study No.	Intersection	Traffic Control ¹	Peak Hour	LOS Std ²	Existing		Existing + Project		
					Avg. Delay ³	LOS ⁴	Avg. Delay ³	LOS ⁴	Incr. In Avg. Delay
<u>City of Daly City Intersections</u>									
1	Carter Street and Martin Street	signal	AM PM	D D	6.7 4.6	A A	6.8 4.7	A A	0.1 0.1
2	Carter Street and Guadalupe Canyon Pkwy	signal	AM PM	D D	15.5 13.2	B B	15.8 13.3	B B	0.3 0.1
3	Schwerin Street and Geneva Avenue	signal	AM PM	D D	8.3 10.5	A B	9.0 11.4	A B	0.7 0.9
4	Schwerin Street and Otilia Street	AWSC	AM PM	D D	8.1 7.6	A A	9.0 8.2	A A	0.9 0.6
5	Schwerin St and Partridge St/Project Drive	AWSC	AM PM	D D	7.6 7.6	A A	8.3 9.3	A A	0.7 1.7
6	Schwerin Street and Martin Street	AWSC	AM PM	D D	7.4 7.4	A A	7.4 7.4	A A	0.0 0.0
8	Bayshore Boulevard and Geneva Avenue ⁵	signal	AM PM	D D	13.1 15.5	B B	13.8 15.9	B B	0.7 0.4
11	Schwerin St and Project Drive (New Street A)	SSSC	AM PM	D D	---- ----	---- ----	0.5 / 9.6 0.5 / 9.7	A / A A / A	---- ----
12	Project Drive (New Street B) and Martin St	SSSC	AM PM	D D	---- ----	---- ----	4.4 / 8.9 1.9 / 8.9	A / A A / A	---- ----
13	Linda Vista Dr and Martin Street (planned) ⁶	SSSC	AM PM	D D	---- ----	---- ----	2.4 / 9.3 1.0 / 9.6	A / A A / A	---- ----
<u>City of San Francisco Intersections</u>									
7	U.S. 101 SB off-ramp and Bayshore Blvd	signal	AM PM	n/a ⁷ n/a ⁷	22.7 20.3	C C	23.5 20.5	C C	0.8 0.2
<u>City of Brisbane Intersections</u>									
9	Bayshore Boulevard and Main Street	SSSC	AM PM	D D	0.6 / 13.3 0.6 / 10.3	A / B A / B	1.0 / 14.1 0.8 / 10.4	A / B A / B	0.4 / 0.8 0.2 / 0.1
10	Bayshore Bl and Guadalupe Canyon Pkwy	signal	AM PM	D D	25.3 15.1	C B	25.7 15.1	C B	0.4 0.0

¹ AWSC - All Way Stop Control. SSSC = Side Street Stop Control.

² There is no official LOS standard for unsignalized (AWSC and SSSC) intersections, except in the City of Brisbane, which uses standard LOS D for unsignalized intersections.

³ Signalized intersection levels of service and delays reported are for average control delay per vehicle. The intersection levels of service and delays reported for the AWSC intersections pertain to overall average delay. SSSC intersection levels of service and delays are reported for both the overall average delay / the approach with highest delay.

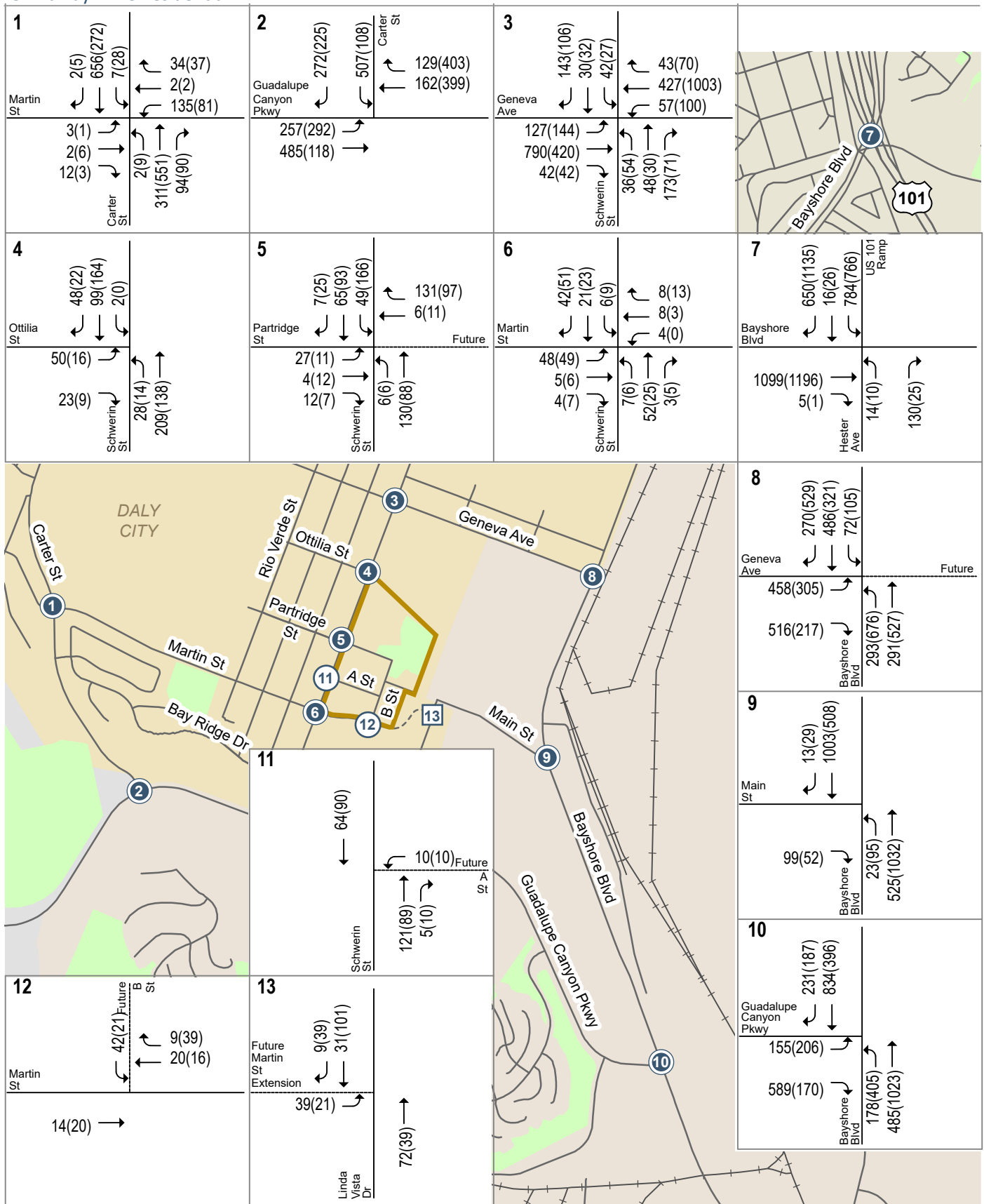
⁴ Level of service was calculated based on the HCM methodology using Synchro software.

⁵ The Bayshore Blvd & Geneva Avenue intersection operates under jurisdictions of Daly City, Brisbane and County (CMP). The CMP LOS standard at the intersection is LOS E.

⁶ The planned intersection is assumed to be SSSC, per the assumption in the Martin Street Residential TIA.

⁷ The intersection of US 101 SB ramps and Bayshore Boulevard is exempt from the City and County CMP LOS standard because of its location within an IOZ (Infill Opportunity Zone).

45 Midway Drive Residential



LEGEND

XX(XX) = Site Location XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 8
Existing with Project Traffic Volumes

The City of Daly City and San Mateo County CMP do not have a level of service threshold of significance for unsignalized intersections. An evaluation of traffic signal warrants can further guide the decision whether to install a traffic signal. Refer to Chapter 6, Other Transportation Issues, for the analysis of traffic signal warrants.

The City of Brisbane does have a level of service threshold of significance for unsignalized intersections. However, the only unsignalized study intersection located in Brisbane is the side-street-yield-controlled intersection at Bayshore Boulevard and Main Street, which would operate at LOS A overall and LOS B on the minor street approach under both existing conditions and existing conditions with the project.

5. Cumulative Conditions

This chapter presents a summary of the traffic conditions that would occur under cumulative conditions. For this analysis, cumulative conditions represent traffic conditions assuming the buildout of the Daly City General Plan to year 2035. Cumulative no project and with project traffic volumes were provided by Daly City staff, via Kittelson Associates, using the Daly City Travel Demand Forecast (TDF) model. The Daly City TDF model includes various local and regional improvements outside of the project area. Included in this chapter is a summary of results from the cumulative conditions analysis and identification of any intersection impacts caused by the project.

Cumulative Transportation Network

While there are various regional transportation improvements planned by the year 2035, it is assumed in this analysis that the transportation network in the project vicinity under cumulative conditions would be the same as that described under existing conditions, with the following exceptions:

Daly City General Plan Improvements

- Geneva Avenue extension from Bayshore Boulevard to U.S. 101 at Beatty interchange
- Martin Avenue extension from existing terminus to Linda Vista Drive
- Pedestrian access improvements at various crossings along Geneva Avenue

Brisbane General Plan Improvements

- Geneva Avenue/Harney Way extension from Bayshore Blvd to U.S. 101 (same as Daly City)
- New U.S. 101 interchange at Geneva Avenue/Harney Way

San Mateo County CMP (C/CAG) Planned Improvements

- U.S. 101 auxiliary lanes: add northbound and southbound modified auxiliary lanes and/or HOT lanes on U.S. 101 from Oyster Point Boulevard to the San Francisco County line

- New U.S. 101 interchange at Geneva Avenue/Harney Way (same as Brisbane)

Cumulative Traffic Volumes

Cumulative No Project traffic volumes were obtained from the Daly City TDF model based on General Plan land uses. Cumulative plus Project traffic volumes were estimated using the City's model based on incorporating into the General Plan land uses the project's proposed land use changes (increase in number of affordable units and increase in childcare center enrollment) on the site. The cumulative traffic volumes without and with the proposed project are shown on Figures 9 and 10.

Cumulative Signalized Intersection Levels of Service

The signalized intersection level of service results under Cumulative with Project conditions are summarized in Table 7. The level of service calculation sheets are included in Appendix B. The results show that all but one of the signalized study intersections would operate at an acceptable level of service under Cumulative with Project conditions during the peak hours. The intersection of Bayshore Boulevard and Geneva Avenue would operate at an unacceptable LOS F in the PM peak hour under Cumulative with Project conditions. The project would add traffic to a LOS F intersection, thereby constituting a significant impact at this intersection.

Significant Impact: Under cumulative conditions, the intersection of Bayshore Boulevard and Geneva Avenue would operate at LOS F during the PM peak hour without the proposed project. The project would add traffic to the intersection. According to the City of Daly City and San Mateo County CMP significance criteria, this would constitute a significant adverse cumulative impact at this intersection.

Mitigation: To mitigate this impact would require an overlap traffic signal phase be added at the future northbound Bayshore Boulevard to eastbound Geneva Avenue right turn movement in conjunction with the Geneva Avenue extension to U.S. 101. Construction of this overlap phase would allow northbound right turns on Bayshore Boulevard to go concurrently with westbound left turns on Geneva Avenue. This would improve the overall intersection average delay to 58.4 seconds. Under cumulative no project conditions, the intersection delay is shown to be 80.9 seconds. Thus, this improvement would return the average delay to better than no project conditions. Because this impact does not occur under existing plus project conditions and is the result of cumulative traffic increases, the proposed project would be responsible for a fair share monetary contribution toward the improvement. Under existing conditions, there are approximately 2,601 PM peak hour trips at the intersection. Cumulative projects (not including project traffic) would add approximately 2,995 PM peak hour trips to the intersection between 2019 and 2035. The proposed project is projected to add approximately 95 PM peak hour trips to the intersection.

Cumulative Unsignalized Intersection Levels of Service

The unsignalized intersection level of service results under cumulative plus project conditions are summarized in Table 7. The level of service calculation sheets are shown in Appendix B. The results show that all of the unsignalized study intersections would operate at overall LOS A under cumulative plus project conditions during the AM and PM peak hours. All of the side-street-stop-controlled intersections would operate at LOS C or better on the worst approach in all cases.

The City of Daly City and San Mateo County CMP do not have a level of service threshold of significance for unsignalized intersections. An evaluation of traffic signal warrants can further guide the decision whether to install a traffic signal. Refer to Chapter 6, Other Transportation Issues, for the analysis of traffic signal warrants.

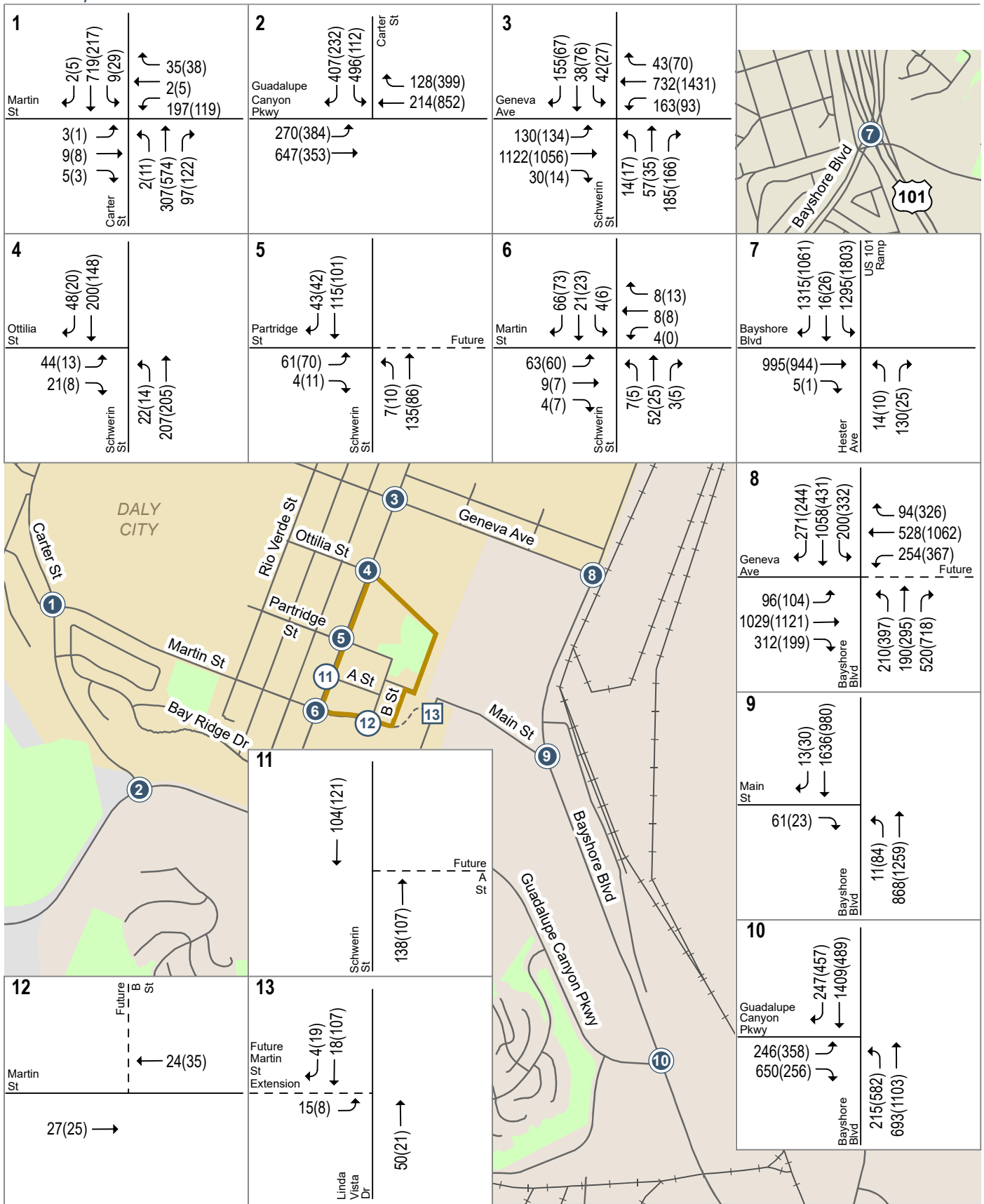
The City of Brisbane does have a level of service threshold of significance for unsignalized intersections. However, the only unsignalized study intersection located in Brisbane is the side-street-yield-controlled intersection at Bayshore Boulevard and Main Street, which would operate at LOS C (on the minor street approach) or better under cumulative conditions both without and with the project.



Table 7
Cumulative Intersection Levels of Service

Study No. Intersection	Traffic Control ¹	Peak Hour	LOS Std ²	Cumulative				
				No Project		With Project		
				Avg. Delay ³	LOS ⁴	Avg. Delay ³	LOS ⁴	Incr. In Avg. Delay
<u>City of Daly City Intersections</u>								
1 Carter Street and Martin Street	signal	AM PM	D D	9.7 6.1	A A	9.7 6.2	A A	0.0 0.1
2 Carter Street and Guadalupe Canyon Pkwy	signal	AM PM	D D	17.1 29.0	B C	17.6 29.8	B C	0.5 0.8
3 Schwerin Street and Geneva Avenue	signal	AM PM	D D	12.1 12.3	B B	14.7 14.7	B B	2.6 2.4
4 Schwerin Street and Ottilia Street	AWSC	AM PM	D D	9.5 8.6	A A	10.0 9.4	A A	0.5 0.8
5 Schwerin St and Partridge St/Project Drive	AWSC	AM PM	D D	8.1 8.0	A A	8.9 9.8	A A	0.8 1.8
6 Schwerin Street and Martin Street	AWSC	AM PM	D D	7.5 7.4	A A	7.5 7.5	A A	0.0 0.1
8 Bayshore Boulevard and Geneva Avenue ⁵	signal	AM PM	D D	52.3 80.9	D F	54.5 82.5	D F	2.2 1.6
11 Schwerin St and Project Drive (New Street A)	SSSC	AM PM	D D	---- ----	---- ----	0.4 / 10.0 0.5 / 10.0	A / B A / B	---- ----
12 Project Drive (New Street B) and Martin St	SSSC	AM PM	D D	---- ----	---- ----	3.7 / 9.0 1.6 / 9.0	A / A A / A	---- ----
13 Linda Vista Dr and Martin Street (planned) ⁶	SSSC	AM PM	D D	---- ----	---- ----	3.0 / 9.2 1.1 / 9.5	A / A A / A	1.5 / 0.3 0.6 / 0.2
<u>City of San Francisco Intersections</u>								
7 U.S. 101 SB off-ramp and Bayshore Blvd	signal	AM PM	n/a ⁷ n/a ⁷	26.7 19.9	C B	26.7 19.9	C B	0.0 0.0
<u>City of Brisbane Intersections</u>								
9 Bayshore Boulevard and Main Street	SSSC	AM PM	D D	0.5 / 20.0 0.5 / 12.4	A / C A / B	0.8 / 22.1 0.6 / 12.4	A / C A / B	0.3 / 2.1 0.1 / 0.0
10 Bayshore Blvd and Guadalupe Canyon Pkwy	signal	AM PM	D D	41.6 23.4	D C	45.6 23.4	D C	4.0 0.0
¹ AWSC - All Way Stop Control. SSSC = Side Street Stop Control. ² There is no official LOS standard for unsignalized (AWSC and SSSC) intersections, except in the City of Brisbane, which uses standard LOS D for unsignalized intersections. ³ Signalized intersection levels of service and delays reported are for average control delay per vehicle. The intersection levels of service and delays reported for the AWSC intersections pertain to overall average delay. SSSC intersection levels of service and delays are reported for both the overall average delay / the approach with highest delay. ⁴ Level of service was calculated based on the HCM methodology using Synchro software. ⁵ The Bayshore Blvd & Geneva Avenue intersection operates under jurisdictions of Daly City, Brisbane and County (CMP). The CMP LOS standard at the intersection is LOS E. ⁶ The planned intersection is assumed to be SSSC, per the assumption in the Martin Street Residential TIA. ⁷ The intersection of US 101 SB ramps and Bayshore Boulevard is exempt from the City and County CMP LOS standard because of its location within an IOZ (Infill Opportunity Zone).								

45 Midway Drive Residential

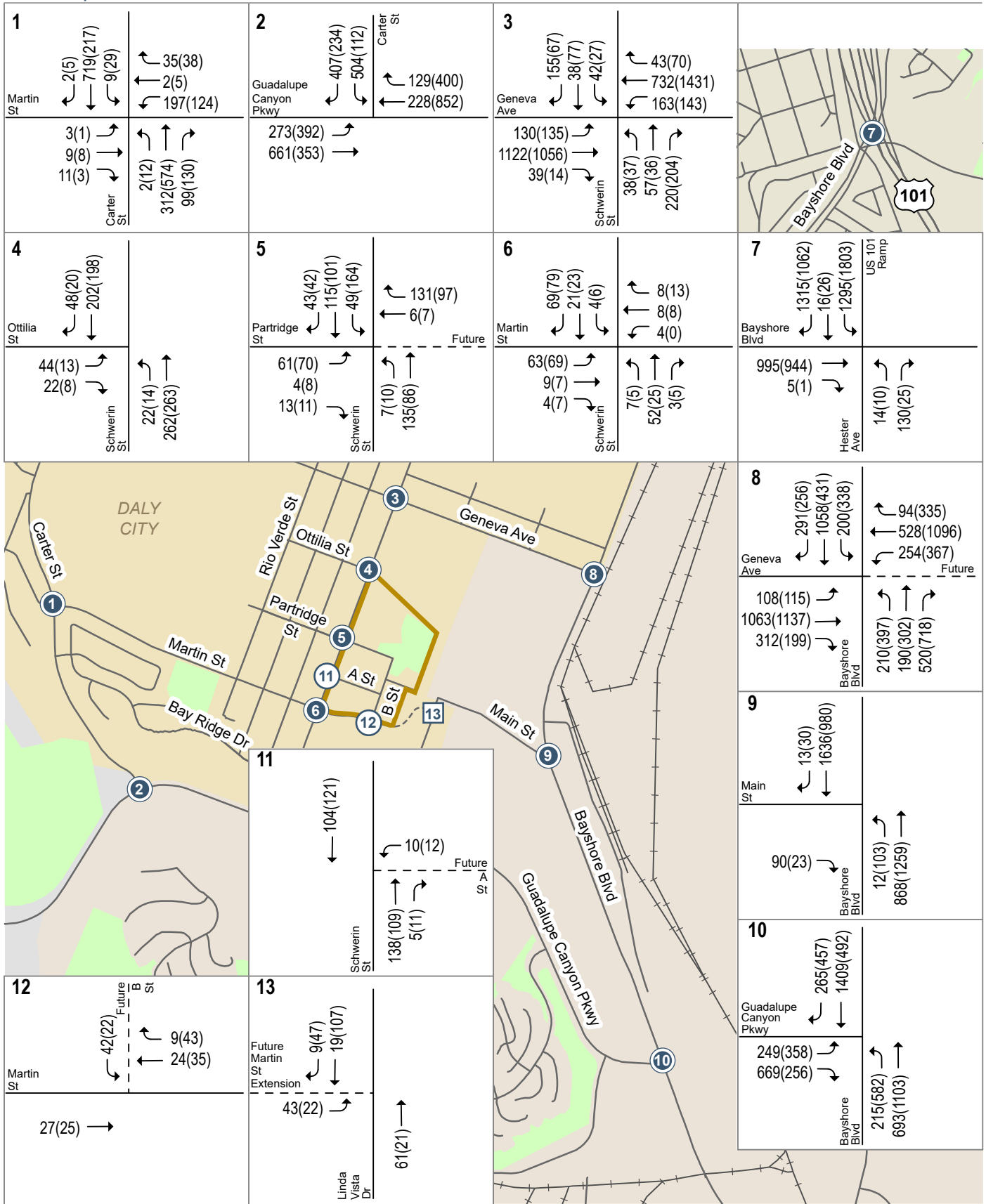


LEGEND

= Site Location XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Figure 9
Cumulative No Project Traffic Volumes

45 Midway Drive Residential



LEGEND

= Site Location

XX(XX) = AM(PM) Peak-Hour Traffic Volumes

Cumulative with Project Traffic Volumes

6.

Other Transportation Issues

This chapter presents an analysis of other transportation issues associated with the project, including:

- Traffic Signal Warrants
- Vehicle Queuing Analysis
- Pedestrian, Bicycle and Transit Analysis
- Site Access and On-Site Circulation
- TDM Plan
- Vehicle Miles Travelled (VMT)

Unlike the signalized level of service impact methodology, which is adopted by the City Council, the analyses of non-LOS issues are based on professional judgment in accordance with the standards and methods employed by the traffic engineering community.

Traffic Signal Warrants

The level of service analysis for the unsignalized intersections was supplemented with an assessment of the need for signalization of the intersections. For this study, the need for signalization is assessed on the basis of the peak-hour volume signal warrant – warrant #3 – described in the *California Manual on Uniform Traffic Control Devices* (MUTCD). This method provides an indication of whether traffic conditions and peak-hour traffic levels are, or would be, sufficient to justify installation of a traffic signal. The results indicate that none of the study intersections currently meet or would meet the peak-hour volume signal warrant under any scenarios in the AM and PM peak hours. The signal warrant calculation sheets are shown in Appendix C.

Vehicle Queuing Analysis

There are no established thresholds under CEQA or policy adopted by Daly City for determining significance impacts for vehicle queuing. A vehicle queuing analysis can be useful in determining the adequacy of existing vehicle storage capacity at intersections in the vicinity of the site. Accordingly, a vehicle queuing analysis was conducted for the high demand turn movements where the project would add traffic.

Vehicle queues were estimated using a Poisson probability distribution. The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile maximum number of queued vehicles per signal cycle for a particular movement; (2) the estimated maximum

number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the movement. This analysis thus provides a basis for estimating future storage requirements at intersections.

Vehicle queuing was evaluated for the westbound left turn movement at the intersection of Schwerin Street and Geneva Avenue. The vehicle queuing estimates are shown in Table 8. The results show that, under existing and existing plus project conditions, the estimated maximum westbound left-turn vehicle queues of 100 feet in the AM peak hour and 150 feet in the PM peak hour would not exceed the 160-foot vehicle storage capacity.

Due to the low ambient traffic volumes on Schwerin Street and Martin Street, a qualitative evaluation concluded that the estimated maximum inbound and outbound vehicle queues at the site driveways would rarely exceed one or two vehicles.

Table 8
Off-Site Vehicle Queuing Analysis

Measurement	#3 Schwerin St & Geneva Ave	
	Westbound Left-Turn	
	AM	PM
<u>Existing</u>		
Cycle ¹ (seconds)	95	95
Volume (vph)	51	59
Average Queue (vehicles)	1.3	1.6
Average Queue (feet) ²	34	39
95th %ile Queue (vehicles)	3	4
95th %ile Queue (feet) ²	75	100
Storage	160	160
Adequate (Y/N)	Y	Y
<u>Existing + Project</u>		
Cycle ¹ (seconds)	95	95
Volume (vph)	57	100
Average Queue (vehicles)	1.5	2.6
Average Queue (feet) ²	38	66
95th %ile Queue (vehicles)	4	6
95th %ile Queue (feet) ²	100	150
Storage	160	160
Adequate (Y/N)	Y	Y
¹ Vehicle queue calculations based on signal cycle length.		
² Assumes 25 feet per vehicle queued.		

Pedestrian, Bicycle, and Transit Analysis

The potential impacts of the project on pedestrian, bicycle and transit are described below.

Pedestrian Facilities. Existing observations at the study intersections showed a moderate amount of pedestrian activity at some intersections. Pedestrian activity at the Schwerin Street/Geneva Avenue intersection is fairly heavy, with 100 or more pedestrian crossings per hour. Pedestrian volumes at the Schwerin Street/Ottolia Street intersection are moderate, ranging between 30 and 90 pedestrian crossings per hour, with the higher number occurring during the morning at the start of school at the Bayshore Elementary School.

Pedestrian volumes directly in front of the project site were fairly light, ranging from 10 to 25 pedestrian crossings per hour. Overall, the volume of pedestrian trips generated by the project is expected to be relatively low and not exceed the carrying capacity of the sidewalks and crosswalks nearby.

Bicycle Facilities. According to the City of Daly City General Plan, approximately one percent of the proposed project's users could be expected to commute to and from the project site via bike. For the proposed project, this would equate to approximately one or two new bike trips during each of the AM and PM peak hours. The low volume of bicycle trips generated by the project would not exceed the bicycle-carrying capacity of the streets surrounding the site, and the increase in bicycle trips would not, by itself, require new off-site bicycle facilities.

Transit Service. Transit service in the project vicinity is currently provided by SamTrans and San Francisco MUNI. The nearest bus service is provided by Lines 24 and 29, with bus stops located about 0.25 miles from the project site. According to the U.S. Census, bus trips comprise approximately 11 percent of the total commute mode share in the City of Daly City. For the proposed project, this would equate to 22 new transit trips during the AM peak hour and 27 new transit trips during the PM peak commute hour. This volume of riders would not exceed the carrying capacity of the existing bus service near the project site. Therefore, the proposed project would not create an adverse impact to transit service in the area.

According to the CEQA Guidelines, a project would create an impact to bicycle, transit or pedestrians on the transportation system if it: (1) conflicts with a program, plan, ordinance or policy addressing the circulation system, including transit, bicycle and pedestrian facilities; or (2) substantially increases hazards due to a geometric design feature; or (3) would create demand in excess of capacity. The project would not alter any existing or planned offsite bicycle, pedestrian or transit facilities nor would it create demand in excess of capacity. Therefore, the proposed project would not cause a significant impact to bicycle, pedestrian, or transit operations in the study area.

Site Access and On-Site Circulation

This section describes site access and on-site circulation for the proposed project, as shown on the site plan dated September 18, 2019, by David Baker Architects (see Figure 2). The site is located on the northeast corner of the intersection at Schwerin Street and Martin Street. Schwerin Street fronts the western border of the site, and Martin Street fronts the southern border of the site.

Site Access Design

Site access would be provided by 4 driveways. The first driveway would access what the plan calls New Street 'B' (study intersection #12), and is located on Martin Street approximately 390 feet east of Schwerin Street. The second driveway would access New Street 'A', located on Schwerin Street about 200 feet north of Martin Street (study intersection #11). The third driveway, called Partridge Street, would be located directly opposite the existing Partridge Street west of Schwerin Street (study intersection #5). The driveways to all three streets have bulb-outs that narrow the driveway widths to about 21 feet on Schwerin Street and 26 feet on Martin Street.

The fourth driveway would be located on Schwerin Street at the location of the existing Midway Drive, between Partridge Street and New Street 'A', providing access exclusively to Garage D on site (refer to Figure 2 for locations of Garage A and Garage D). The entry to Garage D would be located approximately 80 feet east of Schwerin Street. Eastward from there, the Midway Drive right-of-way is to be closed to vehicular traffic and serve as a fire lane and on-site pedestrian walkway.

Both Schwerin Street and Martin Street are two-lane local streets that serve a low volume of traffic. Parking is permitted on both sides of Schwerin Street along the site frontage. Parking is currently permitted on the north side of Martin Street along a 400-foot segment of the site frontage between Schwerin Street and Brandon Court. Parking is currently prohibited elsewhere on Martin Street east of Schwerin Street. However, there is a housing development under construction along the south side of this segment of Martin Street. With this project, and the development on the south side, it is likely that there will be parking on both sides of Martin Street.

Site Access Operations

Site Driveway Study Intersections. The results of the level of service and signal warrant analyses for the three main site-driveway intersections analyzed were reported previously. The results showed all three site driveway intersections would operate under satisfactory conditions, as unsignalized intersections, both near-term and far-term, without and with the project.

Project traffic volumes on Martin Street are expected to be relatively low in the near term, since there is currently no direct Martin Street connection to Bayshore Boulevard and U.S. 101. Under cumulative conditions, with direct project access to Bayshore Boulevard via the Martin Street extension, project traffic patterns will shift slightly, resulting in an increase in trips on Martin Street.

All approaches to the site driveway intersections, including the approaches on Schwerin Street and Martin Street, are single lane- requiring that all movements share the same lane. Without turn pockets or separate turn lanes, all vehicles would backup behind left-turning vehicles and would be subject to the corresponding delays. However, traffic volumes on Schwerin Street and Martin Streets are low, creating lengthy gaps in traffic that provide ample time and opportunity for left turns. This is explained further in the next section.

Midway Drive to Garage D. Traffic conditions at the Midway Drive driveway to Garage D were evaluated qualitatively. Under existing conditions, the total volume of vehicles on Schwerin Street along the site frontage, in both directions, is only 211 peak hour trips during the AM peak hour and 195 peak hour trips during the PM peak hour. This equates to an average headway of 17 seconds per vehicle in the AM peak hour and 18 seconds per vehicle in the PM peak hour. Thus, there will be a gap in traffic nearly every time a vehicle exits from the Midway Drive driveway. With there being sufficient gaps in traffic on Schwerin Street, there would be minimal average delay at the driveway, both inbound and outbound. Accordingly, vehicle queues on southbound Schwerin Street at the driveway would be infrequent and typically be no more than one vehicle. Similarly for outbound traffic from the Midway Drive driveway- there would generally be no more than one vehicle queued. It can therefore be expected that the maximum vehicle queues at all four site driveways would generally not exceed one vehicle, and the delays would be relatively short. In addition, most of the stop-controlled intersections in the area operate at LOS A, so the Midway Drive driveway would not be expected to operate any differently (See Tables 6 and 7).

Sight Distance. Observations in the field showed no impediments to lines of sight (such as horizontal or vertical curves, trees or signs) for vehicles exiting the existing site driveways, other than cars parked on the street. The site frontage is designed with recessed, on-street parking and curb extensions (bulb-outs) where the main site driveways meet Schwerin Street or, in the case of New Street 'B', where it meets Martin Street. The on-street parking along the site frontage, adjacent to the main site driveways would thereby be set back from the curb line. This benefits the visibility of and for drivers exiting the site because their line of sight down the street is much less obstructed by vehicles parked on the street or by any obstructions on the sidewalk. Based on the

layout shown on the site plan, the setback of on-street parking would provide adequate sight distance, looking both left and right down Schwerin Street and Martin Street, for vehicles exiting the three main site driveways.

The Midway Drive driveway to Garage D's entry on Schwerin Street is shown to not have curb extensions. The adjacent on-street parking is not recessed, relative to this driveway. The driver's view when exiting the site could be obstructed by vehicles parked on the street on either side of the driveway. Therefore, parking on the east side of Schwerin Street should be restricted as needed to maintain adequate sight distance at the driveway, subject to review and approval by the City's Traffic Safety Committee and City Council. In addition, landscaping near the driveway would need to be maintained such that adequate sight distance is provided.

Recommendation 1: Parking on the east side of Schwerin Street at the Midway Drive driveway should be restricted as needed to maintain adequate sight distance, subject to review and approval by the City's Traffic Safety Committee and City Council. In addition, the project shall maintain the landscaping near the driveway such that it doesn't obstruct the line of sight down Schwerin Street. Placement of any monument signs or other permanent fixtures would need to be located out of the line of sight of exiting drivers. The final site plan will need to be reviewed by city staff.

On-Site Circulation

The on-site circulation system consists of the north-south New Street 'B' east of, and parallel to, Schwerin Street. New Street 'B' extends from Martin Street at its south end to a loading area just north of Partridge Street at its north end. The south section of New Street 'B', between Martin Street and Midway Drive would be offset relative to the north section of New Street 'B', which follows an alignment slightly east of the south section. From New Street 'B', Partridge Street extends westward, on site, to Schwerin Street, connecting to the existing Partridge Street west of Schwerin Street. New Street 'A' is about 200 feet north of, and parallel to, Martin Street. It extends between New Street 'B' and Schwerin Street. The private on-site streets are shown to have the following cross-sections:

Partridge Street and *New Street 'A'* would include a 20-foot wide traveled way plus sidewalks and parking on both sides

New Street 'B' (south section) would include a 26-foot wide traveled way plus sidewalks and parking on both sides

New Street 'B' (north section) would be 26-feet wide, with set-back sidewalks and no parking or curbs on either side; New Street 'B' is identified as a "traffic-calmed" street

Midway Drive east of New Street 'B' would be 20-feet wide, with sidewalks but no parking

The existing Midway Drive, between Schwerin Street and New Street 'B' would be eliminated, except for a 20-foot wide, 80-foot long section connecting Schwerin Street to the entrance of Garage D. The section of Midway Drive between the garage entrance and New Street 'B' would be converted to a pedestrian-only walkway and fire lane. There would be a second entrance to Garage D accessed from New Street 'B'.

East of New Street 'B', Midway Drive would provide access to Garage A, and would provide fire access along the SFPUC easement between Garage A and the eastern border of the site.

The site layout provides a relatively straightforward circulation pattern with no dead-end aisles, curb radii of 8 feet at all intersecting streets on site and adequate lines of sight at corners due to building setbacks of at least 17 feet along all streets. The jog in New Street 'B' at the intersection

with Midway Drive requires two sharp turns in a relatively narrow space with 8-foot turning radii. It is uncertain whether two vehicles approaching the intersection from opposite directions could safely pass through the intersection simultaneously. The narrowing of the streets at all internal intersections (due to the bulbouts), limits the area available for vehicles to turn. Turning templates will be needed to determine the adequacy of the layout to accommodate standard vehicles at the New Street 'B'/Midway Drive intersection, and to accommodate the circulation of trucks, garbage collection, and emergency vehicles throughout the site.

Recommendation 2: The project shall ensure that alignments of the drive aisles and the corner radii are adequate for the circulation of standard vehicles as well as trucks, garbage collection, and emergency vehicles, subject to review by city staff.

In addition to the streets on-site, there would be several fire lanes on site: along the Midway Drive alignment between Schwerin Street and New Street 'B'; along the SFPUC easement; along a north-south alignment bisecting Building E, connecting Martin Street with New Street 'A'; along the extension of New Street 'B' north of Building 'A' (adjacent to the park); and along the northern edge of Building A/Parking Garage A. All fire lanes are to be a minimum of 20 feet wide.

Parking on site would be provided in Garage A, located along the eastern border of the site, north of Midway Drive; Garage D, located between New Street 'A' and Midway Drive, and on the streets on site.

Garage A is shown to have one entrance, located at the southeast corner of the garage, about 60 feet north of Midway Drive. The turning radius at the garage entrance is not specified, but it appears to be less than 5 feet, which would not be adequate for two-way traffic at a ninety-degree turn for a 20-foot wide travel way. Circulation within Garage A is shown to consist of a rectangular loop serving two-way traffic in 26-foot wide parking aisles, with 90-degree perpendicular parking on both sides. The garage is shown to have more than one level.

Garage D is shown to have two entrances, as described previously, and as shown on Figure 2. The entrance on Midway Drive, located 80 feet east of Schwerin Street, is shown to be 26 feet wide. The turning radius at the garage entrance is not specified. As with Garage A, the turning radius would need to accommodate two-way traffic through the turn. Circulation within Garage D is similar to that in Garage A: consisting of a rectangular loop serving two-way traffic in 26-foot wide parking aisles, with 90-degree perpendicular parking on both sides. The garage is shown to have more than one level. The aforementioned entrance from Midway Drive is shown to access the lower level of the garage. The other entrance, located off of New Street 'B', is shown to access the upper level of the garage.

Recommendation 3: The project shall ensure that the garage ingress/egress, internal circulation, ramp design and other relevant design features meet the city code requirements or otherwise accord with industry standards. Final design will be subject to review by city staff.

Garage A is shown to provide 378 parking spaces, Garage D would provide 250 spaces, and there would be an additional 118 total parking spaces on site on New Street 'A,' New Street 'B,' Partridge Street, and in the townhomes.

The site plan shows 13 parking spaces on Partridge Street along the frontage of the childcare center designated specifically for use by the childcare center (these 13 spaces are included in the 118 on-site, on-street spaces described above). This conforms with the city code required number of spaces, which calls for one space for every ten children enrolled. The site plan also refers to the childcare center parking spaces as childcare (passenger) loading. It is anticipated that this area, which spans the entire length of the childcare center frontage, and east, would serve as a pick-up/drop-off area for loading and unloading children. Children in the 5 and under age range, which is the age range to be served by the proposed childcare center, generally would be escorted into the childcare center, therefore requiring vehicles to park briefly during drop-off and pick-up.

Because these spaces are provided primarily for loading and unloading, and for visitors during off hours, it is recommended that these childcare center parking spaces have a time limit.

Since the loading and unloading of children going to the childcare facility would primarily occur on the north side of Partridge Street, vehicles picking up and dropping off their children would be traveling westbound toward Schwerin Street. This would require that vehicles destined for the childcare center enter the site from either New Street 'A' or New Street 'B' to access westbound Partridge Street in front of the childcare center. The childcare facility should direct parents to use these roadways to access the parking area fronting the childcare facility to help prevent vehicles from making u-turns on Partridge Street.

Recommendation 4: The project should consider establishing a time limit for childcare parking. Because all streets within the development are private roadways, parking restrictions would need to be enforced by private security. In addition, the childcare facility should consider preparing an access plan to show parents how to access the designated parking areas.

The site plan shows a loading zone at the very north end of New Street 'B', adjacent to the park. Other loading areas are to be provided on street (in the parking lanes) at mid-block on both sides of New Street 'A', on the east side of the south section of New Street 'B', and on both sides of Partridge Street at the very eastern end.

Pedestrian circulation on site, and pedestrian access to off-site pedestrian facilities appear adequate. Most streets on-site provide sidewalks, all of which are at least 6 feet wide. The cross-sections of the on-site streets were described previously. All streets are shown to have landscape strips the full length of the street. Every intersection on site would have high-visibility crosswalks on every approach. Both New Street 'A' and Partridge Street would be provided with high-visibility, mid-block crosswalks. The east-west fire lane on Midway Drive is also to serve as a pedestrian path. The plan shows a direct path between the Child Care Center and the adjacent park. All buildings and residential units on site have direct access to either a sidewalk, a pathway, or both.

The site plan shows bicycle parking/storage would be provided throughout the site. The number and type of spaces are not yet specified, but the site plan shows public bicycle parking on both sides of New Street 'A', both sides of the south section of New Street 'B', both sides of Partridge Street, and on the east side of the north section of New Street 'B'. Resident bicycle storage would be provided at or in Buildings A, A2, B, D and E. The number and type of bicycle parking spaces (e.g. short-term vs. long-term, racks vs. lockers) will need to meet the city code requirements, at a minimum.

As described previously, the Daly City Bayshore (DSB) Shuttle, operated by SamTrans, provides shuttle service between the Daly City BART station and Bayshore Boulevard/Geneva Avenue, with a stop immediately fronting the site, at the Schwerin Street/Martin Street intersection. The shuttle stop does not currently serve any other routes, and its only feature is a shuttle sign. While the project would not create a significant impact to transit operations, as part of the project's enhancement to the site's frontage along Schwerin Street, the project should consider installing a bus shelter or bench. Providing an upgrade to the shuttle/bus stop, be it a bench or shelter, would encourage transit usage.

Recommendation 5: Prior to final design, the project applicant shall work with City of Daly City and SamTrans staff to consider the desirability of upgrades to the existing shuttle stop along the project frontage.

TDM Plan

In accordance with CMP requirements, the project shall implement TDM measures to reduce the demand for net new peak-hour trips generated by the project. The total number of trip credits earned through the project's TDM plan are required to total, if not exceed, the number of net new AM or PM peak-hour trips (whichever is greater) generated by the project. Based on the trip generation estimates described previously, the project is expected to generate 203 AM peak hour trips and 245 PM peak hour trips. The project's TDM plan would therefore be required to provide at least 245 C/CAG trip credits. Since the project would be constructed in phases, the project applicant shall submit, to the City and C/CAG, a TDM plan demonstrating its compliance with C/CAG's TDM requirements in advance of each phase.

Recommendation 6: The project shall provide and/or implement CMP-approved TDM measures in order to meet the CMP TDM requirements.

Vehicle Miles Traveled (VMT)

According to the December 2018 Technical Advisory from the State of California Governor's Office of Planning and Research (OPR) on Evaluating Transportation Impacts in CEQA (California Environmental Quality Act), affordable housing projects are exempt from Vehicle Miles Traveled (VMT) analysis and are assumed to have a less than significant impact. Relevant excerpts from the OPR Technical Advisory are provided below.

Presumption of Less Than Significant Impact for Affordable Residential Development.

Adding affordable housing to infill locations generally improves the jobs-housing match, in turn shortening commutes and reducing VMT. Further, "... low-wage workers in particular would be more likely to choose a residential location close to their workplace, if one is available." In areas where the existing jobs-housing match is closer to optimal, low income housing nevertheless generates less VMT than market-rate housing. Therefore, a project consisting of a high percentage of affordable housing may be a basis for the lead agency to find a less-than-significant impact on VMT. Evidence supports a presumption of less than significant impact for a 100 percent affordable residential development (or the residential component of a mixed-use development) in infill locations.

The Metropolitan Transportation Commission (MTC) provides data on trip lengths for employment and residential uses within the nine-county Bay Area. According to the MTC ArcGIS VMT tool, the Bay Area has an average VMT per capita of 15 miles. Using the same tool, the traffic analysis zone where the proposed project is located shows a residential VMT per capita of 11.5 miles. Thus, the project VMT would be 23% lower than the regional average. Daly City does not have an adopted method or threshold to determine impacts based on VMT. For this reason, this data is presented for informational purposes only.

Technical Appendices

Appendix A

Traffic Counts



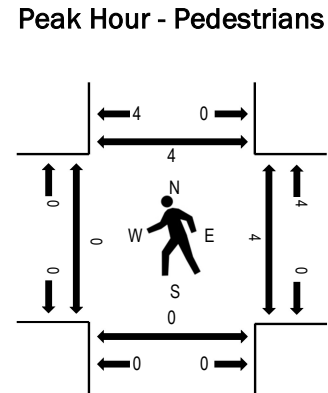
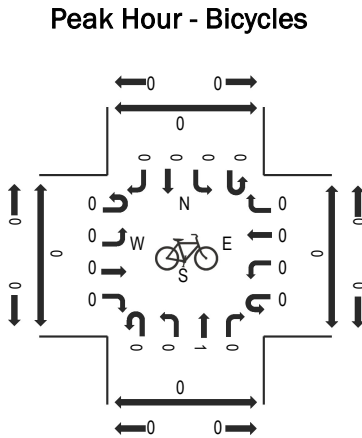
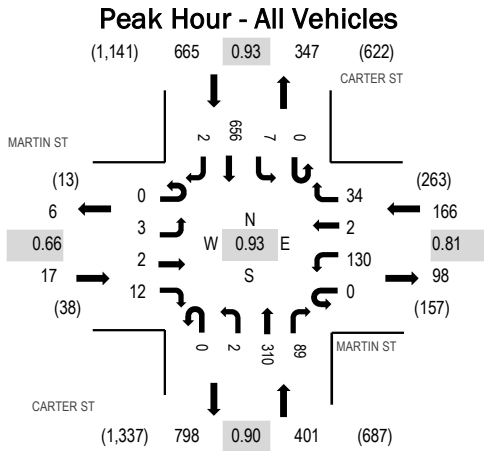
(303) 216-2439
www.alltrafficdata.net

Location: 2 CARTER ST & MARTIN ST AM

Date: Thursday, February 28, 2019

Peak Hour: 07:30 AM - 08:30 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	MARTIN ST Eastbound				MARTIN ST Westbound				CARTER ST Northbound				CARTER ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	3	0	4	0	15	0	10	0	1	61	8	0	3	100	0	205	1,054	0	0	0	0
7:15 AM	0	4	0	4	0	18	0	6	0	2	51	13	0	3	116	0	217	1,180	0	0	0	1
7:30 AM	0	0	0	3	0	43	0	8	0	0	65	15	0	0	162	0	296	1,249	0	0	0	0
7:45 AM	0	1	0	2	0	32	0	13	0	0	83	27	0	1	176	1	336	1,191	0	1	0	1
8:00 AM	0	1	0	3	0	30	1	6	0	0	93	20	0	5	172	0	331	1,075	0	0	0	0
8:15 AM	0	1	2	4	0	25	1	7	0	2	69	27	0	1	146	1	286		0	3	0	3
8:30 AM	0	2	0	3	0	18	0	7	0	0	69	15	0	2	120	2	238		0	2	0	0
8:45 AM	0	0	0	1	0	17	0	6	0	1	55	10	1	5	123	1	220		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Lights	0	3	2	12	0	130	2	33	0	2	303	87	0	7	655	2	1,238
Mediums	0	0	0	0	0	0	0	1	0	0	6	2	0	0	1	0	10
Total	0	3	2	12	0	130	2	34	0	2	310	89	0	7	656	2	1,249



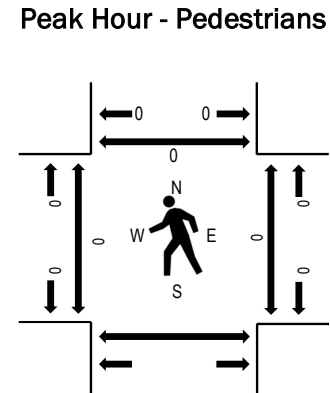
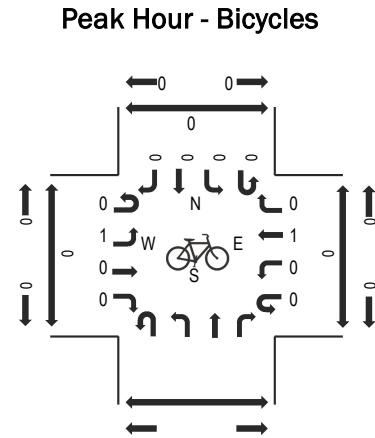
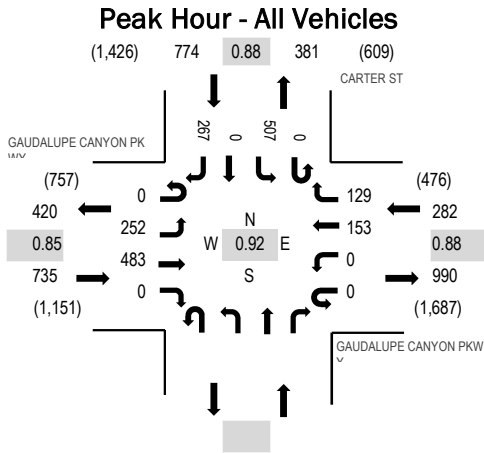
(303) 216-2439
www.alltrafficdata.net

Location: 3 CARTER ST & GAUDALUPE CANYON PKWY AM

Date: Thursday, February 28, 2019

Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	GAUDALUPE CANYON Eastbound				GAUDALUPE CANYON Westbound				Northbound				CARTER ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	23	47	0	0	0	24	24					0	88	0	39	245	1,411	0	0	0	0
7:15 AM	0	32	62	0	0	0	27	21					0	101	0	56	299	1,609	0	0	0	0
7:30 AM	0	41	69	0	0	0	30	24					0	127	0	88	379	1,777	0	0	0	0
7:45 AM	0	65	106	0	0	0	43	37					0	144	0	93	488	1,791	0	0	0	0
8:00 AM	0	70	99	0	0	0	36	41					0	129	0	68	443	1,642	0	0	0	0
8:15 AM	0	58	159	0	0	0	37	25					0	129	0	59	467		0	0	0	0
8:30 AM	0	59	119	0	0	0	37	26					0	105	0	47	393		0	0	0	0
8:45 AM	0	44	98	0	0	0	25	19					0	105	0	48	339		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0					0	0	0	0	0
Bicycles on Road	0	1	0	0	0	0	1	0					0	0	0	0	2
Lights	0	250	481	0	0	0	148	121					0	507	0	267	1,774
Mediums	0	1	2	0	0	0	4	8					0	0	0	0	15
Total	0	252	483	0	0	0	153	129					0	507	0	267	1,791



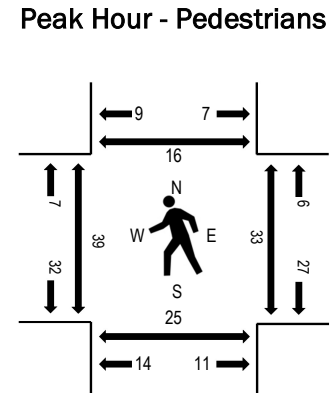
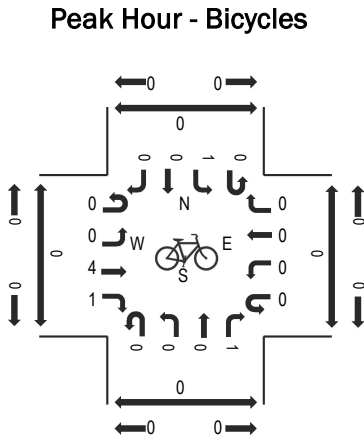
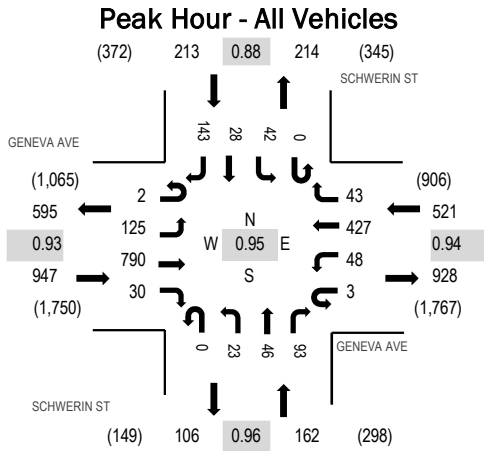
(303) 216-2439
www.alltrafficdata.net

Location: 4 SCHWERIN ST & GENEVA AVE AM

Date: Thursday, February 28, 2019

Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 08:00 AM - 08:15 AM



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	GENEVA AVE Eastbound				GENEVA AVE Westbound				SCHWERIN ST Northbound				SCHWERIN ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	15	159	1	0	2	80	6	0	12	6	27	0	11	2	18	339	1,588	11	3	10	7
7:15 AM	0	17	176	1	0	4	70	6	0	9	4	26	0	12	4	30	359	1,732	2	7	5	2
7:30 AM	1	26	191	2	0	9	103	11	0	1	4	18	0	11	3	35	415	1,807	3	5	9	4
7:45 AM	0	30	209	7	1	14	111	13	0	4	20	17	0	13	4	32	475	1,843	14	3	4	2
8:00 AM	2	37	195	6	0	11	118	12	0	11	8	20	0	14	8	41	483	1,738	11	3	5	7
8:15 AM	0	24	171	12	1	11	105	8	0	4	8	30	0	10	11	39	434		12	16	8	2
8:30 AM	0	34	215	5	1	12	93	10	0	4	10	26	0	5	5	31	451		2	11	8	5
8:45 AM	0	21	189	4	0	6	83	5	0	7	10	12	0	7	5	21	370		2	7	1	4

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3
Bicycles on Road	0	0	4	1	0	0	0	0	0	0	0	1	0	1	0	0	7
Lights	2	119	766	29	3	48	396	41	0	23	46	91	0	32	28	134	1,758
Mediums	0	6	19	0	0	0	29	2	0	0	0	1	0	9	0	9	75
Total	2	125	790	30	3	48	427	43	0	23	46	93	0	42	28	143	1,843



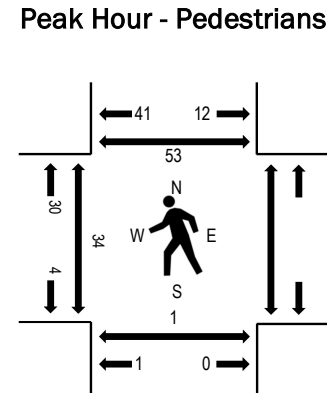
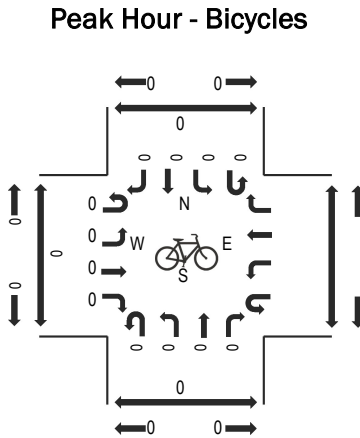
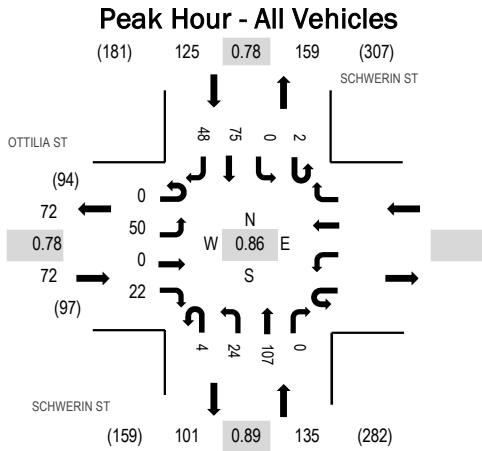
(303) 216-2439
www.alltrafficdata.net

Location: 5 SCHWERIN ST & OTTILIA ST AM

Date: Thursday, February 28, 2019

Peak Hour: 08:00 AM - 09:00 AM

Peak 15-Minutes: 08:15 AM - 08:30 AM



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	OTTILIA ST Eastbound				Westbound				SCHWERIN ST Northbound				SCHWERIN ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	1	2	0	4					0	1	38	0	0	0	6	2	54	228	3		0	7
7:15 AM	1	3	0	2					0	2	34	0	0	0	12	2	56	268	4		1	6
7:30 AM	0	4	0	1					1	3	28	0	0	0	15	3	55	308	2		0	4
7:45 AM	0	5	0	2					2	4	34	0	0	0	13	3	63	329	5		1	3
8:00 AM	0	11	0	3					0	7	35	0	1	0	18	19	94	332	8		0	11
8:15 AM	0	19	0	4					0	9	24	0	1	0	22	17	96		21		1	18
8:30 AM	0	14	0	6					1	4	24	0	0	0	18	9	76		3		0	24
8:45 AM	0	6	0	9					3	4	24	0	0	0	17	3	66		2		0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0					0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0					0	0	0	0	0	0	0	0	0
Lights	0	49	0	22					1	22	104	0	2	0	73	48	321
Mediums	0	1	0	0					3	2	3	0	0	0	2	0	11
Total	0	50	0	22					4	24	107	0	2	0	75	48	332



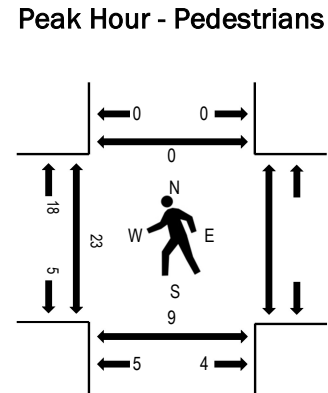
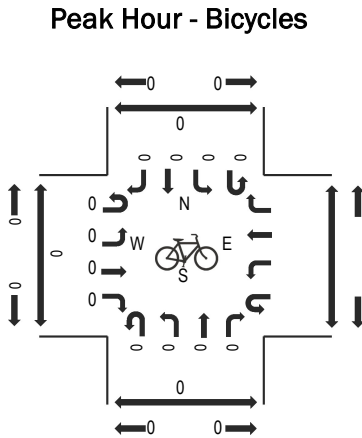
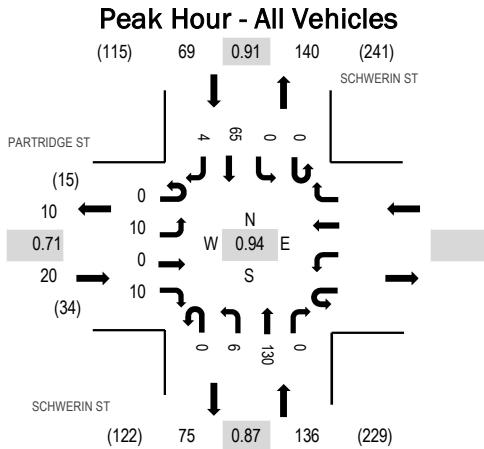
(303) 216-2439
www.alltrafficdata.net

Location: 6 SCHWERIN ST & PARTRIDGE ST AM

Date: Thursday, February 28, 2019

Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 08:15 AM - 08:30 AM



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	PARTRIDGE ST Eastbound				Westbound				SCHWERIN ST Northbound				SCHWERIN ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	4	0	1					0	0	27	0	0	0	8	0	40	174	1		0	1
7:15 AM	0	4	0	1					0	2	21	0	1	0	7	0	36	188	1		1	1
7:30 AM	0	1	0	3					0	0	22	0	0	0	16	2	44	212	1		0	0
7:45 AM	0	2	0	1					0	2	37	0	0	0	11	1	54	225	6		1	0
8:00 AM	0	3	0	3					0	0	29	0	0	0	18	1	54	204	4		1	0
8:15 AM	0	2	0	2					0	3	34	0	0	0	18	1	60		11		5	0
8:30 AM	0	3	0	4					0	1	30	0	0	0	18	1	57		2		2	0
8:45 AM	0	0	0	0					0	0	21	0	0	0	11	1	33		4		3	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0					0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0					0	0	0	0	0	0	0	0	0
Lights	0	10	0	10					0	6	129	0	0	0	65	4	224
Mediums	0	0	0	0					0	0	1	0	0	0	0	0	1
Total	0	10	0	10					0	6	130	0	0	0	65	4	225



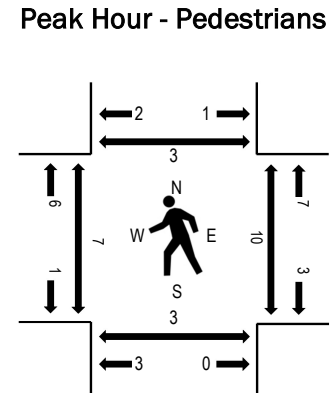
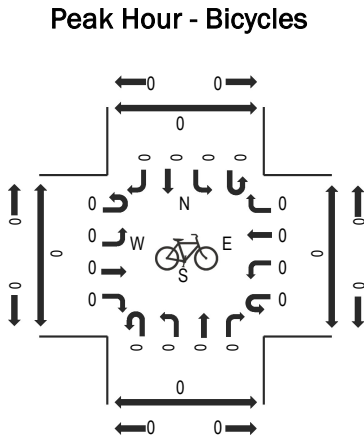
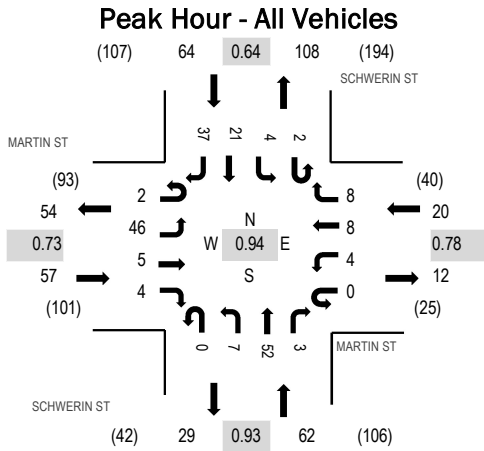
(303) 216-2439
www.alltrafficdata.net

Location: 7 SCHWERIN ST & MARTIN ST AM

Date: Thursday, February 28, 2019

Peak Hour: 07:30 AM - 08:30 AM

Peak 15-Minutes: 07:30 AM - 07:45 AM



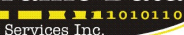
Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	MARTIN ST Eastbound				MARTIN ST Westbound				SCHWERIN ST Northbound				SCHWERIN ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	11	1	1	0	0	2	4	0	1	11	1	1	0	2	4	39	185	0	2	3	1
7:15 AM	0	9	1	0	0	1	3	1	0	3	10	0	0	1	2	9	40	191	1	5	1	2
7:30 AM	0	10	1	0	0	2	3	3	0	3	7	0	0	1	6	18	54	203	0	4	0	1
7:45 AM	1	15	2	2	0	1	4	1	0	2	15	1	0	0	4	4	52	196	3	0	1	2
8:00 AM	1	8	0	1	0	0	0	1	0	1	16	0	2	2	6	7	45	169	4	1	0	0
8:15 AM	0	13	2	1	0	1	1	3	0	1	14	2	0	1	5	8	52		0	5	2	0
8:30 AM	0	9	2	1	1	0	0	6	0	1	12	2	1	1	4	7	47		2	2	0	2
8:45 AM	0	7	1	1	0	0	1	1	0	1	2	0	1	2	1	7	25		0	1	0	1

Peak Rolling Hour Flow Rates

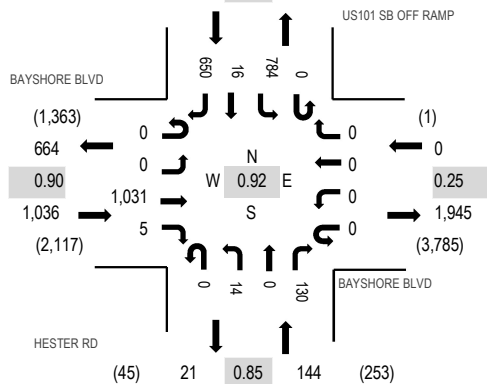
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	2	45	4	4	0	4	7	8	0	7	52	3	2	4	21	37	200
Mediums	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	3
Total	2	46	5	4	0	4	8	8	0	7	52	3	2	4	21	37	203



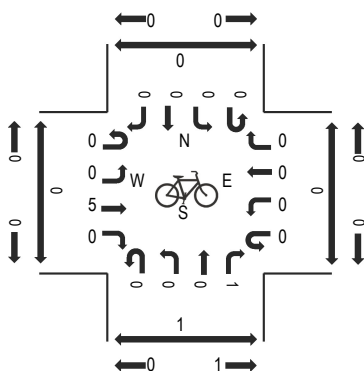
www.alltrafficdata.net

Peak 15-Minutes: 07:00 AM - 07:15 AM

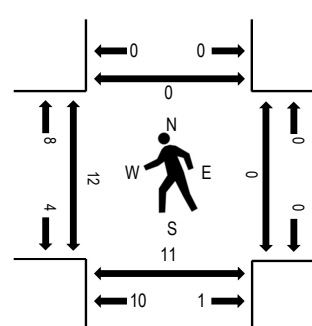
(2,822)	1,450	0.90	0	(1)
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Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	BAYSHORE BLVD Eastbound				BAYSHORE BLVD Westbound				HESTER RD Northbound				US101 SB OFF RAMP Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	324	1	0	0	0	0	0	3	0	20	0	212	4	149	713	2,630	4	0	5	0
7:15 AM	0	0	283	1	0	0	0	0	0	3	0	30	0	196	2	154	669	2,597	1	0	2	0
7:30 AM	0	0	211	1	0	0	0	0	0	3	0	35	0	167	3	156	576	2,580	5	0	0	0
7:45 AM	0	0	213	2	0	0	0	0	0	5	0	45	0	209	7	191	672	2,558	2	0	4	0
8:00 AM	0	0	258	2	0	0	0	0	0	4	0	44	0	184	4	184	680	2,563	5	0	0	0
8:15 AM	0	0	265	2	0	0	0	0	0	3	0	20	0	183	2	177	652		0	0	2	0
8:30 AM	0	0	252	1	0	0	1	0	0	3	0	14	0	133	5	145	554		2	0	1	1
8:45 AM	0	0	298	3	0	0	0	0	0	7	0	14	0	175	5	175	677		1	0	3	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	5	0	0	0	0	0	0	0	0	0	0	8	0	3	16
Bicycles on Road	0	0	5	0	0	0	0	0	0	0	0	1	0	0	0	0	6
Lights	0	0	933	4	0	0	0	0	0	12	0	128	0	743	16	591	2,427
Mediums	0	0	88	1	0	0	0	0	0	2	0	1	0	33	0	56	181
Total	0	0	1,031	5	0	0	0	0	0	14	0	130	0	784	16	650	2,630



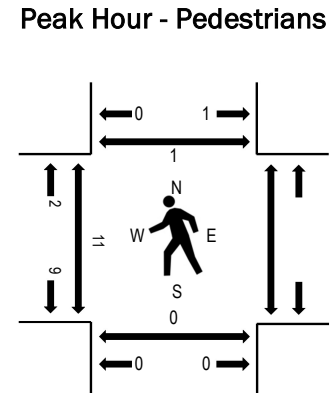
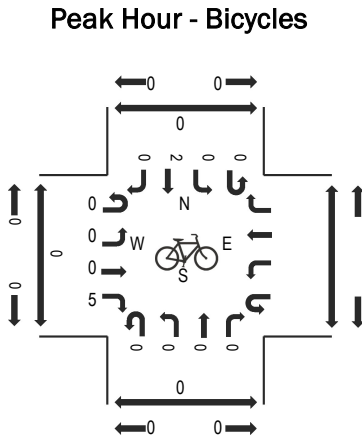
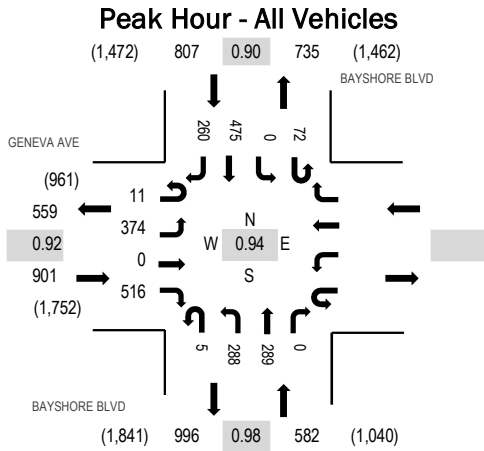
(303) 216-2439
www.alltrafficdata.net

Location: 9 BAYSHORE BLVD & GENEVA AVE AM

Date: Thursday, February 28, 2019

Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 07:45 AM - 08:00 AM



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	GENEVA AVE Eastbound				Westbound				BAYSHORE BLVD Northbound				BAYSHORE BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	2	108	0	84					0	51	57	0	25	0	98	40	465	2,088	3		0	0
7:15 AM	0	103	0	124					0	45	61	0	18	0	86	44	481	2,201	1		0	0
7:30 AM	0	97	0	132					0	58	57	0	16	0	114	56	530	2,260	8		0	0
7:45 AM	1	107	0	144					0	73	75	0	21	0	120	71	612	2,290	2		0	0
8:00 AM	3	78	0	136					1	71	66	0	10	0	140	73	578	2,176	2		0	1
8:15 AM	3	85	0	120					2	74	72	0	21	0	107	56	540		4		0	0
8:30 AM	4	104	0	116					2	70	76	0	20	0	108	60	560		3		0	0
8:45 AM	1	95	0	105					0	53	76	0	14	0	102	52	498		0		2	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	2	0	2					0	0	7	0	0	0	5	1	17
Bicycles on Road	0	0	0	5					0	0	0	0	0	0	2	0	7
Lights	11	345	0	497					3	264	253	0	70	0	447	249	2,139
Mediums	0	27	0	12					2	24	29	0	2	0	21	10	127
Total	11	374	0	516					5	288	289	0	72	0	475	260	2,290



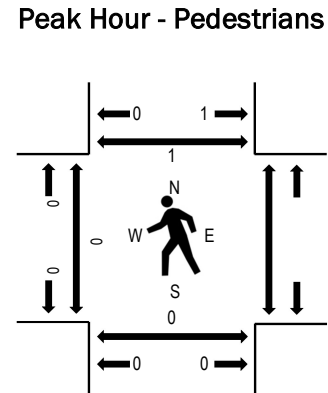
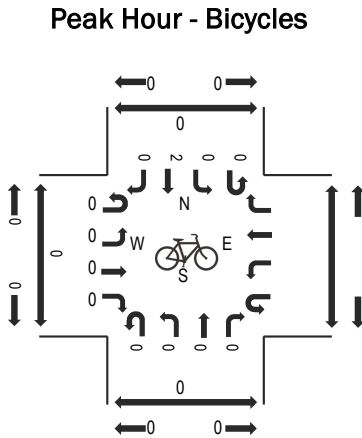
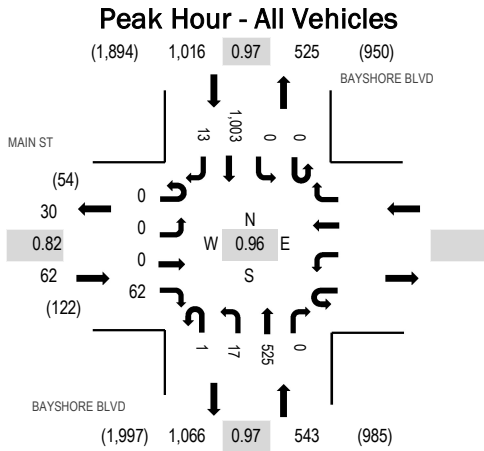
(303) 216-2439
www.alltrafficdata.net

Location: 10 BAYSHORE BLVD & MAIN ST AM

Date: Thursday, February 28, 2019

Peak Hour: 07:45 AM - 08:45 AM

Peak 15-Minutes: 08:15 AM - 08:30 AM



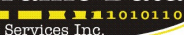
Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	MAIN ST Eastbound				Westbound				BAYSHORE BLVD Northbound				BAYSHORE BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	15					0	4	100	0	0	0	183	3	305	1,426	0		0	0
7:15 AM	0	0	0	15					0	4	102	0	0	0	215	0	336	1,526	0		0	0
7:30 AM	0	0	0	21					0	5	100	0	0	0	251	0	377	1,611	0		0	0
7:45 AM	0	0	0	18					1	8	131	0	0	0	249	1	408	1,621	0		0	0
8:00 AM	0	0	0	13					0	4	131	0	0	0	251	6	405	1,575	0		0	0
8:15 AM	0	0	0	16					0	4	136	0	0	0	262	3	421		0		0	0
8:30 AM	0	0	0	15					0	1	127	0	0	0	241	3	387		0		0	1
8:45 AM	0	0	0	9					0	4	123	0	0	0	222	4	362		0		0	0

Peak Rolling Hour Flow Rates

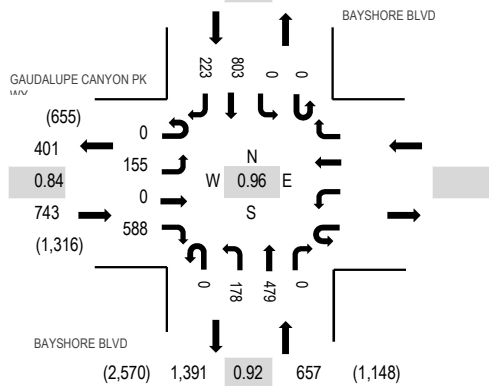
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0					0	0	6	0	0	0	3	0	9
Bicycles on Road	0	0	0	0					0	0	0	0	0	0	2	0	2
Lights	0	0	0	61					1	16	473	0	0	0	959	12	1,522
Mediums	0	0	0	1					0	1	46	0	0	0	39	1	88
Total	0	0	0	62					1	17	525	0	0	0	1,003	13	1,621



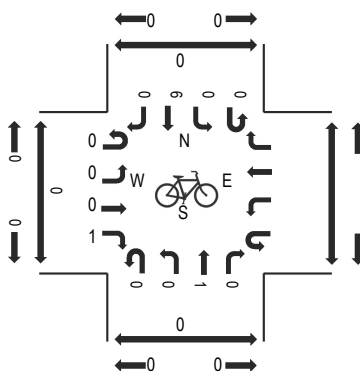
www.alltrafficdata.net

Peak 15-Minutes: 07:45 AM - 08:00 AM

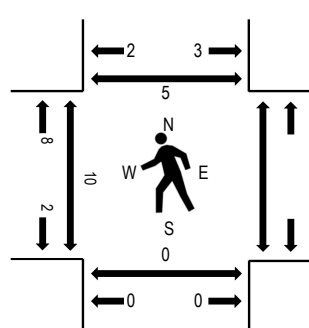
(1.877)	1.026	0.89	634	(1.116)
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Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	GAUDALUPE CANYON								BAYSHORE BLVD				BAYSHORE BLVD				Rolling Hour	Pedestrian Crossings				
	Eastbound				Westbound				Northbound				Southbound					Total	West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right						
7:00 AM	0	27	0	93					0	24	79	0	0	0	147	29	399	2,039	1		0	0
7:15 AM	0	22	0	116					0	31	79	0	0	0	185	30	463	2,251	3		0	0
7:30 AM	0	33	0	128					0	34	94	0	0	0	213	40	542	2,408	0		0	0
7:45 AM	0	30	0	144					0	44	121	0	0	0	222	74	635	2,426	5		0	2
8:00 AM	0	32	0	144					0	48	131	0	0	0	200	56	611	2,302	2		0	2
8:15 AM	0	45	0	175					0	39	113	0	0	0	201	47	620		2		0	0
8:30 AM	0	48	0	125					0	47	114	0	0	0	180	46	560		1		0	1
8:45 AM	0	29	0	125					0	31	119	0	0	0	172	35	511		7		0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	0	0					0	0	8	0	0	0	6	1	16
Bicycles on Road	0	0	0	1					0	0	1	0	0	0	6	0	8
Lights	0	142	0	584					0	170	433	0	0	0	764	214	2,307
Mediums	0	12	0	3					0	8	37	0	0	0	27	8	95
Total	0	155	0	588					0	178	479	0	0	0	803	223	2,426



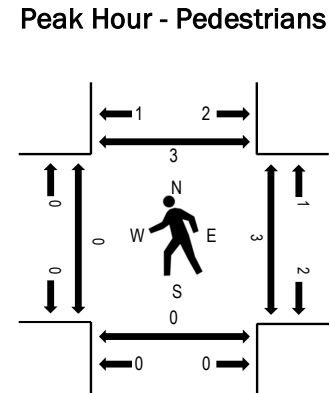
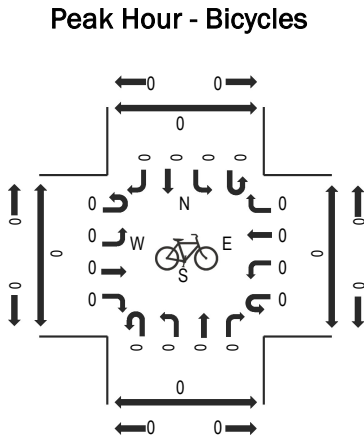
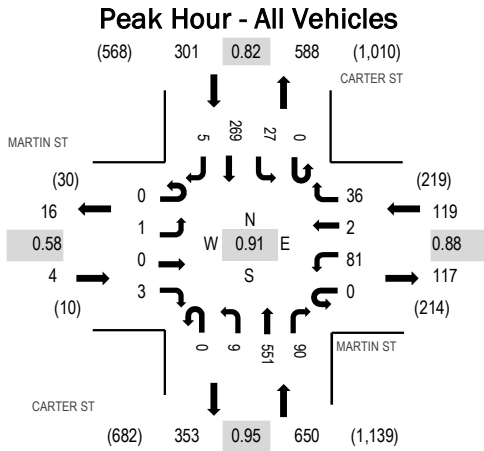
(303) 216-2439
www.alltrafficdata.net

Location: 2 CARTER ST & MARTIN ST PM

Date: Thursday, February 28, 2019

Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	MARTIN ST Eastbound				MARTIN ST Westbound				CARTER ST Northbound				CARTER ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	1	0	0	0	15	0	2	0	4	76	22	0	7	47	0	174	862	0	2	0	0
4:15 PM	0	1	0	0	0	24	1	3	0	0	102	18	0	4	69	1	223	983	0	0	0	0
4:30 PM	0	0	0	1	0	18	0	10	0	5	117	20	0	3	68	1	243	1,031	0	0	0	0
4:45 PM	0	1	1	1	0	22	0	5	0	1	104	20	0	2	64	1	222	1,063	0	0	0	0
5:00 PM	0	0	0	1	0	23	2	11	0	2	139	24	0	8	84	1	295	1,074	0	0	0	0
5:15 PM	0	0	0	0	0	20	0	8	0	2	142	27	0	7	63	2	271		0	2	0	2
5:30 PM	0	1	0	2	0	26	0	9	0	3	142	24	0	7	60	1	275		0	0	0	0
5:45 PM	0	0	0	0	0	12	0	8	0	2	128	15	0	5	62	1	233		0	1	0	1

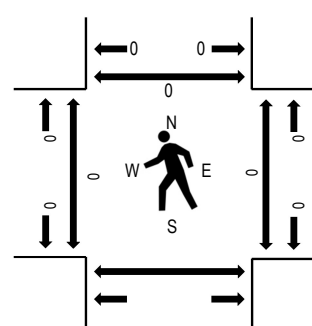
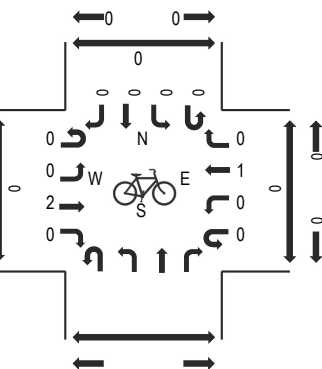
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	1	0	3	0	81	2	35	0	9	550	90	0	27	266	5	1,069
Mediums	0	0	0	0	0	0	0	1	0	0	1	0	0	0	3	0	5
Total	0	1	0	3	0	81	2	36	0	9	551	90	0	27	269	5	1,074



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Peak 15-Minutes: 05:15 PM - 05:30 PM



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	GAUDALUPE CANYON Eastbound				GAUDALUPE CANYON Westbound				Northbound				CARTER ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	55	18	0	0	0	78	57					0	19	0	46	273	1,248	0	0		0
4:15 PM	0	65	38	0	0	0	66	68					0	35	0	51	323	1,361	0	0		0
4:30 PM	0	48	22	0	0	0	80	90					0	28	0	56	324	1,455	0	0		0
4:45 PM	0	61	33	0	0	0	68	71					0	30	0	65	328	1,509	0	0		0
5:00 PM	0	65	25	0	0	0	88	108					0	30	0	70	386	1,510	0	0		0
5:15 PM	0	83	33	0	0	0	108	102					0	26	0	65	417		0	0		0
5:30 PM	0	75	24	0	0	0	92	109					0	28	0	50	378		0	0		0
5:45 PM	0	69	23	0	0	0	89	84					0	24	0	40	329		0	0		0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	0	0					0	0	0	0	1
Bicycles on Road	0	0	2	0	0	0	1	0					0	0	0	0	3
Lights	0	292	100	0	0	0	376	402					0	105	0	225	1,500
Mediums	0	0	2	0	0	0	0	1					0	3	0	0	6
Total	0	292	105	0	0	0	377	403					0	108	0	225	1,510



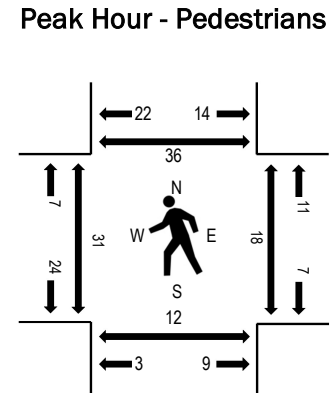
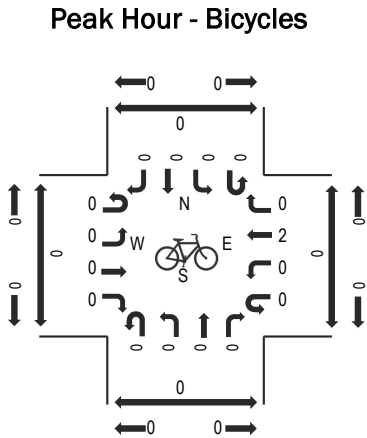
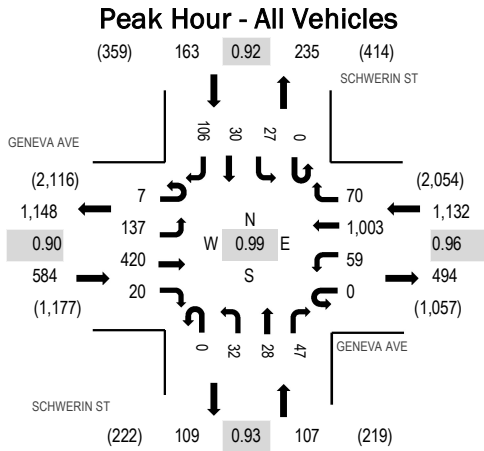
(303) 216-2439
www.alltrafficdata.net

Location: 4 SCHWERIN ST & GENEVA AVE PM

Date: Thursday, February 28, 2019

Peak Hour: 05:00 PM - 06:00 PM

Peak 15-Minutes: 05:15 PM - 05:30 PM



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	GENEVA AVE Eastbound				GENEVA AVE Westbound				SCHWERIN ST Northbound				SCHWERIN ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	1	27	133	3	1	11	178	11	0	6	14	10	0	6	7	35	443	1,823	5	5	4	12
4:15 PM	2	23	107	8	1	15	207	16	0	5	7	18	0	9	5	34	457	1,872	21	4	6	8
4:30 PM	0	25	115	6	0	15	200	10	0	2	8	17	0	7	10	36	451	1,918	4	5	1	2
4:45 PM	1	21	113	8	0	21	224	12	0	5	5	15	0	11	4	32	472	1,966	19	1	2	7
5:00 PM	1	29	108	6	0	19	234	27	0	7	5	11	0	5	8	32	492	1,986	9	5	5	11
5:15 PM	2	34	109	2	0	16	263	13	0	11	4	13	0	8	7	21	503		10	2	1	7
5:30 PM	2	39	81	5	0	13	268	14	0	8	11	16	0	9	8	25	499		7	6	3	8
5:45 PM	2	35	122	7	0	11	238	16	0	6	8	7	0	5	7	28	492		5	5	3	10

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3
Bicycles on Road	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2
Lights	7	130	405	19	0	59	998	70	0	32	28	47	0	20	30	98	1,943
Mediums	0	7	13	1	0	0	2	0	0	0	0	0	0	7	0	8	38
Total	7	137	420	20	0	59	1,003	70	0	32	28	47	0	27	30	106	1,986



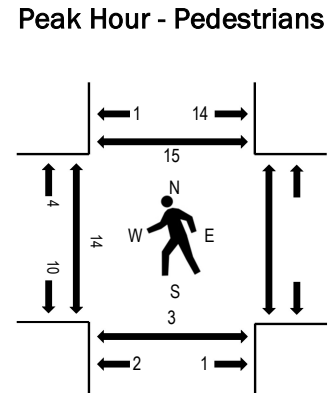
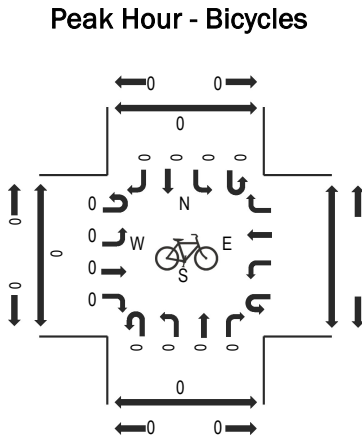
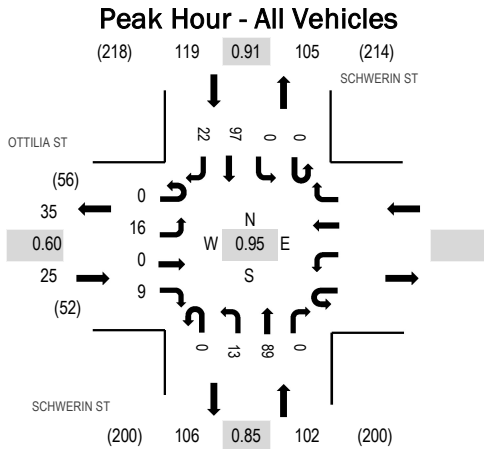
(303) 216-2439
www.alltrafficdata.net

Location: 5 SCHWERIN ST & OTTILIA ST PM

Date: Thursday, February 28, 2019

Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 04:30 PM - 04:45 PM



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	OTTILIA ST Eastbound				Westbound				SCHWERIN ST Northbound				SCHWERIN ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	3	0	1					0	4	26	0	0	0	17	1	52	236	4		0	1
4:15 PM	0	8	0	4					0	1	18	0	0	0	25	3	59	244	7		0	0
4:30 PM	0	2	0	3					0	4	24	0	0	0	24	8	65	246	3		2	6
4:45 PM	0	6	0	1					0	4	19	0	0	0	24	6	60	242	5		0	6
5:00 PM	0	2	0	3					0	2	19	0	0	0	30	4	60	234	4		0	3
5:15 PM	0	6	0	2					0	3	27	0	0	0	19	4	61		2		1	0
5:30 PM	0	4	0	2					1	1	26	0	0	0	20	7	61		7		1	3
5:45 PM	0	3	0	2					0	0	21	0	0	0	22	4	52		8		4	1

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0					0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0					0	0	0	0	0	0	0	0	0
Lights	0	16	0	9					0	12	87	0	0	0	97	22	243
Mediums	0	0	0	0					0	1	2	0	0	0	0	0	3
Total	0	16	0	9					0	13	89	0	0	0	97	22	246



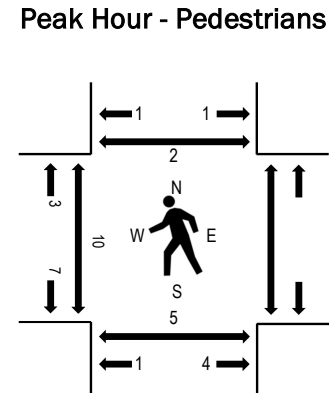
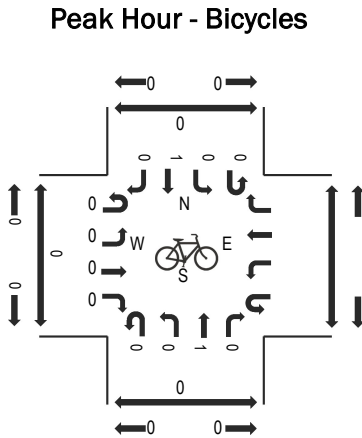
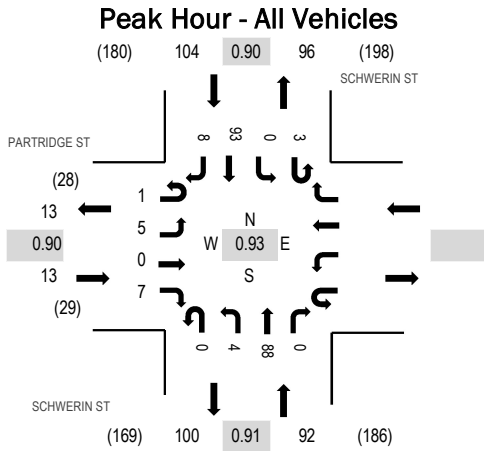
(303) 216-2439
www.alltrafficdata.net

Location: 6 SCHWERIN ST & PARTRIDGE ST PM

Date: Thursday, February 28, 2019

Peak Hour: 04:15 PM - 05:15 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	PARTRIDGE ST Eastbound				Westbound				SCHWERIN ST Northbound				SCHWERIN ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	1	1	0	1					0	1	26	0	0	0	16	2	48	201	3		3	0
4:15 PM	0	2	0	2					0	1	20	0	0	0	25	3	53	209	3		3	1
4:30 PM	0	1	0	2					0	0	27	0	1	0	16	2	49	205	1		0	0
4:45 PM	0	0	0	1					0	1	21	0	1	0	24	3	51	200	2		0	0
5:00 PM	1	2	0	2					0	2	20	0	1	0	28	0	56	194	4		2	1
5:15 PM	0	3	0	1					0	0	27	0	0	0	17	1	49		6		2	1
5:30 PM	0	4	0	1					1	0	21	0	0	0	14	3	44		1		0	3
5:45 PM	0	4	0	0					0	3	15	0	1	0	18	4	45		4		0	2

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0					0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0					0	0	1	0	0	0	1	0	2
Lights	1	5	0	7					0	4	84	0	3	0	92	8	204
Mediums	0	0	0	0					0	0	3	0	0	0	0	0	3
Total	1	5	0	7					0	4	88	0	3	0	93	8	209



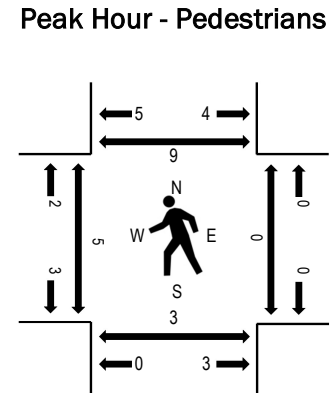
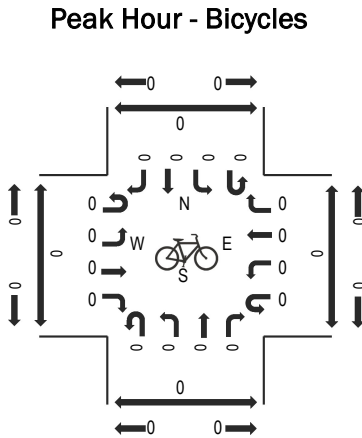
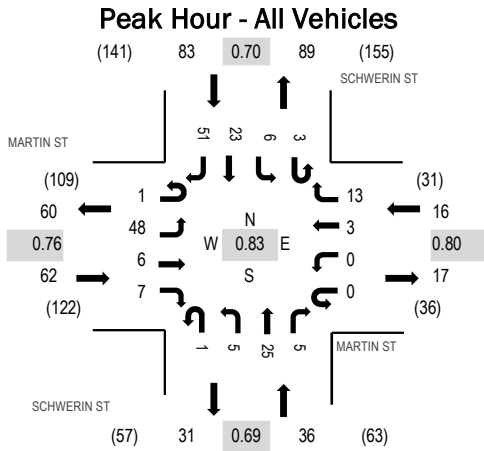
(303) 216-2439
www.alltrafficdata.net

Location: 7 SCHWERIN ST & MARTIN ST PM

Date: Thursday, February 28, 2019

Peak Hour: 04:30 PM - 05:30 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	MARTIN ST Eastbound				MARTIN ST Westbound				SCHWERIN ST Northbound				SCHWERIN ST Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	2	13	6	0	0	0	4	1	0	0	5	1	0	0	4	4	40	172	0	1	0	0
4:15 PM	0	11	1	0	0	0	3	1	1	0	5	1	1	1	7	11	43	191	1	1	0	1
4:30 PM	0	14	1	1	0	0	1	4	0	1	5	1	1	1	6	11	47	197	1	0	1	1
4:45 PM	0	13	0	2	0	0	1	1	0	0	8	0	1	0	6	10	42	188	1	0	1	1
5:00 PM	0	10	5	1	0	0	1	3	0	1	5	2	0	4	7	20	59	185	0	0	0	3
5:15 PM	1	11	0	3	0	0	0	5	1	3	7	2	1	1	4	10	49		3	0	1	4
5:30 PM	0	9	2	4	0	1	0	0	0	2	5	0	1	1	4	9	38		2	1	2	1
5:45 PM	0	7	4	1	0	0	2	3	0	3	4	0	0	2	4	9	39		1	0	2	0

Peak Rolling Hour Flow Rates

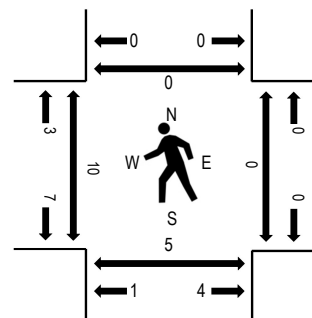
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	1	47	6	6	0	0	3	13	1	5	23	5	3	6	23	51	193
Mediums	0	1	0	1	0	0	0	0	0	0	2	0	0	0	0	0	4
Total	1	48	6	7	0	0	3	13	1	5	25	5	3	6	23	51	197



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Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour - Pedestrians



Traffic Counts

Interval Start Time	BAYSHORE BLVD Eastbound				BAYSHORE BLVD Westbound				HESTER RD Northbound				US101 SB OFF RAMP Southbound				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North	
4:00 PM	0	0	268	1	0	0	0	0	0	0	0	4	0	201	1	268	743	3,032	3	0	2	0	
4:15 PM	0	0	296	0	0	0	0	0	0	4	0	2	0	182	5	225	714	3,065	6	0	3	0	
4:30 PM	0	0	281	0	0	0	0	0	0	7	0	8	0	176	4	285	761	3,104	3	0	0	0	
4:45 PM	0	0	322	0	0	0	0	0	0	1	0	5	0	216	6	264	814	3,057	2	0	0	0	
5:00 PM	0	0	290	1	0	0	0	0	0	1	0	5	0	195	6	278	776	2,942	2	0	1	0	
5:15 PM	0	0	288	0	0	0	0	0	0	1	0	7	0	179	10	268	753		3	0	4	0	
5:30 PM	0	0	248	2	0	0	0	0	0	0	0	4	0	183	6	271	714		3	0	2	0	
5:45 PM	0	0	252	1	0	0	0	0	0	2	0	3	0	172	6	263	699		0	0	1	0	

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	1	7
Bicycles on Road	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	2
Lights	0	0	1,126	1	0	0	0	0	0	10	0	25	0	753	26	1,044	2,985
Mediums	0	0	48	0	0	0	0	0	0	0	0	0	0	13	0	49	110
Total	0	0	1,181	1	0	0	0	0	0	10	0	25	0	766	26	1,095	3,104



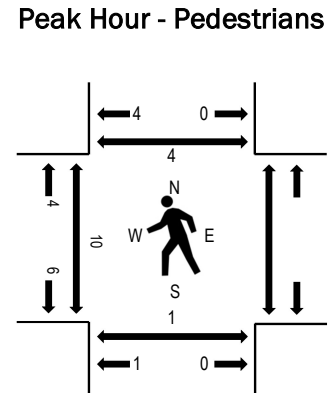
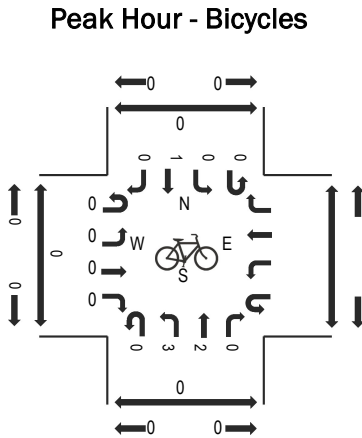
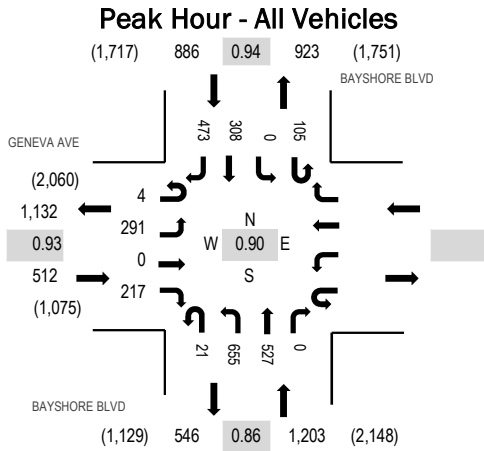
(303) 216-2439
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Location: 9 BAYSHORE BLVD & GENEVA AVE PM

Date: Thursday, February 28, 2019

Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:15 PM - 05:30 PM



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	GENEVA AVE Eastbound				Westbound				BAYSHORE BLVD Northbound				BAYSHORE BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	83	0	71					1	90	109	0	21	0	67	106	548	2,349	2		0	1
4:15 PM	0	68	0	72					2	118	106	0	24	0	77	107	574	2,434	5		0	0
4:30 PM	0	87	0	59					1	128	124	0	26	0	82	101	608	2,585	3		0	2
4:45 PM	1	84	0	50					2	137	107	0	25	0	80	133	619	2,601	1		1	0
5:00 PM	0	75	0	60					4	156	128	0	30	0	79	101	633	2,591	1		0	0
5:15 PM	1	73	0	58					12	183	161	0	23	0	86	128	725		6		0	1
5:30 PM	2	59	0	49					3	179	131	0	27	0	63	111	624		2		0	3
5:45 PM	2	59	0	62					1	163	102	0	19	0	88	113	609		0		0	1

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	0	1					0	1	5	0	0	0	1	0	9
Bicycles on Road	0	0	0	0					0	3	2	0	0	0	1	0	6
Lights	4	274	0	204					21	646	507	0	99	0	291	466	2,512
Mediums	0	16	0	12					0	5	13	0	6	0	15	7	74
Total	4	291	0	217					21	655	527	0	105	0	308	473	2,601



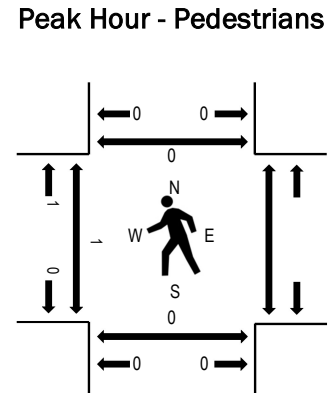
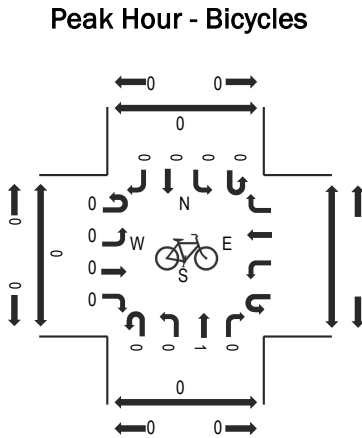
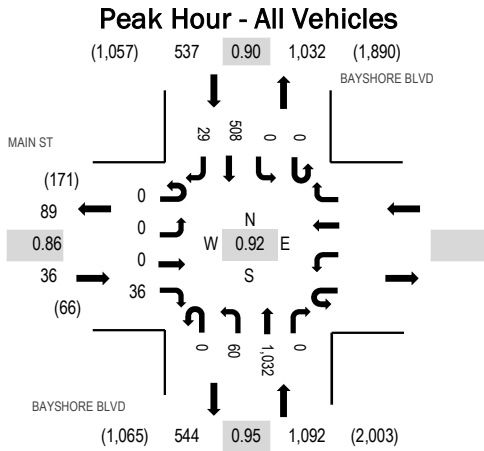
(303) 216-2439
www.alltrafficdata.net

Location: 10 BAYSHORE BLVD & MAIN ST PM

Date: Thursday, February 28, 2019

Peak Hour: 04:45 PM - 05:45 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	MAIN ST Eastbound				Westbound				BAYSHORE BLVD Northbound				BAYSHORE BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	5					0	11	181	0	0	0	124	4	325	1,465	1		0	0
4:15 PM	0	0	0	5					0	14	205	0	0	0	122	7	353	1,594	0		0	0
4:30 PM	0	0	0	10					0	12	238	0	0	0	140	5	405	1,654	0		0	0
4:45 PM	0	0	0	10					0	21	223	0	0	0	123	5	382	1,665	0		0	0
5:00 PM	0	0	0	11					0	13	275	0	0	0	146	9	454	1,661	0		0	0
5:15 PM	0	0	0	7					0	13	263	0	0	0	121	9	413		0		0	0
5:30 PM	0	0	0	8					0	13	271	0	0	0	118	6	416		1		0	0
5:45 PM	0	1	0	9					0	17	233	0	0	0	106	12	378		0		0	0

Peak Rolling Hour Flow Rates

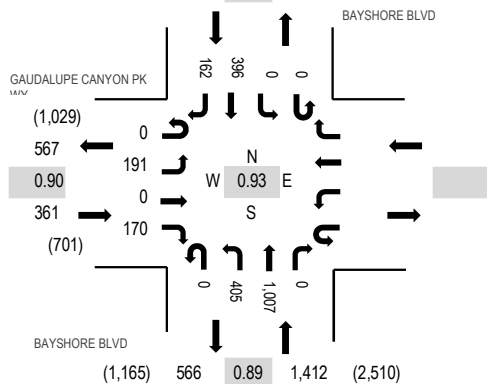
Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0					0	0	3	0	0	0	0	0	3
Bicycles on Road	0	0	0	0					0	0	1	0	0	0	0	0	1
Lights	0	0	0	35					0	60	1,015	0	0	0	489	28	1,627
Mediums	0	0	0	1					0	0	13	0	0	0	19	1	34
Total	0	0	0	36					0	60	1,032	0	0	0	508	29	1,665



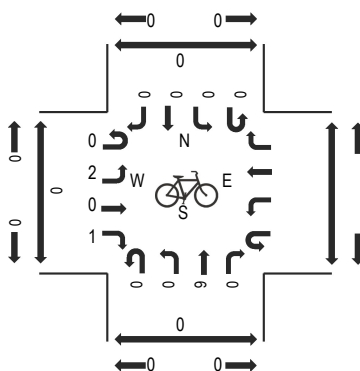
www.alltrafficdata.net

Peak 15-Minutes: 05:15 PM - 05:30 PM

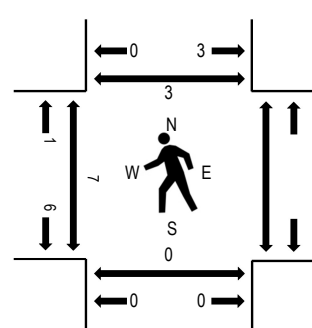
(1,140)	558	0.92	1,198	(2,157)
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Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	GAUDALUPE CANYON BLVD								BAYSHORE BLVD Northbound				BAYSHORE BLVD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	Eastbound				Westbound				U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right														
4:00 PM	0	44	0	32					0	79	164	0	0	0	110	30	459	2,020	4		0	0
4:15 PM	0	27	0	49					0	87	187	0	0	0	113	40	503	2,121	3		0	0
4:30 PM	0	62	0	38					0	75	193	0	0	0	114	45	527	2,242	0		0	0
4:45 PM	0	47	0	41					0	78	235	0	0	0	102	28	531	2,317	0		0	0
5:00 PM	0	55	0	43					0	78	240	0	0	0	107	37	560	2,331	1		0	2
5:15 PM	0	58	0	52					0	112	256	0	0	0	112	34	624		4		0	1
5:30 PM	0	41	0	37					0	117	279	0	0	0	89	39	602		1		0	0
5:45 PM	0	37	0	38					0	98	232	0	0	0	88	52	545		1		0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0					0	0	3	0	0	0	3	1	7
Bicycles on Road	0	2	0	1					0	0	6	0	0	0	0	0	9
Lights	0	186	0	163					0	403	980	0	0	0	378	154	2,264
Mediums	0	3	0	6					0	2	18	0	0	0	15	7	51
Total	0	191	0	170					0	405	1,007	0	0	0	396	162	2,331

Appendix B

Intersection Level of Service Calculations

Existing AM Peak Hour
1: Carter St & Martin St

04/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	2	12	130	2	34	2	310	89	7	656	2
Future Volume (vph)	3	2	12	130	2	34	2	310	89	7	656	2
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	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	1.00		1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.97	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1796	1583		1775	1536	1770	1863	1547	1766	1862	
Flt Permitted		0.82	1.00		0.73	1.00	0.29	1.00	1.00	0.56	1.00	
Satd. Flow (perm)		1522	1583		1353	1536	538	1863	1547	1041	1862	
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)	3	2	13	140	2	37	2	333	96	8	705	2
RTOR Reduction (vph)	0	0	10	0	0	30	0	0	40	0	0	0
Lane Group Flow (vph)	0	5	3	0	142	7	2	333	56	8	707	0
Confl. Peds. (#/hr)	4					4			4	4		
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)		6.9	6.9		6.9	6.9	20.8	20.8	20.8	20.8	20.8	
Effective Green, g (s)		6.9	6.9		6.9	6.9	20.8	20.8	20.8	20.8	20.8	
Actuated g/C Ratio		0.19	0.19		0.19	0.19	0.58	0.58	0.58	0.58	0.58	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		294	305		261	296	313	1085	901	606	1084	
v/s Ratio Prot								0.18			c0.38	
v/s Ratio Perm		0.00	0.00		c0.10	0.00	0.00		0.04	0.01		
v/c Ratio		0.02	0.01		0.54	0.02	0.01	0.31	0.06	0.01	0.65	
Uniform Delay, d1		11.7	11.6		13.0	11.7	3.1	3.8	3.2	3.1	5.0	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0	0.0		2.3	0.0	0.0	0.2	0.0	0.0	1.4	
Delay (s)		11.7	11.6		15.3	11.7	3.1	3.9	3.3	3.1	6.4	
Level of Service		B	B		B	B	A	A	A	A	A	
Approach Delay (s)		11.7			14.6			3.8			6.4	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay		6.7			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.62										
Actuated Cycle Length (s)		35.7			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		55.3%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

Existing AM Peak Hour
2: Guadalupe Canyon Parkway & Carter St

04/11/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	252	483	153	129	507	267
Future Volume (vph)	252	483	153	129	507	267
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	274	525	166	140	551	290
RTOR Reduction (vph)	0	0	0	119	0	164
Lane Group Flow (vph)	274	525	166	21	551	126
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	10.0	21.8	7.8	7.8	23.0	23.0
Effective Green, g (s)	10.0	21.8	7.8	7.8	23.0	23.0
Actuated g/C Ratio	0.19	0.41	0.15	0.15	0.44	0.44
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	335	1461	522	233	1495	689
v/s Ratio Prot	c0.15	c0.15	0.05		c0.16	
v/s Ratio Perm				0.01		0.08
v/c Ratio	0.82	0.36	0.32	0.09	0.37	0.18
Uniform Delay, d1	20.5	10.7	20.1	19.4	10.0	9.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.3	0.2	0.4	0.2	0.7	0.6
Delay (s)	34.8	10.8	20.5	19.6	10.7	9.7
Level of Service	C	B	C	B	B	A
Approach Delay (s)		19.1	20.1		10.4	
Approach LOS		B	C		B	

Intersection Summary

HCM 2000 Control Delay	15.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	52.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Existing AM Peak Hour
3: Schwerin St & Geneva Ave

04/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	790	30	51	427	43	23	46	93	42	28	143
Future Volume (vph)	127	790	30	51	427	43	23	46	93	42	28	143
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	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.99			0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.92			0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1765	3513		1752	3478			1678			1643	
Flt Permitted	0.34	1.00		0.33	1.00			0.95			0.93	
Satd. Flow (perm)	632	3513		605	3478			1604			1537	
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)	134	832	32	54	449	45	24	48	98	44	29	151
RTOR Reduction (vph)	0	3	0	0	8	0	0	71	0	0	108	0
Lane Group Flow (vph)	134	861	0	54	486	0	0	99	0	0	116	0
Confl. Peds. (#/hr)	16		25	25		16	39		33	33		39
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	22.6	22.6		12.3	12.3			8.6			8.6	
Effective Green, g (s)	22.6	22.6		12.3	12.3			8.6			8.6	
Actuated g/C Ratio	0.58	0.58		0.31	0.31			0.22			0.22	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	546	2025		189	1091			351			337	
v/s Ratio Prot	0.04	c0.25			0.14							
v/s Ratio Perm	0.10			0.09				0.06			c0.08	
v/c Ratio	0.25	0.43		0.29	0.45			0.28			0.35	
Uniform Delay, d1	4.1	4.7		10.1	10.7			12.7			12.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.2	0.1		0.8	0.3			0.4			0.6	
Delay (s)	4.3	4.8		11.0	11.0			13.2			13.5	
Level of Service	A	A		B	B			B			B	
Approach Delay (s)		4.7			11.0			13.2			13.5	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			8.3			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.46									
Actuated Cycle Length (s)			39.2			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			60.2%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Existing AM Peak Hour
4: Schwerin St & Otilia St

04/11/2019

Intersection

Intersection Delay, s/veh 8.1

Intersection LOS A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	22	28	107	77	48
Future Vol, veh/h	50	22	28	107	77	48
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	26	33	124	90	56
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.1	8.3	7.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	21%	69%	0%
Vol Thru, %	79%	0%	62%
Vol Right, %	0%	31%	38%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	135	72	125
LT Vol	28	50	0
Through Vol	107	0	77
RT Vol	0	22	48
Lane Flow Rate	157	84	145
Geometry Grp	1	1	1
Degree of Util (X)	0.185	0.106	0.164
Departure Headway (Hd)	4.233	4.543	4.074
Convergence, Y/N	Yes	Yes	Yes
Cap	834	793	885
Service Time	2.329	2.55	2.074
HCM Lane V/C Ratio	0.188	0.106	0.164
HCM Control Delay	8.3	8.1	7.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	0.4	0.6

Existing AM Peak Hour
5: Schwerin St & Partridge St

04/11/2019

Intersection

Intersection Delay, s/veh 7.6

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	10	0	10	0	0	0	6	130	0	0	65	4
Future Vol, veh/h	10	0	10	0	0	0	6	130	0	0	65	4
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	11	0	0	0	6	138	0	0	69	4
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.3	0	7.8	7.4
HCM LOS	A	-	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	50%	0%	0%
Vol Thru, %	96%	0%	100%	94%
Vol Right, %	0%	50%	0%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	136	20	0	69
LT Vol	6	10	0	0
Through Vol	130	0	0	65
RT Vol	0	10	0	4
Lane Flow Rate	145	21	0	73
Geometry Grp	1	1	1	1
Degree of Util (X)	0.162	0.024	0	0.082
Departure Headway (Hd)	4.035	4.107	4.426	4.045
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	890	857	0	883
Service Time	2.059	2.201	2.426	2.083
HCM Lane V/C Ratio	0.163	0.025	0	0.083
HCM Control Delay	7.8	7.3	7.4	7.4
HCM Lane LOS	A	A	N	A
HCM 95th-tile Q	0.6	0.1	0	0.3

Existing AM Peak Hour
6: ./Schwerin St & Martin St

04/11/2019

Intersection

Intersection Delay, s/veh 7.4

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	48	5	4	4	8	8	7	52	3	6	21	37
Future Vol, veh/h	48	5	4	4	8	8	7	52	3	6	21	37
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	5	4	4	9	9	7	55	3	6	22	39
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.2	7.5	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	84%	20%	9%
Vol Thru, %	84%	9%	40%	33%
Vol Right, %	5%	7%	40%	58%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	57	20	64
LT Vol	7	48	4	6
Through Vol	52	5	8	21
RT Vol	3	4	8	37
Lane Flow Rate	66	61	21	68
Geometry Grp	1	1	1	1
Degree of Util (X)	0.076	0.073	0.024	0.072
Departure Headway (Hd)	4.123	4.31	4.014	3.799
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	862	825	881	933
Service Time	2.18	2.369	2.086	1.861
HCM Lane V/C Ratio	0.077	0.074	0.024	0.073
HCM Control Delay	7.5	7.7	7.2	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.1	0.2

Existing AM Peak Hour

7: Hester Ave/SB 101 Off-Ramp & Bayshore Blvd/to 3rd St & to NB 101

04/11/2019



Movement	EBT	EBR	NBR	SBL2	SBT	SBR
Lane Configurations	↑↑		↔	↔	↔	↔
Traffic Volume (vph)	1031	5	144	784	16	650
Future Volume (vph)	1031	5	144	784	16	650
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	0.95		1.00	0.91	0.91	0.88
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		0.86	1.00	1.00	0.85
Flt Protected	1.00		1.00	0.95	0.96	1.00
Satd. Flow (prot)	3536		1611	3221	1619	2664
Flt Permitted	1.00		1.00	0.95	0.96	1.00
Satd. Flow (perm)	3536		1611	3221	1619	2664
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1121	5	157	852	17	707
RTOR Reduction (vph)	1	0	0	437	206	534
Lane Group Flow (vph)	1125	0	157	142	84	173
Confl. Peds. (#/hr)		11				12
Turn Type	NA		Prot	Split	NA	Perm
Protected Phases	2		5	4	4	
Permitted Phases						4
Actuated Green, G (s)	32.6		13.3	18.8	18.8	18.8
Effective Green, g (s)	32.6		13.3	18.8	18.8	18.8
Actuated g/C Ratio	0.43		0.17	0.25	0.25	0.25
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1502		279	789	396	652
v/s Ratio Prot	c0.32		c0.10	0.04	0.05	
v/s Ratio Perm						c0.07
v/c Ratio	0.75		0.56	0.18	0.21	0.27
Uniform Delay, d1	18.6		29.0	22.9	23.1	23.4
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1		2.6	0.1	0.3	0.2
Delay (s)	20.7		31.6	23.0	23.3	23.6
Level of Service	C		C	C	C	C
Approach Delay (s)	20.7				23.3	
Approach LOS	C				C	
Intersection Summary						
HCM 2000 Control Delay			22.7		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.57			
Actuated Cycle Length (s)			76.7		Sum of lost time (s)	12.0
Intersection Capacity Utilization			62.5%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

Existing AM Peak Hour
8: Bayshore Blvd & Geneva Ave

04/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	385	0	516	0	0	0	293	289	0	72	475	260
Future Volume (vph)	385	0	516	0	0	0	293	289	0	72	475	260
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
Lane Util. Factor	0.97		0.88				0.97	0.95		1.00	0.95	0.88
Frpb, ped/bikes	1.00		0.98				1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00		1.00				1.00	1.00		1.00	1.00	1.00
Frt	1.00		0.85				1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95		1.00				0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433		2726				3433	3539		1770	3539	2709
Flt Permitted	0.95		1.00				0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433		2726				3433	3539		1770	3539	2709
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	410	0	549	0	0	0	312	307	0	77	505	277
RTOR Reduction (vph)	0	0	425	0	0	0	0	0	0	0	0	193
Lane Group Flow (vph)	410	0	124	0	0	0	312	307	0	77	505	84
Confl. Peds. (#/hr)	1						11					11
Confl. Bikes (#/hr)			1									
Turn Type	Prot		Perm				Prot	NA		Prot	NA	Perm
Protected Phases	4						5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	9.5		9.5				7.8	17.2		3.4	12.8	12.8
Effective Green, g (s)	9.5		9.5				7.8	17.2		3.4	12.8	12.8
Actuated g/C Ratio	0.23		0.23				0.19	0.41		0.08	0.30	0.30
Clearance Time (s)	4.0		4.0				4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0				3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	774		615				636	1445		142	1075	823
v/s Ratio Prot	c0.12						c0.09	0.09		0.04	c0.14	
v/s Ratio Perm			0.05									0.03
v/c Ratio	0.53		0.20				0.49	0.21		0.54	0.47	0.10
Uniform Delay, d1	14.3		13.2				15.4	8.1		18.6	11.9	10.5
Progression Factor	1.00		1.00				1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7		0.2				0.6	0.1		4.2	0.3	0.1
Delay (s)	15.0		13.4				16.0	8.1		22.8	12.2	10.6
Level of Service	B		B				B	A		C	B	B
Approach Delay (s)		14.1			0.0			12.1			12.6	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM 2000 Control Delay			13.1				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			42.1				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			45.9%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

Existing AM Peak Hour
9: Bayshore Blvd & Main St

04/11/2019

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↗↘	↗↘	↗
Traffic Vol, veh/h	0	62	18	525	1003	13
Future Vol, veh/h	0	62	18	525	1003	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	0	440	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	65	19	547	1045	14

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	523	1045
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	2.22
Pot Cap-1 Maneuver	0	499	661
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	499	661
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.3	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	661	-	499	-	-
HCM Lane V/C Ratio	0.028	-	0.129	-	-
HCM Control Delay (s)	10.6	-	13.3	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Existing AM Peak Hour
10: Bayshore Blvd & Guadalupe Canyon Pkwy

04/11/2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←←	→	←	↑↑	↑↑	↗
Traffic Volume (vph)	155	588	178	479	803	223
Future Volume (vph)	155	588	178	479	803	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3401	1583	1770	3539	3539	1553
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3401	1583	1770	3539	3539	1553
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	161	612	185	499	836	232
RTOR Reduction (vph)	0	216	0	0	0	135
Lane Group Flow (vph)	161	397	185	499	836	97
Confl. Peds. (#/hr)	5		10			10
Turn Type	Perm	Perm	Prot	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4				6
Actuated Green, G (s)	15.9	15.9	7.0	36.0	25.0	25.0
Effective Green, g (s)	15.9	15.9	7.0	36.0	25.0	25.0
Actuated g/C Ratio	0.27	0.27	0.12	0.60	0.42	0.42
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	902	420	206	2126	1477	648
v/s Ratio Prot			c0.10	0.14	c0.24	
v/s Ratio Perm	0.05	c0.25				0.06
v/c Ratio	0.18	0.95	0.90	0.23	0.57	0.15
Uniform Delay, d1	17.0	21.6	26.1	5.6	13.3	10.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	30.1	35.7	0.3	1.6	0.5
Delay (s)	17.1	51.7	61.8	5.8	14.9	11.3
Level of Service	B	D	E	A	B	B
Approach Delay (s)	44.5			20.9	14.1	
Approach LOS	D			C	B	
Intersection Summary						
HCM 2000 Control Delay			25.3		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.74			
Actuated Cycle Length (s)			59.9		Sum of lost time (s)	12.0
Intersection Capacity Utilization			65.3%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

Existing AM Peak Hour
11: Schwerin St & A Street

04/11/2019

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	108	0	0	64
Future Vol, veh/h	0	0	108	0	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	115	0	0	68

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	183	115	0	0	115	0
Stage 1	115	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	806	937	-	-	1474	-
Stage 1	910	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	806	937	-	-	1474	-
Mov Cap-2 Maneuver	806	-	-	-	-	-
Stage 1	910	-	-	-	-	-
Stage 2	955	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1474
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Existing AM Peak Hour
12: Martin St & B Street

04/11/2019

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	14	20	0	0	0
Future Vol, veh/h	0	14	20	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	21	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	21	0	36
Stage 1	-	-	21
Stage 2	-	-	15
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1595	-	977
Stage 1	-	-	1002
Stage 2	-	-	1008
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1595	-	977
Mov Cap-2 Maneuver	-	-	977
Stage 1	-	-	1002
Stage 2	-	-	1008

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1595	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Existing AM Peak Hour
13: Linda Vista Dr & Martin St extension

04/11/2019

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	62	31	0
Future Vol, veh/h	0	0	0	62	31	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	66	33	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	99	33	33
Stage 1	33	-	-
Stage 2	66	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	900	1041	1579
Stage 1	989	-	-
Stage 2	957	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	900	1041	1579
Mov Cap-2 Maneuver	900	-	-
Stage 1	989	-	-
Stage 2	957	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1579	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

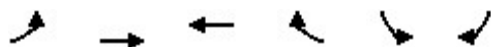
Existing+Project AM Peak Hour
1: Carter St & Martin St

06/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	2	12	135	2	34	2	311	94	7	656	2
Future Volume (vph)	3	2	12	135	2	34	2	311	94	7	656	2
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	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	1.00		1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.97	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1796	1583		1775	1536	1770	1863	1547	1766	1862	
Flt Permitted		0.83	1.00		0.73	1.00	0.29	1.00	1.00	0.56	1.00	
Satd. Flow (perm)		1526	1583		1353	1536	537	1863	1547	1040	1862	
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)	3	2	13	145	2	37	2	334	101	8	705	2
RTOR Reduction (vph)	0	0	10	0	0	30	0	0	42	0	0	0
Lane Group Flow (vph)	0	5	3	0	147	7	2	334	59	8	707	0
Confl. Peds. (#/hr)	4					4			4	4		
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)		7.1	7.1		7.1	7.1	21.2	21.2	21.2	21.2	21.2	
Effective Green, g (s)		7.1	7.1		7.1	7.1	21.2	21.2	21.2	21.2	21.2	
Actuated g/C Ratio		0.20	0.20		0.20	0.20	0.58	0.58	0.58	0.58	0.58	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		298	309		264	300	313	1088	903	607	1087	
v/s Ratio Prot								0.18			c0.38	
v/s Ratio Perm		0.00	0.00		c0.11	0.00	0.00		0.04	0.01		
v/c Ratio		0.02	0.01		0.56	0.02	0.01	0.31	0.07	0.01	0.65	
Uniform Delay, d1		11.8	11.8		13.2	11.8	3.2	3.8	3.3	3.2	5.1	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0	0.0		2.5	0.0	0.0	0.2	0.0	0.0	1.4	
Delay (s)		11.8	11.8		15.7	11.8	3.2	4.0	3.3	3.2	6.5	
Level of Service		B	B		B	B	A	A	A	A	A	
Approach Delay (s)		11.8			14.9			3.8			6.4	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay			6.8									
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			36.3									
Intersection Capacity Utilization			55.6%									
Analysis Period (min)			15									
c Critical Lane Group												

Existing+Project AM Peak Hour
2: Guadalupe Canyon Parkway & Carter St

06/18/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	257	485	162	129	507	272
Future Volume (vph)	257	485	162	129	507	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	279	527	176	140	551	296
RTOR Reduction (vph)	0	0	0	119	0	167
Lane Group Flow (vph)	279	527	176	21	551	129
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	10.0	21.9	7.9	7.9	23.0	23.0
Effective Green, g (s)	10.0	21.9	7.9	7.9	23.0	23.0
Actuated g/C Ratio	0.19	0.41	0.15	0.15	0.43	0.43
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	334	1465	528	236	1492	688
v/s Ratio Prot	c0.16	c0.15	0.05		c0.16	
v/s Ratio Perm				0.01		0.08
v/c Ratio	0.84	0.36	0.33	0.09	0.37	0.19
Uniform Delay, d1	20.7	10.7	20.1	19.4	10.1	9.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	16.3	0.2	0.4	0.2	0.7	0.6
Delay (s)	37.0	10.8	20.5	19.6	10.8	9.8
Level of Service	D	B	C	B	B	A
Approach Delay (s)		19.9	20.1		10.4	
Approach LOS		B	C		B	

Intersection Summary

HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	52.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Existing+Project AM Peak Hour
3: Schwerin St & Geneva Ave

06/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	790	42	57	427	43	36	48	173	42	30	143
Future Volume (vph)	127	790	42	57	427	43	36	48	173	42	30	143
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	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.91			0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1765	3503		1752	3478			1651			1646	
Flt Permitted	0.34	1.00		0.33	1.00			0.93			0.92	
Satd. Flow (perm)	631	3503		600	3478			1545			1524	
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)	134	832	44	60	449	45	38	51	182	44	32	151
RTOR Reduction (vph)	0	5	0	0	11	0	0	41	0	0	108	0
Lane Group Flow (vph)	134	871	0	60	483	0	0	230	0	0	119	0
Confl. Peds. (#/hr)	16		25	25		16	39		33	33		39
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	20.0	20.0		12.3	12.3			11.3			11.3	
Effective Green, g (s)	20.0	20.0		12.3	12.3			11.3			11.3	
Actuated g/C Ratio	0.51	0.51		0.31	0.31			0.29			0.29	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	427	1782		187	1088			444			438	
v/s Ratio Prot	0.03	c0.25			0.14							
v/s Ratio Perm	0.13			0.10				c0.15			0.08	
v/c Ratio	0.31	0.49		0.32	0.44			0.52			0.27	
Uniform Delay, d1	5.4	6.3		10.3	10.8			11.7			10.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.4	0.2		1.0	0.3			1.0			0.3	
Delay (s)	5.9	6.5		11.3	11.1			12.8			11.2	
Level of Service	A	A		B	B			B			B	
Approach Delay (s)		6.4			11.1			12.8			11.2	
Approach LOS		A			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			9.0			HCM 2000 Level of Service			A			
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			39.3			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			60.6%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

Existing+Project AM Peak Hour
4: Schwerin St & Otilia St

06/18/2019

Intersection

Intersection Delay, s/veh 9
Intersection LOS A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	23	28	209	99	48
Future Vol, veh/h	50	23	28	209	99	48
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	27	33	243	115	56
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left SB		EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right NB			EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.5	9.5	8.3
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	12%	68%	0%
Vol Thru, %	88%	0%	67%
Vol Right, %	0%	32%	33%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	237	73	147
LT Vol	28	50	0
Through Vol	209	0	99
RT Vol	0	23	48
Lane Flow Rate	276	85	171
Geometry Grp	1	1	1
Degree of Util (X)	0.333	0.114	0.201
Departure Headway (Hd)	4.344	4.852	4.237
Convergence, Y/N	Yes	Yes	Yes
Cap	830	739	848
Service Time	2.36	2.879	2.255
HCM Lane V/C Ratio	0.333	0.115	0.202
HCM Control Delay	9.5	8.5	8.3
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.5	0.4	0.7

Existing+Project AM Peak Hour
5: Schwerin St & Partridge St

06/18/2019

Intersection

Intersection Delay, s/veh 8.3

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	27	4	12	0	6	131	6	130	0	49	65	7
Future Vol, veh/h	27	4	12	0	6	131	6	130	0	49	65	7
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	4	13	0	6	139	6	138	0	52	69	7
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	7.9	8.5	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	63%	0%	40%
Vol Thru, %	96%	9%	4%	54%
Vol Right, %	0%	28%	96%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	136	43	137	121
LT Vol	6	27	0	49
Through Vol	130	4	6	65
RT Vol	0	12	131	7
Lane Flow Rate	145	46	146	129
Geometry Grp	1	1	1	1
Degree of Util (X)	0.181	0.06	0.164	0.163
Departure Headway (Hd)	4.502	4.684	4.05	4.556
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	797	765	886	788
Service Time	2.528	2.712	2.071	2.583
HCM Lane V/C Ratio	0.182	0.06	0.165	0.164
HCM Control Delay	8.5	8	7.9	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.2	0.6	0.6

Intersection

Intersection Delay, s/veh 7.4

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	48	5	4	4	8	8	7	52	3	6	21	42
Future Vol, veh/h	48	5	4	4	8	8	7	52	3	6	21	42
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	5	4	4	9	9	7	55	3	6	22	45
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.2	7.5	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	84%	20%	9%
Vol Thru, %	84%	9%	40%	30%
Vol Right, %	5%	7%	40%	61%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	57	20	69
LT Vol	7	48	4	6
Through Vol	52	5	8	21
RT Vol	3	4	8	42
Lane Flow Rate	66	61	21	73
Geometry Grp	1	1	1	1
Degree of Util (X)	0.076	0.073	0.024	0.077
Departure Headway (Hd)	4.126	4.318	4.022	3.779
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	861	823	879	938
Service Time	2.184	2.378	2.095	1.841
HCM Lane V/C Ratio	0.077	0.074	0.024	0.078
HCM Control Delay	7.5	7.7	7.2	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.1	0.2

Existing+Project AM Peak Hour

7: Hester Ave/SB 101 Off-Ramp & Bayshore Blvd/to 3rd St & to NB 101

06/18/2019



Movement	EBT	EBR	NBR	SBL2	SBT	SBR
Lane Configurations	↑↑		←	←	↑	↑↑
Traffic Volume (vph)	1099	5	144	784	16	650
Future Volume (vph)	1099	5	144	784	16	650
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	0.95		1.00	0.91	0.91	0.88
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.95
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		0.86	1.00	1.00	0.85
Flt Protected	1.00		1.00	0.95	0.96	1.00
Satd. Flow (prot)	3536		1611	3221	1619	2660
Flt Permitted	1.00		1.00	0.95	0.96	1.00
Satd. Flow (perm)	3536		1611	3221	1619	2660
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1195	5	157	852	17	707
RTOR Reduction (vph)	1	0	0	444	209	543
Lane Group Flow (vph)	1199	0	157	135	81	164
Confl. Peds. (#/hr)		11				12
Turn Type	NA		Prot	Split	NA	Perm
Protected Phases	2		5	4	4	
Permitted Phases						4
Actuated Green, G (s)	35.4		13.3	18.4	18.4	18.4
Effective Green, g (s)	35.4		13.3	18.4	18.4	18.4
Actuated g/C Ratio	0.45		0.17	0.23	0.23	0.23
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1582		270	749	376	618
v/s Ratio Prot	c0.34		c0.10	0.04	0.05	
v/s Ratio Perm						c0.06
v/c Ratio	0.76		0.58	0.18	0.21	0.27
Uniform Delay, d1	18.3		30.3	24.3	24.5	24.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1		3.2	0.1	0.3	0.2
Delay (s)	20.4		33.5	24.4	24.8	25.1
Level of Service	C		C	C	C	C
Approach Delay (s)	20.4				24.8	
Approach LOS	C				C	
Intersection Summary						
HCM 2000 Control Delay			23.5		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.59			
Actuated Cycle Length (s)			79.1		Sum of lost time (s)	12.0
Intersection Capacity Utilization			64.4%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

Existing+Project AM Peak Hour
8: Bayshore Blvd & Geneva Ave

06/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	458	0	516	0	0	0	293	291	0	72	486	270
Future Volume (vph)	458	0	516	0	0	0	293	291	0	72	486	270
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
Lane Util. Factor	0.97		0.88				0.97	0.95		1.00	0.95	0.88
Frpb, ped/bikes	1.00		0.98				1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00		1.00				1.00	1.00		1.00	1.00	1.00
Frt	1.00		0.85				1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95		1.00				0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433		2727				3433	3539		1770	3539	2708
Flt Permitted	0.95		1.00				0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433		2727				3433	3539		1770	3539	2708
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	487	0	549	0	0	0	312	310	0	77	517	287
RTOR Reduction (vph)	0	0	419	0	0	0	0	0	0	0	0	191
Lane Group Flow (vph)	487	0	130	0	0	0	312	310	0	77	517	96
Confl. Peds. (#/hr)	1						11					11
Confl. Bikes (#/hr)			1									
Turn Type	Prot		Perm				Prot	NA		Prot	NA	Perm
Protected Phases	4						5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	10.5		10.5				7.1	18.6		3.4	14.9	14.9
Effective Green, g (s)	10.5		10.5				7.1	18.6		3.4	14.9	14.9
Actuated g/C Ratio	0.24		0.24				0.16	0.42		0.08	0.33	0.33
Clearance Time (s)	4.0		4.0				4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0				3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	810		643				547	1479		135	1184	906
v/s Ratio Prot	c0.14						c0.09	c0.09		0.04	c0.15	
v/s Ratio Perm			0.05									0.04
v/c Ratio	0.60		0.20				0.57	0.21		0.57	0.44	0.11
Uniform Delay, d1	15.1		13.6				17.3	8.3		19.8	11.5	10.2
Progression Factor	1.00		1.00				1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.3		0.2				1.4	0.1		5.7	0.3	0.1
Delay (s)	16.4		13.8				18.7	8.3		25.6	11.8	10.3
Level of Service	B		B				B	A		C	B	B
Approach Delay (s)		15.0			0.0			13.5			12.5	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM 2000 Control Delay			13.8				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			44.5				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			48.2%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

Existing+Project AM Peak Hour
9: Bayshore Blvd & Main St

06/18/2019

Intersection

Int Delay, s/veh 1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	99	23	525	1003	13
Future Vol, veh/h	0	99	23	525	1003	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	0	440	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	103	24	547	1045	14

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	523	1045
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	2.22
Pot Cap-1 Maneuver	0	499	661
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	-	499	661
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.1	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	661	-	499	-	-
HCM Lane V/C Ratio	0.036	-	0.207	-	-
HCM Control Delay (s)	10.7	-	14.1	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	-	-

Existing+Project AM Peak Hour
10: Bayshore Blvd & Guadalupe Canyon Pkwy

06/18/2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←←	→	←	→→	→→	←
Traffic Volume (vph)	155	589	178	485	834	231
Future Volume (vph)	155	589	178	485	834	231
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3401	1583	1770	3539	3539	1553
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3401	1583	1770	3539	3539	1553
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	161	614	185	505	869	241
RTOR Reduction (vph)	0	211	0	0	0	141
Lane Group Flow (vph)	161	403	185	505	869	100
Confl. Peds. (#/hr)	5		10			10
Turn Type	Perm	Perm	Prot	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4				6
Actuated Green, G (s)	16.0	16.0	7.0	36.0	25.0	25.0
Effective Green, g (s)	16.0	16.0	7.0	36.0	25.0	25.0
Actuated g/C Ratio	0.27	0.27	0.12	0.60	0.42	0.42
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	906	422	206	2123	1474	647
v/s Ratio Prot			c0.10	0.14	c0.25	
v/s Ratio Perm	0.05	c0.25				0.06
v/c Ratio	0.18	0.95	0.90	0.24	0.59	0.16
Uniform Delay, d1	16.9	21.6	26.1	5.6	13.5	10.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	32.1	35.7	0.3	1.7	0.5
Delay (s)	17.0	53.7	61.8	5.9	15.3	11.4
Level of Service	B	D	E	A	B	B
Approach Delay (s)	46.1			20.9	14.4	
Approach LOS	D			C	B	
Intersection Summary						
HCM 2000 Control Delay			25.7		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.76			
Actuated Cycle Length (s)			60.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			66.2%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

Existing+Project AM Peak Hour
11: Schwerin St & A Street

06/18/2019

Intersection						
Int Delay, s/veh	0.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	0	121	5	0	64
Future Vol, veh/h	10	0	121	5	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	0	129	5	0	68

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	200	132	0
Stage 1	132	-	-
Stage 2	68	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	789	917	-
Stage 1	894	-	-
Stage 2	955	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	789	917	-
Mov Cap-2 Maneuver	789	-	-
Stage 1	894	-	-
Stage 2	955	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	789	1451
HCM Lane V/C Ratio	-	-	0.013	-
HCM Control Delay (s)	-	-	9.6	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection

Int Delay, s/veh 4.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	14	20	9	42	0
Future Vol, veh/h	0	14	20	9	42	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	21	10	45	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	31	0	0 41 26
Stage 1	-	-	- 26 -
Stage 2	-	-	- 15 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1582	-	- 970 1050
Stage 1	-	-	- 997 -
Stage 2	-	-	- 1008 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1582	-	- 970 1050
Mov Cap-2 Maneuver	-	-	- 970 -
Stage 1	-	-	- 997 -
Stage 2	-	-	- 1008 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1582	-	-	-	970
HCM Lane V/C Ratio	-	-	-	-	0.046
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Existing+Project AM Peak Hour
13: Linda Vista Dr & Martin St extension

06/18/2019

Intersection

Int Delay, s/veh 2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	39	0	0	72	31	9
Future Vol, veh/h	39	0	0	72	31	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	0	0	77	33	10

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	115	38	43
Stage 1	38	-	-
Stage 2	77	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	881	1034	1566
Stage 1	984	-	-
Stage 2	946	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	881	1034	1566
Mov Cap-2 Maneuver	881	-	-
Stage 1	984	-	-
Stage 2	946	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1566	-	881	-	-
HCM Lane V/C Ratio	-	-	0.047	-	-
HCM Control Delay (s)	0	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Cumulative No Project AM Peak Hour

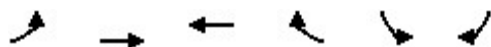
1: Carter St & Martin St

05/24/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	9	5	197	2	35	2	307	97	9	719	2
Future Volume (vph)	3	9	5	197	2	35	2	307	97	9	719	2
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	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	1.00		1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1837	1583		1775	1536	1770	1863	1547	1766	1862	
Flt Permitted		0.91	1.00		0.72	1.00	0.24	1.00	1.00	0.56	1.00	
Satd. Flow (perm)		1689	1583		1339	1536	438	1863	1547	1044	1862	
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)	3	10	5	212	2	38	2	330	104	10	773	2
RTOR Reduction (vph)	0	0	4	0	0	30	0	0	44	0	0	0
Lane Group Flow (vph)	0	13	1	0	214	8	2	330	60	10	775	0
Confl. Peds. (#/hr)	4					4			4	4		
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)		7.3	7.3		7.3	7.3	20.6	20.6	20.6	20.6	20.6	
Effective Green, g (s)		7.3	7.3		7.3	7.3	20.6	20.6	20.6	20.6	20.6	
Actuated g/C Ratio		0.20	0.20		0.20	0.20	0.57	0.57	0.57	0.57	0.57	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		343	321		272	312	251	1069	887	599	1068	
v/s Ratio Prot								0.18			c0.42	
v/s Ratio Perm		0.01	0.00		c0.16	0.01	0.00		0.04	0.01		
v/c Ratio		0.04	0.00		0.79	0.02	0.01	0.31	0.07	0.02	0.73	
Uniform Delay, d1		11.5	11.4		13.6	11.4	3.3	4.0	3.4	3.3	5.6	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0	0.0		13.9	0.0	0.0	0.2	0.0	0.0	2.5	
Delay (s)		11.5	11.4		27.5	11.5	3.3	4.1	3.4	3.3	8.1	
Level of Service		B	B		C	B	A	A	A	A	A	
Approach Delay (s)		11.5			25.1			4.0			8.0	
Approach LOS		B			C			A			A	
Intersection Summary												
HCM 2000 Control Delay		9.7			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.74										
Actuated Cycle Length (s)		35.9			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		62.3%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

Cumulative No Project AM Peak Hour
2: Guadalupe Canyon Parkway & Carter St

05/24/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	270	647	214	128	496	407
Future Volume (vph)	270	647	214	128	496	407
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	293	703	233	139	539	442
RTOR Reduction (vph)	0	0	0	116	0	254
Lane Group Flow (vph)	293	703	233	23	539	188
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	10.0	23.0	9.0	9.0	23.0	23.0
Effective Green, g (s)	10.0	23.0	9.0	9.0	23.0	23.0
Actuated g/C Ratio	0.19	0.43	0.17	0.17	0.43	0.43
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	327	1507	589	263	1462	674
v/s Ratio Prot	c0.17	c0.20	0.07		c0.16	
v/s Ratio Perm				0.01		0.12
v/c Ratio	0.90	0.47	0.40	0.09	0.37	0.28
Uniform Delay, d1	21.5	11.1	20.1	19.0	10.6	10.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	25.4	0.2	0.4	0.1	0.7	1.0
Delay (s)	46.8	11.3	20.5	19.2	11.3	11.1
Level of Service	D	B	C	B	B	B
Approach Delay (s)		21.8	20.0		11.2	
Approach LOS		C	C		B	
Intersection Summary						
HCM 2000 Control Delay			17.1		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.54			
Actuated Cycle Length (s)			54.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			45.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Cumulative No Project AM Peak Hour
3: Schwerin St & Geneva Ave

05/24/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	1122	30	163	732	43	14	57	185	42	38	155
Future Volume (vph)	130	1122	30	163	732	43	14	57	185	42	38	155
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	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97			0.97	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.90			0.91	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1766	3518		1750	3499			1629			1632	
Flt Permitted	0.27	1.00		0.23	1.00			0.98			0.80	
Satd. Flow (perm)	509	3518		419	3499			1595			1315	
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)	137	1181	32	172	771	45	15	60	195	44	40	163
RTOR Reduction (vph)	0	2	0	0	4	0	0	50	0	0	92	0
Lane Group Flow (vph)	137	1211	0	172	812	0	0	220	0	0	155	0
Confl. Peds. (#/hr)	16		25	25		16	39		33	33		39
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	52.2	52.2		44.2	44.2			15.3			15.3	
Effective Green, g (s)	52.2	52.2		44.2	44.2			15.3			15.3	
Actuated g/C Ratio	0.69	0.69		0.59	0.59			0.20			0.20	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	418	2432		245	2048			323			266	
v/s Ratio Prot	0.02	c0.34			0.23							
v/s Ratio Perm	0.21			c0.41				c0.14			0.12	
v/c Ratio	0.33	0.50		0.70	0.40			0.68			0.58	
Uniform Delay, d1	4.7	5.5		11.0	8.5			27.8			27.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.5	0.2		8.8	0.1			5.8			3.2	
Delay (s)	5.2	5.6		19.8	8.6			33.6			30.4	
Level of Service	A	A		B	A			C			C	
Approach Delay (s)		5.6			10.5			33.6			30.4	
Approach LOS		A			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			12.1			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			75.5			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			81.3%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Cumulative No Project AM Peak Hour
4: Schwerin St & Otilia St

05/24/2019

Intersection

Intersection Delay, s/veh 9.5

Intersection LOS A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	21	22	207	200	48
Future Vol, veh/h	44	21	22	207	200	48
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	24	26	241	233	56
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.7	9.6	9.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	10%	68%	0%
Vol Thru, %	90%	0%	81%
Vol Right, %	0%	32%	19%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	229	65	248
LT Vol	22	44	0
Through Vol	207	0	200
RT Vol	0	21	48
Lane Flow Rate	266	76	288
Geometry Grp	1	1	1
Degree of Util (X)	0.329	0.107	0.344
Departure Headway (Hd)	4.444	5.074	4.295
Convergence, Y/N	Yes	Yes	Yes
Cap	809	705	839
Service Time	2.467	3.112	2.317
HCM Lane V/C Ratio	0.329	0.108	0.343
HCM Control Delay	9.6	8.7	9.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.4	0.4	1.5

Cumulative No Project AM Peak Hour
5: Schwerin St & Partridge St

05/24/2019

Intersection

Intersection Delay, s/veh 8.1

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	61	0	4	0	0	0	7	135	0	0	115	43
Future Vol, veh/h	61	0	4	0	0	0	7	135	0	0	115	43
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	0	4	0	0	0	7	144	0	0	122	46
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.3	0	8.2	8
HCM LOS	A	-	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	94%	0%	0%
Vol Thru, %	95%	0%	100%	73%
Vol Right, %	0%	6%	0%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	142	65	0	158
LT Vol	7	61	0	0
Through Vol	135	0	0	115
RT Vol	0	4	0	43
Lane Flow Rate	151	69	0	168
Geometry Grp	1	1	1	1
Degree of Util (X)	0.176	0.092	0	0.187
Departure Headway (Hd)	4.192	4.772	4.714	4.006
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	841	755	0	879
Service Time	2.288	2.772	2.717	2.105
HCM Lane V/C Ratio	0.18	0.091	0	0.191
HCM Control Delay	8.2	8.3	7.7	8
HCM Lane LOS	A	A	N	A
HCM 95th-tile Q	0.6	0.3	0	0.7

Cumulative No Project AM Peak Hour
6: ./Schwerin St & Martin St

05/24/2019

Intersection

Intersection Delay, s/veh 7.5

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	63	9	4	4	8	8	7	52	3	4	21	66
Future Vol, veh/h	63	9	4	4	8	8	7	52	3	4	21	66
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	67	10	4	4	9	9	7	55	3	4	22	70
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	7.3	7.6	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	83%	20%	4%
Vol Thru, %	84%	12%	40%	23%
Vol Right, %	5%	5%	40%	73%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	76	20	91
LT Vol	7	63	4	4
Through Vol	52	9	8	21
RT Vol	3	4	8	66
Lane Flow Rate	66	81	21	97
Geometry Grp	1	1	1	1
Degree of Util (X)	0.077	0.098	0.024	0.1
Departure Headway (Hd)	4.18	4.366	4.079	3.736
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	848	813	865	946
Service Time	2.254	2.432	2.165	1.812
HCM Lane V/C Ratio	0.078	0.1	0.024	0.103
HCM Control Delay	7.6	7.9	7.3	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.1	0.3

Cumulative No Project AM Peak Hour

7: Hester Ave/SB 101 Off-Ramp & Bayshore Blvd/to 3rd St & to NB 101

05/24/2019



Movement	EBT	EBR	NBR	SBL2	SBT	SBR
Lane Configurations	↑↑		↔	↔	↑	↔
Traffic Volume (vph)	995	5	144	1295	16	1315
Future Volume (vph)	995	5	144	1295	16	1315
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	0.95		1.00	0.91	0.91	0.88
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		0.86	1.00	1.00	0.85
Flt Protected	1.00		1.00	0.95	0.95	1.00
Satd. Flow (prot)	3536		1611	3221	1617	2686
Flt Permitted	1.00		1.00	0.95	0.95	1.00
Satd. Flow (perm)	3536		1611	3221	1617	2686
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1082	5	157	1408	17	1429
RTOR Reduction (vph)	0	0	0	598	295	906
Lane Group Flow (vph)	1087	0	157	345	187	523
Confl. Peds. (#/hr)		11				12
Turn Type	NA		Prot	Split	NA	Perm
Protected Phases	2		5	4	4	
Permitted Phases						4
Actuated Green, G (s)	35.4		13.7	35.3	35.3	35.3
Effective Green, g (s)	35.4		13.7	35.3	35.3	35.3
Actuated g/C Ratio	0.37		0.14	0.37	0.37	0.37
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1298		228	1179	592	983
v/s Ratio Prot	c0.31		c0.10	0.11	0.12	
v/s Ratio Perm						c0.19
v/c Ratio	0.84		0.69	0.29	0.32	0.53
Uniform Delay, d1	27.9		39.3	21.7	21.9	24.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.9		8.4	0.1	0.3	0.6
Delay (s)	32.7		47.7	21.8	22.2	24.6
Level of Service	C		D	C	C	C
Approach Delay (s)	32.7				23.3	
Approach LOS	C				C	
Intersection Summary						
HCM 2000 Control Delay			26.7		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.68			
Actuated Cycle Length (s)			96.4		Sum of lost time (s)	12.0
Intersection Capacity Utilization			71.2%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

Cumulative No Project AM Peak Hour
8: Bayshore Blvd & Geneva Ave

05/24/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	1029	312	254	528	94	210	190	520	200	1058	271
Future Volume (vph)	96	1029	312	254	528	94	210	190	520	200	1058	271
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	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.88
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1563	1770	5085	1583	3433	3539	1583	3433	3539	2679
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1563	1770	5085	1583	3433	3539	1583	3433	3539	2679
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	102	1095	332	270	562	100	223	202	553	213	1126	288
RTOR Reduction (vph)	0	0	126	0	0	63	0	0	191	0	0	151
Lane Group Flow (vph)	102	1095	206	270	562	37	223	202	362	213	1126	137
Confl. Peds. (#/hr)	1						11					11
Confl. Bikes (#/hr)			1									
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	8.9	30.8	30.8	15.0	36.9	36.9	7.0	31.0	31.0	8.0	32.0	32.0
Effective Green, g (s)	8.9	30.8	30.8	15.0	36.9	36.9	7.0	31.0	31.0	8.0	32.0	32.0
Actuated g/C Ratio	0.09	0.31	0.31	0.15	0.37	0.37	0.07	0.31	0.31	0.08	0.32	0.32
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	156	1081	477	263	1861	579	238	1088	486	272	1123	850
v/s Ratio Prot	0.06	c0.31		c0.15	0.11		c0.06	0.06		0.06	c0.32	
v/s Ratio Perm			0.13			0.02			0.23			0.05
v/c Ratio	0.65	1.01	0.43	1.03	0.30	0.06	0.94	0.19	0.74	0.78	1.00	0.16
Uniform Delay, d1	44.5	35.0	28.0	42.9	22.8	20.7	46.7	25.6	31.3	45.5	34.4	24.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.5	30.6	0.6	62.5	0.1	0.0	40.9	0.1	6.1	13.7	27.5	0.1
Delay (s)	53.9	65.6	28.6	105.4	22.9	20.8	87.6	25.7	37.5	59.2	61.9	24.8
Level of Service	D	E	C	F	C	C	F	C	D	E	E	C
Approach Delay (s)		56.8			46.6			46.5			55.0	
Approach LOS		E			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			52.3									
HCM 2000 Volume to Capacity ratio			1.00									
Actuated Cycle Length (s)			100.8									
Intersection Capacity Utilization			91.1%									
Analysis Period (min)			15									
c Critical Lane Group												

Cumulative No Project AM Peak Hour
9: Bayshore Blvd & Main St

05/24/2019

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	61	11	868	1636	13
Future Vol, veh/h	0	61	11	868	1636	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	0	440	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	64	11	904	1704	14

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	852	1704
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	2.22
Pot Cap-1 Maneuver	0	303	369
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	303	369
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	20	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	369	-	303	-	-
HCM Lane V/C Ratio	0.031	-	0.21	-	-
HCM Control Delay (s)	15.1	-	20	-	-
HCM Lane LOS	C	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	-	-

Cumulative No Project AM Peak Hour
10: Bayshore Blvd & Guadalupe Canyon Pkwy

05/24/2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←←	→	←	→→	→→	←
Traffic Volume (vph)	246	650	215	693	1409	247
Future Volume (vph)	246	650	215	693	1409	247
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3404	1583	1770	3539	3539	1547
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3404	1583	1770	3539	3539	1547
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	256	677	224	722	1468	257
RTOR Reduction (vph)	0	185	0	0	0	114
Lane Group Flow (vph)	256	492	224	722	1468	143
Confl. Peds. (#/hr)	5		10			10
Turn Type	Perm	Perm	Prot	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4				6
Actuated Green, G (s)	27.0	27.0	12.0	55.0	39.0	39.0
Effective Green, g (s)	27.0	27.0	12.0	55.0	39.0	39.0
Actuated g/C Ratio	0.30	0.30	0.13	0.61	0.43	0.43
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1021	474	236	2162	1533	670
v/s Ratio Prot			c0.13	0.20	c0.41	
v/s Ratio Perm	0.08	c0.31				0.09
v/c Ratio	0.25	1.04	0.95	0.33	0.96	0.21
Uniform Delay, d1	23.8	31.5	38.7	8.6	24.7	15.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	51.6	44.0	0.4	14.9	0.7
Delay (s)	24.0	83.1	82.7	9.0	39.6	16.6
Level of Service	C	F	F	A	D	B
Approach Delay (s)	66.9			26.4	36.2	
Approach LOS	E			C	D	
Intersection Summary						
HCM 2000 Control Delay			41.6		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.98			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			85.9%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						

Cumulative No Project AM Peak Hour
11: Schwerin St & A Street

05/24/2019

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	138	0	0	104
Future Vol, veh/h	0	0	138	0	0	104
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	147	0	0	111

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	258	147	0	0	147	0
Stage 1	147	-	-	-	-	-
Stage 2	111	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	731	900	-	-	1435	-
Stage 1	880	-	-	-	-	-
Stage 2	914	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	731	900	-	-	1435	-
Mov Cap-2 Maneuver	731	-	-	-	-	-
Stage 1	880	-	-	-	-	-
Stage 2	914	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1435
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Cumulative No Project AM Peak Hour
12: Martin St & B Street

05/24/2019

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	27	24	0	0	0
Future Vol, veh/h	0	27	24	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	29	26	0	0	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	26	0	-	0	55	26
Stage 1	-	-	-	-	26	-
Stage 2	-	-	-	-	29	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1588	-	-	-	953	1050
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	994	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1588	-	-	-	953	1050
Mov Cap-2 Maneuver	-	-	-	-	953	-
Stage 1	-	-	-	-	997	-
Stage 2	-	-	-	-	994	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1588	-	-	-	-	
HCM Lane V/C Ratio	-	-	-	-	-	
HCM Control Delay (s)	0	-	-	-	0	
HCM Lane LOS	A	-	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	-	

Cumulative No Project AM Peak Hour
13: Linda Vista Dr & Martin St extension

05/24/2019

Intersection

Int Delay, s/veh 1.5

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations 

Traffic Vol, veh/h 15 0 0 50 18 4

Future Vol, veh/h 15 0 0 50 18 4

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Stop Stop Free Free Free Free

RT Channelized - None - None - None

Storage Length 0 - - - - -

Veh in Median Storage, # 0 - - 0 0 -

Grade, % 0 - - 0 0 -

Peak Hour Factor 94 94 94 94 94 94

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 16 0 0 53 19 4

Major/Minor Minor2 Major1 Major2

Conflicting Flow All 74 21 23 0 - 0

Stage 1 21 - - - - -

Stage 2 53 - - - - -

Critical Hdwy 6.42 6.22 4.12 - - -

Critical Hdwy Stg 1 5.42 - - - - -

Critical Hdwy Stg 2 5.42 - - - - -

Follow-up Hdwy 3.518 3.318 2.218 - - -

Pot Cap-1 Maneuver 930 1056 1592 - - -

Stage 1 1002 - - - - -

Stage 2 970 - - - - -

Platoon blocked, % - - -

Mov Cap-1 Maneuver 930 1056 1592 - - -

Mov Cap-2 Maneuver 930 - - - - -

Stage 1 1002 - - - - -

Stage 2 970 - - - - -

Approach EB NB SB

HCM Control Delay, s 8.9 0 0

HCM LOS A

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h) 1592 - 930 - -

HCM Lane V/C Ratio - - 0.017 - -

HCM Control Delay (s) 0 - 8.9 - -

HCM Lane LOS A - A - -

HCM 95th %tile Q(veh) 0 - 0.1 - -

Cumulative With Project AM Peak Hour

1: Carter St & Martin St

05/24/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	9	11	197	2	35	2	312	99	9	719	2
Future Volume (vph)	3	9	11	197	2	35	2	312	99	9	719	2
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	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	1.00		1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1837	1583		1775	1536	1770	1863	1547	1766	1862	
Flt Permitted		0.91	1.00		0.72	1.00	0.24	1.00	1.00	0.56	1.00	
Satd. Flow (perm)		1689	1583		1339	1536	438	1863	1547	1039	1862	
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)	3	10	12	212	2	38	2	335	106	10	773	2
RTOR Reduction (vph)	0	0	10	0	0	30	0	0	45	0	0	0
Lane Group Flow (vph)	0	13	2	0	214	8	2	335	61	10	775	0
Confl. Peds. (#/hr)	4					4			4	4		
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)		7.3	7.3		7.3	7.3	20.6	20.6	20.6	20.6	20.6	
Effective Green, g (s)		7.3	7.3		7.3	7.3	20.6	20.6	20.6	20.6	20.6	
Actuated g/C Ratio		0.20	0.20		0.20	0.20	0.57	0.57	0.57	0.57	0.57	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		343	321		272	312	251	1069	887	596	1068	
v/s Ratio Prot								0.18			c0.42	
v/s Ratio Perm		0.01	0.00		c0.16	0.01	0.00		0.04	0.01		
v/c Ratio		0.04	0.01		0.79	0.02	0.01	0.31	0.07	0.02	0.73	
Uniform Delay, d1		11.5	11.4		13.6	11.4	3.3	4.0	3.4	3.3	5.6	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0	0.0		13.9	0.0	0.0	0.2	0.0	0.0	2.5	
Delay (s)		11.5	11.4		27.5	11.5	3.3	4.1	3.4	3.3	8.1	
Level of Service		B	B		C	B	A	A	A	A	A	
Approach Delay (s)		11.5			25.1			4.0			8.0	
Approach LOS		B			C			A			A	
Intersection Summary												
HCM 2000 Control Delay			9.7									
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			35.9									
Intersection Capacity Utilization			62.3%									
Analysis Period (min)			15									
c Critical Lane Group												

Cumulative With Project AM Peak Hour
2: Guadalupe Canyon Parkway & Carter St

05/24/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	273	661	228	129	504	407
Future Volume (vph)	273	661	228	129	504	407
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	297	718	248	140	548	442
RTOR Reduction (vph)	0	0	0	116	0	254
Lane Group Flow (vph)	297	718	248	24	548	188
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	10.0	23.2	9.2	9.2	23.0	23.0
Effective Green, g (s)	10.0	23.2	9.2	9.2	23.0	23.0
Actuated g/C Ratio	0.18	0.43	0.17	0.17	0.42	0.42
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	326	1514	600	268	1456	671
v/s Ratio Prot	c0.17	c0.20	0.07		c0.16	
v/s Ratio Perm				0.02		0.12
v/c Ratio	0.91	0.47	0.41	0.09	0.38	0.28
Uniform Delay, d1	21.7	11.1	20.1	19.0	10.7	10.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.3	0.2	0.5	0.1	0.7	1.0
Delay (s)	50.0	11.4	20.6	19.1	11.4	11.2
Level of Service	D	B	C	B	B	B
Approach Delay (s)		22.7	20.0		11.3	
Approach LOS		C	C		B	

Intersection Summary

HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	54.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	45.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Cumulative With Project AM Peak Hour

3: Schwerin St & Geneva Ave

05/24/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	1122	39	163	732	43	38	57	220	42	38	155
Future Volume (vph)	130	1122	39	163	732	43	38	57	220	42	38	155
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	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97			0.97	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.91			0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1766	3511		1750	3498			1627			1631	
Flt Permitted	0.26	1.00		0.21	1.00			0.93			0.82	
Satd. Flow (perm)	492	3511		392	3498			1520			1346	
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)	137	1181	41	172	771	45	40	60	232	44	40	163
RTOR Reduction (vph)	0	2	0	0	4	0	0	48	0	0	88	0
Lane Group Flow (vph)	137	1220	0	172	812	0	0	284	0	0	159	0
Confl. Peds. (#/hr)	16		25	25		16	39		33	33		39
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	52.3	52.3		44.3	44.3			19.5			19.5	
Effective Green, g (s)	52.3	52.3		44.3	44.3			19.5			19.5	
Actuated g/C Ratio	0.66	0.66		0.56	0.56			0.24			0.24	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	386	2301		217	1941			371			328	
v/s Ratio Prot	0.02	c0.35			0.23							
v/s Ratio Perm	0.21			c0.44				c0.19			0.12	
v/c Ratio	0.35	0.53		0.79	0.42			0.77			0.49	
Uniform Delay, d1	6.1	7.3		14.1	10.3			28.0			25.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.6	0.2		17.7	0.1			9.1			1.1	
Delay (s)	6.7	7.5		31.8	10.4			37.2			27.0	
Level of Service	A	A		C	B			D			C	
Approach Delay (s)		7.4			14.2			37.2			27.0	
Approach LOS		A			B			D			C	
Intersection Summary												
HCM 2000 Control Delay			14.7			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			79.8			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			75.9%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

Cumulative With Project AM Peak Hour
4: Schwerin St & Otilia St

05/24/2019

Intersection

Intersection Delay, s/veh 10
Intersection LOS A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	44	22	22	262	202	48
Future Vol, veh/h	44	22	22	262	202	48
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	26	26	305	235	56
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.9	10.5	9.8
HCM LOS	A	B	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	8%	67%	0%
Vol Thru, %	92%	0%	81%
Vol Right, %	0%	33%	19%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	284	66	250
LT Vol	22	44	0
Through Vol	262	0	202
RT Vol	0	22	48
Lane Flow Rate	330	77	291
Geometry Grp	1	1	1
Degree of Util (X)	0.408	0.111	0.353
Departure Headway (Hd)	4.453	5.211	4.37
Convergence, Y/N	Yes	Yes	Yes
Cap	809	686	823
Service Time	2.479	3.255	2.396
HCM Lane V/C Ratio	0.408	0.112	0.354
HCM Control Delay	10.5	8.9	9.8
HCM Lane LOS	B	A	A
HCM 95th-tile Q	2	0.4	1.6

Cumulative With Project AM Peak Hour
5: Schwerin St & Partridge St

05/24/2019

Intersection

Intersection Delay, s/veh 8.9

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	61	4	13	0	6	131	7	135	0	49	115	43
Future Vol, veh/h	61	4	13	0	6	131	7	135	0	49	115	43
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	4	14	0	6	139	7	144	0	52	122	46
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	8.3	9	9.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	78%	0%	24%
Vol Thru, %	95%	5%	4%	56%
Vol Right, %	0%	17%	96%	21%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	142	78	137	207
LT Vol	7	61	0	49
Through Vol	135	4	6	115
RT Vol	0	13	131	43
Lane Flow Rate	151	83	146	220
Geometry Grp	1	1	1	1
Degree of Util (X)	0.198	0.116	0.176	0.279
Departure Headway (Hd)	4.727	5.031	4.336	4.563
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	755	709	825	784
Service Time	2.776	3.081	2.379	2.609
HCM Lane V/C Ratio	0.2	0.117	0.177	0.281
HCM Control Delay	9	8.7	8.3	9.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.4	0.6	1.1

Cumulative With Project AM Peak Hour
6: ./Schwerin St & Martin St

05/24/2019

Intersection

Intersection Delay, s/veh 7.5

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	63	9	4	4	8	8	7	52	3	4	21	69
Future Vol, veh/h	63	9	4	4	8	8	7	52	3	4	21	69
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	67	10	4	4	9	9	7	55	3	4	22	73
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	7.3	7.6	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	83%	20%	4%
Vol Thru, %	84%	12%	40%	22%
Vol Right, %	5%	5%	40%	73%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	62	76	20	94
LT Vol	7	63	4	4
Through Vol	52	9	8	21
RT Vol	3	4	8	69
Lane Flow Rate	66	81	21	100
Geometry Grp	1	1	1	1
Degree of Util (X)	0.077	0.098	0.024	0.104
Departure Headway (Hd)	4.183	4.372	4.085	3.73
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	847	812	863	947
Service Time	2.257	2.44	2.173	1.807
HCM Lane V/C Ratio	0.078	0.1	0.024	0.106
HCM Control Delay	7.6	7.9	7.3	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.1	0.3

Cumulative With Project AM Peak Hour

7: Hester Ave/SB 101 Off-Ramp & Bayshore Blvd/to 3rd St & to NB 101

05/24/2019



Movement	EBT	EBR	NBR	SBL2	SBT	SBR
Lane Configurations	↑↑		↑↑	↑↑	↑	↑↑
Traffic Volume (vph)	995	5	144	1295	16	1315
Future Volume (vph)	995	5	144	1295	16	1315
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	0.95		1.00	0.91	0.91	0.88
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		0.86	1.00	1.00	0.85
Flt Protected	1.00		1.00	0.95	0.95	1.00
Satd. Flow (prot)	3536		1611	3221	1617	2686
Flt Permitted	1.00		1.00	0.95	0.95	1.00
Satd. Flow (perm)	3536		1611	3221	1617	2686
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1082	5	157	1408	17	1429
RTOR Reduction (vph)	0	0	0	598	295	906
Lane Group Flow (vph)	1087	0	157	345	187	523
Confl. Peds. (#/hr)		11				12
Turn Type	NA		Prot	Split	NA	Perm
Protected Phases	2		5	4	4	
Permitted Phases						4
Actuated Green, G (s)	35.4		13.7	35.3	35.3	35.3
Effective Green, g (s)	35.4		13.7	35.3	35.3	35.3
Actuated g/C Ratio	0.37		0.14	0.37	0.37	0.37
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1298		228	1179	592	983
v/s Ratio Prot	c0.31		c0.10	0.11	0.12	
v/s Ratio Perm						c0.19
v/c Ratio	0.84		0.69	0.29	0.32	0.53
Uniform Delay, d1	27.9		39.3	21.7	21.9	24.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.9		8.4	0.1	0.3	0.6
Delay (s)	32.7		47.7	21.8	22.2	24.6
Level of Service	C		D	C	C	C
Approach Delay (s)	32.7				23.3	
Approach LOS	C				C	
Intersection Summary						
HCM 2000 Control Delay			26.7		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.68			
Actuated Cycle Length (s)			96.4		Sum of lost time (s)	12.0
Intersection Capacity Utilization			71.2%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

Cumulative With Project AM Peak Hour

8: Bayshore Blvd & Geneva Ave

05/24/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	1063	312	254	528	94	210	190	520	200	1058	291
Future Volume (vph)	108	1063	312	254	528	94	210	190	520	200	1058	291
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	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.88
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1563	1770	5085	1583	3433	3539	1583	3433	3539	2679
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1563	1770	5085	1583	3433	3539	1583	3433	3539	2679
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	115	1131	332	270	562	100	223	202	553	213	1126	310
RTOR Reduction (vph)	0	0	126	0	0	65	0	0	200	0	0	162
Lane Group Flow (vph)	115	1131	206	270	562	35	223	202	353	213	1126	148
Confl. Peds. (#/hr)	1						11					11
Confl. Bikes (#/hr)			1									
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	11.0	31.0	31.0	15.0	35.0	35.0	7.0	30.0	30.0	8.0	31.0	31.0
Effective Green, g (s)	11.0	31.0	31.0	15.0	35.0	35.0	7.0	30.0	30.0	8.0	31.0	31.0
Actuated g/C Ratio	0.11	0.31	0.31	0.15	0.35	0.35	0.07	0.30	0.30	0.08	0.31	0.31
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	194	1097	484	265	1779	554	240	1061	474	274	1097	830
v/s Ratio Prot	0.06	c0.32		c0.15	c0.11		c0.06	0.06		0.06	c0.32	
v/s Ratio Perm			0.13			0.02			0.22			0.06
v/c Ratio	0.59	1.03	0.43	1.02	0.32	0.06	0.93	0.19	0.74	0.78	1.03	0.18
Uniform Delay, d1	42.4	34.5	27.4	42.5	23.8	21.6	46.3	26.0	31.5	45.1	34.5	25.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.8	35.4	0.6	60.2	0.1	0.0	38.7	0.1	6.2	13.0	34.1	0.1
Delay (s)	47.2	69.9	28.0	102.7	23.9	21.7	85.0	26.1	37.8	58.1	68.6	25.3
Level of Service	D	E	C	F	C	C	F	C	D	E	E	C
Approach Delay (s)		59.5			46.5			46.1			59.1	
Approach LOS		E			D			D			E	
Intersection Summary												
HCM 2000 Control Delay			54.5			HCM 2000 Level of Service			D			
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			92.0%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

Cumulative With Project AM Peak Hour
9: Bayshore Blvd & Main St

05/24/2019

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	90	12	868	1636	13
Future Vol, veh/h	1	90	12	868	1636	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	0	440	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	94	13	904	1704	14

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	2182	852	1704
Stage 1	1704	-	-
Stage 2	478	-	-
Critical Hdwy	6.84	6.94	4.14
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	2.22
Pot Cap-1 Maneuver	39	303	369
Stage 1	132	-	-
Stage 2	590	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	38	303	369
Mov Cap-2 Maneuver	38	-	-
Stage 1	127	-	-
Stage 2	590	-	-

Approach	EB	NB	SB
HCM Control Delay, s	22.1	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	369	-	303	-	-
HCM Lane V/C Ratio	0.034	-	0.309	-	-
HCM Control Delay (s)	15.1	-	22.1	-	-
HCM Lane LOS	C	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	1.3	-	-

Cumulative With Project AM Peak Hour
10: Bayshore Blvd & Guadalupe Canyon Pkwy

05/24/2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←←	→	←	→→	→→	←
Traffic Volume (vph)	249	669	215	693	1409	265
Future Volume (vph)	249	669	215	693	1409	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3404	1583	1770	3539	3539	1550
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3404	1583	1770	3539	3539	1550
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	259	697	224	722	1468	276
RTOR Reduction (vph)	0	192	0	0	0	147
Lane Group Flow (vph)	259	505	224	722	1468	129
Confl. Peds. (#/hr)	5		10			10
Turn Type	Perm	Perm	Prot	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4				6
Actuated Green, G (s)	22.0	22.0	10.0	45.0	31.0	31.0
Effective Green, g (s)	22.0	22.0	10.0	45.0	31.0	31.0
Actuated g/C Ratio	0.29	0.29	0.13	0.60	0.41	0.41
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	998	464	236	2123	1462	640
v/s Ratio Prot			c0.13	0.20	c0.41	
v/s Ratio Perm	0.08	c0.32				0.08
v/c Ratio	0.26	1.09	0.95	0.34	1.00	0.20
Uniform Delay, d1	20.3	26.5	32.2	7.5	22.0	14.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	67.6	44.0	0.4	24.5	0.7
Delay (s)	20.4	94.1	76.3	8.0	46.5	14.8
Level of Service	C	F	E	A	D	B
Approach Delay (s)	74.2			24.1	41.5	
Approach LOS	E			C	D	
Intersection Summary						
HCM 2000 Control Delay			45.6		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			1.02			
Actuated Cycle Length (s)			75.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			87.0%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						

Cumulative With Project AM Peak Hour
11: Schwerin St & A Street

05/24/2019

Intersection

Int Delay, s/veh 0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	0	138	0	0	104
Future Vol, veh/h	10	0	138	0	0	104
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	0	147	0	0	111

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	258	147	0
Stage 1	147	-	-
Stage 2	111	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	731	900	-
Stage 1	880	-	-
Stage 2	914	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	731	900	-
Mov Cap-2 Maneuver	731	-	-
Stage 1	880	-	-
Stage 2	914	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	731	1435
HCM Lane V/C Ratio	-	-	0.015	-
HCM Control Delay (s)	-	-	10	0
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	0

Cumulative With Project AM Peak Hour
12: Martin St & B Street

05/24/2019

Intersection

Int Delay, s/veh 3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	27	24	9	42	0
Future Vol, veh/h	0	27	24	9	42	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	29	26	10	45	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	36	0	0 60 31
Stage 1	-	-	- 31 -
Stage 2	-	-	- 29 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1575	-	- 947 1043
Stage 1	-	-	- 992 -
Stage 2	-	-	- 994 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1575	-	- 947 1043
Mov Cap-2 Maneuver	-	-	- 947 -
Stage 1	-	-	- 992 -
Stage 2	-	-	- 994 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1575	-	-	-	947
HCM Lane V/C Ratio	-	-	-	-	0.047
HCM Control Delay (s)	0	-	-	-	9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Cumulative With Project AM Peak Hour
13: Linda Vista Dr & Martin St extension

05/24/2019

Intersection

Int Delay, s/veh 3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	43	0	0	61	19	9
Future Vol, veh/h	43	0	0	61	19	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	0	0	65	20	10

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	90	25	30
Stage 1	25	-	-
Stage 2	65	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	910	1051	1583
Stage 1	998	-	-
Stage 2	958	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	910	1051	1583
Mov Cap-2 Maneuver	910	-	-
Stage 1	998	-	-
Stage 2	958	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1583	-	910	-	-
HCM Lane V/C Ratio	-	-	0.05	-	-
HCM Control Delay (s)	0	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Cumulative With Project AM Peak Hour with NBR overlap

8: Bayshore Blvd & Geneva Ave

05/30/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	108	1063	312	254	528	94	210	190	520	200	1058	291
Future Volume (vph)	108	1063	312	254	528	94	210	190	520	200	1058	291
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	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.88
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1563	1770	5085	1583	3433	3539	1583	3433	3539	2679
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1563	1770	5085	1583	3433	3539	1583	3433	3539	2679
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	115	1131	332	270	562	100	223	202	553	213	1126	310
RTOR Reduction (vph)	0	0	119	0	0	65	0	0	56	0	0	162
Lane Group Flow (vph)	115	1131	213	270	562	35	223	202	497	213	1126	148
Confl. Peds. (#/hr)	1						11					11
Confl. Bikes (#/hr)			1									
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	11.0	31.0	31.0	15.0	35.0	35.0	6.0	27.7	42.7	10.3	32.0	32.0
Effective Green, g (s)	11.0	31.0	31.0	15.0	35.0	35.0	6.0	27.7	42.7	10.3	32.0	32.0
Actuated g/C Ratio	0.11	0.31	0.31	0.15	0.35	0.35	0.06	0.28	0.43	0.10	0.32	0.32
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	194	1097	484	265	1779	554	205	980	739	353	1132	857
v/s Ratio Prot	0.06	c0.32		c0.15	c0.11		c0.06	0.06	0.10	0.06	c0.32	
v/s Ratio Perm			0.14			0.02			0.21			0.06
v/c Ratio	0.59	1.03	0.44	1.02	0.32	0.06	1.09	0.21	0.67	0.60	0.99	0.17
Uniform Delay, d1	42.4	34.5	27.6	42.5	23.8	21.6	47.0	27.7	23.0	42.9	33.9	24.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.8	35.4	0.6	60.2	0.1	0.0	88.2	0.1	2.4	2.9	25.3	0.1
Delay (s)	47.2	69.9	28.2	102.7	23.9	21.7	135.2	27.8	25.4	45.8	59.2	24.6
Level of Service	D	E	C	F	C	C	F	C	C	D	E	C
Approach Delay (s)		59.5			46.5			51.0			51.0	
Approach LOS		E			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			52.8									
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			100.0									
Intersection Capacity Utilization			92.0%									
Analysis Period (min)			15									
c Critical Lane Group												

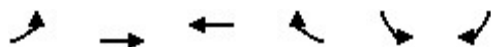
Existing PM Peak Hour
1: Carter St & Martin St

04/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	3	81	2	36	9	551	90	27	269	5
Future Volume (vph)	1	0	3	81	2	36	9	551	90	27	269	5
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	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	1.00		1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1755	1583		1776	1535	1770	1863	1549	1768	1858	
Flt Permitted		0.95	1.00		0.94	1.00	0.58	1.00	1.00	0.38	1.00	
Satd. Flow (perm)		1760	1583		1755	1535	1074	1863	1549	715	1858	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1	0	3	89	2	40	10	605	99	30	296	5
RTOR Reduction (vph)	0	0	3	0	0	34	0	0	40	0	1	0
Lane Group Flow (vph)	0	1	0	0	91	6	10	605	59	30	300	0
Confl. Peds. (#/hr)	3					3			3	3		
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)		4.2	4.2		4.2	4.2	18.3	18.3	18.3	18.3	18.3	
Effective Green, g (s)		4.2	4.2		4.2	4.2	18.3	18.3	18.3	18.3	18.3	
Actuated g/C Ratio		0.14	0.14		0.14	0.14	0.60	0.60	0.60	0.60	0.60	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		242	217		241	211	644	1117	929	429	1114	
v/s Ratio Prot								c0.32			0.16	
v/s Ratio Perm		0.00	0.00		c0.05	0.00	0.01		0.04	0.04		
v/c Ratio		0.00	0.00		0.38	0.03	0.02	0.54	0.06	0.07	0.27	
Uniform Delay, d1		11.3	11.3		12.0	11.4	2.5	3.6	2.5	2.5	2.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0	0.0		1.0	0.1	0.0	0.5	0.0	0.1	0.1	
Delay (s)		11.4	11.3		13.0	11.4	2.5	4.2	2.6	2.6	3.0	
Level of Service		B	B		B	B	A	A	A	A	A	
Approach Delay (s)		11.3			12.5			3.9			3.0	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay		4.6			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.51										
Actuated Cycle Length (s)		30.5			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		46.9%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

Existing PM Peak Hour
2: Guadalupe Canyon Parkway & Carter St

04/11/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	292	105	377	403	108	225
Future Volume (vph)	292	105	377	403	108	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	3433	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	321	115	414	443	119	247
RTOR Reduction (vph)	0	0	0	291	0	219
Lane Group Flow (vph)	321	115	414	152	119	28
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	8.1	23.6	11.5	11.5	4.0	4.0
Effective Green, g (s)	8.1	23.6	11.5	11.5	4.0	4.0
Actuated g/C Ratio	0.23	0.66	0.32	0.32	0.11	0.11
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	402	2346	1143	511	385	177
v/s Ratio Prot	c0.18	0.03	c0.12		c0.03	
v/s Ratio Perm				0.10		0.02
v/c Ratio	0.80	0.05	0.36	0.30	0.31	0.16
Uniform Delay, d1	13.0	2.1	9.2	9.0	14.5	14.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.6	0.0	0.2	0.3	2.1	1.9
Delay (s)	23.6	2.1	9.4	9.4	16.6	16.2
Level of Service	C	A	A	A	B	B
Approach Delay (s)		17.9	9.4		16.3	
Approach LOS		B	A		B	

Intersection Summary

HCM 2000 Control Delay	13.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	35.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Existing PM Peak Hour
3: Schwerin St & Geneva Ave

04/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	420	20	59	1003	70	32	28	47	27	30	106
Future Volume (vph)	144	420	20	59	1003	70	32	28	47	27	30	106
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	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			0.99			0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.94			0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1768	3509		1749	3486			1703			1651	
Flt Permitted	0.15	1.00		0.49	1.00			0.87			0.94	
Satd. Flow (perm)	272	3509		911	3486			1506			1572	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	145	424	20	60	1013	71	32	28	47	27	30	107
RTOR Reduction (vph)	0	2	0	0	5	0	0	38	0	0	90	0
Lane Group Flow (vph)	145	442	0	60	1079	0	0	69	0	0	74	0
Confl. Peds. (#/hr)	36		12	12		36	31		18	18		31
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	37.5	37.5		25.7	25.7			8.7			8.7	
Effective Green, g (s)	37.5	37.5		25.7	25.7			8.7			8.7	
Actuated g/C Ratio	0.69	0.69		0.47	0.47			0.16			0.16	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	403	2427		431	1652			241			252	
v/s Ratio Prot	c0.05	0.13			c0.31							
v/s Ratio Perm	0.20			0.07				0.05			c0.05	
v/c Ratio	0.36	0.18		0.14	0.65			0.29			0.29	
Uniform Delay, d1	5.1	2.9		8.0	10.9			20.0			20.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.6	0.0		0.1	0.9			0.7			0.7	
Delay (s)	5.6	3.0		8.2	11.8			20.7			20.7	
Level of Service	A	A		A	B			C			C	
Approach Delay (s)		3.6			11.6			20.7			20.7	
Approach LOS		A			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			10.5			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			54.2			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			68.8%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Existing PM Peak Hour
4: Schwerin St & Otilia St

04/11/2019

Intersection

Intersection Delay, s/veh 7.6

Intersection LOS A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	9	13	89	97	22
Future Vol, veh/h	16	9	13	89	97	22
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	9	14	94	102	23
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left SB		EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right NB			EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	7.5	7.7	7.6
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	13%	64%	0%
Vol Thru, %	87%	0%	82%
Vol Right, %	0%	36%	18%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	102	25	119
LT Vol	13	16	0
Through Vol	89	0	97
RT Vol	0	9	22
Lane Flow Rate	107	26	125
Geometry Grp	1	1	1
Degree of Util (X)	0.122	0.031	0.137
Departure Headway (Hd)	4.098	4.241	3.948
Convergence, Y/N	Yes	Yes	Yes
Cap	872	830	904
Service Time	2.137	2.34	1.987
HCM Lane V/C Ratio	0.123	0.031	0.138
HCM Control Delay	7.7	7.5	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.4	0.1	0.5

Existing PM Peak Hour
5: Schwerin St & Partridge St

04/11/2019

Intersection

Intersection Delay, s/veh 7.6

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	0	7	0	0	0	4	88	0	3	93	8
Future Vol, veh/h	6	0	7	0	0	0	4	88	0	3	93	8
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	0	8	0	0	0	4	95	0	3	100	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.2	0	7.6	7.6
HCM LOS	A	-	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	46%	0%	3%
Vol Thru, %	96%	0%	100%	89%
Vol Right, %	0%	54%	0%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	92	13	0	104
LT Vol	4	6	0	3
Through Vol	88	0	0	93
RT Vol	0	7	0	8
Lane Flow Rate	99	14	0	112
Geometry Grp	1	1	1	1
Degree of Util (X)	0.111	0.016	0	0.124
Departure Headway (Hd)	4.049	4.062	4.306	3.991
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	884	867	0	898
Service Time	2.078	2.152	2.4	2.018
HCM Lane V/C Ratio	0.112	0.016	0	0.125
HCM Control Delay	7.6	7.2	7.4	7.6
HCM Lane LOS	A	A	N	A
HCM 95th-tile Q	0.4	0	0	0.4

Existing PM Peak Hour
6: ./Schwerin St & Martin St

04/11/2019

Intersection

Intersection Delay, s/veh 7.4

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	49	6	7	0	3	13	6	25	5	9	23	51
Future Vol, veh/h	49	6	7	0	3	13	6	25	5	9	23	51
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	7	8	0	4	16	7	30	6	11	28	61
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	6.9	7.4	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	79%	0%	11%
Vol Thru, %	69%	10%	19%	28%
Vol Right, %	14%	11%	81%	61%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	62	16	83
LT Vol	6	49	0	9
Through Vol	25	6	3	23
RT Vol	5	7	13	51
Lane Flow Rate	43	75	19	100
Geometry Grp	1	1	1	1
Degree of Util (X)	0.05	0.089	0.02	0.105
Departure Headway (Hd)	4.123	4.288	3.753	3.782
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	860	830	941	938
Service Time	2.189	2.343	1.826	1.843
HCM Lane V/C Ratio	0.05	0.09	0.02	0.107
HCM Control Delay	7.4	7.8	6.9	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.1	0.4

Existing PM Peak Hour

7: Hester Ave/SB 101 Off-Ramp & Bayshore Blvd/to 3rd St & to NB 101

04/11/2019



Movement	EBT	EBR	NBR	SBL2	SBT	SBR
Lane Configurations	↑↑		←	←	↓	→
Traffic Volume (vph)	1181	1	35	766	26	1095
Future Volume (vph)	1181	1	35	766	26	1095
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	0.95		1.00	0.91	0.91	0.88
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		0.86	1.00	1.00	0.85
Flt Protected	1.00		1.00	0.95	0.96	1.00
Satd. Flow (prot)	3539		1611	3221	1622	2687
Flt Permitted	1.00		1.00	0.95	0.96	1.00
Satd. Flow (perm)	3539		1611	3221	1622	2687
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1243	1	37	806	27	1153
RTOR Reduction (vph)	0	0	0	355	160	736
Lane Group Flow (vph)	1244	0	37	201	117	417
Confl. Peds. (#/hr)		5				10
Turn Type	NA		Prot	Split	NA	Perm
Protected Phases	2		5	4	4	
Permitted Phases						4
Actuated Green, G (s)	36.2		3.4	29.2	29.2	29.2
Effective Green, g (s)	36.2		3.4	29.2	29.2	29.2
Actuated g/C Ratio	0.45		0.04	0.36	0.36	0.36
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1585		67	1164	586	971
v/s Ratio Prot	c0.35		c0.02	0.06	0.07	
v/s Ratio Perm						c0.16
v/c Ratio	0.78		0.55	0.17	0.20	0.43
Uniform Delay, d1	19.0		38.0	17.6	17.8	19.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6		9.5	0.1	0.2	0.3
Delay (s)	21.6		47.4	17.6	17.9	19.8
Level of Service	C		D	B	B	B
Approach Delay (s)	21.6				18.9	
Approach LOS	C				B	
Intersection Summary						
HCM 2000 Control Delay			20.3		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.62			
Actuated Cycle Length (s)			80.8		Sum of lost time (s)	12.0
Intersection Capacity Utilization			62.4%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

Existing PM Peak Hour
8: Bayshore Blvd & Geneva Ave

04/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	295	0	217	0	0	0	676	527	0	105	308	473
Future Volume (vph)	295	0	217	0	0	0	676	527	0	105	308	473
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		2.5	4.0	4.0
Lane Util. Factor	0.97		0.88				0.97	0.95		1.00	0.95	0.88
Frpb, ped/bikes	1.00		0.98				1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00		1.00				1.00	1.00		1.00	1.00	1.00
Frt	1.00		0.85				1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95		1.00				0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3423		2724				3433	3539		1770	3539	2710
Flt Permitted	0.95		1.00				0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3423		2724				3433	3539		1770	3539	2710
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	328	0	241	0	0	0	751	586	0	117	342	526
RTOR Reduction (vph)	0	0	190	0	0	0	0	0	0	0	0	392
Lane Group Flow (vph)	328	0	51	0	0	0	751	586	0	117	342	134
Confl. Peds. (#/hr)	4		1				10					10
Confl. Bikes (#/hr)			1									
Turn Type	Perm		Perm				Prot	NA		Prot	NA	Perm
Protected Phases							5	2		1	6	
Permitted Phases	4		4									6
Actuated Green, G (s)	10.3		10.3				14.2	20.9		7.3	12.5	12.5
Effective Green, g (s)	10.3		10.3				14.2	20.9		7.3	12.5	12.5
Actuated g/C Ratio	0.21		0.21				0.29	0.43		0.15	0.26	0.26
Clearance Time (s)	4.0		4.0				4.0	4.0		2.5	4.0	4.0
Vehicle Extension (s)	3.0		3.0				3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	719		572				994	1509		263	902	691
v/s Ratio Prot							c0.22	c0.17		0.07	0.10	
v/s Ratio Perm	c0.10		0.02									0.05
v/c Ratio	0.46		0.09				0.76	0.39		0.44	0.38	0.19
Uniform Delay, d1	16.9		15.6				15.8	9.7		19.0	15.1	14.3
Progression Factor	1.00		1.00				1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5		0.1				3.3	0.2		1.2	0.3	0.1
Delay (s)	17.4		15.6				19.1	9.8		20.2	15.3	14.4
Level of Service	B		B				B	A		C	B	B
Approach Delay (s)		16.6			0.0			15.1			15.4	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM 2000 Control Delay			15.5				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			49.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			51.4%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

Existing PM Peak Hour
9: Bayshore Blvd & Main St

04/11/2019

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	36	60	1032	508	29
Future Vol, veh/h	0	36	60	1032	508	29
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Yield
Storage Length	-	0	440	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	39	65	1122	552	32

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	277	553
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	2.22
Pot Cap-1 Maneuver	0	720	1013
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	719	1012
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1012	-	719	-	-
HCM Lane V/C Ratio	0.064	-	0.054	-	-
HCM Control Delay (s)	8.8	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.2	-	-

Existing PM Peak Hour
10: Bayshore Blvd & Guadalupe Canyon Pkwy

04/11/2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←←	→	←	→→	→→	←
Traffic Volume (vph)	191	170	405	1007	396	162
Future Volume (vph)	191	170	405	1007	396	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1583	1770	3539	3539	1554
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3433	1583	1770	3539	3539	1554
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	205	183	435	1083	426	174
RTOR Reduction (vph)	0	161	0	0	0	103
Lane Group Flow (vph)	205	22	435	1083	426	71
Confl. Peds. (#/hr)	3		7			7
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	9.0	9.0	23.0	57.0	30.0	30.0
Effective Green, g (s)	9.0	9.0	23.0	57.0	30.0	30.0
Actuated g/C Ratio	0.12	0.12	0.31	0.77	0.41	0.41
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	417	192	550	2725	1434	630
v/s Ratio Prot	c0.06		c0.25	c0.31	0.12	
v/s Ratio Perm		0.01				0.05
v/c Ratio	0.49	0.12	0.79	0.40	0.30	0.11
Uniform Delay, d1	30.4	29.0	23.3	2.8	14.9	13.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.3	7.6	0.4	0.5	0.4
Delay (s)	31.3	29.2	30.9	3.2	15.4	14.1
Level of Service	C	C	C	A	B	B
Approach Delay (s)	30.3			11.2	15.0	
Approach LOS	C			B	B	
Intersection Summary						
HCM 2000 Control Delay			15.1		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.57			
Actuated Cycle Length (s)			74.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			57.9%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

Existing PM Peak Hour
11: Schwerin St & A Street

04/11/2019

Intersection

Int Delay, s/veh 0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	87	0	0	83
Future Vol, veh/h	0	0	87	0	0	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	102	0	0	98

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	200	102	0
Stage 1	102	-	-
Stage 2	98	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	789	953	-
Stage 1	922	-	-
Stage 2	926	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	789	953	-
Mov Cap-2 Maneuver	789	-	-
Stage 1	922	-	-
Stage 2	926	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1490
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Existing PM Peak Hour
12: Martin St & B Street

04/11/2019

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	20	16	0	0	0
Future Vol, veh/h	0	20	16	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	24	19	0	0	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	19	0	43
Stage 1	-	-	19
Stage 2	-	-	24
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1597	-	968
Stage 1	-	-	1004
Stage 2	-	-	999
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1597	-	968
Mov Cap-2 Maneuver	-	-	968
Stage 1	-	-	1004
Stage 2	-	-	999

Approach	EB	WB	SB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1597	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	0
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-

Existing PM Peak Hour
13: Linda Vista Dr & Martin St extension

04/11/2019

Intersection

Int Delay, s/veh 0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	36	89	0
Future Vol, veh/h	0	0	0	36	89	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	41	101	0

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	142	101	101
Stage 1	101	-	-
Stage 2	41	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	851	954	1491
Stage 1	923	-	-
Stage 2	981	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	851	954	1491
Mov Cap-2 Maneuver	851	-	-
Stage 1	923	-	-
Stage 2	981	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1491	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

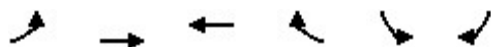
Existing+Project PM Peak Hour
1: Carter St & Martin St

06/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	6	3	81	2	37	9	551	90	28	272	5
Future Volume (vph)	1	6	3	81	2	37	9	551	90	28	272	5
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	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	1.00		1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1849	1583		1776	1535	1770	1863	1549	1768	1858	
Flt Permitted		0.94	1.00		0.94	1.00	0.57	1.00	1.00	0.38	1.00	
Satd. Flow (perm)		1749	1583		1755	1535	1071	1863	1549	715	1858	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	1	7	3	89	2	41	10	605	99	31	299	5
RTOR Reduction (vph)	0	0	3	0	0	35	0	0	40	0	1	0
Lane Group Flow (vph)	0	8	0	0	91	6	10	605	59	31	303	0
Confl. Peds. (#/hr)	3					3			3	3		
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)		4.2	4.2		4.2	4.2	18.3	18.3	18.3	18.3	18.3	
Effective Green, g (s)		4.2	4.2		4.2	4.2	18.3	18.3	18.3	18.3	18.3	
Actuated g/C Ratio		0.14	0.14		0.14	0.14	0.60	0.60	0.60	0.60	0.60	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		240	217		241	211	642	1117	929	429	1114	
v/s Ratio Prot								c0.32			0.16	
v/s Ratio Perm		0.00	0.00		c0.05	0.00	0.01		0.04	0.04		
v/c Ratio		0.03	0.00		0.38	0.03	0.02	0.54	0.06	0.07	0.27	
Uniform Delay, d1		11.4	11.3		12.0	11.4	2.5	3.6	2.5	2.6	2.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1	0.0		1.0	0.1	0.0	0.5	0.0	0.1	0.1	
Delay (s)		11.4	11.3		13.0	11.4	2.5	4.2	2.6	2.6	3.0	
Level of Service		B	B		B	B	A	A	A	A	A	
Approach Delay (s)		11.4			12.5			3.9			3.0	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay		4.7			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.51										
Actuated Cycle Length (s)		30.5			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		46.9%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

Existing+Project PM Peak Hour
2: Guadalupe Canyon Parkway & Carter St

06/18/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	292	118	399	403	108	225
Future Volume (vph)	292	118	399	403	108	225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	3433	1583
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	321	130	438	443	119	247
RTOR Reduction (vph)	0	0	0	288	0	219
Lane Group Flow (vph)	321	130	438	155	119	28
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	8.1	24.0	11.9	11.9	4.1	4.1
Effective Green, g (s)	8.1	24.0	11.9	11.9	4.1	4.1
Actuated g/C Ratio	0.22	0.66	0.33	0.33	0.11	0.11
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	397	2352	1166	521	389	179
v/s Ratio Prot	c0.18	0.04	c0.12		c0.03	
v/s Ratio Perm				0.10		0.02
v/c Ratio	0.81	0.06	0.38	0.30	0.31	0.16
Uniform Delay, d1	13.3	2.1	9.3	9.0	14.7	14.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.5	0.0	0.2	0.3	2.0	1.9
Delay (s)	24.8	2.1	9.5	9.3	16.7	16.3
Level of Service	C	A	A	A	B	B
Approach Delay (s)		18.2	9.4		16.4	
Approach LOS		B	A		B	

Intersection Summary

HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	36.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Existing+Project PM Peak Hour
3: Schwerin St & Geneva Ave

06/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	420	42	100	1003	70	54	30	71	27	32	106
Future Volume (vph)	144	420	42	100	1003	70	54	30	71	27	32	106
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	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99			0.99			0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.94			0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1768	3478		1748	3485			1692			1653	
Flt Permitted	0.14	1.00		0.48	1.00			0.83			0.95	
Satd. Flow (perm)	266	3478		891	3485			1429			1578	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	145	424	42	101	1013	71	55	30	72	27	32	107
RTOR Reduction (vph)	0	6	0	0	5	0	0	39	0	0	85	0
Lane Group Flow (vph)	145	460	0	101	1079	0	0	118	0	0	81	0
Confl. Peds. (#/hr)	36		12	12		36	31		18	18		31
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	38.6	38.6		26.8	26.8			10.6			10.6	
Effective Green, g (s)	38.6	38.6		26.8	26.8			10.6			10.6	
Actuated g/C Ratio	0.67	0.67		0.47	0.47			0.19			0.19	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	384	2347		417	1632			264			292	
v/s Ratio Prot	c0.05	0.13			c0.31							
v/s Ratio Perm	0.20			0.11				c0.08			0.05	
v/c Ratio	0.38	0.20		0.24	0.66			0.45			0.28	
Uniform Delay, d1	5.8	3.5		9.1	11.7			20.7			20.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.6	0.0		0.3	1.0			1.2			0.5	
Delay (s)	6.4	3.5		9.4	12.7			21.9			20.5	
Level of Service	A	A		A	B			C			C	
Approach Delay (s)		4.2			12.4			21.9			20.5	
Approach LOS		A			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			11.4			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			57.2			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			68.7%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Existing+Project PM Peak Hour
4: Schwerin St & Otilia St

06/18/2019

Intersection

Intersection Delay, s/veh 8.2

Intersection LOS A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
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Lane Configurations 

Traffic Vol, veh/h	16	9	14	138	164	22
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Future Vol, veh/h	16	9	14	138	164	22
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Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	17	9	15	145	173	23
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Number of Lanes	1	0	0	1	1	0
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Approach	EB	NB	SB
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Opposing Approach		SB	NB
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Opposing Lanes	0	1	1
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Conflicting Approach Left SB		EB	
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Conflicting Lanes Left	1	1	0
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Conflicting Approach Right NB			EB
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Conflicting Lanes Right	1	0	1
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HCM Control Delay	7.8	8.2	8.2
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HCM LOS	A	A	A
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Lane	NBLn1	EBLn1	SBLn1
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Vol Left, %	9%	64%	0%
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Vol Thru, %	91%	0%	88%
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Vol Right, %	0%	36%	12%
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Sign Control	Stop	Stop	Stop
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Traffic Vol by Lane	152	25	186
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LT Vol	14	16	0
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Through Vol	138	0	164
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RT Vol	0	9	22
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Lane Flow Rate	160	26	196
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Geometry Grp	1	1	1
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Degree of Util (X)	0.184	0.034	0.219
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Departure Headway (Hd)	4.144	4.605	4.028
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Convergence, Y/N	Yes	Yes	Yes
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Cap	859	782	885
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Service Time	2.205	2.605	2.086
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HCM Lane V/C Ratio	0.186	0.033	0.221
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HCM Control Delay	8.2	7.8	8.2
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HCM Lane LOS	A	A	A
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HCM 95th-tile Q	0.7	0.1	0.8
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Existing+Project PM Peak Hour
5: Schwerin St & Partridge St

06/18/2019

Intersection

Intersection Delay, s/veh 9.3

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	12	7	0	11	97	6	88	0	166	93	25
Future Vol, veh/h	11	12	7	0	11	97	6	88	0	166	93	25
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	13	8	0	12	104	6	95	0	178	100	27
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.2	8.1	8.3	10.2
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	37%	0%	58%
Vol Thru, %	94%	40%	10%	33%
Vol Right, %	0%	23%	90%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	94	30	108	284
LT Vol	6	11	0	166
Through Vol	88	12	11	93
RT Vol	0	7	97	25
Lane Flow Rate	101	32	116	305
Geometry Grp	1	1	1	1
Degree of Util (X)	0.13	0.044	0.141	0.378
Departure Headway (Hd)	4.623	4.947	4.371	4.452
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	775	723	820	809
Service Time	2.653	2.984	2.401	2.476
HCM Lane V/C Ratio	0.13	0.044	0.141	0.377
HCM Control Delay	8.3	8.2	8.1	10.2
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.4	0.1	0.5	1.8

Intersection

Intersection Delay, s/veh 7.4

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	49	6	7	0	3	13	6	25	5	9	23	51
Future Vol, veh/h	49	6	7	0	3	13	6	25	5	9	23	51
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	7	8	0	4	16	7	30	6	11	28	61
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	6.9	7.4	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	79%	0%	11%
Vol Thru, %	69%	10%	19%	28%
Vol Right, %	14%	11%	81%	61%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	62	16	83
LT Vol	6	49	0	9
Through Vol	25	6	3	23
RT Vol	5	7	13	51
Lane Flow Rate	43	75	19	100
Geometry Grp	1	1	1	1
Degree of Util (X)	0.05	0.089	0.02	0.105
Departure Headway (Hd)	4.123	4.288	3.753	3.782
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	860	830	941	938
Service Time	2.189	2.343	1.826	1.843
HCM Lane V/C Ratio	0.05	0.09	0.02	0.107
HCM Control Delay	7.4	7.8	6.9	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.1	0.4

Existing+Project PM Peak Hour

7: Hester Ave/SB 101 Off-Ramp & Bayshore Blvd/to 3rd St & to NB 101

06/18/2019



Movement	EBT	EBR	NBR	SBL2	SBT	SBR
Lane Configurations	↑↑		↔	↔	↑	↔
Traffic Volume (vph)	1196	1	35	766	26	1135
Future Volume (vph)	1196	1	35	766	26	1135
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	0.95		1.00	0.91	0.91	0.88
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		0.86	1.00	1.00	0.85
Flt Protected	1.00		1.00	0.95	0.96	1.00
Satd. Flow (prot)	3539		1611	3221	1622	2686
Flt Permitted	1.00		1.00	0.95	0.96	1.00
Satd. Flow (perm)	3539		1611	3221	1622	2686
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	1259	1	37	806	27	1195
RTOR Reduction (vph)	0	0	0	355	160	764
Lane Group Flow (vph)	1260	0	37	201	117	431
Confl. Peds. (#/hr)		5				10
Turn Type	NA		Prot	Split	NA	Perm
Protected Phases	2		5	4	4	
Permitted Phases						4
Actuated Green, G (s)	36.7		3.4	29.4	29.4	29.4
Effective Green, g (s)	36.7		3.4	29.4	29.4	29.4
Actuated g/C Ratio	0.45		0.04	0.36	0.36	0.36
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1593		67	1161	585	968
v/s Ratio Prot	c0.36		c0.02	0.06	0.07	
v/s Ratio Perm						c0.16
v/c Ratio	0.79		0.55	0.17	0.20	0.45
Uniform Delay, d1	19.1		38.3	17.8	17.9	19.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	2.8		9.5	0.1	0.2	0.3
Delay (s)	21.9		47.8	17.8	18.1	20.2
Level of Service	C		D	B	B	C
Approach Delay (s)	21.9				19.2	
Approach LOS	C				B	
Intersection Summary						
HCM 2000 Control Delay			20.6		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.63			
Actuated Cycle Length (s)			81.5		Sum of lost time (s)	12.0
Intersection Capacity Utilization			62.8%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

Existing+Project PM Peak Hour
8: Bayshore Blvd & Geneva Ave

06/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	305	0	217	0	0	0	676	527	0	105	321	529
Future Volume (vph)	305	0	217	0	0	0	676	527	0	105	321	529
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		2.5	4.0	4.0
Lane Util. Factor	0.97		0.88				0.97	0.95		1.00	0.95	0.88
Frpb, ped/bikes	1.00		0.98				1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00		1.00				1.00	1.00		1.00	1.00	1.00
Frt	1.00		0.85				1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95		1.00				0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3422		2724				3433	3539		1770	3539	2709
Flt Permitted	0.95		1.00				0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3422		2724				3433	3539		1770	3539	2709
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	339	0	241	0	0	0	751	586	0	117	357	588
RTOR Reduction (vph)	0	0	190	0	0	0	0	0	0	0	0	430
Lane Group Flow (vph)	339	0	51	0	0	0	751	586	0	117	357	158
Confl. Peds. (#/hr)	4		1				10					10
Confl. Bikes (#/hr)			1									
Turn Type	Perm		Perm				Prot	NA		Prot	NA	Perm
Protected Phases							5	2		1	6	
Permitted Phases	4		4									6
Actuated Green, G (s)	10.6		10.6				14.2	21.9		7.3	13.5	13.5
Effective Green, g (s)	10.6		10.6				14.2	21.9		7.3	13.5	13.5
Actuated g/C Ratio	0.21		0.21				0.28	0.44		0.15	0.27	0.27
Clearance Time (s)	4.0		4.0				4.0	4.0		2.5	4.0	4.0
Vehicle Extension (s)	3.0		3.0				3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	721		574				969	1540		256	949	727
v/s Ratio Prot							c0.22	c0.17		0.07	0.10	
v/s Ratio Perm	c0.10		0.02									0.06
v/c Ratio	0.47		0.09				0.78	0.38		0.46	0.38	0.22
Uniform Delay, d1	17.4		16.0				16.6	9.6		19.7	15.0	14.3
Progression Factor	1.00		1.00				1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5		0.1				3.9	0.2		1.3	0.3	0.2
Delay (s)	17.9		16.0				20.5	9.8		21.0	15.2	14.4
Level of Service	B		B				C	A		C	B	B
Approach Delay (s)		17.1			0.0			15.8			15.4	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM 2000 Control Delay			15.9				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			50.3				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			51.9%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

Existing+Project PM Peak Hour
9: Bayshore Blvd & Main St

06/18/2019

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	52	95	1032	508	29
Future Vol, veh/h	0	52	95	1032	508	29
Conflicting Peds, #/hr	0	0	1	0	0	1
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Yield
Storage Length	-	0	440	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	57	103	1122	552	32

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	277	553
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	2.22
Pot Cap-1 Maneuver	0	720	1013
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	719	1012
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1012	-	719	-	-
HCM Lane V/C Ratio	0.102	-	0.079	-	-
HCM Control Delay (s)	9	-	10.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.3	-	-

Existing+Project PM Peak Hour
10: Bayshore Blvd & Guadalupe Canyon Pkwy

06/18/2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↰	↱	↰	↕↕	↕↕	↱
Traffic Volume (vph)	191	170	405	1007	396	162
Future Volume (vph)	191	170	405	1007	396	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3433	1583	1770	3539	3539	1554
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3433	1583	1770	3539	3539	1554
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	205	183	435	1083	426	174
RTOR Reduction (vph)	0	161	0	0	0	103
Lane Group Flow (vph)	205	22	435	1083	426	71
Confl. Peds. (#/hr)	3		7			7
Turn Type	Prot	Perm	Prot	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4				6
Actuated Green, G (s)	9.0	9.0	23.0	57.0	30.0	30.0
Effective Green, g (s)	9.0	9.0	23.0	57.0	30.0	30.0
Actuated g/C Ratio	0.12	0.12	0.31	0.77	0.41	0.41
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	417	192	550	2725	1434	630
v/s Ratio Prot	c0.06		c0.25	c0.31	0.12	
v/s Ratio Perm		0.01				0.05
v/c Ratio	0.49	0.12	0.79	0.40	0.30	0.11
Uniform Delay, d1	30.4	29.0	23.3	2.8	14.9	13.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.3	7.6	0.4	0.5	0.4
Delay (s)	31.3	29.2	30.9	3.2	15.4	14.1
Level of Service	C	C	C	A	B	B
Approach Delay (s)	30.3			11.2	15.0	
Approach LOS	C			B	B	
Intersection Summary						
HCM 2000 Control Delay			15.1		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.57			
Actuated Cycle Length (s)			74.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			57.9%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

Existing+Project PM Peak Hour
11: Schwerin St & A Street

06/18/2019

Intersection

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	10	0	89	10	0	90
Future Vol, veh/h	10	0	89	10	0	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	0	105	12	0	106

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	217	111	0
Stage 1	111	-	-
Stage 2	106	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	771	942	-
Stage 1	914	-	-
Stage 2	918	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	771	942	-
Mov Cap-2 Maneuver	771	-	-
Stage 1	914	-	-
Stage 2	918	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	771	1471
HCM Lane V/C Ratio	-	-	0.015	-
HCM Control Delay (s)	-	-	9.7	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	20	16	39	21	0
Future Vol, veh/h	0	20	16	39	21	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	83	83	83	83	83	83
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	24	19	47	25	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	66	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1536	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1536	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	8.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1536	-	-	-	938
HCM Lane V/C Ratio	-	-	-	-	0.027
HCM Control Delay (s)	0	-	-	-	8.9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Existing+Project PM Peak Hour
13: Linda Vista Dr & Martin St extension

06/18/2019

Intersection

Int Delay, s/veh 1

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations 

Traffic Vol, veh/h 21 0 0 39 101 39

Future Vol, veh/h 21 0 0 39 101 39

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Stop Stop Free Free Free Free

RT Channelized - None - None - None

Storage Length 0 - - - - -

Veh in Median Storage, # 0 - - 0 0 -

Grade, % 0 - - 0 0 -

Peak Hour Factor 88 88 88 88 88 88

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 24 0 0 44 115 44

Major/Minor Minor2 Major1 Major2

Conflicting Flow All 181 137 159 0 - 0

Stage 1 137 - - - - -

Stage 2 44 - - - - -

Critical Hdwy 6.42 6.22 4.12 - - -

Critical Hdwy Stg 1 5.42 - - - - -

Critical Hdwy Stg 2 5.42 - - - - -

Follow-up Hdwy 3.518 3.318 2.218 - - -

Pot Cap-1 Maneuver 808 911 1420 - - -

Stage 1 890 - - - - -

Stage 2 978 - - - - -

Platoon blocked, % - - -

Mov Cap-1 Maneuver 808 911 1420 - - -

Mov Cap-2 Maneuver 808 - - - - -

Stage 1 890 - - - - -

Stage 2 978 - - - - -

Approach EB NB SB

HCM Control Delay, s 9.6 0 0

HCM LOS A

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h) 1420 - 808 - -

HCM Lane V/C Ratio - - 0.03 - -

HCM Control Delay (s) 0 - 9.6 - -

HCM Lane LOS A - A - -

HCM 95th %tile Q(veh) 0 - 0.1 - -

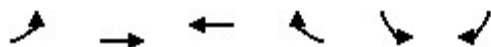
Cumulative No Project PM Peak Hour
1: Carter St & Martin St

06/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	8	3	119	5	38	11	574	122	29	217	5
Future Volume (vph)	1	8	3	119	5	38	11	574	122	29	217	5
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	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	1.00		1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1851	1583		1777	1536	1770	1863	1547	1768	1857	
Flt Permitted		0.97	1.00		0.73	1.00	0.61	1.00	1.00	0.35	1.00	
Satd. Flow (perm)		1796	1583		1354	1536	1138	1863	1547	643	1857	
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)	1	9	3	128	5	41	12	617	131	31	233	5
RTOR Reduction (vph)	0	0	2	0	0	33	0	0	58	0	2	0
Lane Group Flow (vph)	0	10	1	0	133	8	12	617	73	31	236	0
Confl. Peds. (#/hr)	4					4			4	4		
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)		6.8	6.8		6.8	6.8	18.8	18.8	18.8	18.8	18.8	
Effective Green, g (s)		6.8	6.8		6.8	6.8	18.8	18.8	18.8	18.8	18.8	
Actuated g/C Ratio		0.20	0.20		0.20	0.20	0.56	0.56	0.56	0.56	0.56	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		363	320		274	310	636	1042	865	359	1039	
v/s Ratio Prot								c0.33				0.13
v/s Ratio Perm		0.01	0.00		c0.10	0.01	0.01		0.05	0.05		
v/c Ratio		0.03	0.00		0.49	0.03	0.02	0.59	0.08	0.09	0.23	
Uniform Delay, d1		10.7	10.7		11.9	10.7	3.3	4.9	3.4	3.4	3.7	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0	0.0		1.4	0.0	0.0	0.9	0.0	0.1	0.1	
Delay (s)		10.8	10.7		13.2	10.8	3.3	5.8	3.5	3.5	3.8	
Level of Service		B	B		B	B	A	A	A	A	A	
Approach Delay (s)		10.8			12.6			5.3			3.8	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay		6.1			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.56										
Actuated Cycle Length (s)		33.6			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		50.4%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

Cumulative No Project PM Peak Hour
2: Guadalupe Canyon Parkway & Carter St

05/24/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	384	353	852	399	112	232
Future Volume (vph)	384	353	852	399	112	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	417	384	926	434	122	252
RTOR Reduction (vph)	0	0	0	301	0	179
Lane Group Flow (vph)	417	384	926	133	122	73
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	19.8	48.1	24.3	24.3	23.0	23.0
Effective Green, g (s)	19.8	48.1	24.3	24.3	23.0	23.0
Actuated g/C Ratio	0.25	0.61	0.31	0.31	0.29	0.29
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	443	2152	1087	486	998	460
v/s Ratio Prot	c0.24	0.11	c0.26		0.04	
v/s Ratio Perm				0.08		c0.05
v/c Ratio	0.94	0.18	0.85	0.27	0.12	0.16
Uniform Delay, d1	29.1	6.8	25.7	20.7	20.6	20.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	28.4	0.0	6.6	0.3	0.3	0.7
Delay (s)	57.5	6.9	32.3	21.0	20.9	21.6
Level of Service	E	A	C	C	C	C
Approach Delay (s)		33.2	28.7		21.4	
Approach LOS		C	C		C	

Intersection Summary

HCM 2000 Control Delay	29.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	79.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Cumulative No Project PM Peak Hour
3: Schwerin St & Geneva Ave

05/24/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	1056	14	93	1431	70	17	35	166	27	76	67
Future Volume (vph)	134	1056	14	93	1431	70	17	35	166	27	76	67
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	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97			0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.90			0.95	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1770	3529		1748	3505			1617			1718	
Flt Permitted	0.09	1.00		0.25	1.00			0.97			0.88	
Satd. Flow (perm)	169	3529		465	3505			1581			1526	
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)	141	1112	15	98	1506	74	18	37	175	28	80	71
RTOR Reduction (vph)	0	1	0	0	3	0	0	61	0	0	32	0
Lane Group Flow (vph)	141	1126	0	98	1577	0	0	169	0	0	147	0
Confl. Peds. (#/hr)	16		25	25		16	39		33	33		39
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	49.1	49.1		40.0	40.0			12.6			12.6	
Effective Green, g (s)	49.1	49.1		40.0	40.0			12.6			12.6	
Actuated g/C Ratio	0.70	0.70		0.57	0.57			0.18			0.18	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	236	2485		266	2011			285			275	
v/s Ratio Prot	c0.04	0.32			c0.45							
v/s Ratio Perm	0.38			0.21				c0.11			0.10	
v/c Ratio	0.60	0.45		0.37	0.78			0.59			0.53	
Uniform Delay, d1	10.5	4.5		8.0	11.5			26.2			25.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	4.0	0.1		0.9	2.1			3.3			2.0	
Delay (s)	14.5	4.6		8.9	13.6			29.5			27.9	
Level of Service	B	A		A	B			C			C	
Approach Delay (s)		5.7			13.3			29.5			27.9	
Approach LOS		A			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			12.3			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			69.7			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			82.2%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Cumulative No Project PM Peak Hour
4: Schwerin St & Otilia St

05/24/2019

Intersection

Intersection Delay, s/veh 8.6

Intersection LOS A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
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Lane Configurations 

Traffic Vol, veh/h	13	8	14	205	148	20
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Future Vol, veh/h	13	8	14	205	148	20
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Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
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Heavy Vehicles, %	2	2	2	2	2	2
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Mvmt Flow	15	9	16	238	172	23
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Number of Lanes	1	0	0	1	1	0
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Approach	EB	NB	SB
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Opposing Approach		SB	NB
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Opposing Lanes	0	1	1
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Conflicting Approach Left SB		EB	
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Conflicting Lanes Left	1	1	0
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Conflicting Approach Right NB			EB
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Conflicting Lanes Right	1	0	1
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HCM Control Delay	7.9	8.9	8.4
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HCM LOS	A	A	A
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Lane	NBLn1	EBLn1	SBLn1
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Vol Left, %	6%	62%	0%
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Vol Thru, %	94%	0%	88%
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Vol Right, %	0%	38%	12%
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Sign Control	Stop	Stop	Stop
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Traffic Vol by Lane	219	21	168
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LT Vol	14	13	0
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Through Vol	205	0	148
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RT Vol	0	8	20
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Lane Flow Rate	255	24	195
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Geometry Grp	1	1	1
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Degree of Util (X)	0.293	0.032	0.222
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Departure Headway (Hd)	4.137	4.79	4.096
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Convergence, Y/N	Yes	Yes	Yes
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Cap	861	752	865
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Service Time	2.198	2.79	2.173
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HCM Lane V/C Ratio	0.296	0.032	0.225
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HCM Control Delay	8.9	7.9	8.4
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HCM Lane LOS	A	A	A
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HCM 95th-tile Q	1.2	0.1	0.8
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Cumulative No Project PM Peak Hour
5: Schwerin St & Partridge St

05/24/2019

Intersection

Intersection Delay, s/veh 8
Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	70	0	11	0	0	0	10	86	0	0	101	42
Future Vol, veh/h	70	0	11	0	0	0	10	86	0	0	101	42
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	0	12	0	0	0	11	91	0	0	107	45
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	0	7.9	7.9
HCM LOS	A	-	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	86%	0%	0%
Vol Thru, %	90%	0%	100%	71%
Vol Right, %	0%	14%	0%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	96	81	0	143
LT Vol	10	70	0	0
Through Vol	86	0	0	101
RT Vol	0	11	0	42
Lane Flow Rate	102	86	0	152
Geometry Grp	1	1	1	1
Degree of Util (X)	0.12	0.11	0	0.169
Departure Headway (Hd)	4.224	4.577	4.591	3.988
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	834	788	0	885
Service Time	2.321	2.577	2.594	2.08
HCM Lane V/C Ratio	0.122	0.109	0	0.172
HCM Control Delay	7.9	8.1	7.6	7.9
HCM Lane LOS	A	A	N	A
HCM 95th-tile Q	0.4	0.4	0	0.6

Cumulative No Project PM Peak Hour
6: ./Schwerin St & Martin St

05/24/2019

Intersection

Intersection Delay, s/veh 7.4

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	7	7	0	8	13	5	25	5	6	23	73
Future Vol, veh/h	60	7	7	0	8	13	5	25	5	6	23	73
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	7	7	0	9	14	5	27	5	6	24	78
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	7	7.4	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	81%	0%	6%
Vol Thru, %	71%	9%	38%	23%
Vol Right, %	14%	9%	62%	72%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	74	21	102
LT Vol	5	60	0	6
Through Vol	25	7	8	23
RT Vol	5	7	13	73
Lane Flow Rate	37	79	22	109
Geometry Grp	1	1	1	1
Degree of Util (X)	0.043	0.094	0.024	0.112
Departure Headway (Hd)	4.136	4.308	3.875	3.72
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	856	827	912	953
Service Time	2.206	2.362	1.947	1.783
HCM Lane V/C Ratio	0.043	0.096	0.024	0.114
HCM Control Delay	7.4	7.8	7	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.1	0.4

Cumulative No Project PM Peak Hour

7: Hester Ave/SB 101 Off-Ramp & Bayshore Blvd/to 3rd St & to NB 101

05/24/2019



Movement	EBT	EBR	NBR	SBL2	SBT	SBR
Lane Configurations	↑↑		↔	↔	↑	↔
Traffic Volume (vph)	944	1	35	1803	26	1061
Future Volume (vph)	944	1	35	1803	26	1061
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	0.95		1.00	0.91	0.91	0.88
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		0.86	1.00	1.00	0.85
Flt Protected	1.00		1.00	0.95	0.95	1.00
Satd. Flow (prot)	3539		1611	3221	1618	2695
Flt Permitted	1.00		1.00	0.95	0.95	1.00
Satd. Flow (perm)	3539		1611	3221	1618	2695
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1026	1	38	1960	28	1153
RTOR Reduction (vph)	0	0	0	721	339	580
Lane Group Flow (vph)	1027	0	38	612	316	573
Confl. Peds. (#/hr)		11				12
Turn Type	NA		Prot	Split	NA	Perm
Protected Phases	2		5	4	4	
Permitted Phases						4
Actuated Green, G (s)	32.5		3.8	41.0	41.0	41.0
Effective Green, g (s)	32.5		3.8	41.0	41.0	41.0
Actuated g/C Ratio	0.36		0.04	0.46	0.46	0.46
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1287		68	1478	742	1237
v/s Ratio Prot	c0.29		c0.02	0.19	0.20	
v/s Ratio Perm						c0.21
v/c Ratio	0.80		0.56	0.41	0.43	0.46
Uniform Delay, d1	25.5		41.9	16.1	16.2	16.6
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	3.5		9.6	0.2	0.4	0.3
Delay (s)	29.0		51.5	16.3	16.6	16.9
Level of Service	C		D	B	B	B
Approach Delay (s)	29.0				16.6	
Approach LOS	C				B	

Intersection Summary

HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	89.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Cumulative No Project PM Peak Hour
8: Bayshore Blvd & Geneva Ave

05/30/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	1121	199	367	1062	326	397	295	718	332	431	244
Future Volume (vph)	104	1121	199	367	1062	326	397	295	718	332	431	244
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	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.88
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1563	1770	5085	1583	3433	3539	1583	3433	3539	2661
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1563	1770	5085	1583	3433	3539	1583	3433	3539	2661
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	111	1193	212	390	1130	347	422	314	764	353	459	260
RTOR Reduction (vph)	0	0	120	0	0	208	0	0	227	0	0	198
Lane Group Flow (vph)	111	1193	92	390	1130	139	422	314	537	353	459	62
Confl. Peds. (#/hr)	1						11					11
Confl. Bikes (#/hr)			1									
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	12.8	41.0	41.0	26.0	54.2	54.2	19.9	40.0	40.0	12.0	32.1	32.1
Effective Green, g (s)	12.8	41.0	41.0	26.0	54.2	54.2	19.9	40.0	40.0	12.0	32.1	32.1
Actuated g/C Ratio	0.09	0.30	0.30	0.19	0.40	0.40	0.15	0.30	0.30	0.09	0.24	0.24
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	167	1074	474	340	2041	635	506	1048	469	305	841	632
v/s Ratio Prot	0.06	c0.34		c0.22	0.22		0.12	0.09		c0.10	0.13	
v/s Ratio Perm			0.06			0.09			c0.34			0.02
v/c Ratio	0.66	1.11	0.19	1.15	0.55	0.22	0.83	0.30	1.14	1.16	0.55	0.10
Uniform Delay, d1	59.0	47.0	34.8	54.5	31.1	26.5	55.9	36.7	47.5	61.5	45.1	40.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.6	63.1	0.2	95.0	0.3	0.2	11.3	0.2	87.5	101.2	0.7	0.1
Delay (s)	68.6	110.1	35.0	149.5	31.4	26.7	67.2	36.8	135.0	162.7	45.8	40.2
Level of Service	E	F	C	F	C	C	E	D	F	F	D	D
Approach Delay (s)		96.6			55.2			95.4			82.9	
Approach LOS		F			E			F			F	
Intersection Summary												
HCM 2000 Control Delay			80.9			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.13									
Actuated Cycle Length (s)			135.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			94.9%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

Cumulative No Project PM Peak Hour
9: Bayshore Blvd & Main St

05/24/2019

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	23	84	1259	980	30
Future Vol, veh/h	0	23	84	1259	980	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	0	440	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	24	88	1311	1021	31

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	511	1021
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	2.22
Pot Cap-1 Maneuver	0	508	675
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	508	675
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.4	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	675	-	508	-	-
HCM Lane V/C Ratio	0.13	-	0.047	-	-
HCM Control Delay (s)	11.1	-	12.4	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.1	-	-

Cumulative No Project PM Peak Hour
10: Bayshore Blvd & Guadalupe Canyon Pkwy

05/24/2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←←	→	←	→→	→→	←
Traffic Volume (vph)	358	256	582	1103	489	457
Future Volume (vph)	358	256	582	1103	489	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	0.98	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3362	1583	1770	3539	3539	1550
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3362	1583	1770	3539	3539	1550
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	373	267	606	1149	509	476
RTOR Reduction (vph)	0	235	0	0	0	237
Lane Group Flow (vph)	373	32	606	1149	509	239
Confl. Peds. (#/hr)	5		10			10
Turn Type	Perm	Perm	Prot	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4				6
Actuated Green, G (s)	9.0	9.0	27.9	58.0	26.1	26.1
Effective Green, g (s)	9.0	9.0	27.9	58.0	26.1	26.1
Actuated g/C Ratio	0.12	0.12	0.37	0.77	0.35	0.35
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	403	189	658	2736	1231	539
v/s Ratio Prot			c0.34	c0.32	0.14	
v/s Ratio Perm	c0.11	0.02				0.15
v/c Ratio	0.93	0.17	0.92	0.42	0.41	0.44
Uniform Delay, d1	32.7	29.6	22.5	2.9	18.6	18.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.9	0.4	18.3	0.5	1.0	2.6
Delay (s)	59.5	30.1	40.8	3.3	19.6	21.5
Level of Service	E	C	D	A	B	C
Approach Delay (s)	47.2			16.3	20.5	
Approach LOS	D			B	C	
Intersection Summary						
HCM 2000 Control Delay			23.4		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.73			
Actuated Cycle Length (s)			75.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			72.5%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

Cumulative No Project PM Peak Hour
11: Schwerin St & A Street

05/24/2019

Intersection						
Int Delay, s/veh	0					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	107	0	0	121
Future Vol, veh/h	0	0	107	0	0	121
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	114	0	0	129

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	243	114	0	0	114	0
Stage 1	114	-	-	-	-	-
Stage 2	129	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	745	939	-	-	1475	-
Stage 1	911	-	-	-	-	-
Stage 2	897	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	745	939	-	-	1475	-
Mov Cap-2 Maneuver	745	-	-	-	-	-
Stage 1	911	-	-	-	-	-
Stage 2	897	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1475
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	0	0
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	-	0

Cumulative No Project PM Peak Hour
12: Martin St & B Street

05/24/2019

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	25	35	0	0	0
Future Vol, veh/h	0	25	35	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	27	37	0	0	0
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	37	0	-	0	64	37
Stage 1	-	-	-	-	37	-
Stage 2	-	-	-	-	27	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1574	-	-	-	942	1035
Stage 1	-	-	-	-	985	-
Stage 2	-	-	-	-	996	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1574	-	-	-	942	1035
Mov Cap-2 Maneuver	-	-	-	-	942	-
Stage 1	-	-	-	-	985	-
Stage 2	-	-	-	-	996	-
Approach	EB	WB		SB		
HCM Control Delay, s	0	0		0		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1574	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-	-
HCM Control Delay (s)	0	-	-	-	-	0
HCM Lane LOS	A	-	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	-	-

Cumulative No Project PM Peak Hour
13: Linda Vista Dr & Martin St extension

05/24/2019

Intersection

Int Delay, s/veh 0.5

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations 

Traffic Vol, veh/h 8 0 0 21 107 19

Future Vol, veh/h 8 0 0 21 107 19

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Stop Stop Free Free Free Free

RT Channelized - None - None - None

Storage Length 0 - - - - -

Veh in Median Storage, # 0 - - 0 0 -

Grade, % 0 - - 0 0 -

Peak Hour Factor 94 94 94 94 94 94

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 9 0 0 22 114 20

Major/Minor Minor2 Major1 Major2

Conflicting Flow All 146 124 134 0 - 0

Stage 1 124 - - - - -

Stage 2 22 - - - - -

Critical Hdwy 6.42 6.22 4.12 - - -

Critical Hdwy Stg 1 5.42 - - - - -

Critical Hdwy Stg 2 5.42 - - - - -

Follow-up Hdwy 3.518 3.318 2.218 - - -

Pot Cap-1 Maneuver 846 927 1451 - - -

Stage 1 902 - - - - -

Stage 2 1001 - - - - -

Platoon blocked, % - - -

Mov Cap-1 Maneuver 846 927 1451 - - -

Mov Cap-2 Maneuver 846 - - - - -

Stage 1 902 - - - - -

Stage 2 1001 - - - - -

Approach EB NB SB

HCM Control Delay, s 9.3 0 0

HCM LOS A

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h) 1451 - 846 - -

HCM Lane V/C Ratio - - 0.01 - -

HCM Control Delay (s) 0 - 9.3 - -

HCM Lane LOS A - A - -

HCM 95th %tile Q(veh) 0 - 0 - -

Cumulative With Project PM Peak Hour

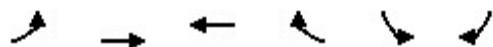
1: Carter St & Martin St

06/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	8	3	124	5	38	12	574	130	29	217	5
Future Volume (vph)	1	8	3	124	5	38	12	574	130	29	217	5
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	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	1.00		1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1851	1583		1777	1537	1770	1863	1547	1768	1857	
Flt Permitted		0.97	1.00		0.73	1.00	0.61	1.00	1.00	0.34	1.00	
Satd. Flow (perm)		1797	1583		1354	1537	1138	1863	1547	641	1857	
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)	1	9	3	133	5	41	13	617	140	31	233	5
RTOR Reduction (vph)	0	0	2	0	0	33	0	0	62	0	2	0
Lane Group Flow (vph)	0	10	1	0	138	8	13	617	78	31	236	0
Confl. Peds. (#/hr)	4					4			4	4		
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)		7.0	7.0		7.0	7.0	19.1	19.1	19.1	19.1	19.1	
Effective Green, g (s)		7.0	7.0		7.0	7.0	19.1	19.1	19.1	19.1	19.1	
Actuated g/C Ratio		0.21	0.21		0.21	0.21	0.56	0.56	0.56	0.56	0.56	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		368	324		277	315	637	1043	866	359	1040	
v/s Ratio Prot								c0.33				0.13
v/s Ratio Perm		0.01	0.00		c0.10	0.01	0.01		0.05	0.05		
v/c Ratio		0.03	0.00		0.50	0.03	0.02	0.59	0.09	0.09	0.23	
Uniform Delay, d1		10.8	10.8		12.0	10.8	3.3	4.9	3.5	3.5	3.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0	0.0		1.4	0.0	0.0	0.9	0.0	0.1	0.1	
Delay (s)		10.9	10.8		13.4	10.9	3.4	5.8	3.5	3.6	3.9	
Level of Service		B	B		B	B	A	A	A	A	A	
Approach Delay (s)		10.8			12.8			5.4			3.9	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM 2000 Control Delay		6.2										
HCM 2000 Volume to Capacity ratio		0.57										
Actuated Cycle Length (s)		34.1										
Intersection Capacity Utilization		50.7%										
Analysis Period (min)		15										
c Critical Lane Group												

Cumulative With Project PM Peak Hour
2: Guadalupe Canyon Parkway & Carter St

05/24/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	392	353	852	400	112	234
Future Volume (vph)	392	353	852	400	112	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	426	384	926	435	122	254
RTOR Reduction (vph)	0	0	0	302	0	180
Lane Group Flow (vph)	426	384	926	133	122	74
Turn Type	Prot	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases				6		4
Actuated Green, G (s)	20.0	48.2	24.2	24.2	23.0	23.0
Effective Green, g (s)	20.0	48.2	24.2	24.2	23.0	23.0
Actuated g/C Ratio	0.25	0.61	0.31	0.31	0.29	0.29
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	446	2153	1081	483	996	459
v/s Ratio Prot	c0.24	0.11	c0.26		0.04	
v/s Ratio Perm				0.08		c0.05
v/c Ratio	0.96	0.18	0.86	0.28	0.12	0.16
Uniform Delay, d1	29.2	6.8	25.9	20.9	20.7	20.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	31.1	0.0	6.8	0.3	0.3	0.7
Delay (s)	60.3	6.8	32.7	21.2	20.9	21.7
Level of Service	E	A	C	C	C	C
Approach Delay (s)		34.9	29.0		21.4	
Approach LOS		C	C		C	

Intersection Summary

HCM 2000 Control Delay	29.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	79.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Cumulative With Project PM Peak Hour

3: Schwerin St & Geneva Ave

05/24/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	1056	14	143	1431	70	37	36	204	27	77	67
Future Volume (vph)	135	1056	14	143	1431	70	37	36	204	27	77	67
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	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.97			0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.90			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3528		1747	3505			1616			1719	
Flt Permitted	0.09	1.00		0.25	1.00			0.95			0.89	
Satd. Flow (perm)	167	3528		464	3505			1540			1547	
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)	142	1112	15	151	1506	74	39	38	215	28	81	71
RTOR Reduction (vph)	0	1	0	0	3	0	0	55	0	0	31	0
Lane Group Flow (vph)	142	1126	0	151	1577	0	0	237	0	0	149	0
Confl. Peds. (#/hr)	16		25	25		16	39		33	33		39
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	48.8	48.8		40.7	40.7			16.5			16.5	
Effective Green, g (s)	48.8	48.8		40.7	40.7			16.5			16.5	
Actuated g/C Ratio	0.67	0.67		0.56	0.56			0.23			0.23	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	200	2348		257	1946			346			348	
v/s Ratio Prot	c0.04	0.32			c0.45							
v/s Ratio Perm	0.43			0.33				c0.15			0.10	
v/c Ratio	0.71	0.48		0.59	0.81			0.68			0.43	
Uniform Delay, d1	12.3	6.0		10.8	13.2			26.0			24.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	11.0	0.2		3.4	2.7			5.5			0.8	
Delay (s)	23.3	6.2		14.2	15.8			31.5			25.2	
Level of Service	C	A		B	B			C			C	
Approach Delay (s)		8.1			15.7			31.5			25.2	
Approach LOS		A			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			14.7			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			73.3			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			82.6%			ICU Level of Service			E			
Analysis Period (min)			15									
c Critical Lane Group												

Cumulative With Project PM Peak Hour
4: Schwerin St & Otilia St

05/24/2019

Intersection

Intersection Delay, s/veh 9.4

Intersection LOS A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	8	14	263	198	20
Future Vol, veh/h	13	8	14	263	198	20
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	15	9	16	306	230	23
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	8.2	9.8	9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	5%	62%	0%
Vol Thru, %	95%	0%	91%
Vol Right, %	0%	38%	9%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	277	21	218
LT Vol	14	13	0
Through Vol	263	0	198
RT Vol	0	8	20
Lane Flow Rate	322	24	253
Geometry Grp	1	1	1
Degree of Util (X)	0.374	0.034	0.293
Departure Headway (Hd)	4.177	5.056	4.163
Convergence, Y/N	Yes	Yes	Yes
Cap	850	712	849
Service Time	2.259	3.056	2.263
HCM Lane V/C Ratio	0.379	0.034	0.298
HCM Control Delay	9.8	8.2	9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.7	0.1	1.2

Cumulative With Project PM Peak Hour
5: Schwerin St & Partridge St

05/24/2019

Intersection

Intersection Delay, s/veh 9.8

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	8	11	0	7	97	10	86	0	164	101	42
Future Vol, veh/h	70	8	11	0	7	97	10	86	0	164	101	42
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	74	9	12	0	7	103	11	91	0	174	107	45
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	8.3	8.7	10.9
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	79%	0%	53%
Vol Thru, %	90%	9%	7%	33%
Vol Right, %	0%	12%	93%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	96	89	104	307
LT Vol	10	70	0	164
Through Vol	86	8	7	101
RT Vol	0	11	97	42
Lane Flow Rate	102	95	111	327
Geometry Grp	1	1	1	1
Degree of Util (X)	0.137	0.136	0.139	0.415
Departure Headway (Hd)	4.829	5.163	4.511	4.574
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	738	691	790	784
Service Time	2.884	3.218	2.565	2.618
HCM Lane V/C Ratio	0.138	0.137	0.141	0.417
HCM Control Delay	8.7	9	8.3	10.9
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.5	0.5	0.5	2.1

Cumulative With Project PM Peak Hour
6: ./Schwerin St & Martin St

05/24/2019

Intersection

Intersection Delay, s/veh 7.5

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	69	7	7	0	8	13	5	25	5	6	23	79
Future Vol, veh/h	69	7	7	0	8	13	5	25	5	6	23	79
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
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	73	7	7	0	9	14	5	27	5	6	24	84
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	7.1	7.4	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	14%	83%	0%	6%
Vol Thru, %	71%	8%	38%	21%
Vol Right, %	14%	8%	62%	73%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	35	83	21	108
LT Vol	5	69	0	6
Through Vol	25	7	8	23
RT Vol	5	7	13	79
Lane Flow Rate	37	88	22	115
Geometry Grp	1	1	1	1
Degree of Util (X)	0.043	0.106	0.024	0.119
Departure Headway (Hd)	4.157	4.33	3.894	3.725
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	850	822	907	950
Service Time	2.236	2.386	1.972	1.797
HCM Lane V/C Ratio	0.044	0.107	0.024	0.121
HCM Control Delay	7.4	7.9	7.1	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.4	0.1	0.4

Cumulative With Project PM Peak Hour

7: Hester Ave/SB 101 Off-Ramp & Bayshore Blvd/to 3rd St & to NB 101

05/24/2019



Movement	EBT	EBR	NBR	SBL2	SBT	SBR
Lane Configurations	↑↑		↔	↔	↑	↔
Traffic Volume (vph)	944	1	35	1803	26	1062
Future Volume (vph)	944	1	35	1803	26	1062
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	0.95		1.00	0.91	0.91	0.88
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	1.00		0.86	1.00	1.00	0.85
Flt Protected	1.00		1.00	0.95	0.95	1.00
Satd. Flow (prot)	3539		1611	3221	1618	2695
Flt Permitted	1.00		1.00	0.95	0.95	1.00
Satd. Flow (perm)	3539		1611	3221	1618	2695
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1026	1	38	1960	28	1154
RTOR Reduction (vph)	0	0	0	721	339	580
Lane Group Flow (vph)	1027	0	38	612	316	574
Confl. Peds. (#/hr)		11				12
Turn Type	NA		Prot	Split	NA	Perm
Protected Phases	2		5	4	4	
Permitted Phases						4
Actuated Green, G (s)	32.5		3.8	41.0	41.0	41.0
Effective Green, g (s)	32.5		3.8	41.0	41.0	41.0
Actuated g/C Ratio	0.36		0.04	0.46	0.46	0.46
Clearance Time (s)	4.0		4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1287		68	1478	742	1237
v/s Ratio Prot	c0.29		c0.02	0.19	0.20	
v/s Ratio Perm						c0.21
v/c Ratio	0.80		0.56	0.41	0.43	0.46
Uniform Delay, d1	25.5		41.9	16.1	16.2	16.6
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	3.5		9.6	0.2	0.4	0.3
Delay (s)	29.0		51.5	16.3	16.6	16.9
Level of Service	C		D	B	B	B
Approach Delay (s)	29.0				16.6	
Approach LOS	C				B	

Intersection Summary

HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	89.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Cumulative With Project PM Peak Hour

8: Bayshore Blvd & Geneva Ave

05/30/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	1137	199	367	1096	335	397	302	718	338	431	256
Future Volume (vph)	115	1137	199	367	1096	335	397	302	718	338	431	256
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	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.88
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1563	1770	5085	1583	3433	3539	1583	3433	3539	2661
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1563	1770	5085	1583	3433	3539	1583	3433	3539	2661
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	122	1210	212	390	1166	356	422	321	764	360	459	272
RTOR Reduction (vph)	0	0	119	0	0	216	0	0	227	0	0	207
Lane Group Flow (vph)	122	1210	93	390	1166	140	422	321	537	360	459	65
Confl. Peds. (#/hr)	1						11					11
Confl. Bikes (#/hr)			1									
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	14.0	41.0	41.0	26.0	53.0	53.0	19.9	40.0	40.0	12.0	32.1	32.1
Effective Green, g (s)	14.0	41.0	41.0	26.0	53.0	53.0	19.9	40.0	40.0	12.0	32.1	32.1
Actuated g/C Ratio	0.10	0.30	0.30	0.19	0.39	0.39	0.15	0.30	0.30	0.09	0.24	0.24
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	183	1074	474	340	1996	621	506	1048	469	305	841	632
v/s Ratio Prot	0.07	c0.34		c0.22	0.23		0.12	0.09		c0.10	0.13	
v/s Ratio Perm			0.06			0.09			c0.34			0.02
v/c Ratio	0.67	1.13	0.20	1.15	0.58	0.23	0.83	0.31	1.14	1.18	0.55	0.10
Uniform Delay, d1	58.3	47.0	34.8	54.5	32.3	27.3	55.9	36.8	47.5	61.5	45.1	40.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.8	69.3	0.2	95.0	0.4	0.2	11.3	0.2	87.5	109.7	0.7	0.1
Delay (s)	67.1	116.3	35.0	149.5	32.8	27.5	67.2	36.9	135.0	171.2	45.8	40.3
Level of Service	E	F	D	F	C	C	E	D	F	F	D	D
Approach Delay (s)		101.2			55.6			95.2			85.8	
Approach LOS		F			E			F			F	
Intersection Summary												
HCM 2000 Control Delay			82.5			HCM 2000 Level of Service			F			
HCM 2000 Volume to Capacity ratio			1.14									
Actuated Cycle Length (s)			135.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			95.5%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

Cumulative With Project PM Peak Hour
9: Bayshore Blvd & Main St

05/24/2019

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	23	103	1259	980	30
Future Vol, veh/h	0	23	103	1259	980	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	-	0	440	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	24	107	1311	1021	31

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	511	1021
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	2.22
Pot Cap-1 Maneuver	0	508	675
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	508	675
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.4	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	675	-	508	-	-
HCM Lane V/C Ratio	0.159	-	0.047	-	-
HCM Control Delay (s)	11.3	-	12.4	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0.6	-	0.1	-	-

Cumulative With Project PM Peak Hour
10: Bayshore Blvd & Guadalupe Canyon Pkwy

05/24/2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰↱	↰	↰	↰↱	↰↱	↰
Traffic Volume (vph)	358	256	582	1103	492	457
Future Volume (vph)	358	256	582	1103	492	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	0.98	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	3362	1583	1770	3539	3539	1550
Flt Permitted	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	3362	1583	1770	3539	3539	1550
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	373	267	606	1149	512	476
RTOR Reduction (vph)	0	235	0	0	0	237
Lane Group Flow (vph)	373	32	606	1149	513	239
Confl. Peds. (#/hr)	5		10			10
Turn Type	Perm	Perm	Prot	NA	NA	Perm
Protected Phases			5	2	6	
Permitted Phases	4	4				6
Actuated Green, G (s)	9.0	9.0	27.9	58.0	26.1	26.1
Effective Green, g (s)	9.0	9.0	27.9	58.0	26.1	26.1
Actuated g/C Ratio	0.12	0.12	0.37	0.77	0.35	0.35
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	403	189	658	2736	1231	539
v/s Ratio Prot			c0.34	c0.32	0.14	
v/s Ratio Perm	c0.11	0.02				0.15
v/c Ratio	0.93	0.17	0.92	0.42	0.42	0.44
Uniform Delay, d1	32.7	29.6	22.5	2.9	18.6	18.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.9	0.4	18.3	0.5	1.0	2.6
Delay (s)	59.5	30.1	40.8	3.3	19.7	21.5
Level of Service	E	C	D	A	B	C
Approach Delay (s)	47.2			16.3	20.5	
Approach LOS	D			B	C	
Intersection Summary						
HCM 2000 Control Delay			23.4		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.73			
Actuated Cycle Length (s)			75.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			72.5%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

Cumulative With Project PM Peak Hour
11: Schwerin St & A Street

05/24/2019

Intersection

Int Delay, s/veh 0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	0	109	11	0	121
Future Vol, veh/h	12	0	109	11	0	121
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	0	116	12	0	129

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	251	122	0
Stage 1	122	-	-
Stage 2	129	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	738	929	-
Stage 1	903	-	-
Stage 2	897	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	738	929	-
Mov Cap-2 Maneuver	738	-	-
Stage 1	903	-	-
Stage 2	897	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	738	1458
HCM Lane V/C Ratio	-	-	0.017	-
HCM Control Delay (s)	-	-	10	0
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Cumulative With Project PM Peak Hour
12: Martin St & B Street

05/24/2019

Intersection

Int Delay, s/veh 1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	25	35	43	22	0
Future Vol, veh/h	0	25	35	43	22	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	94	94	94	94	94	94
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	27	37	46	23	0

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	83	0	0 87 60
Stage 1	-	-	- 60 -
Stage 2	-	-	- 27 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1514	-	- 914 1005
Stage 1	-	-	- 963 -
Stage 2	-	-	- 996 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1514	-	- 914 1005
Mov Cap-2 Maneuver	-	-	- 914 -
Stage 1	-	-	- 963 -
Stage 2	-	-	- 996 -

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1514	-	-	-	914
HCM Lane V/C Ratio	-	-	-	-	0.026
HCM Control Delay (s)	0	-	-	-	9
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Cumulative With Project PM Peak Hour
13: Linda Vista Dr & Martin St extension

05/24/2019

Intersection

Int Delay, s/veh 1.1

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations 

Traffic Vol, veh/h 22 0 0 21 107 47

Future Vol, veh/h 22 0 0 21 107 47

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Stop Stop Free Free Free Free

RT Channelized - None - None - None

Storage Length 0 - - - - -

Veh in Median Storage, # 0 - - 0 0 -

Grade, % 0 - - 0 0 -

Peak Hour Factor 94 94 94 94 94 94

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 23 0 0 22 114 50

Major/Minor Minor2 Major1 Major2

Conflicting Flow All 161 139 164 0 - 0

Stage 1 139 - - - - -

Stage 2 22 - - - - -

Critical Hdwy 6.42 6.22 4.12 - - -

Critical Hdwy Stg 1 5.42 - - - - -

Critical Hdwy Stg 2 5.42 - - - - -

Follow-up Hdwy 3.518 3.318 2.218 - - -

Pot Cap-1 Maneuver 830 909 1414 - - -

Stage 1 888 - - - - -

Stage 2 1001 - - - - -

Platoon blocked, % - - -

Mov Cap-1 Maneuver 830 909 1414 - - -

Mov Cap-2 Maneuver 830 - - - - -

Stage 1 888 - - - - -

Stage 2 1001 - - - - -

Approach EB NB SB

HCM Control Delay, s 9.5 0 0

HCM LOS A

Minor Lane/Major Mvmt NBL NBT EBLn1 SBT SBR

Capacity (veh/h) 1414 - 830 - -

HCM Lane V/C Ratio - - 0.028 - -

HCM Control Delay (s) 0 - 9.5 - -

HCM Lane LOS A - A - -

HCM 95th %tile Q(veh) 0 - 0.1 - -

Cumulative With Project PM Peak Hour with NBR overlap

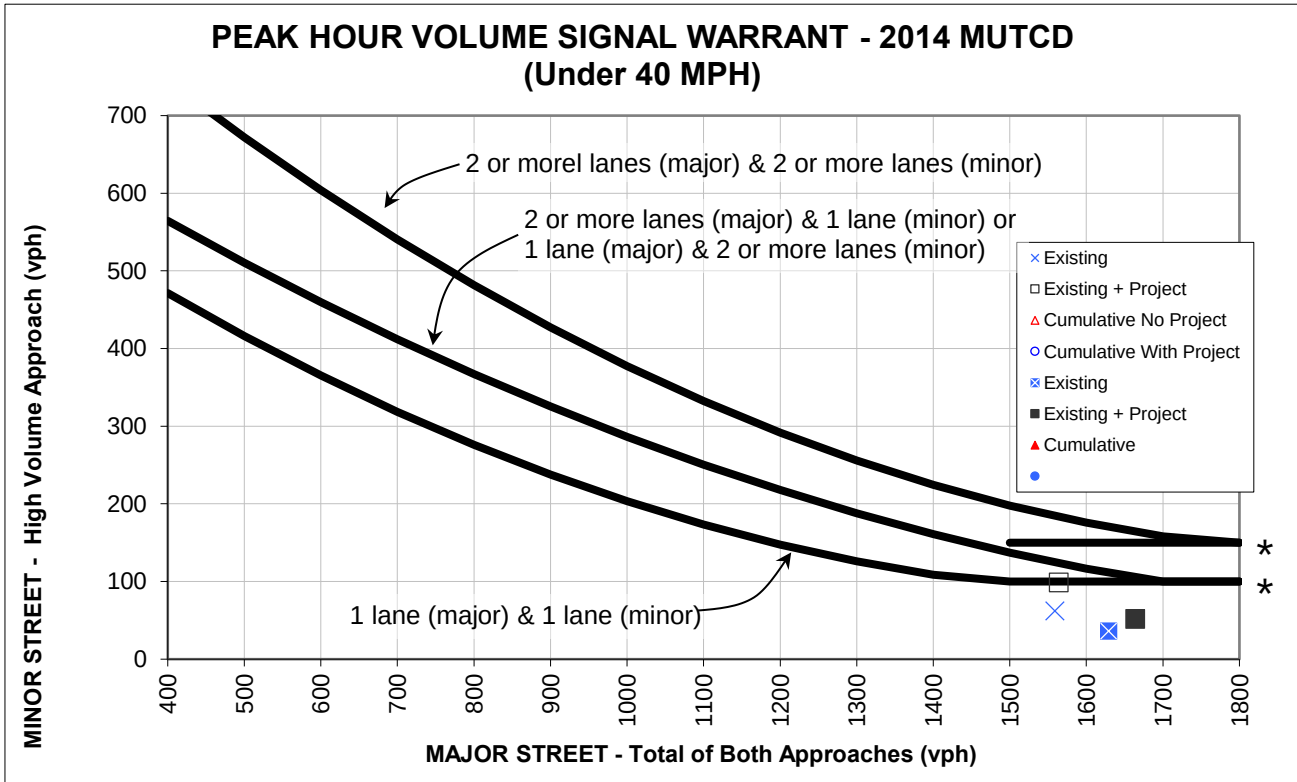
8: Bayshore Blvd & Geneva Ave

05/30/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	1137	199	367	1096	335	397	302	718	338	431	256
Future Volume (vph)	115	1137	199	367	1096	335	397	302	718	338	431	256
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	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.88
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1563	1770	5085	1583	3433	3539	1583	3433	3539	2665
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1563	1770	5085	1583	3433	3539	1583	3433	3539	2665
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	122	1210	212	390	1166	356	422	321	764	360	459	272
RTOR Reduction (vph)	0	0	116	0	0	188	0	0	44	0	0	223
Lane Group Flow (vph)	122	1210	96	390	1166	168	422	321	720	360	459	49
Confl. Peds. (#/hr)	1						11					11
Confl. Bikes (#/hr)			1									
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2	3	1	6	
Permitted Phases			4			8			2			6
Actuated Green, G (s)	13.4	43.1	43.1	30.0	59.7	59.7	15.0	19.9	49.9	17.8	22.7	22.7
Effective Green, g (s)	13.4	43.1	43.1	30.0	59.7	59.7	15.0	19.9	49.9	17.8	22.7	22.7
Actuated g/C Ratio	0.11	0.34	0.34	0.24	0.47	0.47	0.12	0.16	0.39	0.14	0.18	0.18
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	187	1202	531	418	2394	745	406	555	672	481	633	477
v/s Ratio Prot	0.07	c0.34		0.22	0.23		c0.12	0.09	c0.25	0.10	c0.13	
v/s Ratio Perm			0.06			0.11			0.20			0.02
v/c Ratio	0.65	1.01	0.18	0.93	0.49	0.22	1.04	0.58	1.07	0.75	0.73	0.10
Uniform Delay, d1	54.5	41.8	29.4	47.4	23.0	19.9	55.9	49.6	38.5	52.3	49.1	43.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.9	27.6	0.2	27.7	0.2	0.2	55.3	1.5	55.3	6.3	4.1	0.1
Delay (s)	62.4	69.4	29.6	75.2	23.2	20.0	111.2	51.0	93.8	58.6	53.2	43.6
Level of Service	E	E	C	E	C	C	F	D	F	E	D	D
Approach Delay (s)		63.4			33.2			89.5			52.6	
Approach LOS		E			C			F			D	
Intersection Summary												
HCM 2000 Control Delay			58.4									
HCM 2000 Volume to Capacity ratio			1.05									
Actuated Cycle Length (s)			126.8									
Intersection Capacity Utilization			95.5%									
Analysis Period (min)			15									
c Critical Lane Group												

Appendix C

Traffic Signal Warrants

#9 Bayshore Boulevard & Main Street

* NOTE: 150 vph applies as the lower threshold volume for a minor street approach with 2 or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with 1 lane.

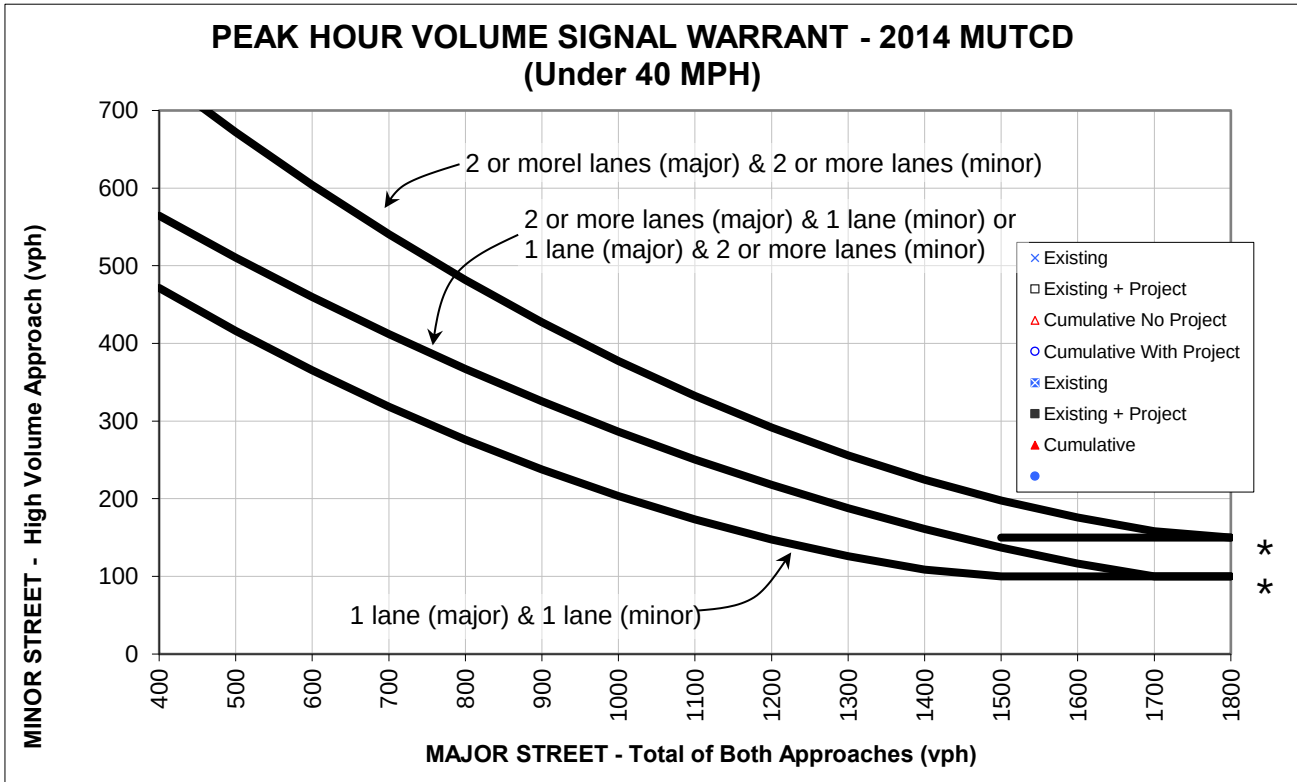
Peak Hour Volume Warrant Per 2012 MUTCD- Under 40 MPH

AM Peak Hour Volumes

		Approach Lanes		Existing	Existing + Project	Cumulative	
		One	2 or More			No Project	With Project
Major Street - Both Approaches	Bayshore Blvd		x	1559	1564	2528	2529
Minor Street - Highest Approach	Main Street	x		62	99	61	91
Warrant Met?				N	N	N	N

PM Peak Hour Volumes

		Approach Lanes		Existing	Existing + Project	Cumulative	
		One	2 or More			No Project	With Project
Major Street - Both Approaches	Bayshore Blvd		x	1629	1664	2353	2372
Minor Street - Highest Approach	Main Street	x		36	52	23	23
Warrant Met?				N	N	N	N

#11 Schwerin Street & New 'A' Street

* NOTE: 150 vph applies as the lower threshold volume for a minor street approach with 2 or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with 1 lane.

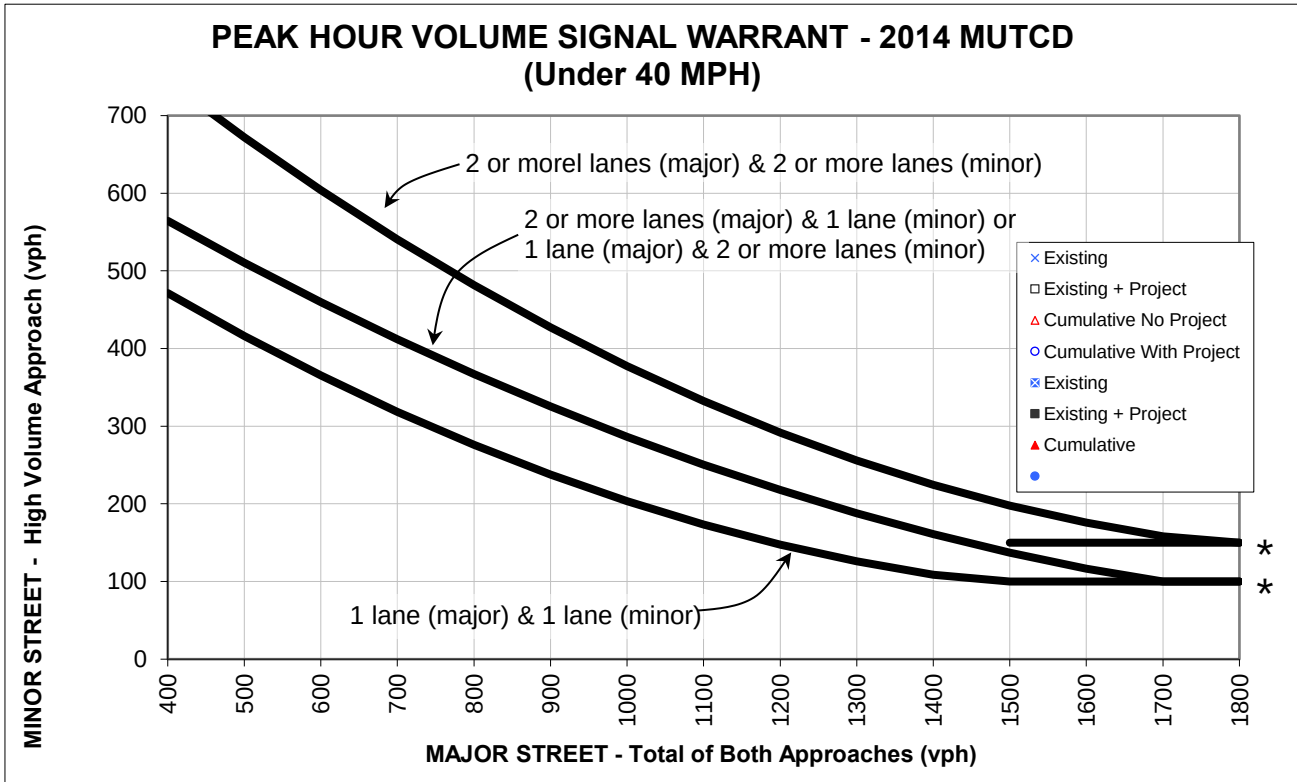
Peak Hour Volume Warrant Per 2012 MUTCD- Under 40 MPH

AM Peak Hour Volumes

		Approach Lanes		Existing	Existing + Project	Cumulative	
		One	2 or More			No Project	With Project
Major Street - Both Approaches	Schwerin Street	x		172	190	242	247
Minor Street - Highest Approach	New 'A' Street	x		0	10	0	10
Warrant Met?				N	N	N	N

PM Peak Hour Volumes

		Approach Lanes		Existing	Existing + Project	Cumulative	
		One	2 or More			No Project	With Project
Major Street - Both Approaches	Schwerin Street	x		170	189	228	241
Minor Street - Highest Approach	New 'A' Street	x		0	10	0	12
Warrant Met?				N	N	N	N

#12 New 'B' Street & Martin Street

* NOTE: 150 vph applies as the lower threshold volume for a minor street approach with 2 or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with 1 lane.

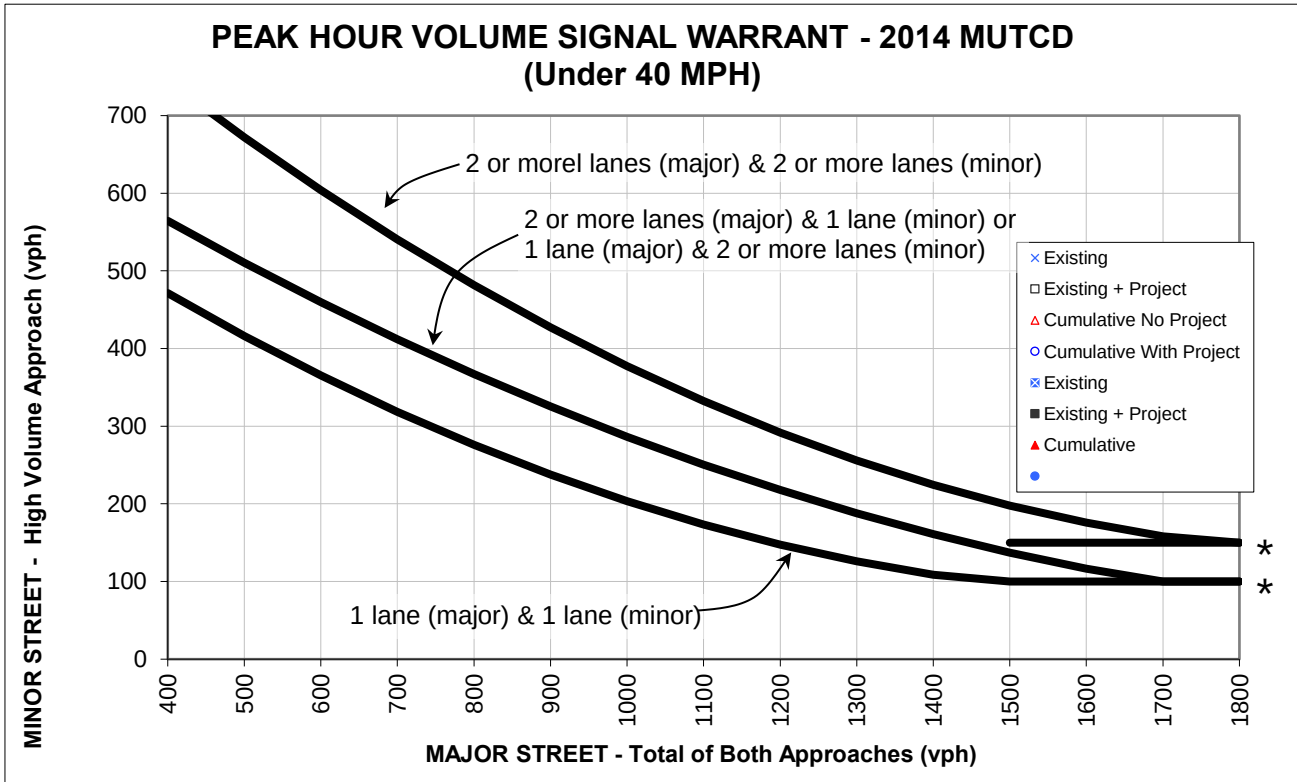
Peak Hour Volume Warrant Per 2012 MUTCD- Under 40 MPH

AM Peak Hour Volumes

		Approach Lanes		Existing	Existing + Project	Cumulative	
		One	2 or More			No Project	With Project
Major Street - Both Approaches	Martin Street	x		34	43	51	60
Minor Street - Highest Approach	New 'B' Street	x		0	42	0	42
Warrant Met?				N	N	N	N

PM Peak Hour Volumes

		Approach Lanes		Existing	Existing + Project	Cumulative	
		One	2 or More			No Project	With Project
Major Street - Both Approaches	Martin Street	x		36	75	60	103
Minor Street - Highest Approach	New 'B' Street	x		0	21	0	22
Warrant Met?				N	N	N	N

#13 Linda Vista Drive and Martin Street extension

* NOTE: 150 vph applies as the lower threshold volume for a minor street approach with 2 or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with 1 lane.

Peak Hour Volume Warrant Per 2012 MUTCD- Under 40 MPH

AM Peak Hour Volumes

		Approach Lanes		Existing	Existing + Project	Cumulative	
		One	2 or More			No Project	With Project
Major Street - Both Approaches	Linda Vista Drive	x		93	112	72	89
Minor Street - Highest Approach	Martin Street ext	x		0	39	15	43
Warrant Met?				N	N	N	N

PM Peak Hour Volumes

		Approach Lanes		Existing	Existing + Project	Cumulative	
		One	2 or More			No Project	With Project
Major Street - Both Approaches	Linda Vista Drive	x		125	179	147	175
Minor Street - Highest Approach	Martin Street ext	x		0	21	8	22
Warrant Met?				N	N	N	N